# 2014 Genetics Academic Program Review - Table of Contents

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I. Executive Summary

Periodic external reviews of all graduate degree-granting units are conducted by Texas A&M University. The last review for the Interdisciplinary Program (IDP) in Genetics occurred in 2007. A number of issues related to the management, reporting structure, resource availability, and support of the Genetics Program were identified in the external evaluators report. Several significant changes have been initiated by Texas A&M University to address several of these issues for all Interdisciplinary Programs since that time.

The oversight and reporting structure of the IDP in Genetics has been streamlined such that administrative issues related to curriculum changes and appointments to the Graduate Faculty are handled directly by the College of Agriculture and Life Sciences, which is now administratively associated with the Genetics Program, such that the program reports directly through the College and has representation on the College Graduate Operating Committee. Further lines of reporting/requests are available through the Dean of Faculties and the Office of Graduate and Professional Studies, with the IDP’s also now having representation on the University Graduate Operating Committee.

A stable and predictable funding line has been established for the IDP’s via a formula-based central distribution of Graduate Enhancement Funds, along with Chair and Staff Support, all of which are transferred to the Genetics Program in a timely manner. This will enable more precise planning of program activities and the setting of longer-term goals.

One of the other primary issues raised during the previous Academic Program Review has had a serious negative impact on the Genetics Program. A faculty member that was teaching one of the Genetics Core Curriculum classes moved to a different institution, leaving the class without an instructor. Since the Genetics Program has no ability to directly negotiate with Departments to release an instructor for the course or to influence hiring decisions, this critical course has not been offered for several years. In addition to this issue, the Faculty of Genetics have identified a need to review the current curriculum to ensure that Genetics students are distinguished from other majors, and that the course offerings provide sufficient breadth to ensure our students are prepared for cutting edge interdisciplinary research.

The IDP in Genetics continues to recruit and train some of the brightest graduate students in the Life Sciences. A vibrant and targeted recruiting program identifies talented prospective graduate students, brings them on campus for a multi-day recruiting experience and has been able to capture 75% of the students to which offers of admission were extended, all of which have high GRE scores and GPAs, previous research experience, and excellent references.

These efforts and the other activities of the IDP in Genetics require a huge time commitment and there is increasing concern that the contributions of the Faculty to
Interdisciplinary activities are not valued during Annual Performance Evaluations and during the Tenure and Promotion process. This is reflected in an increasing difficulty in identifying Faculty volunteers that are willing to serve on the Genetics Executive Committee and several standing committees that are critical to the maintenance and growth of the Graduate Program.

The IDP in Genetics graduates an average of 10 Graduate Students each year and has an important role in enhancing the quality and impact of Texas A&M University on Graduate Education and Training. We look forward to your insights and guidance in further improving our Program.
II. Introduction

A. Welcome to the Interdisciplinary Graduate Degree Program in Genetics

1. Mission and Unique Contributions to the Texas A&M University Graduate Program.

The principal function of the Faculty of Genetics is the administration of the graduate programs leading to the Master of Science and Doctor of Philosophy degrees in Genetics, in conformance with the rules of the Office of Graduate and Professional Studies of Texas A&M University. The Faculty also serves to promote and facilitate communication among geneticists and to foster the development of genetics at Texas A&M University. The Faculty of Genetics arranges for the periodic assembly of geneticists and provides a forum for them and for others with interests in genetics. The organizational and operational characteristics of the Faculty of Genetics are intended to be broad enough to permit consideration of all academic aspects of genetics and all other matters affecting the position and progress of the discipline at Texas A&M University.

The Faculty of Genetics is currently composed of 96 Faculty Members from 5 Academic Colleges and 17 Academic Departments. There are 60 Graduate Students currently studying for their M.S. or Ph.D. graduate degrees in Genetics, distributed across 5 Academic Colleges and 15 Academic Departments. For the 2013 academic year, 12 new Ph.D. students were admitted into the program.


The last comprehensive external review of the Faculty of Genetics at Texas A&M University occurred in May of 2007. The Faculty self-study can be found here – http://provost.tamu.edu/initiatives/academic-program-review-documents/GENE-Self-Study-2007.pdf

The self-evaluation by the Faculty and the critique generated by that review were in part responsible for a series of specific recommendations that have been implemented for all Interdisciplinary Programs (IDP) within the Texas A&M University. The administrative structure has been streamlined whereby each IDP is associated with a single college (College of Agriculture and Life Sciences for Genetics), thus utilizing the existing processes for the submission of curricula changes, new graduate faculty appointments; and thereby gaining representation on the colleges’ Graduate Operations Committee. The University Gradate Operations Committee also has two faculty members representing the IDP’s. The previous fiscal uncertainty has been resolved through the provision of a predictable and stable annual budget for each IDP; and the chair of the programs now receive a $15,000 stipend that can be
used as compensation, or for operating costs for their research program. The Genetics Program also continues to benefit from the generosity of the Department of Biochemistry and Biophysics (BCBP), which provides up to 12 Teaching Assistant (TA) positions for first year Genetics Ph.D. students, who then teach in the undergraduate Genetics laboratory courses (GENE 301/302) that are managed by BCBP. These are essential resources for the maintenance of the Genetics Graduate Student Recruiting Program, as well as the partial salary provided by BCBP for staff support. Finally, members of the Faculty of Genetics were heavily involved in the establishment of the Whole Systems Genomics Institute (https://genomics.tamu.edu/), and the IDP in Genetics will continue to be involved by providing needed curricula for WSGI educational initiatives.

However, one of the primary concerns raised by the previous review still exists and has negatively impacted a large number of recent Genetics Graduate Students. A major issue is that the IDP in Genetics does not have any ability to negotiate with Departments to ensure that the most qualified Faculty are available to teach Genetics Core Curriculum Courses, nor does there exist any substantial mechanism to reward the Faculty (or Department) for teaching these courses. As forewarned in the previous self-study; a retirement, or in this case relocation of a key faculty member that was teaching the Population Genetics course (GENE 612) resulted in the course not being offered for several years and will only finally return in the Fall of 2015. Similarly, the Genetics IDP has limited or no involvement in the recruitment of Faculty to ensure the diversity and quality of Genetics course offerings and research programs is maintained.

3. Current Pressing Issues

A substantial period of time has passed since the Faculty of Genetics last modified the curriculum for the Genetics Ph.D. and in preparing for this Academic Program Review, curriculum issues were the most common topic discussed. Several models for modernizing or updating the curriculum were proposed, however given the existing strain on Faculty teaching loads and an inability to negotiate directly with Departments; it seems most prudent to investigate strategies that utilize the existing courses on campus and to add those that are established within existing departmental structures, while continuing the practice of cross-listing courses with a GENE prefix when so desired. We would like to utilize the expertise and experiences of the review team to facilitate this discussion and to provide some recommendations for the Faculty to consider.

Over the past 5-10 years the Faculty of Genetics has lost several long-serving members that were essential to the establishment, growth, and maintenance of the Interdisciplinary Program. In particular, they served important roles in the administration of the program as Chair, Vice-Chair, Executive Committee Members, and Chairs of Standing Committees. With increasing administrative responsibilities, teaching loads, and expectations for accruing external resources, it has become increasingly difficult to recruit Genetics Faculty Members to these positions. It is not clear that performing these roles is valued in the Faculty Annual Performance Review process, or in the Tenure and Promotion Process; and as such, continued difficulties in filling these critical administrative roles are expected.
B. Charge to the Review Committee (Office of Graduate and Professional Studies)

Texas A&M University Academic Program Review (APR)
Charge to the External Review Team Department/Program Name

The Academic Program Review (APR) process at Texas A&M University provides the occasion for academic units to plan strategically, assess the quality and efficacy of their programs, and determine the best courses of action for ongoing improvement. The APR is at the heart of our institutional commitment to excellence, and we sincerely thank you for assisting us. This letter provides you with the charge to the external review team and a brief overview of the department.

External Review Team Charge
Please examine the department and its programs and make recommendations that will help in planning improvements. Your resources are a self-study report prepared by the department, copies of materials from the program's last review, information you gain through personal interactions while visiting Texas A&M University, copies of strategic plans and goal-setting documents at the department, college, and/or university level, and any additional information requested by you or by the department. Within the broad charge of recommending ways the department can continue to improve are some specific questions that we would like you to address:

☐ Based on the data / information provided in the self-study report or gathered by the external review team, what are the department’s overall strengths and weaknesses?
☐ How well do the department’s strategic goals align with those of its college and with those of Texas A&M University?
☐ How would you compare this department with its peers?
☐ What improvements (including student learning and faculty development) has the department made since the previous program review?
☐ With only current resources or a modest infusion of new ones, what specific recommendations could improve the department’s performance, marginally or significantly?

We look forward to meeting with you during your time on campus. If you have any questions or require additional information prior to your visit, please contact Dr. Christine Stanley, Acting Vice Provost, at cstanley@tamu.edu or the APR Program Coordinator, at apr@tamu.edu. Thank you.
C. INTINERARY
Academic Program Review
Interdisciplinary Faculty of Genetics
Texas A&M University
November 16-19, 2014

Guest accommodations: Rudder Jessup Bed & Breakfast
115 Lee Ave., College Station, TX
(979) 693-1749

Itinerary for Doctoral Program Review Team

Sunday, November 16 (Arrival)

5:58pm   F. Abel Ponce de Leon arrives at Easterwood Airport on AA Flight #2774
          apl@umn.edu
          612-419-7870
          Craig Coates will escort to Rudder Jessup from Easterwood Airport.

5:58pm   Alejandro Aballay arrives at Easterwood Airport on AA Flight #2774
          a.aballay@duke.edu
          919-403-2020
          Craig Coates will escort to Rudder Jessup from Easterwood Airport.

7:30pm   Dinner at Bell Ranch Steakhouse for the review team with Craig Coates,
          Executive Committee members: Hubert Amrein, Terje Raudsepp, Dorothy Shippen, and Hongbin Zhang
          Hongbin Zhang will escort to Bell Ranch Steakhouse and then to Rudder Jessup.

Monday, November 17 (Day 1)

7:30 - 8:30am   Breakfast and entry meeting at Rudder Jessup with:
                Office of the Provost Administrative Team
                Hongbin Zhang will pick up review team from Rudder Jessup and escort to
                Room 501, Agriculture & Life Sciences Building

9:00 - 10:15am  Alan Sams, Executive Associate Dean, College of Agriculture & Life
                Sciences
                Ginger Carney, Associate Dean For Undergraduate Research & College
                Climate,
                Robert Burghardt, Associate Dean of Research & Graduate Studies, College of
                Veterinary Medicine
Van Wilson, Associate Dean of Research & Graduate Studies, Texas A&M Health Science Center

**Hongbin Zhang** will escort to the *Biochemistry/Biophysics Building*.

10:30-12:00pm Overview of the Faculty of Genetics—Craig Coates & Terje Raudsepp
*Room 221A, Biochemistry/Biophysics Building*

**Ashley Mattison** (grad student) will escort from to Room 203.

12:00-1:30pm **Catered lunch** by *Jason's Deli* with select Graduate Students,
*Room 203, Biochemistry/Biophysics Building*.

1:30 - 2:30pm Genetics Faculty Group
*Room 203, Biochemistry/Biophysics Building*

2:45 - 3:45pm Genetics Faculty Group
*Room 203, Biochemistry/Biophysics Building*

4:00 - 5:00pm Genetics Faculty Group
*Room 203, Biochemistry/Biophysics Building*

**Hongbin Zhang** will pick up review team and escort to the Faculty Social.

5:30 - 7:00pm Faculty Social at The University Club
**Craig Coates** will pick up review team and escort to dinner.

7:00-8:30pm **Dinner at Cenare's** with former Genetics Executive Committee chairs: Craig Coates, Jim Derr, Jeff Kapler, & Loren Skow.
**Craig Coates** will escort review to Rudder Jessup.

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**Tuesday, November 18 (Day 2)**

8:00-9:15 am Breakfast provided by Rudder Jessup

**Hongbin Zhang** will pick up review team from Rudder Jessup and escort to *Biochemistry/Biophysics Building*.

9:30-10:30am Meet with Genetics Recruiting Committee members
*Room 221A, Biochemistry/Biophysics Building*

10:30-12:00pm Meeting with Genetics Leadership: Executive Committee Members and Standing Committee representatives
*Room 221A, Biochemistry/Biophysics Building*

**Rachel Jordan** (grad student) will escort to Room 403, *Biochemistry/Biophysics Building*.

12:00-1:30pm **Catered Lunch** by *Blue Baker* with IDP Chairs:
*Room 403, Biochemistry/Biophysics Building*.

1:30-2:30pm Genetics Faculty Group
Room 403, Biochemistry/Biophysics Building

2:45-3:45pm Genetics Faculty Group  
Room 403, Biochemistry/Biophysics Building

4:00-5:00pm Genetics Faculty Group  
Room 403, Biochemistry/Biophysics Building

5:00pm Hongbin Zhang escort to Rudder Jessup.

5:30-6:30pm Catered Dinner from Epicures to reviewers work room at Rudder Jessup.

6:30-9:30pm Reviewers’ work session, preparation of draft report for exit meeting, faculty debriefing

Wednesday, November, 19 (Day 3)

7:30-9am Breakfast and exit meeting at Rudder Jessup with:  
Office of the Provost, Administrative Team and College Deans  
Hongbin Zhang will escort to the Biochemistry/Biophysics building; will bring team luggage along.

9:30 – 10:30 am Reviewers make final changes to draft report, as necessary,  
Room 403, Biochemistry/Biophysics building.

10:30-11:00 am Reviewers debrief Genetics Executive Committee  
Room 403, Biochemistry/Biophysics building.  
Reed Stubbendieck (grad student) will escort to Room 106A, Biochemistry/Biophysics Building

11:15-11:45 am Reviewers debrief faculty, staff and students on final report,  
Room 106A Biochemistry/Biophysics

12:00-1:00 pm Lunch at Café Eccell with Dr. Coates, Genetics Executive committee member: Hongbin Zhang

Craig Coates Escort to Easterwood Airport for 2:40pm AA 3386 flights
D. Faculty Liaison and Executive Committee Members

Dr. Craig Coates (At-Large position, 1 year remaining)

Dr. Hubie Amrein (HSC representative, 2 years remaining)

Dr. Hongbin Zhang (At-large position, 1 year remaining)

Dr. Dorothy Shippen (At Large position, term ending)

Dr. Paul Samollow (At-Large position, term ending)

Dr. Terje Raudsepp (CVM representative, term ending)

Dr. Tina Gumienny (At-Large, 1 year remaining)—Need replacement, moving to different institution.

Dr. Tom McKnight (COS representative 2 years remaining)—Need replacement, administrative appointment.

Dr. Jim Wild (COALS representative, 2 years remaining)—Need replacement, retired.

Administrative Associate: Julia Williams, room 109A Bio/Bio, 458-2284

Craig Coates, Chair
Office 979-458-1219
Home 979-571-2784
Cell 979-571-2784
ccoates@tamu.edu
III. Background

A. Organizational Structure of the Intercollegiate Faculty

The Faculty of Genetics is an intercollegiate academic unit of The Texas A&M University. It is administratively associated with the College of Agriculture and Life Sciences, and is overseen by the Dean of Faculties and the Office of Graduate and Professional Studies. Genetics Faculty are listed within one or more areas of specialization of genetics, primarily to assist incoming graduate students identify faculty with whom they want to perform research rotations during their first two semesters in the program as they search for their thesis laboratory. The current areas of specialization are as follows.

- Bioinformatics and Genomics
- Conservation and Population Genetics
- Medical Genetics - Human and Animal
- Microbial Genetics
- Molecular, Cellular and Developmental Genetics
- Plant Genetics

B. The Interdisciplinary Graduate Degree Program in Genetics

The principal function of the Faculty of Genetics is the administration of the Interdisciplinary Graduate Degree Program leading to the Master of Science and Doctor of Philosophy degrees in Genetics. The organization also serves to promote and facilitate communication among geneticists and to foster the development of genetics at Texas A&M University. It arranges for the periodic assembly of geneticists and provides a forum for them and for others with related interests. The organizational and operational characteristics of the Faculty of Genetics are intended to be broad enough to permit consideration of all academic
aspects of genetics and all other matters affecting the position and progress of the discipline at Texas A&M University. Admission to the Faculty is determined by the Executive Committee after 1) nomination by the Head of the faculty member’s administrative department, and 2) recommendation by the Membership Committee of the Faculty of Genetics. Full members of the Faculty of Genetics must be full members of the graduate faculty at Texas A&M University and must have significant research, teaching, and service activities in genetics. Members are reviewed every three years, and must maintain active involvement in both academic and service functions of the Faculty of Genetics. Current Genetics Faculty Members are listed in the table below.

**Intercollegiate Faculty of Genetics**  
**Departmental Listing**  
**August 2014**

<table>
<thead>
<tr>
<th>College of Agriculture and Life Sciences (COALS)</th>
<th>Nutrition (NUTR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Science (ANSC)</td>
<td></td>
</tr>
<tr>
<td>GILL, Clare</td>
<td>ALLRED, Clinton D.</td>
</tr>
<tr>
<td>HERRING, Andy</td>
<td>CHAPKIN, Robert S.</td>
</tr>
<tr>
<td>ING, Nancy H.</td>
<td>STURINO, Joseph</td>
</tr>
<tr>
<td>RIGGS, Penny K.</td>
<td>TURNER, Nancy</td>
</tr>
<tr>
<td>RILEY, David</td>
<td></td>
</tr>
<tr>
<td>BRYK, Mary</td>
<td></td>
</tr>
<tr>
<td>Biochemistry &amp; Biophysics (BCBP)</td>
<td>Plant Pathology (PLPA)</td>
</tr>
<tr>
<td>HU, James C.</td>
<td>DE FIGUERIEJO, Paul</td>
</tr>
<tr>
<td>KUNKEL, Gary R.</td>
<td>DICKMAN, Marty</td>
</tr>
<tr>
<td>MULLET, John E.</td>
<td>EBBOLE, Daniel J.</td>
</tr>
<tr>
<td>PANIN, Vlad</td>
<td>GONZALEZ, Carlos F.</td>
</tr>
<tr>
<td>PETERSON, David O.</td>
<td>KENERLEY, Charles M.</td>
</tr>
<tr>
<td>POLYMENIS, Michael</td>
<td>MAGILL, Clint W.</td>
</tr>
<tr>
<td>SHIPPEN, Dorothy E.</td>
<td>SHAW, Brian</td>
</tr>
<tr>
<td>STRAIGHT, Paul</td>
<td>WILKINSON, Heather</td>
</tr>
<tr>
<td>Entomology (ENTO)</td>
<td></td>
</tr>
<tr>
<td>COATES, Craig J.</td>
<td>Soil and Crop Science (SCSC)</td>
</tr>
<tr>
<td>JOHNSTON, J. Spencer</td>
<td>KOHELM, Russell J.</td>
</tr>
<tr>
<td>Forest Science (FRSC)</td>
<td>MURRAY, Seth</td>
</tr>
<tr>
<td>LOOPSTRA, Carol A.</td>
<td>SMITH, C. Wayne</td>
</tr>
<tr>
<td>Horticulture (HORT)</td>
<td></td>
</tr>
<tr>
<td>MILLER, J. Creighton</td>
<td></td>
</tr>
<tr>
<td>Wildlife and Fishery Science (WFSC)</td>
<td></td>
</tr>
<tr>
<td>GOLD, John</td>
<td></td>
</tr>
<tr>
<td>HURTADO, Luis</td>
<td></td>
</tr>
<tr>
<td>MATEOS, Mariana</td>
<td></td>
</tr>
</tbody>
</table>

Genetics Academic Program Review  
Self-Study Report  
Texas A&M University
Health Sciences Center (HSC)

Molecular & Cellular Medicine
LIU, Fei
BONDOS, Sarah
AMREIN, Hubert
BAYLESS, Kayla J.
GUMIENNY, Tina L.
JI, Junyuan
MAXWELL, Steve A.
SITCHERAN, Raquel
KAPLER, Geoffrey M.

Microbial & Molecular Pathogenesis
ANDREWS- POLYMENIS, Helene
CIRILLO, Jeffrey
LEIBOWITZ, Julian
SAMUEL, James E.
SKARE, Jon
TESH, Vernon

College of Science (COS)

Biology (BIOL)
ARAMAYO, Rodolfo
BELL-PEDERSEN, Deb
BENEDIK, Michael
ERICKSON, James
GARCIA, L. Rene
GOMER, Richard
HALL, Timothy C.
HARDIN, PAUL
LINTS, Robyn
MAGERT, Keith
MCKNIGHT, Thomas
PEPPER, Alan
PERKINS, Brian
QIN, Hongmin
RILEY, Bruce
ROSENTHAL, Gil
RYAN, Kathryn
SACHS, Matt
SIEGELE, Deborah

College of Veterinary Medicine (CVM)

Large Animal Hospital (VLAM)
COHEN, Noah

Veterinary Integrative Biosciences (VIBS)
CAI, James
CHOWDHARY, Bhanu
MURPHY, William J.
PORTER, Westin
RAUDSEPP, Terje
SAMOLLOW, Paul
SKOW, Loren C.
WELSH, Jane

Veterinary Pathobiology (VTPB)
CRISCITIELLO, Michael
DERR, James N.
DINDOT, Scott
PAYNE, Susan
SEABURY, Christopher
WOMACK, James E.

Veterinary Physiology and Pharmacology (VTPP)
LONG, Charles
SAFE, Steve
WESTHUSIN, Mark

College of Education and Human Development (EHD)

Health and Kinesiology (HLKN)
LIGHTFOOT, Tim
Full members are entitled to:

1) Serve as chair of a thesis or dissertation committee for a Genetics graduate student;
2) Teach graduate GENE courses;
3) Serve on the Faculty of Genetics Executive Committee;
4) Vote on matters requiring a vote of the Faculty of Genetics;
5) Serve on the Faculty of Genetics Membership and Nominating Committee; and
6) Chair standing or ad hoc committees of the Faculty of Genetics.

The responsibilities of members are detailed in the Faculty Bylaws (Appendix).
### 1. Number of Degrees Per Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Degrees Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>8</td>
</tr>
<tr>
<td>2011-2012</td>
<td>2</td>
</tr>
<tr>
<td>2012-2013</td>
<td>8</td>
</tr>
<tr>
<td>Average, 2010-2013</td>
<td>6.0</td>
</tr>
</tbody>
</table>

#### Graduation Rates

- **Starting Cohorts: 2001-2003**
- Three-year average of the percent of first-year doctoral students who graduated within ten years. First-year doctoral students: Those students who have been coded as doctoral students by the institution and have either completed a master’s program or at least 30 SCH towards a graduate degree.
- **% Graduating within 10 Years**: 97%
- **Years with Cohort greater than 0**: 2001, 2002, 2003

### 3. Average Time to Degree

- **Students Starting 2001-2003**
- Three-year average of the registered time to degree of first-year doctoral students within a ten year period. [3] Registered time to degree: The number of semesters enrolled starting when a student first appears as a doctoral student until she completes a degree, excluding any time taken off during graduate study. The number of years is obtained by dividing the number semesters by three.
- **Average Years to Degree**: 5.6

### 4. Employment Profile

- **In field within one year of graduation**. For each of the three most recent years, the number and percent of graduates by year employed, those still seeking employment, and unknown.

<table>
<thead>
<tr>
<th>Year</th>
<th>Employed</th>
<th>Still Seeking Employment</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>2010-2011</td>
<td>8</td>
<td>89%</td>
<td>1</td>
</tr>
<tr>
<td>2011-2012</td>
<td>5</td>
<td>83%</td>
<td>1</td>
</tr>
<tr>
<td>2012-2013</td>
<td>8</td>
<td>82%</td>
<td>2</td>
</tr>
</tbody>
</table>

### 5. Admissions Criteria

- Prospective students complete a pre-application in which our graduate admission committee reviews. The committee contacts the prospect via email as to whether they would like them to complete a full application. Those students approved through the pre-application process are asked to complete the Texas Comman application application through the University graduate admission office on-line. Students are asked to submit a statement of purpose, transcripts, general GRE scores (TOEFL as well for international students), and three recommendation letters. Domestic and foreign national students receive a phone interview from a graduate admission committee member. The domestic and foreign national prospects that submit their application materials by December 20 are eligible to receive an invitation to our Graduate Recruiting Symposium in February. During the symposium, prospective students are given an overview of the program, interviewed by faculty members, and interact with current students. The recruiting committee makes their first round of admissions selections from the symposium attendee based on their application material, faculty interviews and graduate student feedback.

### 6. Percentage Full-time Students

- **FTS/number of students enrolled for the last three fall semesters**.

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall 2011</th>
<th>Fall 2012</th>
<th>Fall 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>91.3%</td>
<td>75.0%</td>
<td>88.2%</td>
</tr>
</tbody>
</table>

### 7. Average Institutional Financial Support Provided

- **For those receiving financial support, the average monetary institutional financial support provided per full-time graduate student for the prior year, from assistantships, scholarships, stipends, grants, and fellowships. Does not include tuition or benefits.**

<table>
<thead>
<tr>
<th>Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$22,000</td>
</tr>
<tr>
<td>8</td>
<td>Percentage Full-Time Students with Institutional Financial Support</td>
</tr>
<tr>
<td>----</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>In the prior year, the number of full-time students with at least $1,000 of annual support/the number of full-time students</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Number of Core Faculty</td>
</tr>
<tr>
<td>Number of core faculty in the prior year</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Student-Core Faculty Ratio</td>
</tr>
<tr>
<td>Three-year average of full-time student equivalent (FTSE)/three-year average of full-time faculty equivalent (FTFE) of core faculty. Core Faculty: Full-time tenured and tenure-track faculty who teach 50 percent or more in the doctoral program or other individuals integral to the doctoral program who can direct dissertation research.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Core Faculty Publications</td>
</tr>
<tr>
<td>Three-year average of the number of discipline-related refereed papers/publications, books/book chapters, juried creative/performance accomplishments, and notices of discoveries filed/patents issued per year per core faculty member.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Core Faculty External Grants</td>
</tr>
<tr>
<td>Average of the Number of Core Faculty receiving average external funds per faculty, and total external funds per program per academic year. All external funds received from any source including research grants, training grants, gifts from foundations, etc., reported as expenditures.</td>
<td>$242,043</td>
</tr>
<tr>
<td>Average External Funds per Faculty</td>
<td>$10,901,603</td>
</tr>
<tr>
<td>Total External Funds</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Faculty Teaching Load</td>
</tr>
<tr>
<td>Total number of semester credit hours in organized teaching courses taught per academic year by core faculty divided by the number of core faculty in the prior year</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Faculty Diversity</td>
</tr>
<tr>
<td>Core faculty by ethnicity (White, Black, Hispanic, Other) and gender, updated when changed</td>
<td>Male</td>
</tr>
<tr>
<td>White</td>
<td>55</td>
</tr>
<tr>
<td>Black</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
</tr>
<tr>
<td>15</td>
<td>Student Diversity</td>
</tr>
<tr>
<td>Enrollment headcount by ethnicity (White, Black, Hispanic, Other) and gender in program in the prior year</td>
<td>Male</td>
</tr>
<tr>
<td>White</td>
<td>9</td>
</tr>
<tr>
<td>Black</td>
<td>0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td>Date of Last External Review</td>
</tr>
<tr>
<td>Date of last formal external review, updated when changed</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>External Program Accreditation</td>
</tr>
<tr>
<td>Name of body and date of last program accreditation review, if applicable, updated when changed</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Student Publications/Presentations</td>
</tr>
<tr>
<td>For the three most recent years, the number of discipline-related refereed papers/publications, juried creative/performance accomplishments, book chapters, books, and external presentations per year by student FTE</td>
<td></td>
</tr>
</tbody>
</table>
B. Student Retention Rates

Genetics Graduate Degrees Awarded

<table>
<thead>
<tr>
<th>YEAR</th>
<th>08-09</th>
<th>09-10</th>
<th>10-11</th>
<th>11-12</th>
<th>12-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.S.</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>10</td>
<td>14</td>
<td>3</td>
<td>15</td>
</tr>
</tbody>
</table>

Over the 5yrs for which the Graduate Degree Award data is available following the previous APR, the Genetics Program has graduated 50 students for an average of 10 graduate degrees per year (3.8 M.S., 6.2 Ph.D.). While the incoming year for those students is not indicated, the average number of admitted students to the program over the last 7 years is 10.5 per year (0.9 M.S., 9.6 Ph.D.).

This indicates that the overall student retention rate to a final graduate degree is high. However, just looking at the Ph.D., approximately 2/3rds of the incoming Ph.D. students are graduating with that degree, with the vast majority of the remaining students graduating with a M.S. degree following a change of degree petition.

There are a variety of reasons why students change from a Ph.D. to a M.S., including changes in career goals, family/health issues, insufficient research/academic progress, and a lack of available funding. In the vast majority of cases these students are graduating with a M.S. with thesis option; the non-thesis M.S. degree option being the rare exception.

C. Student Enrollment

<table>
<thead>
<tr>
<th>YEAR</th>
<th>DEGREE</th>
<th>APPLIED</th>
<th>ADMITTED</th>
<th>ENROLLED</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>M.S.</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ph.D.</td>
<td>29</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>35</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>2008</td>
<td>M.S.</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ph.D.</td>
<td>39</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>45</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>2009</td>
<td>M.S.</td>
<td>7</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ph.D.</td>
<td>53</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>60</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>2010</td>
<td>M.S.</td>
<td>12</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ph.D.</td>
<td>53</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>65</td>
<td>20</td>
<td>13</td>
</tr>
</tbody>
</table>
The average GRE and GPA scores for students admitted to the program has been very consistent for the last 5 years of recruiting cycles. The data for 2 recent cycles is as follows.

2010-2011 For class of 10 + 2 spring transfers: 1199 GRE (500V, 699Q) 3.443 GPA [7 women, 1 “other” (Southwest Asia), 3 International].
2011-2012 For class of 9: 1208 GRE (524V, 684Q) 3.635 GPA [5 women, 1 African American, 1 Asian American, 1 International].

The total numbers of students applying to the Genetics Graduate Program is misleadingly low due to the process we implemented to streamline our admissions review process, focus on the highest quality students, and improve our “capture rate”, which averages 75% for students that enroll following an offer of admission. All students are encouraged to submit a “pre-application” which mimics the Apply Texas formal application, however the pre-applications are not included in the formal numbers presented above. This allows the Recruiting and Admissions Committee a first pass at reviewing the students, as well as allowing the students to apply with no cost involved. The highest ranked students are contacted and encouraged to submit a full application through the formal process and when received and following review of the complete packets and letters of recommendation, the top students are invited to attend the Genetics Recruiting Weekend, held Thursday-Sunday the 2nd week of February. Typically up to 25 students are invited to attend the recruiting weekend and following interviews with faculty and receiving feedback, the committee admits the highest ranked students who are offered a Teaching Assistantship (TA) to support their first year in the program.

It is also made known that the program does not offer direct financial support for M.S. students, hence the low number of applicants for that degree program. However, individual P.I.’s can recruit M.S. students that they fund directly; so long as these students meet the academic standards of the program and are also approved for admission by the recruiting and admissions committee. Similarly, Ph.D. students that are recruited by individual P.I.’s outside of the formal recruiting process must also meet an equivalent academic standard before they are admitted to the program. If there is some doubt regarding a student’s preparation in either of these cases, they may be conditionally admitted under academic probation, or initially into the

<table>
<thead>
<tr>
<th>Year</th>
<th>M.S.</th>
<th>Ph.D.</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>5</td>
<td>52</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>2012</td>
<td>9</td>
<td>57</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>2013</td>
<td>6</td>
<td>52</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>
M.S. degree whereby they can subsequently be removed from probation and/or changed to the Ph.D. degree following suitable academic and research progress.

E. Alignment of Program with stated Institutional Goals

The Interdisciplinary Program in Genetics provides support for the Texas A&M University Vision 2020 goals in several areas. Membership within the Faculty of Genetics is often put forward as a possibility during Faculty Recruiting visits and interviews, with the major benefit being the ability to access the very high quality Ph.D. students that are recruited to the program, in many cases they are superior to students that are recruited to an individual departmental program. By Strengthening Our Graduate Program the Faculty of Genetics and Graduate Students are helping to enhance the reputation of Texas A&M University and to raise the standard of graduate student research on campus in the life sciences.

Our Faculty and Students are actively involved in Enhancing the Undergraduate Academic Experience through teaching undergraduate classes, serving as TA’s in undergraduate laboratories, and providing research experiences and mentoring for undergraduate research experiences.

F. Program Curriculum and Duration

The following graduate courses are offered with a GENE prefix.

603. Genetics. (4-0). Credit 4. Development of fundamental concepts related to the structure, function, organization, transmission and distribution of genetic material. Prerequisite: GENE 301.

606. Quantitative Phylogenetics. (2-3). Credit 3. Designed to provide the theory and tools required for inference of phylogenetic (evolutionary) relationships among biological taxa using various types of comparative data including morphological characters, biochemical and molecular characters, and DNA sequences; hands-on analysis of data using contemporary tools. Prerequisite: ENTO 601 or approval of instructor. Cross-listed with ENTO 606 and WFSC 646.

608. Critical Analysis of Genetic Literature. (1-0). Credit 1. An introduction to primary literature in the field of genetics which will give students experience in critically evaluating scientific papers and develop an appreciation of how genetics can be used to address important biological questions.

612. Population Genetics. (3-0). Credit 3. Biological approach to genetic characteristics of populations dealing with genetic equilibrium, allelic variation, determination of genetic variation in populations, effects of mating systems, selection, mutation and drift on population parameters. Prerequisites: GENE 603; STAT 651.

613. Quantitative Genetics I. (3-0). Credit 3. Quantitative genetics concepts particularly dealing with partitioning of phenotypic variance into genetic and environmental components, selection response, effects of systems of mating, genetic covariance and threshold effects. Prerequisites: GENE 612; STAT 652.

614. Maximum Likelihood Estimation of Genetics. (3-0). Credit 3. Theoretical and analytical approaches to the application of maximum likelihood for the estimation of parameters under linear and nonlinear models; single and polygene genetic models including Hardy-Weinberg equilibrium, linkage analysis and quantitative trait loci detection. Prerequisites: GENE 603; STAT 651; STAT 652 or STAT 601. Cross-listed with ANSC 614.

629. Applied Animal Genomics. (3-0). Credit 3. Theory and application of genomics by livestock industries; consideration of genetic markers, gene mapping methods, genome analysis and emerging technologies such as microarrays, transgenesis, cloning and marker assisted selection; exposure to bioinformatic tools for genomics. Prerequisite: GENE 603 or approval of instructor. Cross-listed with ANSC 629 and POSC 630.


633. Conservation Genetics. (3-0). Credit 3. Genetic concepts and techniques relevant to management and conservation of biological
diversity; research and conservation within a conservation genetics framework. Prerequisites: Introductory courses in genetics and ecology or biological conservation. Cross-listed with WFSC 633.

643. Molecular Quantitative Genetics and Plant Breeding. (3-0). Credit 3. Classical, applied and molecular aspects of quantitative genetics in plant breeding; genetic relationships; genetic diversity; genetic phenomena (linkage, heterosis and epistasis); genotype by environment interaction; mapping quantitative trait loci (QTL); genomic and marker-assisted selection; application of statistical software. Prerequisites: STAT 651, SCSC 642 or GENE 613 or approval of instructor. Cross-listed with SCSC 643.

648. Molecular Evolution. (2-2). Credit 3. Theory and tools used in the analysis of molecular evolutionary patterns of DNA and protein sequences; format combines lecture presentations by instructor, discussion of relevant scientific literature, computer exercises, preparation of research proposal or independent research project, and practice in peer review process. Prerequisites: Basic courses in general genetics and in Evolution. Cross-listed with WFSC 648.

654. Analysis of Complex Genomes. (3-0). Credit 3. History and current status of genetic and molecular analysis of higher eukaryotic genomes; coverage of techniques for dissection of genomes into manageable parts; investigations in genetics, breeding and evolution; emphasis on quantitative inheritance, genetic mapping, physical mapping, map-based cloning, with examples drawn from a wide range of organisms. Prerequisite: GENE 603. Cross-listed with SCSC 654 and MEPS 654.

655. Analysis of Complex Genomes--Lab. (0-7). Credit 3. Laboratory methods in molecular genetic techniques for genetic mapping, physical mapping, and map-based cloning of both qualitative and quantitative phenotypes. Prerequisite: GENE 603 or equivalent or approval of instructor. Cross-listed with SCSC 655 and MEPS 655.

662. Eukaryotic Transcription. (1-0). Credit 1. Intensive short course in molecular mechanisms of eukaryotic transcription and its regulation. Prerequisite: GENE 631 or BICH 631 or approval of instructor. Cross-listed with BICH 662.

673. Gene Expression. (1-0). Credit 1. Oral presentations and discussions related to the biochemistry and molecular biology of gene expression in animal, plant, and microbial systems. Course may be repeated for credit up to 12 times. Prerequisite: Graduate classification in biochemistry or genetics or approval of instructor. Cross-listed with BICH 673.

677. Genes and Diseases. (3-0). Credit 3. Molecular and genetic basis for human disease; structure, function and evolution of chromosomes; epigenetics; gene mapping; complex genetic traits; cancer genetics; neurodegenerative disorders; animal models (yeast, mouse, worms, fruit flies); ethics. Prerequisite: GENE 603, GENE 631, or MSCI 601 or approval of instructor. Cross-listed with MCMID 677.

681. Seminar. (1-0). Credit 1. Reports and discussions of topics of current importance in genetics; reports to be prepared and presented by graduate students enrolled in course.

685. Directed Studies. Credit 1 to 4 each semester. Individual problems or research not pertaining to thesis or dissertation. Prerequisite: Approval of instructor.

689. Special Topics in... Credit 1 to 4. Selected topics in an identified area of genetics. May be repeated for credit. Prerequisite: Approval of instructor.

691. Research. Credit 1 or more each semester. Prerequisite: GENE 603.

697. Teaching Genetics Labs. (1-0). Credit 1. Theory and practical aspects of teaching genetics labs, with emphasis on content, grading, instructional methods and practical aspects of genetics labs. May be repeated for credit. Prerequisites: Graduate classification in genetics; appointment as a TA for genetics labs.

Genetics Ph.D. Students are required to take the following courses to satisfy the minimal degree requirements, with differences for M.S. students as indicated.

GENE 603 – Genetics (4 Cr.)
GENE 608 – Critical Analysis of Genetics Literature (1 Cr.)
GENE 612 – Population Genetics (3 Cr.) OR GENE 613 3 (Cr.) – Quantitative Genetics (requires graduate level Statistics as a prerequisite)
GENE 631 – Biochemical Genetics (3 Cr.)
GENE 681 – Seminar (3 x 1 Cr.), or equivalent departmental seminar course (1 only for M.S.)
GENE 697 – Teaching Genetics Labs (2 x 1 Cr.), not required for M.S. or Research Assistants.
One other 3 Cr. course in Genetics or a closely related topic.

The Genetics Curriculum was designed in a streamlined manner to allow maximum flexibility for students who may need to take additional courses as recommended by their thesis committee. Some students have experienced some specific issues whereby the home department of their P.I. has also required them to take the required curricula classes for the home department major, which at times can be burdensome and at worst tied to departmental funding of that students
stipend. Taken to its extreme, this has caused some students to change majors, thus reducing the retention rate of the Genetics Program, and causing significant consternation amongst the Faculty given the time and fiscal resources that were utilized to recruit and fund the students.

GENE 612 has not been offered for several years as the faculty member that was teaching the class has moved to a different institution and a replacement faculty member on campus could not be identified, or was otherwise unavailable due to existing teaching commitments for their home department. The course will be offered again in the Fall of 2015.

Discussions surrounding the Genetics Curriculum were the most prevalent topic in preparations for the APR. One of the concerns that were raised is whether the curriculum allows students to be distinguished as “Genetics” students, compared to comparable curricula offerings that they may receive within another major. Another issue is whether the curriculum currently covers all of the needed academic training in Genetics; for example should coursework in genomics/bioinformatics be required. One of the proposed solutions is to have a suite of courses identified across campus (both GENE and non-GENE prefixes) that fit a variety of fields/areas of genetics, and then require students to take at least one class from each grouping. Our current areas of specialization that are used to organize faculty listings do not appear to be suitable for grouping courses, thus different groupings will be required along with identifying all of the course offerings across the campus that would fit within each area, as well as the minimum number of courses that need to be taken for the degree.

The average time (years) to degree is shown in the following table.

<table>
<thead>
<tr>
<th>Year</th>
<th>M.S.</th>
<th>Ph.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>06-07</td>
<td>2.50</td>
<td>5.50</td>
</tr>
<tr>
<td>07-08</td>
<td>3.58</td>
<td>5.19</td>
</tr>
<tr>
<td>08-09</td>
<td>3.75</td>
<td>6.92</td>
</tr>
<tr>
<td>09-10</td>
<td>4.17</td>
<td>5.71</td>
</tr>
<tr>
<td>10-11</td>
<td>3.83</td>
<td>5.94</td>
</tr>
<tr>
<td>11-12</td>
<td>2.50</td>
<td>5.75</td>
</tr>
<tr>
<td>12-13</td>
<td>3.29</td>
<td>5.81</td>
</tr>
<tr>
<td>Average</td>
<td>3.37</td>
<td>5.83</td>
</tr>
</tbody>
</table>

While the average time to degree for both the M.S. and Ph.D. are higher than desired, it is important to consider that it is not always possible to make the deadlines for the completion of final exams and submission of the thesis to enable the student to graduate that semester, often pushing the actual graduation date to the following semester even though all of the work is completed. Regardless, several of the Genetics Program Learning Outcome measures are tied to reducing the overall time to degree. The M.S. time to degree is also relatively high due to the majority of these degrees being awarded to students that started in the Ph.D. program and then changed to the M.S. program, often after 2-3 years of progress in the Ph.D. program.
H. Program Finances and Resources

The Office of Graduate and Professional Studies use the following formulas to determine the allocation of resources to the Genetics Program.

**Chair Support** - $15,000

**Staff Support** – Total # Students X $300 + # Faculty Chairs/Co-Chairs X $250

**Graduate Enhancement** – Total Weighted Student Credit Hours X $12

**Strategic Support** – Total # PhD students X $300 + Total # MS students X $240 + Total PhD Graduates X $500 + Total MS Graduates X $400

**Redistribution/Graduate Enhancement Funds** – Proportion of unused funds from Colleges

For the past 2 fiscal years these calculations have resulted in the following allocations to the Genetics Program.

**FY14**

Chair Support - $15,000 (no fringe benefits)
Staff Support - $27,236 (includes fringe benefits)
Graduate Student Support - $88,750 (no fringe benefits)

**FY15**

Chair Support - $15,000 (no fringe benefits)
Staff Support - $27,236 (includes fringe benefits)
Graduate Student Support - $109,897 (no fringe benefits)

The FY14 to FY15 increase was primarily due to an increased allocation of redistributed funds as the other numbers used for the formulas are averaged over 5 years, which smoothes out any variation in those numbers year to year.

It should be noted that the provided Staff Support does not cover the full salary of Mrs. Julia Williams. The Department of Biochemistry and Biophysics generously pays the balance of her salary and fringe benefits, hence she is a part-time employee of both units. The Department of BCBP has also been kind enough to swap resources with the Genetics Program so that we can pay for costs that are not allowable using the restricted state funds that we receive. Finally, BCBP also handles the bookkeeping for the Faculty of Genetics, which includes graduate assistants’ salaries and benefits for first year Genetics graduate students, reimbursements for genetics seminar speakers, and travel costs for prospective graduate students.

The Graduate Student Support funds are utilized for all of the recruiting activities (plane flights, ground transportation, hotels, food, event costs); support of
visiting seminar speakers and the graduate student run symposium; graduate student stipends to make up any shortfalls in TA support, fellowships or awards; and to provide bridge funding for tuition and fees or stipends - typically for first year students that need to do additional summer rotations, or in rare cases for a later year student that has a financial hardship. There are also several events and activities that are managed by the Genetics Graduate Student Organization (GGSA) that are fully supported by this budget item.
I. Program Administration

The Faculty of Genetics is governed by an Executive Committee, which consists of nine members. Four members serve as college representatives and are elected by the Full Members of the Faculty of Genetics of that academic college. The five other members serve at-large and are elected by all Full Members of the Faculty of Genetics. All terms are for three years. The terms are overlapping, with three members being elected each year. Executive committee members are eligible for re-election. The Executive Committee elects from among its membership a Chair (two-year term) and a Vice-Chair (two-year term). After the first year of leadership by these two members, a Chair–Elect will be chosen. (See the governing bylaws in Appendix)

The Chair of the Faculty of Genetics has responsibility for the following: 1) provide leadership for the program and represent the Faculty in College and University meetings; 2) work closely with the Head of the Department of Biochemistry and Biophysics to secure teaching assistantships for students in Genetics; 3) approve degree programs, thesis and dissertation proposals, and theses and dissertations of genetics graduate students; 4) recommend the budget and approve expenditures for teaching functions in Genetics; and 5) ensure that teaching evaluations are completed for Genetics graduate courses. The Vice-Chair replaces the Chair and serves as the chief officer of the Faculty of Genetics in the absence of the chair and assumes the position of the Chair for two years after completion of the first year of service. The Academic Advisor of the Faculty of Genetics, Mrs. Julia Williams, serves as an ad-hoc member of the Executive Committee and is responsible for the preparation and distribution of minutes of the Faculty of Genetics and Executive Committee meetings and maintenance of records of Faculty and Executive Committee activities. The Academic Advisor is also expected to prepare a report for distribution to the Faculty and the Administration near the end of each Spring Semester as well as any other college and university required reports.
The Executive Committee members implement policy and make decisions to maintain and advance academic quality. In addition, they administer and coordinate the M.S. and Ph.D. graduate programs including admission of prospective graduate students, rotation of new students in faculty laboratories, and advising of all Genetics students. The Executive Committee appoints the chair and other members of Genetics committees.

Most of the work of the Faculty of Genetics is performed by the standing committees (see table below). Committee assignments are made based on indicated preference of all members yearly. Terms are for one year and are renewable. There is at least one member of the Executive Committee on each standing committee and he/she reports to the Executive Committee monthly. The chairs of the standing committees report to the Faculty of Genetics at the annual meetings. In addition, the Executive Committee elects a nominations committee, which is charge to nominate at least two people for each open Executive Committee position. No member of the Executive Committee can serve on the Nominating Committee.

<table>
<thead>
<tr>
<th>Faculty of Genetics</th>
<th>Standing Committees 2013-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruiting Committee</td>
<td>Richard Gomer</td>
</tr>
<tr>
<td></td>
<td>Paul Straight (Chair)</td>
</tr>
<tr>
<td></td>
<td>Clare A. Gill</td>
</tr>
<tr>
<td></td>
<td>Terje Raudsepp</td>
</tr>
<tr>
<td></td>
<td>Raquel Sitcheran</td>
</tr>
<tr>
<td>Seminar Committee</td>
<td>Marty Dickman</td>
</tr>
<tr>
<td></td>
<td>William Murphy</td>
</tr>
<tr>
<td></td>
<td>Thomas McKnight (Chair)</td>
</tr>
<tr>
<td>Graduate Curriculum</td>
<td>Vlad Panin</td>
</tr>
<tr>
<td></td>
<td>Clint Magill</td>
</tr>
<tr>
<td></td>
<td>Hongbin Zhang (Chair)</td>
</tr>
<tr>
<td>Membership Committee</td>
<td>Hubert Amrein (Chair)</td>
</tr>
<tr>
<td></td>
<td>Dorothy Shippen</td>
</tr>
<tr>
<td></td>
<td>Deborah Bell-Pedersen</td>
</tr>
<tr>
<td>Awards Committee</td>
<td>Paul Samollow</td>
</tr>
<tr>
<td></td>
<td>Tina Gumienny (Chair)</td>
</tr>
<tr>
<td>First-Year Advising Committee</td>
<td>Paul de Figueiredo (Chair)</td>
</tr>
<tr>
<td></td>
<td>Keith Maggert</td>
</tr>
</tbody>
</table>
J. Faculty Qualifications

Two-page NIH-style bio sketches for the Full Members are attached as an Appendix.
K. Learning Outcomes

The Learning Outcome Reports for both the M.S. and Ph.D. Degree programs are included as an Appendix.
V. Additional Information

**Graduate Student Compensation**

As we increased our efforts to attract more and higher quality graduate students, it became clear that a significant impediment was the low stipend we had historically offered to incoming graduate students. As a result we have maintained and increased the stipend offered to incoming graduate students that will TA in their first year, with the current stipend set at $24,500. However, the stipend levels and support for subsequent years in the program is determined by the individual P.I. and department and in some cases is significantly lower than the initial stipend, which can cause some issues, especially if not clearly communicated to the student.

**Entrance Requirements**

Several criteria are taken into consideration in admitting students to the Graduate Program in Genetics. In addition to GRE/GPA scores, essentially all of the students admitted to the program have laboratory research experience. Hence, letters from their research advisors weigh heavily in our decision. We also look for a clear statement of interest in Genetics in the student’s narrative. The interviews and student-faculty interactions at the annual Genetics Graduate Student Recruiting Events weigh heavily in the final decision to extend an offer of admission to a prospective student.

**Laboratory Rotations**

All of the students who enter the Genetics Graduate Program and are supported by a TA Fellowship are required to participate in three, 7 week laboratory rotations. The rotations give students an opportunity to see the breadth of Genetics expertise at TAMU. To provide students with more information about research labs for rotations, we host a Fall Poster Session during the orientation week before classes begin. All graduate students and faculty in the Genetics Program are invited to present a poster to attract rotation students to their laboratories.
Seminar Program

Due to declining faculty attendance at the formal genetics seminar series and increasing time constraints, the seminar series was cancelled. However, the funding that was available for that series is now used to co-sponsor invited seminar speakers to departmental seminar series when that speaker will be presenting research findings of general or specific interest to the Genetics Faculty and Students. These resources have also been made available to larger symposia with genetics related themes. The Genetics Graduate Student Association have also hosted very well attended symposia once a year in the spring semester; through which they have invited and had nationally and internationally renowned speakers in attendance.

Genetics Graduate Student Association

The Genetics Graduate Student Association (GGSA) is an essential component of the Interdisciplinary Program in Genetics. The GGSA is heavily involved in recruiting and retention efforts for our graduate students and is an important resource for students and faculty alike. A significant portion of the annual budget is made available to the GGSA to support their academic and social programs and every effort is made to support any new initiatives that help to promote and support Genetics graduate students.

The Travel Awards that are given to Genetics Graduate students are in part contingent on the students being active members of the GGSA as an additional incentive to participate in all events. Similarly, the recruitment and orientation events for prospective and new students involve graduate student poster and/or oral presentation competitions that have associated cash awards.

A representative from the GGSA is invited to attend the Genetics Executive Committee meetings as a non-voting participant, during which time they report on GGSA activities, graduate student concerns, and make recommendations for events and funding requests.
VI. Programmatic Stability

Vision

The Interdisciplinary Program in Genetics strives to be recognized as one of the top ten Genetics Graduate Programs at the national level. This goal is in line with The Vision 2020 Plan of Texas A&M University that seeks “to continue the academic evolution of Texas A&M University so that it is generally considered one of the ten best public universities in America by 2020, while maintaining, or even enhancing, the unique features that make Texas A&M University distinctive.”

Strengths

1. Breadth of expertise. The range of expertise represented in the Faculty of Genetics is extensive, covering all critical systems, both eukaryotic and prokaryotic.

2. Faculty dynamism. The members of the Faculty of Genetics are enthusiastic, dynamic, and interact well with each other. This is particularly true of the younger faculty.

3. Excellent infrastructure. The facilities and human and physical infrastructure available to members of the Faculty of Genetics are some of the most comprehensive in the United States.

Weaknesses

1. Lack of interaction and appreciation of common goals with the Heads of the various departments.

2. The volunteer leadership and commitment of the Faculty is inconsistent without support and reward for providing their efforts.

3. Little career support for the involvement of TAMU faculty members in interdisciplinary graduate programs.

4. Minimal financial resources to provide bridging support for genetics graduate students who have lost funding support.

Goals

To expand the impact of the Interdisciplinary Program in Genetics we have identified the following specific goals for the next five years. These include organizational as well as educational goals.

Organizational Goals. To stabilize and increase the visibility of the Genetics program, we need to:

1. Ensure that the contributions of the faculty to Interdisciplinary Degree Programs are valued and rewarded through Annual Performance Evaluations and during the Tenure and Promotion processes.

2. Have access to a permanent source of funding incentives for Faculty to teach graduate Genetics courses. Continuity of instruction is required to maintain stability in our Core Curriculum. It is essential
that these mechanisms also assist the Departments that are providing and supporting the Faculty that teach these classes.

EDUCATIONAL AND TRAINING GOALS. To achieve excellence in Genetics education, we aspire to:

1. Provide continuity in our core curriculum by ensuring a long-term vision and availability of appropriate faculty to teach Genetics courses. This goal is inextricably linked to the organizational goals above.

2. Determine an optimal curriculum structure and suite of course offerings that both distinguish Genetics graduate students from other majors, and provide the students with a suitable breadth of Genetics course work to prepare them for cutting edge interdisciplinary research projects.
VII. Appendices

a) Learning Outcomes for the Ph.D. Degree.

b) Learning Outcomes for the M.S. Degree.

c) 2 Page Faculty CVs.
Mission / Purpose

To prepare graduate students for a career in genetics or related fields.

Goals

G 1: Goals to fulfill the mission of Genetics M.Sc. Graduate Program
To provide comprehensive training in an advanced academic environment, including rigorous classwork, intensive research experience, teaching, developing professional oral and written communication skills, and various service activities.

Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans

SLO 1: Advanced and specialized knowledge of modern genetics
Students will demonstrate competency in principles of modern genetics and mastery in a specialized area of genetics related to their chosen career track.

Relevant Associations:

- General Education/Core Curriculum Associations
  - 1 Master the depth of knowledge required for a degree
  - 2 Demonstrate critical thinking
  - 6 Prepare to engage in lifelong learning

- Strategic Plan Associations
  - Texas A&M University
    - 2 Strengthen our graduate programs.
    - 5 Build on the tradition of the professional education.

Related Measures

M 1: Degree Plan and Coursework
Students will select appropriate coursework to meet the Interdisciplinary program requirements with the guidance of their thesis mentor and advisory committee.

Source of Evidence: Academic direct measure of learning - other

Target:
Students demonstrated competency in their designated field and 80% achieved a GPA of 3.0 or greater at the time of graduation

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Keep targeted outcomes the same
Established in Cycle: 2013-2014
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates....

M 2: Thesis Proposal
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

Source of Evidence: Academic indirect indicator of learning - other

Target:
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Keep targeted outcomes the same.
Established in Cycle: 2013-2014
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates....

M 3: Thesis Defense
Students will successfully defend thesis, thus demonstrating their proficiency in the broader field of genetics, as well as mastery their area of specialty

Source of Evidence: Academic direct measure of learning - other

Target:
100% of students will meet or exceed expectations of advanced and specialized knowledge as demonstrated by
successful thesis defense upon finishing 4 years of the Program

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Keep targeted outcomes the same.
Established in Cycle: 2013-2014
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates....

SLO 2: Critical thinking abilities
Students will demonstrate the ability to analyze experimental results, to develop and discuss scientific hypothesis and to apply genetic principles to research problems in a specialized area of genetics related to their chosen career track.

Relevant Associations:
General Education/Core Curriculum Associations
1  Master the depth of knowledge required for a degree
2  Demonstrate critical thinking

Strategic Plan Associations
Texas A&M University
2 Strengthen our graduate programs.
5 Build on the tradition of the professional education.

Related Measures

M 2: Thesis Proposal
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

Source of Evidence: Academic indirect indicator of learning - other

Target:
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

M 3: Thesis Defense
Students will successfully defend thesis, thus demonstrating their proficiency in the broader field of genetics, as well as mastery their area of specialty

Source of Evidence: Academic direct measure of learning - other

Target:
100% of students will meet or exceed expectations of demonstrating their critical thinking abilities by successful thesis defense upon finishing 4 years of the Program

M 4: Progress Assessment
Students' progress towards completing graduate research projects will successfully meet the criteria established by members of their committees

Source of Evidence: Senior thesis or culminating major project

Target:
70% of students will receive the assessment of their progress as “excellent”, while the progress of 80% of students will be evaluated as at least “satisfactory” by all members of their graduate committees.

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Keep targeted outcomes the same.
Established in Cycle: 2013-2014
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates....

SLO 3: Professional Competency
Students will demonstrate professional competency by mastering their ability to develop and discuss scientific hypotheses, to apply genetic principles to the analyses of experimental results, and to effectively communicate their research to a broader scientific community.

Relevant Associations:
General Education/Core Curriculum Associations
1  Master the depth of knowledge required for a degree
2  Demonstrate critical thinking
3  Communicate effectively
5  Demonstrate social, cultural, and global competence
6  Prepare to engage in lifelong learning
7  Work collaboratively

Strategic Plan Associations
Texas A&M University
2 Strengthen our graduate programs.
5 Build on the tradition of the professional education.
**M 2: Thesis Proposal**
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

**Target:**
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

**Source of Evidence:** Academic indirect indicator of learning - other

**M 3: Thesis Defense**
Students will successfully defend thesis, thus demonstrating their proficiency in the broader field of genetics, as well as mastery their area of specialty

**Target:**
100% of students will meet or exceed expectations of their professional competency by successful thesis defense upon finishing 4 years of the Program

**Source of Evidence:** Academic direct measure of learning - other

**M 5: Research Publications and Presentations**
Graduate students will demonstrate professional competency by presenting and discussing their original research at student research competitions, scientific meetings and conferences. Students will participate in preparing peer-reviewed research publications

**Target:**
45% of M.Sc. students will present their original research at a local, regional or national research conference or meeting by the end of their 3rd year. 75% of M.Sc. students will have at least one poster, oral presentation, and a peer-reviewed publication by the time of their thesis defense.

**Source of Evidence:** Academic indirect indicator of learning - other

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**Details of Action Plans for This Cycle (by Established cycle, then alpha)**

**Improve data collection and tracking students progress**
We will improve data collection and tracking students' performance in the program to identify potential problems early and provide timely help.

- **Established in Cycle:** 2009-2010
- **Implementation Status:** In-Progress
- **Priority:** High
- **Implementation Description:** A student worker will be hired to collect and analyze data.
- **Responsible Person/Group:** Executive Committees and Graduate Curriculum
- **Additional Resources:** A student worker position for data collection and analysis ($8/h, 20h/week)
- **Budget Amount Requested:** $8,000.00 (recurring)

**Database Search for Peer Review Publications**
A database search tool will be developed to track our students peer reviewed publications.

- **Established in Cycle:** 2011-2012
- **Implementation Status:** Planned
- **Priority:** Medium
- **Implementation Description:** Different Database search engines will be tested to find one that gives the appropriate results.
- **Projected Completion Date:** 07/2013
- **Responsible Person/Group:** GENE executive committee

**Establish a M.S./Ph.D. decision point**
The Genetics Executive Committee will determine a decision point timeline whereby students in the Ph.D. program will be assessed for progress and a determination made if they should transfer to the M.S. program to ensure a higher percentage of student completion within 4yrs. This will be assisted by the earlier scheduling of preliminary examinations where possible.

- **Established in Cycle:** 2012-2013
- **Implementation Status:** Planned
- **Priority:** Low

**Relationships (Measure | Outcome/Objective):**
- **Measure:** Thesis Defense | **Outcome/Objective:** Professional Competency
- **Implementation Description:** The language describing this transition and rationale for taking this option will be
Keep targeted outcomes the same
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Degree Plan and Coursework | Outcome/Objective: Advanced and specialized knowledge of modern genetics

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Thesis Proposal | Outcome/Objective: Advanced and specialized knowledge of modern genetics

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Progress Assessment | Outcome/Objective: Critical thinking abilities

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Progress Assessment | Outcome/Objective: Critical thinking abilities

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Progress Assessment | Outcome/Objective: Critical thinking abilities

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Progress Assessment | Outcome/Objective: Critical thinking abilities

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Progress Assessment | Outcome/Objective: Critical thinking abilities

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Progress Assessment | Outcome/Objective: Critical thinking abilities

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Progress Assessment | Outcome/Objective: Critical thinking abilities

Non-Thesis M.S. in Genetic Counseling
Discussions for improving the value of a non-thesis M.S. in Genetics have focused on preparing students for a career in Genetic Counseling. With the decrease in cost of genome sequencing and typing, an increasing number of people will have access to their genetic data, in many cases with no basis or assistance for understanding the results or implications of this data.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: Medium
Implementation Description: Curriculum Committee will discuss and consult with faculty to determine if existing courses are sufficient or if a new course should be added.
Projected Completion Date: 08/2015
Responsible Person/Group: Graduate Curriculum Committee

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**Detailed Assessment Report**
2014-2015 Genetics, PhD
As of: 11/10/2014 04:25 AM C EN T R A L
(Includes those Action Plans with Budget Amounts marked One-Time, Recurring, No Request)

**Mission / Purpose**
To prepare graduate students for a career in genetics or related fields

**Goals**

**G 1: Goals to fulfill the mission of the program**
To provide comprehensive training in an advanced academic environment, including rigorous classwork, intensive research experience, teaching, developing professional oral and written communication skills, and various service activities

**Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans**

**SLO 1: Advanced and specialized knowledge of modern genetics**
Students will demonstrate competency in principles of modern genetics and mastery in a specialized area of genetics related to their chosen career track.

**Relevant Associations:**
General Education/Core Curriculum Associations
1. Master the depth of knowledge required for a degree
6. Prepare to engage in lifelong learning

Strategic Plan Associations
Texas A&M University
2. Strengthen our graduate programs.
5. Build on the tradition of the professional education.

**Related Measures**

**M 1: Degree Plan and Coursework**
Students will select appropriate coursework to meet the Interdisciplinary program requirements with the guidance of their thesis mentor and advisory committee

Source of Evidence: Academic direct measure of learning - other

**Target:**
80% of students will achieve a GPA of 3.5 or greater at the time of graduation.

**M 2: Dissertation Proposal**
Students will prepare a dissertation proposal demonstrating mastery in their area of expertise

Source of Evidence: Academic direct measure of learning - other

**Target:**
90% of Ph.D. candidates will submit a dissertation proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their PhD committee, by the end of their 3rd year of study

**M 3: Preliminary Examination**
Graduate students will prepare and successfully pass both written and oral parts of preliminary examination, demonstrating in-depth understanding of genetic principles and adequate knowledge of their area of specialty, as well as the ability to critically analyze experimental results and to discuss scientific hypotheses

Source of Evidence: Academic direct measure of learning - other

**Target:**
90% of Ph.D. students will pass the preliminary examination administered by their Ph.D. committee within 4 years

**M 4: Dissertation Defense**
Students will successfully defend their dissertation, thus demonstrating their proficiency in the broader field of genetics, as well as mastery of their area of specialty

Source of Evidence: Senior thesis or culminating major project

**Target:**
90% of students will successfully defend their dissertation within 5 years
SLO 2: Critical thinking abilities
Students will demonstrate the ability to analyze experimental results, to develop and discuss scientific hypotheses and to apply genetic principles to research problems in a specialized area of genetics related to their chosen career track

Relevant Associations:

General Education/Core Curriculum Associations
1. Master the depth of knowledge required for a degree
2. Demonstrate critical thinking
3. Communicate effectively
6. Prepare to engage in lifelong learning

Strategic Plan Associations
Texas A&M University
2. Strengthen our graduate programs.
5. Build on the tradition of the professional education.

Related Measures

M 2: Dissertation Proposal
Students will prepare a dissertation proposal demonstrating mastery in their area of expertise
Source of Evidence: Academic direct measure of learning - other
Target:
90% of Ph.D. candidates will submit a dissertation proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their PhD committee, by the end of their 3rd year of study

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Improve tracking and reporting of student progress
Established in Cycle: 2012-2013
To address the delays in proposal submission and completion of preliminary exams by agreed upon timelines, improved tracking and...

M 3: Preliminary Examination
Graduate students will prepare and successfully pass both written and oral parts of preliminary examination, demonstrating in-depth understanding of genetic principles and adequate knowledge of their area of specialty, as well as the ability to critically analyze experimental results and to discuss scientific hypotheses
Source of Evidence: Academic direct measure of learning - other
Target:
90% of Ph.D. students will pass the preliminary examination administered by their Ph.D. committee within 4 years

M 4: Dissertation Defense
Students will successfully defend their dissertation, thus demonstrating their proficiency in the broader field of genetics, as well as mastery of their area of specialty
Source of Evidence: Senior thesis or culminating major project
Target:
75% of students will successfully defend their dissertation within 5 years

M 5: Progress Assessment
Students' progress towards completing graduate research projects will successfully meet the criteria established by members of their PhD committees
Source of Evidence: Senior thesis or culminating major project
Target:
75% of students will receive the assessment of their progress as “excellent”, while the progress of 90% of students will be evaluated as at least “satisfactory” by all members of their graduate committees.

SLO 3: Professional Competency
Students will demonstrate professional competency by mastering their ability to develop and discuss scientific hypotheses, to apply genetic principles to the analyses of experimental results, and to effectively communicate their research to a broader scientific community

Relevant Associations:

General Education/Core Curriculum Associations
1. Master the depth of knowledge required for a degree
2. Demonstrate critical thinking
3. Communicate effectively
6. Prepare to engage in lifelong learning
7. Work collaboratively

Strategic Plan Associations
Texas A&M University
2. Strengthen our graduate programs.
5. Build on the tradition of the professional education.

Related Measures

M 2: Dissertation Proposal
Students will prepare a dissertation proposal demonstrating mastery in their area of expertise
Source of Evidence: Academic direct measure of learning - other
Target:
90% of Ph.D. candidates will submit a dissertation proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their PhD committee, by the end of their 3rd year of study.

M 3: Preliminary Examination
Graduate students will prepare and successfully pass both written and oral parts of preliminary examination, demonstrating in-depth understanding of genetic principles and adequate knowledge of their area of specialty, as well as the ability to critically analyze experimental results and to discuss scientific hypotheses
Source of Evidence: Academic direct measure of learning - other
Target: 90% of Ph.D. students will pass the preliminary examination administered by their Ph.D. committee within 4 years

M 4: Dissertation Defense
Students will successfully defend their dissertation, thus demonstrating their proficiency in the broader field of genetics, as well as mastery of their area of specialty
Source of Evidence: Senior thesis or culminating major project
Target: 75% of students will successfully defend their dissertation upon completing the Program

M 6: Research Publications and Presentations
Graduate students will demonstrate professional competency by presenting and discussing their original research at student research competitions, scientific meetings and conferences. Students will participate in preparing peer-reviewed research publications
Source of Evidence: Academic indirect indicator of learning - other
Target: 50% of graduate students will present their original research at a local, regional or national research conference or meeting and will participate in at least one peer-reviewed publication by the end of their 3rd year. 80% of graduate students will have at least one poster or oral presentation at a regional or national research conference and have two peer-reviewed publications by the time of their thesis defense.

Details of Action Plans for This Cycle (by Established cycle, then alpha)

**Improve data collection and tracking students' progress**
We will improve data collection and tracking students’ performance in the program to identify potential problems early and provide timely help.

Established in Cycle: 2009-2010
Implementation Status: In-Progress
Priority: High
Implementation Description: A student worker will be hired to collect and analyze data.
Responsible Person/Group: Executive and Graduate Curriculum Committees
Additional Resources: A student worker position for data collection and analysis ($8/h, 20h/week, shared between MS and PhD programs )
Budget Amount Requested: $8,000.00 (recurring)

**Establish a peer reviewed publication tracking system**
A database search script will be written to recover peer review publications from our students in each academic year.

Established in Cycle: 2011-2012
Implementation Status: Planned
Priority: Medium
Implementation Description: This will require testing of database search engines to determine the appropriate search parameters.
Projected Completion Date: 07/2013
Responsible Person/Group: GENE executive committee
Additional Resources: None

**Improve tracking and reporting of student progress**
To address the delays in proposal submission and completion of preliminary exams by agreed upon timelines, improved tracking and reporting of student progress is required. A up to date database will be created and reports generated each semester to ensure adequate student progress. The Genetics Chair will follow up with the thesis committee and student in cases where the timelines are not being met.

Established in Cycle: 2012-2013
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
Measure: Dissertation Proposal | Outcome/Objective: Critical thinking abilities
Implementation Description: Student Progress database created and reporting structure designed to easily flag students who are falling behind the desired timelines.
Projected Completion Date: 06/2014
Responsible Person/Group: Administrative Assistant and Genetics Chair
Additional Resources: None

**Improve data collection and tracking students' progress**
Continue to improve data collection and tracking students’ progress to improve the program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High
Projected Completion Date: 09/2014
Responsible Person/Group: Program Executive and graduate curriculum committees
Mission / Purpose
To prepare graduate students for a career in genetics or related fields.

Goals
G 1: Goals to fulfill the mission of Genetics M.Sc. Graduate Program
To provide comprehensive training in an advanced academic environment, including rigorous classwork, intensive research experience, teaching, developing professional oral and written communication skills, and various service activities.

Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans
SLO 1: Advanced and specialized knowledge of modern genetics
Students will demonstrate competency in principles of modern genetics and mastery in a specialized area of genetics related to their chosen career track.

Relevant Associations:
General Education/Core Curriculum Associations
1. Master the depth of knowledge required for a degree
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6. Prepare to engage in lifelong learning

Strategic Plan Associations
Texas A&M University
2. Strengthen our graduate programs.
5. Build on the tradition of the professional education.

Related Measures
M 1: Degree Plan and Coursework
Students will select appropriate coursework to meet the Interdisciplinary program requirements with the guidance of their thesis mentor and advisory committee.
Source of Evidence: Academic direct measure of learning - other
Target:
Students demonstrated competency in their designated field and 80% achieved a GPA of 3.0 or greater at the time of graduation

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Keep targeted outcomes the same
Established in Cycle: 2013-2014
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates....

M 2: Thesis Proposal
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.
Source of Evidence: Academic indirect indicator of learning - other
Target:
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Keep targeted outcomes the same.
Established in Cycle: 2013-2014
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates....

M 3: Thesis Defense
Students will successfully defend thesis, thus demonstrating their proficiency in the broader field of genetics, as well as mastery their area of specialty
Source of Evidence: Academic direct measure of learning - other
Target:
100% of students will meet or exceed expectations of advanced and specialized knowledge as demonstrated by
successful thesis defense upon finishing 4 years of the Program

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Keep targeted outcomes the same.
Established in Cycle: 2013-2014
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates....

SLO 2: Critical thinking abilities
Students will demonstrate the ability to analyze experimental results, to develop and discuss scientific hypothesis and to apply genetic principles to research problems in a specialized area of genetics related to their chosen career track.

Relevant Associations:
General Education/Core Curriculum Associations
1. Master the depth of knowledge required for a degree
2. Demonstrate critical thinking

Strategic Plan Associations
Texas A&M University
1. Strengthen our graduate programs.
2. Build on the tradition of the professional education.

Related Measures
M 2: Thesis Proposal
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

Source of Evidence: Academic indirect indicator of learning - other
Target: 80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

M 3: Thesis Defense
Students will successfully defend thesis, thus demonstrating their proficiency in the broader field of genetics, as well as mastery their area of specialty.

Source of Evidence: Academic direct measure of learning - other
Target: 100% of students will meet or exceed expectations of demonstrating their critical thinking abilities by successful thesis defense upon finishing 4 years of the Program

M 4: Progress Assessment
Students' progress towards completing graduate research projects will successfully meet the criteria established by members of their committees.

Source of Evidence: Senior thesis or culminating major project
Target: 70% of students will receive the assessment of their progress as “excellent”, while the progress of 80% of students will be evaluated as at least “satisfactory” by all members of their graduate committees.

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Keep targeted outcomes the same.
Established in Cycle: 2013-2014
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates....

SLO 3: Professional Competency
Students will demonstrate professional competency by mastering their ability to develop and discuss scientific hypotheses, to apply genetic principles to the analyses of experimental results, and to effectively communicate their research to a broader scientific community.

Relevant Associations:
General Education/Core Curriculum Associations
1. Master the depth of knowledge required for a degree
2. Demonstrate critical thinking
3. Communicate effectively
4. Demonstrate social, cultural, and global competence
5. Prepare to engage in lifelong learning
6. Work collaboratively

Strategic Plan Associations
Texas A&M University
1. Strengthen our graduate programs.
2. Build on the tradition of the professional education.
Related Measures

**M 2: Thesis Proposal**
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

**Source of Evidence:** Academic indirect indicator of learning - other

**Target:**
80% of M.Sc. candidates will submit a thesis proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their thesis committee, by the end of their 3rd year of study.

**M 3: Thesis Defense**
Students will successfully defend thesis, thus demonstrating their proficiency in the broader field of genetics, as well as mastery their area of specialty.

**Source of Evidence:** Academic direct measure of learning - other

**Target:**
100% of students will meet or exceed expectations of their professional competency by successful thesis defense upon finishing 4 years of the Program.

**Established in Cycle:** 2012-2013

**Implementation Description:**
The Genetics Executive Committee will determine a decision point timeline whereby students in the Ph.D. program will be assessed...

**M 5: Research Publications and Presentations**
Graduate students will demonstrate professional competency by presenting and discussing their original research at student research competitions, scientific meetings and conferences. Students will participate in preparing peer-reviewed research publications.

**Source of Evidence:** Academic indirect indicator of learning - other

**Target:**
45% of M.Sc. students will present their original research at a local, regional or national research conference or meeting by the end of their 3rd year. 75% of M.Sc. students will have at least one poster, oral presentation, and a peer-reviewed publication by the time of their thesis defense.

**Related Action Plans (by Established cycle, then alpha):**

**Details of Action Plans for This Cycle (by Established cycle, then alpha)**

**Improve data collection and tracking students progress**
We will improve data collection and tracking students’ performance in the program to identify potential problems early and provide timely help.

**Established in Cycle:** 2009-2010
**Implementation Status:** In-Progress
**Priority:** High
**Implementation Description:** A student worker will be hired to collect and analyze data.
**Responsible Person/Group:** Executive Committees and Graduate Curriculum
**Additional Resources:** A student worker position for data collection and analysis ($8/h, 20h/week)
**Budget Amount Requested:** $8,000.00 (recurring)

**Database Search for Peer Review Publications**
A database search tool will be developed to track our students peer reviewed publications.

**Established in Cycle:** 2011-2012
**Implementation Status:** Planned
**Priority:** Medium
**Implementation Description:** Different Database search engines will be tested to find one that gives the appropriate results.
**Projected Completion Date:** 07/2013
**Responsible Person/Group:** GENE executive committee

**Establish a M.S./Ph.D. decision point**
The Genetics Executive Committee will determine a decision point timeline whereby students in the Ph.D. program will be assessed for progress and a determination made if they should transfer to the M.S. program to ensure a higher percentage of student completion with 4yrs. This will be assisted by the earlier scheduling of preliminary examinations where possible.

**Established in Cycle:** 2012-2013
**Implementation Status:** Planned
**Priority:** Low

**Relationships (Measure | Outcome/Objective):**
**Measure:** Thesis Defense | **Outcome/Objective:** Professional Competency

**Implementation Description:** The language describing this transition and rationale for taking this option will be...
included in the Genetics Graduation Student Handbook as well as be discussed during new student orientation.

Projected Completion Date: 06/2014
Responsible Person/Group: Genetics Executive Committee
Additional Resources: None

Keep targeted outcomes the same
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
  Measure: Degree Plan and Coursework | Outcome/Objective: Advanced and specialized knowledge of modern genetics

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
  Measure: Thesis Proposal | Outcome/Objective: Advanced and specialized knowledge of modern genetics

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
  Measure: Progress Assessment | Outcome/Objective: Critical thinking abilities

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
  Measure: Thesis Defense | Outcome/Objective: Advanced and specialized knowledge of modern genetics

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
  Measure: Progress Assessment | Outcome/Objective: Critical thinking abilities

Keep targeted outcomes the same.
Due to a limited amount of funding, our program generally gives first preference admission into our program to Ph.D. candidates. The M.S. students who we have acquired had already previously found a faculty advisor to support their research or they were initially a Ph.D. candidate who decided to drop down to a M.S. degree. With that in mind, we will keep our M.S. targeted outcomes the same since our M.S. students account for less than 10% of our graduate program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High

Relationships (Measure | Outcome/Objective):
  Measure: Research Publications and Presentations | Outcome/Objective: Professional Competency

Non-Thesis M.S. in Genetic Counseling
Discussions for improving the value of a non-thesis M.S. in Genetics have focused on preparing students for a career in Genetic Counseling. With the decrease in cost of genome sequencing and typing, an increasing number of people will have access to their genetic data, in many cases with no basis or assistance for understanding the results or implications of this data.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: Medium
Implementation Description: Curriculum Committee will discuss and consult with faculty to determine if existing courses are sufficient or if a new course should be added.
Projected Completion Date: 08/2015
Responsible Person/Group: Graduate Curriculum Committee

Mission / Purpose
To prepare graduate students for a career in genetics or related fields

Goals
G 1: Goals to fulfill the mission of the program
To provide comprehensive training in an advanced academic environment, including rigorous classwork, intensive research experience, teaching, developing professional oral and written communication skills, and various service activities

Student Learning Outcomes/Objectives, with Any Associations and Related Measures, Targets, Findings, and Action Plans
SLO 1: Advanced and specialized knowledge of modern genetics
Students will demonstrate competency in principles of modern genetics and mastery in a specialized area of genetics related to their chosen career track.

Relevant Associations:

General Education/Core Curriculum Associations
1. Master the depth of knowledge required for a degree
6. Prepare to engage in lifelong learning

Strategic Plan Associations
Texas A&M University
2. Strengthen our graduate programs.
5. Build on the tradition of the professional education.

Related Measures

M 1: Degree Plan and Coursework
Students will select appropriate coursework to meet the Interdisciplinary program requirements with the guidance of their thesis mentor and advisory committee
Source of Evidence: Academic direct measure of learning - other
Target:
80% of students will achieve a GPA of 3.5 or greater at the time of graduation.

M 2: Dissertation Proposal
Students will prepare a dissertation proposal demonstrating mastery in their area of expertise
Source of Evidence: Academic direct measure of learning - other
Target:
90% of Ph.D. candidates will submit a dissertation proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their PhD committee, by the end of their 3rd year of study

M 3: Preliminary Examination
Graduate students will prepare and successfully pass both written and oral parts of preliminary examination, demonstrating in-depth understanding of genetic principles and adequate knowledge of their area of specialty, as well as the ability to critically analyze experimental results and to discuss scientific hypotheses
Source of Evidence: Academic direct measure of learning - other
Target:
90% of Ph.D. students will pass the preliminary examination administered by their Ph.D. committee within 4 years

M 4: Dissertation Defense
Students will successfully defend their dissertation, thus demonstrating their proficiency in the broader field of genetics, as well as mastery of their area of specialty
Source of Evidence: Senior thesis or culminating major project
Target:
90% of students will successfully defend their dissertation within 5 years
SLO 2: Critical thinking abilities
Students will demonstrate the ability to analyze experimental results, to develop and discuss scientific hypothesis and to apply genetic principles to research problems in a specialized area of genetics related to their chosen career track

Relevant Associations:

General Education/Core Curriculum Associations
1. Master the depth of knowledge required for a degree
2. Demonstrate critical thinking
3. Communicate effectively
6. Prepare to engage in lifelong learning

Strategic Plan Associations
Texas A&M University
2. Strengthen our graduate programs.
5. Build on the tradition of the professional education.

Related Measures

M 2: Dissertation Proposal
Students will prepare a dissertation proposal demonstrating mastery in their area of expertise
Source of Evidence: Academic direct measure of learning - other
Target:
90% of Ph.D. candidates will submit a dissertation proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their PhD committee, by the end of their 3rd year of study

Related Action Plans (by Established cycle, then alpha):
For full information, see the Details of Action Plans section of this report.

Improve tracking and reporting of student progress
Established in Cycle: 2012-2013
To address the delays in proposal submission and completion of preliminary exams by agreed upon timelines, improved tracking and...

M 3: Preliminary Examination
Graduate students will prepare and successfully pass both written and oral parts of preliminary examination, demonstrating in-depth understanding of genetic principles and adequate knowledge of their area of specialty, as well as the ability to critically analyze experimental results and to discuss scientific hypotheses
Source of Evidence: Academic direct measure of learning - other
Target:
90% of Ph.D. students will pass the preliminary examination administered by their Ph.D. committee within 4 years

M 4: Dissertation Defense
Students will successfully defend their dissertation, thus demonstrating their proficiency in the broader field of genetics, as well as mastery of their area of specialty
Source of Evidence: Senior thesis or culminating major project
Target:
75% of students will successfully defend their dissertation within 5 years

M 5: Progress Assessment
Students’ progress towards completing graduate research projects will successfully meet the criteria established by members of their PhD committees
Source of Evidence: Senior thesis or culminating major project
Target:
75% of students will receive the assessment of their progress as “excellent”, while the progress of 90% of students will be evaluated as at least “satisfactory” by all members of their graduate committees.

SLO 3: Professional Competency
Students will demonstrate professional competency by mastering their ability to develop and discuss scientific hypotheses, to apply genetic principles to the analyses of experimental results, and to effectively communicate their research to a broader scientific community

Relevant Associations:

General Education/Core Curriculum Associations
1. Master the depth of knowledge required for a degree
2. Demonstrate critical thinking
3. Communicate effectively
6. Prepare to engage in lifelong learning
7. Work collaboratively

Strategic Plan Associations
Texas A&M University
2. Strengthen our graduate programs.
5. Build on the tradition of the professional education.

Related Measures

M 2: Dissertation Proposal
Students will prepare a dissertation proposal demonstrating mastery in their area of expertise
Source of Evidence: Academic direct measure of learning - other
Target:
90% of Ph.D. candidates will submit a dissertation proposal that conforms to the standards established by the Interdisciplinary Faculty of Genetics and is critically reviewed and approved by their PhD committee, by the end of their 3rd year of study.

M 3: Preliminary Examination
Graduate students will prepare and successfully pass both written and oral parts of preliminary examination, demonstrating in-depth understanding of genetic principles and adequate knowledge of their area of specialty, as well as the ability to critically analyze experimental results and to discuss scientific hypotheses
Source of Evidence: Academic direct measure of learning - other
Target:
90% of Ph.D. students will pass the preliminary examination administered by their Ph.D. committee within 4 years

M 4: Dissertation Defense
Students will successfully defend their dissertation, thus demonstrating their proficiency in the broader field of genetics, as well as mastery of their area of specialty
Source of Evidence: Senior thesis or culminating major project
Target:
75% of students will successfully defend their dissertation upon completing the Program

M 6: Research Publications and Presentations
Graduate students will demonstrate professional competency by presenting and discussing their original research at student research competitions, scientific meetings and conferences. Students will participate in preparing peer-reviewed research publications
Source of Evidence: Academic indirect indicator of learning - other
Target:
50% of graduate students will present their original research at a local, regional or national research conference or meeting and will participate in at least one peer-reviewed publication by the end of their 3rd year. 80% of graduate students will have at least one poster or oral presentation at a regional or national research conference and have two peer-reviewed publications by the time of their thesis defense.

Details of Action Plans for This Cycle (by Established cycle, then alpha)

Improve data collection and tracking students' progress
We will improve data collection and tracking students' performance in the program to identify potential problems early and provide timely help.

Established in Cycle: 2009-2010
Implementation Status: In-Progress
Priority: High
Implementation Description: A student worker will be hired to collect and analyze data.
Responsible Person/Group: Executive and Graduate Curriculum Committees
Additional Resources: A student worker position for data collection and analysis ($8/h, 20h/week, shared between MS and PhD programs)
Budget Amount Requested: $8,000.00 (recurring)

Establish a peer reviewed publication tracking system
A database search script will be written to recover peer review publications from our students in each academic year.

Established in Cycle: 2011-2012
Implementation Status: Planned
Priority: Medium
Implementation Description: This will require testing of database search engines to determine the appropriate search parameters.
Projected Completion Date: 07/2013
Responsible Person/Group: GENE executive committee
Additional Resources: None

Improve tracking and reporting of student progress
To address the delays in proposal submission and completion of preliminary exams by agreed upon timelines, improved tracking and reporting of student progress is required. A up to date database will be created and reports generated each semester to ensure adequate student progress. The Genetics Chair will follow up with the thesis committee and student in cases where the timelines are not being met.

Established in Cycle: 2012-2013
Implementation Status: Planned
Priority: High
Relationships (Measure | Outcome/Objective):
Measure: Dissertation Proposal | Outcome/Objective: Critical thinking abilities
Implementation Description: Student Progress database created and reporting structure designed to easily flag students who are falling behind the desired timelines.
Projected Completion Date: 06/2014
Responsible Person/Group: Administrative Assistant and Genetics Chair
Additional Resources: None

Improve data collection and tracking students' progress
Continue to improve data collection and tracking students' progress to improve the program.

Established in Cycle: 2013-2014
Implementation Status: Planned
Priority: High
Projected Completion Date: 09/2014
Responsible Person/Group: Program Executive and graduate curriculum committees
Appendix C
Faculty of Genetics Bylaws
Faculty of Genetics Bylaws
July 2009

Article I: Description

The Faculty of Genetics of Texas A&M University is an interdisciplinary faculty composed of members from various academic departments in several colleges and the Texas A&M Health Science Center.

Article II: Purpose and Intent

The principal function of the Faculty of Genetics is the administration of the graduate programs leading to the Master of Science and Doctor of Philosophy degrees in Genetics, in conformance with the rules of the Office of Graduate Studies of Texas A&M University – College Station. The organization also serves to promote and facilitate communication among geneticists and to foster the development of genetics at Texas A&M University. The Faculty of Genetics arranges for the periodic assembly of geneticists and provides a forum for them and for others with interests in genetics. The organizational and operational characteristics of the Faculty of Genetics are intended to be broad enough to permit consideration of all academic aspects of genetics and all other matters affecting the position and progress of the discipline at Texas A&M University. The Faculty of Genetics participates in the direction and teaching of the undergraduate program in genetics.

Article III: Membership

1. Admission to membership on the Faculty of Genetics shall be determined by the Executive Committee after nomination by the Head of the faculty member's administrative department and the receipt of a positive recommendation by the Committee on Membership of the Faculty of Genetics.

2. Only full members of the Graduate Faculty of Texas A&M University – College Station with significant academic or service activities in genetics are eligible to be Members of the Faculty of Genetics. Active involvement in academic, service, and recruiting activities of the Faculty of Genetics as described below is required to maintain membership.

3. The activities of each member of the Faculty will be reviewed on a rotating, three-year cycle in order to maintain active status. Each faculty member is expected to support and help to sustain the academic genetics community on campus as indicated below. To remain in good standing, each faculty member must satisfy at least one of the criteria from EACH of the Academic, Service and Recruiting Activities during the three-year review cycle.

A. Academic Activities

1) Teach a lecture, seminar, or laboratory genetics course, or other related courses with a clearly defined and substantive genetics component;

2) Serve as the chair or member of a graduate committee of a genetics student or students;
3) Function as the sponsor for GENE 285/485 or GENE 685 students involved in specialized studies, research in genetics, or performing a genetics rotation.

B. Service Activities

1) Hosting of a Faculty of Genetics mini-symposium or seminar speaker;

2) Participation in Genetics Faculty standing or ad hoc committees or serving on a College/University committee as a Genetics Faculty representative.

3) PI for a Grant/Award that supports Genetics Program Activities, for example a training grant, conference grant, REU grant.

4) Attendance at the Genetics Faculty Annual Meeting

C. Recruiting Activities

1) Participate in at least one of the recruiting weekend events such as the Welcome Dinner, Interviews, Lunch Function, Research Symposia, Social Event.

2) Participate in independent recruiting activities such as handing out Genetics Program recruiting materials to potential student recruits at conferences or seminar presentations at other academic institutions.

Members of the Faculty of Genetics are eligible to:

a) chair the advisory committee of a Genetics graduate student
b) teach graduate GENE courses
c) serve on the TAMU Faculty of Genetics Executive Committee
d) vote on matters requiring a vote of the Faculty of Genetics
e) serve on the Faculty of Genetics Membership and Nominating Committees
f) chair standing or ad hoc committees of the Faculty of Genetics

Article IV: Election to the Executive Committee

1. A nominating committee composed of three Members shall be elected by the Executive Committee prior to the annual meeting. No person who is a member of the Executive Committee may be a member of this committee.

2. The Nominating Committee shall recommend at least two candidates for each vacant position on the Executive Committee. Further nominations may be made from the floor at the annual meeting of the Faculty of Genetics.

3. Elections shall be conducted by email ballot to be distributed to Members after the annual Faculty of Genetics meeting. Each Member shall vote for no more candidates than the
number of positions to be filled. Those persons receiving the most votes will be declared elected. Election results shall be emailed to the members promptly. Elected members shall assume their duties on June 1.

4. Should the terms of the Chair or the Chair-elect be scheduled to end during their administrative cycle, those terms will be automatically extended to the end of their administrative term as Chair. At that time, their position will be filled so as to re-establish the normal re-election cycle.

Article V: Executive Committee

1. The Executive Committee shall consist of nine Members of the Faculty of Genetics.

2. The Executive Committee shall include one designated representative from each of the three academic colleges and the TAM HSC that participate in the Faculty of Genetics and five additional members at large. The designated representatives shall be elected by the Members of the Faculty of Genetics of each given academic college and the TAM HSC. The at large members of the Executive Committee shall be elected at-large by all of the Members of the Faculty of Genetics.

3. Members of the Executive Committee shall serve for three years, and; three members will be elected each year. Their service on the Executive Committee will begin June 1 of the year elected.

4. In June, after the annual election of new members, the Executive Committee shall elect from among its membership a Chair and a Vice-Chair. The chair and the vice-chair shall be elected for two year terms that begin June 1 and continue to May 31. After the first year of the administrative cycle, a chair-elect will be identified to serve for one year in preparation to assuming the Chair. (The Chair-elect may be any member of the Executive Committee excepting the Chair. The Vice-Chair and the Chair-elect may be the same individual or different persons.)

5. The Executive Committee shall fill any vacancies that may occur in its membership or offices between the annual elections by a majority vote of the Executive Committee.

6. The President of the GGSA will be invited to attend meetings of the Executive Committee as a non-voting participant. He/she will be excused from the meeting during any discussions of a sensitive matter concerning personnel.

Article VI: Functions of the Executive Committee

1. The principal functions of the Executive Committee shall be to:
a. Determine and implement policy for the good of the faculty members and students in the Faculty of Genetics and represent the interests of the Faculty generally to various University authorities and leaders of other agencies.

b. Establish the Faculty of Genetics Standing Committees and ad hoc committees as needed.

c. Develop the budget for graduate-level functions in Genetics.

d. Conduct all additional business deemed necessary for the proper functioning of the Faculty.

2. Technical administrative procedures pertaining to graduate degree programs shall be handled through the appropriate channels of the student's home department (the administrative ad loc department). Other matters shall be administered by the Executive Committee.

Article VII: Functions of the Officers

1. Chair

The chair is the chief officer and representative of the Executive Committee and the Faculty of Genetics. The chair's primary responsibility is the execution of those administrative functions that are delegated to the Faculty of Genetics. The chair shall:

a. Chair the Executive Committee meetings of the Faculty of Genetics.

b. Provide leadership in short- and long-term planning for the program and represent the faculty group in College and University meetings, as appropriate.

d. Work closely with Heads of Departments to secure support for students in the discipline.

c. Approve degree programs, thesis and dissertation proposals, and theses and dissertations of genetics graduate students for the Genetics Faculty.

d. Recommend the budget and approve expenditures for Genetics Programs.

e. Appoint, with approval of the Executive Committee, the chair and other members of standing committees and special committees.

f. Direct graduate student advising.

2. Vice-Chair: The vice-chair shall serve as chief officer of the Faculty of Genetics in the absence of the chair or when designated by the chair.

3. Chair-elect: The Chair-elect shall serve (in “apprenticeship”) for assuming the function of the Chair.

Article VIII: Meetings
1. The annual meeting of the Faculty of Genetics shall be held during the first two weeks of the month of May each year.

2. Special meetings of the Faculty of Genetics may be held at the call of the chair or by written application to the Executive Committee by five Members of the Faculty of Genetics.

3. A regular meeting of the Executive Committee shall be held each month in the Fall and Spring semesters. Other meetings of the Executive Committee may be held as frequently and for such purposes as are deemed desirable by the Executive Committee.

4. The minutes of each Faculty and Executive Committee meeting shall be distributed to all members of the Faculty of Genetics by email within 10 days after approval by the Executive Committee.

5. At Executive Committee and Faculty of Genetics meetings, Robert’s Rules of Order shall be followed in matters of parliamentary procedure.

6. A quorum for Executive Committee meetings shall consist of five members of the Committee. Twenty-five percent of the Members shall constitute a quorum for meetings of the Faculty of Genetics.

7. Voting can also take place outside of the Faculty of Genetics Meetings by email ballots which can be returned by email, fax, campus mail, or in person, within 7 days of receipt of such ballots.

8. Items requiring a faculty vote will pass by a simple majority vote of responding faculty (25% minimum must respond to satisfy the quorum requirement).

9. Changes to the bylaws will pass by a 2/3 majority vote of responding faculty (25% minimum must respond to satisfy the quorum requirement).

Article IX: Standing Committees

The members of each standing committee shall be appointed in June of each year and shall serve from July 1 through June 30 of the following year.

1. Committee on Membership

The Committee on Membership shall consist of three Members. It shall screen applications for membership in the Faculty of Genetics and make a recommendation to the Executive Committee as to the acceptability of each applicant. Membership shall be conferred by approval of the Executive Committee. The Committee on Membership shall also review the active status of all members on a three-year basis.

2. Graduate Recruiting Committee

The Graduate Recruiting Committee shall consist of three or more members and will include a non-voting student liaison as nominated by the GGSA. It shall serve as an advisory committee to the Executive Committee by screening and evaluating the applications of
prospective students for acceptance into the Genetics program and as candidates for Genetics teaching assistantships. The committee shall facilitate the processing of files of acceptable candidates through Faculty review and Office of Graduate Studies notification.

3. The First Year Program Committee

The First Year Program Committee shall consist of three or more members. It shall be responsible for advising and counseling of new students in selecting their academic coursework, managing their first year experiences overall, and selecting a research laboratory which will assume their mentoring at the end of the Spring Semester.

4. Graduate Curriculum Committee

The Graduate Curriculum Committee shall consist of three members. The committee will also include an additional student representative as nominated by the GGSA. It shall have responsibility for coordination of the graduate curriculum in genetics. Requests for new courses and course cross-listings will be reviewed by this committee who will then make recommendations to the Executive Committee for approval.

5. Faculty and Student Awards Committee

The Faculty and Student Awards Committee shall consist of three members. The committee will also include an additional student representative as nominated by the GGSA. It shall be responsible for the nomination of faculty and students for local and national awards, as well as the judging of any local student competitions and awards.

6. Committee on Seminars

The Committee on Seminars shall consist of three members. It shall coordinate speaker invitations and arrangements for the presentation of seminars and symposia on genetics topics.

Article X: Amendments

Proposed amendments to the Bylaws shall be submitted to the Members of the Faculty of Genetics for approval or disapproval following either (1) approval of a motion to do so by majority vote of the Executive Committee or (2) written petition to the Executive Committee by a minimum of five Members of the Faculty of Genetics. Approval by two-thirds or more of the responding Members voting in an email ballot is required to adopt amendments (25% minimum must respond to satisfy the quorum requirement).

Adopted: May 27 1982
Revised: October 1984
March 1985
August 1986
December 1989
April 1994
September 1998
May 2006
July 2009
A. Personal Statement

Dr. Allred is an expert in the area of understanding the role that xenoestrogens play in the development and progression of epithelial derived cancers. He has published ten manuscripts in this area which have significantly impacted the understanding of the physiological role of these compounds. Many of these studies were conducted in vivo utilizing models of tumor development and progression and with emphasis paid to ensure that exposure levels are relevant to those that an individual may be exposed to in their diet. As such, Dr. Allred and his laboratory are well suited to conduct studies in which xenoestrogens are the primary intervention. In addition, Dr. Allred has numerous publications exploring how environmental compounds utilize nuclear receptors to elicit their response. In completion of these studies Dr. Allred developed the molecular techniques to investigate upstream mediators and downstream targets of nuclear receptor function. These approaches will be crucial to completion of the proposed studies. Finally, much of Dr. Allred’s research to date has focused on how endogenous hormones (estriadiol) can influence tumor development in the breast and colon. Dr. Allred’s research has been some of the first of its kind in that it demonstrates novel physiological actions of estrogen on non-malignant colonocytes and how they lead to suppressed formation of pre-malignant lesions in the colon. More central to this proposal is that Dr. Allred’s most recent work has been in evaluating how estrogen either suppresses or exacerbates colonic inflammation dependent on the nature of the inflammatory event. Given his research record in xenoestrogens, nuclear receptor signaling, and estrogen action in the colon, Dr. Allred is uniquely suited to complete these studies.

B. Positions and Honors:

Positions and Employment

2002-2004 Postdoctoral Fellow, Dept. of Molecular and Biomedical Pharmacology College of Medicine, Univ. of Kentucky. Appointed to a National Institutes of Health Training Grant Fellowship.
2006-Present Assistant Professor, Department of Nutrition and Food Science Texas A & M University
2006-Present Intercollegiate Faculty of Nutrition
2006-Present Intercollegiate Faculty of Toxicology
2006-Present Affiliate Member, Institute for Obesity Research and Program Evaluation
2007-Present Intercollegiate Faculty of Genetics
2008-Present Veterinary Integrative Biosciences Adjunct Appointment
2012-Present Associate Professor, Department of Nutrition and Food Science Texas A&M University
2012-Present Associate Department Head of Academic Programs, Dept. of Nutrition & Food Science
C. Selected peer-reviewed publications:


D. Recent Research Support

Active Funding

**American Cancer Society** (Allred) 7/1/11 – 6/30/15 1 cal. month
Research Scholar Grant in Basic Research $718,052
Role: Principal Investigator
Title: Effects of Estrogens on Sporadic and Inflammation-associated Colon Cancer.
Specific Aims: To evaluate the ability of estradiol and diet-derived phytoestrogens to suppress intestinal inflammation and subsequent tumor formation. No scientific or budgetary overlap with the present proposal.

**1R25 CA90301** (Carroll) 7/1/11-6/30/16 0.3 cal. month
NIH/NCI $499,918/y
Role: Co-Investigator
Title: Nutrition, Biostatistics, and Bioinformatics
Specific Aims: Our goal is to train statistically oriented individuals to function as independent researchers in a multidisciplinary environment focusing on Nutrition and cancer. To achieve this goal we have assembled a team of researchers specializing in Statistics/Biostatistics, Bioinformatics and the biology of Nutrition and cancer. No scientific or budgetary overlap with the present proposal.

**National Institutes of Health** (Allred) 9/1/12-8/31/15 0.8 cal. month
NIH/R21 $394,545
Role: Co-PI
Title: The effects of endogenous and dietary estrogens on colonic stem cells
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Amrein, Hubert

POSITION TITLE
Professor & Associate Chair

eRA COMMONS USER NAME

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Zürich, Switzerland</td>
<td>B.Sc.</td>
<td>1977-1982</td>
<td>Genetics &amp; Mol. Biology</td>
</tr>
<tr>
<td>University of Zürich, Switzerland</td>
<td>M.Sc.</td>
<td>1983</td>
<td>Zoology</td>
</tr>
<tr>
<td>University of Zürich, Switzerland</td>
<td>Ph.D</td>
<td>1988</td>
<td>Zoology</td>
</tr>
</tbody>
</table>

A. Positions and Honors.

Positions and Employment

2011-present  Texas A&M University Health Science Center, College Station, TX
Associate Department Chair, Molecular and Cellular Medicine, College of Medicine

2009-present  Texas A&M University Health Science Center, College Station, TX
Professor of Department of Molecular and Cellular Medicine, College of Medicine

2005-2009   Duke University Medical Center, Durham, NC
Associate Professor of Molecular Genetics and Microbiology

1998 - 2005   Duke University Medical Center, Durham, NC
Assistant Professor of Molecular Genetics and Microbiology

Fellowships and Awards

1993 – 1995   Associate, Howard Hughes Medical Institute
Laboratory of Dr. R. Axel, Columbia University, New York, NY

1991 – 1993   Senior Fellow, Swiss National Science Foundation
Laboratory of Dr. R. Axel, Columbia University, New York, NY

1989 – 1991   Long Term Fellow, European Molecular Biology Organization
Laboratory of Dr. T. Maniatis, Harvard University, Cambridge, MA

1984   Short Term Fellow, European Molecular Biology Organization
Laboratory of Dr. V. Pirrotta, EMBL Heidelberg, Germany

B. Selected peer-reviewed publications (in chronological order).

(SINCE 1995, out of 38 total):


17473934


C. Research Support
Active:
2014 – 2019 The Regulation of Feeding Behavior by Brain-based Nutrient Sensors
NIH-R01DC0113967-01 (PI H. Amrein) Total award sum: $ 1,250,000 (direct costs)

2003 – 2014 Taste Receptor Genes and Sensory Coding
NIH-1R01GMDC05606-01 (PI H. Amrein) Total award sum: $1,250,000 (direct costs)
**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. DO NOT EXCEED FOUR PAGES.

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
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</thead>
<tbody>
<tr>
<td>Helene Andrews-Polymenis</td>
<td>Associate Professor</td>
</tr>
</tbody>
</table>

**eRA COMMONS USER NAME**

ANDREWSH

**EDUCATION/TRAINING** (Begin with baccalaureate or other initial professional education, such as an associate degree in nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
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<tr>
<td>Brown University</td>
<td>A.B.</td>
<td>1989</td>
<td>Biology</td>
</tr>
<tr>
<td>Tufts University</td>
<td>Ph.D.</td>
<td>1999</td>
<td>Molecular Biology and Microbiology</td>
</tr>
<tr>
<td>Texas A&amp;M University</td>
<td>D.V.M.</td>
<td>2001</td>
<td>Veterinary Medicine</td>
</tr>
</tbody>
</table>

A. **Personal Statement**

I have been working in bacterial pathogenesis for 18 years, using bacterial genetics to identify virulence factors and factors important for microbial persistence in cell culture, as well as in model and natural hosts. As a graduate student, I used forward genetic analysis to identify components of the Dot/Icm secretion system in *Legionella pneumophila*, and participated in the characterization of this system as a type four secretion system (T4SS). This system is essential for intracellular growth and has subsequently been shown to have >150 secreted effectors. As a postdoctoral fellow and junior faculty member I studied a limited set of mutants in *Salmonella Typhimurium* to identify genes necessary for O-antigen glucosylation, a process that we determined is necessary for persistence of Typhimurium in the intestine of mice and chicks (17). Currently, members of my laboratory are building large-scale targeted deletion libraries for forward genetics and systems biology in *Salmonella* (1,13), screening these libraries in animal models (mice, chicks, and calves) to identify genes needed for colonization during infection (2,4 and unpublished data), and performing molecular characterization of newly identified novel genes needed during infection (3, 4, 6, 13). We have recently become interested in the functions of a multi-drug efflux systems encoded by *macAB* that is needed to withstand oxidative stress (3), and a msDNA encoding retron called ST-85 that are critical during infection (4).

B. **Positions and Honors**

2001-2004 Post-Doctoral Research Associate, Texas A&M University HSC (TAMU-HSC)
2004- 2005 Assistant Professor (non- TT), Microbial & Molecular Pathogenesis, TAMU-HSC
2005- 2010 Assistant Professor (TT), Microbial & Molecular Pathogenesis, Texas A&M University HSC
2010-present Associate Professor (T), Microbial Pathogenesis and Immunology, Texas A&M University

2010 Texas A&M Health Science Center Junior Faculty Research Award
2010-present Minireviews Editor, Infection and Immunity

C. **Selected Publications** (of 40 total)


*Co-corresponding authors


D. Research Support

Current
1. NIH 1R01AI083646-01 (Andrews-Polymenis, PI ) 09/24/09- 09/23/2014 (2.4 mo) NIAID $250,000/ yr
Title: Identification of Salmonella Genes Important for Systemic Colonization
The goal of this work is to identify genes necessary for systemic colonization by Salmonellae in mice.

2. AFRI CSREES 2009-03579 (Andrews-Polymenis, PI) (04/30/10 -06/30/2014)
USDA $400,000/4 years
Title: Defining Salmonella Genes Important for Colonization and Persistence in Poultry
The goal of this work is to identify Salmonella genes necessary for sub-clinical colonization in chicks.

3. NIH/USDA Dual Purpose, Dual Benefit R01 HD072928-01 (Altier, PI), (12/30/2013-12/29/2018)
Title: Regulation of Salmonella Virulence by Intestinal Fatty Acids
Role: Subcontractor
The goal of this work is to understand the role of fatty acids on modulation of virulence during infection.

4. NIH-NCRR T32RR031229 (Keir, PI) (07/10- 07/2015)
NCRR $892,704/5 years
Title: Comparative Biomedical Research Training for Veterinarians
Role: Training Grant Mentor to Johanna Elfenbein (D.V.M., DACVIM)
The goal of this work is to train post-graduate veterinarians for research careers.

5. NIH/NIAID HHSN272201000024I (Cirillo, PI) (02/01/10- 1/31/2017)
NIAID Contract
Title: Small Animal Model Vaccines and Pathogenesis
Role: Model Director
BIOGRAPHICAL SKETCH
Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FOUR PAGES.

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
<th>eRA COMMONS USER NAME (credential, e.g., agency login)</th>
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</thead>
<tbody>
<tr>
<td>Aramayo, Rodolfo</td>
<td>Associate Professor</td>
<td>raramyo</td>
</tr>
</tbody>
</table>

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of Brasília</td>
<td>BSc</td>
<td>1982</td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>University of Brasília</td>
<td>MSc</td>
<td>1986</td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>University of Georgia</td>
<td>PhD</td>
<td>1992</td>
<td>Genetics</td>
</tr>
<tr>
<td>University of Wisconsin,</td>
<td>Postdoctoral</td>
<td>1996</td>
<td>Genetics</td>
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<tr>
<td>Madison</td>
<td></td>
<td></td>
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<tr>
<td>Stanford University</td>
<td>Postdoctoral</td>
<td>1997</td>
<td>Genetics</td>
</tr>
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</table>

A. Personal Statement
I am a fungal molecular geneticist. I obtained a Masters degree in Molecular Biology, working on the isolation and purification of peptides produced by *Bacillus subtilis* with antifungal activity. I attended the University of Georgia, in Athens, where I obtained a PhD degree in Genetics, working under the supervision of Dr. William E. Timberlake in the genetic and molecular characterization of the asexual sporulation pathway of *Aspergillus nidulans*. For my Post-doctoral studies, I broaden my knowledge of genetics and fungal biology by studying the sexual developmental pathway of *Neurospora crassa* working under the supervision of the late Dr. Robert L. Metzenberg. During this time, I discovered an unusual genetic meiotic phenomenon we called Meiotic Silencing. In 1997, I moved from Stanford to Texas A&M University where, funded by the National Institutes of Health, my lab has further the genetic and molecular characterization of Meiotic Silencing.

The general aim of this proposal is to speed the rate of discovery of natural products through development of genome and synthetic biology. I am specially qualified to work on this area for several reasons: I am a fungal molecular geneticist that has been trained in both asexual and sexual aspects of fungal development, stages of the life cycle that closely correlate with secondary metabolites production. I am a natural engineer that had to overcome experimental roadblocks by designing and implementing molecular and genetic technologies not existent at the time, to study meiotic silencing, a genetic phenomenon I discovered. I am a geneticist that understanding the need for a global "Systems" view of genetics resurrected a long passion I have with computers and acquired substantial expertise in the areas of Genomics, Bioinformatics and Computational Biology. I started teaching Genomics >12 years ago, well before Genomics textbooks were available, and currently teach Genomics, Computational Genomics and Digital Biology, all at the graduate and undergraduate level. I currently am the Director of the Laboratory for Genome Analysis at Texas A&M, a unit whose objective is to bring Bioinformatics and Computational Biology expertise to the campus community. I coordinate the campus-wide training of scientists in these areas. My understanding of Molecular Biology, Genetics, Genomics and computers has forced me to look at Biology from a highly modular point of view. As a result, I am a strong believer that the combination of genetics, genomics with synthetic biology will revolutionize Biology.

B. Positions and Honors
Positions and Employment

<table>
<thead>
<tr>
<th>ACADEMIC/RESEARCH POSITIONS</th>
<th>INSTITUTION AND LOCATION</th>
<th>YEAR(s)</th>
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<tbody>
<tr>
<td>Assistant</td>
<td>Department of Biology. Texas A&amp;M University. College Station, Texas, USA</td>
<td>1997-2004</td>
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</table>
C. Selected Peer-reviewed Publications

Most relevant to the current application

D. Research Support

Ongoing Research Support

<table>
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<tr>
<th>SOURCE:</th>
<th>College of Science/Department of Biology</th>
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<tbody>
<tr>
<td>TITLE:</td>
<td>Implementation of a Galaxy Server to Enhance and expand Computational Genomics at Texas A&amp;M University</td>
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<tr>
<td>PRINCIPAL INVESTIGATOR:</td>
<td>Dr. Rodolfo Aramayo, Dr. Tom McKnight, Dr. Alan Pepper</td>
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<table>
<thead>
<tr>
<th>SOURCE:</th>
<th>Tier One Program (TOP)/Activity 2 grant</th>
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<tr>
<td>TITLE:</td>
<td>Comparative genomics of endosymbiotic bacteria (genus Spiroplasma) associated with Drosophila flies</td>
</tr>
<tr>
<td>PRINCIPAL INVESTIGATOR:</td>
<td>Dr. Mariana Mateos, Dr. Rodolfo Aramayo</td>
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Completed Research Support

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<tr>
<th>SOURCE:</th>
<th>National Institutes of Health</th>
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<tr>
<td>TITLE:</td>
<td>Genetics and Molecular Study of Meiotic Trans-sensing and Meiotic Silencing</td>
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<tr>
<td>PRINCIPAL INVESTIGATOR:</td>
<td>Dr. Rodolfo Aramayo</td>
</tr>
<tr>
<td>NUMBER:</td>
<td>R01-GM58770</td>
</tr>
<tr>
<td>PERIOD:</td>
<td>01/01/1999 to 12/31/2011</td>
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</table>
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.

Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Bankaitis, Vytas A.

POSITION TITLE
E.L. Wehner-Welch Foundation Chair in Chemistry

eRA COMMONS USER NAME (credential, e.g., agency login)
VYTAS_BANKAITIS

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edinboro University, Edinboro, PA</td>
<td>B.S.</td>
<td>1978</td>
<td>Biology</td>
</tr>
<tr>
<td>Clemson University, Clemson, SC</td>
<td>M.S.</td>
<td>1980</td>
<td>Microbiology</td>
</tr>
<tr>
<td>University of North Carolina, Chapel Hill, NC</td>
<td>Ph.D.</td>
<td>1984</td>
<td>Microbiology</td>
</tr>
<tr>
<td>California Institute of Technology, Pasadena, CA</td>
<td>Postdoctoral</td>
<td>1986</td>
<td>Cell Biology</td>
</tr>
</tbody>
</table>

A. Positions and Honors.

Professional Experience:

1978-1980 Graduate Student, Department of Microbiology, Clemson University, Clemson, South Carolina. Advisor: Dr. Ellis L. Kline.

1980-1984 Predoctoral Fellow of the Humphrey Foundation, Department of Microbiology and Immunology, The University of North Carolina School of Medicine. Advisor: Dr. Philip J. Bassford, Jr.


1986-1992 Assistant Professor, Department of Microbiology, University of Illinois, Urbana, IL. Head: Dr. Charles G. Miller.

1992-2001 Associate Professor then Professor, Department of Cell Biology, University of Alabama at Birmingham, Birmingham, AL. Head: Dr. Richard B. Marchase.

2001-2011 Professor and Chair, Department of Cell & Developmental Biology, The University of North Carolina School of Medicine, Chapel Hill, NC.

2011-2012 Professor, Department of Cell & Developmental Biology, The University of North Carolina School of Medicine, Chapel Hill, NC.

2012 – E.L. Wehner-Welch Foundation Chair in Chemistry, Texas A&M Health Science Center.

Honors:

Recipient of the President’s Award for the outstanding student research presentation; regional meeting for the Southeastern and South Carolina branches of the American Society for Microbiology, November, 1979.

Recipient of a Predoctoral Fellowship of the Humphrey Foundation - awarded to outstanding incoming graduate students at the University of North Carolina, August, 1980.


Designated an Arnold Beckman Scholar, University of Illinois, 1986.


Member CDF-2 IRG, NIH, 2001-2004.


Member, Faculty of 1000, Membrane Trafficking and Sorting Section

Vice-Chair -- Gordon Research Conferences -- Signal Transduction Within the Nucleus 2009

Chair -- Gordon Research Conferences -- Signal Transduction Within the Nucleus 2011

Member, Program Planning Committee, American Society for Biochemistry and Molecular Biology Annual Meeting, 2011.

E.L. Wehner-Welch Foundation Chair in Chemistry, Texas A&M Health Science Center, September 2012 –
B. Selected Peer-reviewed Publications (Selected from 140 peer-reviewed publications)


**-- Denotes co-corresponding authorship. PMID: 9461221


BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
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<tbody>
<tr>
<td>Bayless, Kayla J.</td>
<td>Associate Professor</td>
</tr>
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</table>

**eRA COMMONS USER NAME (credential, e.g., agency login)**
BAYLESSK

**EDUCATION/TRAINING**

<table>
<thead>
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<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Texas Lutheran University, Seguin, TX</td>
<td>B.S.</td>
<td>1994</td>
<td>Molecular Biology</td>
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<tr>
<td>Texas A&amp;M University</td>
<td>Ph.D.</td>
<td>1999</td>
<td>Medical Physiology</td>
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<tr>
<td>Texas A&amp;M Health Science Center</td>
<td>post-doctoral</td>
<td>1999-2004</td>
<td>Pathology</td>
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</table>

**POSITIONS AND HONORS**

*Positions and Employment:*

- **2002-2004** NIH Postdoctoral Fellow, Department of Pathology and Laboratory Medicine, Texas A&M Health Science Center, College Station, TX.
- **2004-2006** Research Assistant Professor, Department of Pathology and Laboratory Medicine, Texas A&M Health Science Center, College Station, TX.
- **2006-present** Assistant and Associate Professor, Department of Molecular & Cellular Medicine, Texas A&M Health Science Center, College Station, TX.

*Honors:*

- **1990-1994** Pacesetter Award
- **1999,2001,2004** American Society for Cell Biology Travel Award
- **2002-2004** NIH Postdoctoral Fellow
- **2011** Herbert Tabor Young Investigator Award, Journal of Biological Chemistry
- **2012** Excellence in Research Award, Junior Investigator, College of Medicine, Texas A&M HSC

*Panel Member for Study Sections:*

- **2012-2014** American Heart Association, Vascular Wall Biology: Angiogenesis, Atherosclerosis, General Inflammation Basic Sciences
- **2013-2017** National Institutes of Health, Atherosclerosis, Inflammation, and Cardiovascular Sciences (AICS)

*Ad hoc Reviewer for Study Sections:*

- **2007** American Heart Association, Western Peer Review Committee
- **2010** Independent Reviewer, Post-Doctoral Application; The Lalor Foundation, Inc.
- **2012** National Institutes of Health; Atherosclerosis and Inflammation of the Cardiovascular System (February, October)
- **2012** National Science Foundation, CAREER award reviewer

**SELECT PEER-REVIEWED PUBLICATIONS** from post-docs and graduate students mentored at Texas A&M (47 total)


BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Bell-Pedersen, Deborah

POSITION TITLE
Professor of Biology

eRA COMMONS USER NAME (credential, e.g., agency login)
dbpedersen

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

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<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>State University of New York at Albany</td>
<td>B.S.</td>
<td>1980-1982</td>
<td>Biology</td>
</tr>
<tr>
<td>State University of New York at Albany</td>
<td>M.S.</td>
<td>1984-1987</td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>State University of New York at Albany</td>
<td>Ph. D.</td>
<td>1987-1991</td>
<td>Molecular Biology</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Positions and Employment
1984 - 1991 Graduate Research Assistant, New York State Health Department
1991 - 1997 Postdoctoral Research Fellow, Biochemistry, Dartmouth Medical School
1997 - 2002 Assistant Professor of Biology, TAMU
1997 - present Member of the Interdisciplinary Genetics Faculty, TAMU
1997 - present Member of the Program for the Biology of Filamentous Fungi, TAMU
2003 - 2007 Associate Professor of Biology, TAMU
2003 - present Member of the Center for Biological Clocks Executive Committee, TAMU
2007 - present Member of the Chemical Biology and Undergraduate Biology and Math Training Programs
2007 - present Professor of Biology, TAMU
2014 - present Associate Department Head, Biology Dept. TAMU

Other Experience and Professional Memberships
1993 - present Member, Society for Research on Biological Rhythms (SRBR)
2002 - 2004 Elected Chair of the Neurospora Policy Committee
2004 - present Associate Editor, Fungal Genetics and Biology
2008 - present Editorial Board, Eukaryotic Cell
2010 - 2014 NIH Cellular Signaling and Regulatory Systems Study Section Panel Member
2010 - 2012 Society for Research on Biological Rhythms Program Chair
2012 - present Associate Editor, Fungal Genetics and Biology
2014 - present Society for Research on Biological Rhythms, Executive Board Member
2014 - present Associate Editor Journal of Biological Rhythms

Honors and Awards
2005 Jo Ann Treat Award for Excellence in Research, TAMU
2006 Distinguished Achievement Award in Teaching, TAMU
2009 Texas A&M Distinguished Lecturer
2010 Ethel Ashworth-Tsutsui Memorial Lecture and Award, TAMU
2011 Davidson Award Lecture, Baylor College
2013 Eminent Scholar Award, Women’s Former Student Association, TAMU
2014 Fellow, American Academy of Microbiology
B. SELECTED PEER-REVIEWED PUBLICATIONS  (Postdocs and Graduate Students as shown)


Michael Benedik

Regents Professor

mbenedik

Stanford University, Stanford CA
PhD 1982 Biology
University of Chicago, Chicago, Ill
BA 1976 Biology

Positions and Honors

• Regents Professor, Texas A&M University, 2012
• SEC Academic Leadership Development Fellow 2012-13
• American Society for Microbiology – International Professor for Africa, 2010
• First scholar selected for the Great Program, Capitol Normal University, Beijing China, 2009
• Regional Vice-President – Texas Branch AAUP (2012-present)

• Editorial Board, Bioengineered Bugs (now Bioengineered) (2010-present)
• Editorial Board, Journal of Microbial and Biochemical Technology (2010-present)

• Dean of Faculties and Associate Provost (1/13-present)
• Faculty Ombuds Officer, Texas A&M University (2010-2013)
• Professor, Department of Biology and Faculty of Genetics, Texas A&M (2004-present)
• Assistant, Associate and Professor of Biology and Biochemistry, University of Houston (1991-2004)
• Assistant Professor of Biology, Texas A&M University (1985-89)
  Associate Director, Laboratory for Cloning and Gene Transfer, Department of Medical Biochemistry and Genetics, Texas A&M College of Medicine (1984-85)
• Staff Scientist, DNAX Research Institute of Molecular & Cellular Biology, (1982-1984) Palo Alto, CA

Current and Recent Funding

• Engineering Improved Microbial Nitrilases Robert A. Welch Foundation $150,000 (2008-11)
• Cyanide Remediation: Evolving Improved Enzymes. Texas Hazardous Waste Research Center. $25,000 (9/2012-8/2013)

Graduate and Postgraduate Students Supervised:

• 10 Ph.D. Students
• 11 M.S. Students
• 7 Postdoctoral Fellows
• 3 Visiting Professors
Recent Peer-reviewed Publications (>90)


NAME
SARAH BONDOS, PH.D.

POSITION TITLE
Assistant Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of North Carolina at Chapel Hill</td>
<td>B.S. with honors</td>
<td>05/1993</td>
<td>Chemistry</td>
</tr>
<tr>
<td>University of Illinois at Urbana-Champaign</td>
<td>Ph.D.</td>
<td>08/1998</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Rice University, Houston, TX</td>
<td>Postdoctoral Res. Fellow</td>
<td>1998-2004</td>
<td>Postdoctoral Research</td>
</tr>
</tbody>
</table>

A. Positions and Honors

**Positions and Employment**

1993-1994 University Fellow (Graduate student), University of Illinois at Champaign-Urbana, laboratories of Dr. Stephen G. Sligar and Dr. Jiri Jonas.
1994-1997 NSF Predoctoral Fellow, University of Illinois at Champaign-Urbana, laboratories of Dr. Stephen G. Sligar and Dr. Jiri Jonas.
1997-1998 Graduate Research Assistant, University of Illinois at Champaign-Urbana, laboratories of Dr. Stephen G. Sligar and Dr. Jiri Jonas.
1998-2001 Postdoctoral Research Associate, Rice University, laboratory of Dr. Kathleen S. Matthews.
2001-2003 Robert A. Welch Postdoctoral Fellow, Rice University, laboratory of Dr. Kathleen S. Matthews.
2003-2004 Research Scientist, Rice University, laboratory of Dr. Kathleen S. Matthews.
2004-2008 Faculty Fellow (non-tenure track research faculty), Rice University.
2008-2014 Adjunct Assistant Professor, Department of Biochemistry and Cell Biology, Rice University.
2008-2014 Assistant Professor, Department of Molecular and Cellular Medicine, Texas A&M Health Science Center College of Medicine.
2014-present Adjunct Associate Professor, Department of Biochemistry and Cell Biology, Rice University.
2014-present Associate Professor, Department of Molecular and Cellular Medicine, Texas A&M Health Science Center College of Medicine.

**Honors**

NSF CAREER Award (2012-2017)
American Heart Association Beginning Grant-In-Aid (2008-2010)
Robert A. Welch Foundation Postdoctoral Fellowship (2001-2003)
National Science Foundation Predoctoral Fellowship (1994-1997)
University of Illinois, University Fellowship (1993-1994)
Participant, NIH Cell and Molecular Biology Training Grant (1993-1996)
Graduation with honors and distinction, University of North Carolina (1993)
Martin Marietta Corporation Foundation Scholarship (1989-1993)
Tennessee Honors Program Scholarship (1989)
National and Select Regional Activities
Councilor, Intrinsically Disordered Proteins Subgroup (2011-2014)
Review panel for the Division of Materials Research, NSF (2013, 2014)
Review panel for Scientific Meeting Applications, NIH (2014)
Member, Program and Organizing Committee, Texas Protein Folders Meeting (2010-present, chair in 2011)

B. Selected original research publications.


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME

Bryk, Mary E.

POSITION TITLE

Associate Professor

eRA COMMONS USER NAME (credential, e.g., agency login)

brykma

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cornell University, Ithaca, NY</td>
<td>B.S.</td>
<td>1985</td>
<td>Animal Science</td>
</tr>
<tr>
<td>Albany Medical College, Albany, NY</td>
<td>M.S.</td>
<td>1991</td>
<td>Micro./Mole. Biology</td>
</tr>
<tr>
<td>Albany Medical College, Albany, NY</td>
<td>Ph.D.</td>
<td>1994</td>
<td>Micro./Mole. Biology</td>
</tr>
</tbody>
</table>

A. Position and Honors

Positions and Employment:


1997-02 Postdoctoral Fellow. Advisor: Dr. Fred Winston. Department of Genetics, Harvard Medical School.

2002-07 Assistant Professor, Department of Biochemistry and Biophysics and Member, Interdisciplinary Faculty of Genetics, Texas A&M University

2008-present Associate Professor, Department of Biochemistry and Biophysics and Member, Interdisciplinary Faculty of Genetics, Texas A&M University

2012-14 ADVANCE Administrative Faculty Fellow, Texas A&M University

Honors and Awards:

1990 Dean’s Certificate and Prize for Excellence in Research, Albany Medical College

1990 Graduate Research Award, Eastern New York Branch of the American Society for Microbiology

1992 Frank C. Ferguson Prize for Excellence in Academic Studies, Albany Medical College

1993 Leonard Procita Prize for Outstanding Research Presentation, Albany Medical College

1993 Dean’s Certificate and Prize for Excellence in Research, Albany Medical College

1994 Graduation Address, Graduate Studies Program, Albany Medical College

1995-98 American Cancer Society Postdoctoral Fellowship

1998-01 Leukemia Society of America Senior Postdoctoral Fellowship

B. Selected Peer-reviewed Publication


C. **CURRENT SUPPORT:**

*Federal or International*

- NSF Grant # DBI-0851611: Kunkel, G. (PI); Bryk, M. (co-PI); "REU Site: Summer Undergraduate Research Program in Biochemistry" (2009-2014)
- NSF Grant # DBI-1358941: Kunkel, G. (PI); Bryk, M. (co-PI); "REU Site: Summer Undergraduate Research Program in Biochemistry" (2014-2019)

*State or Local*

- None
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Byram, Thomas, D.

POSITION TITLE
Assistant Professor

eRA COMMONS USER NAME

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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</thead>
<tbody>
<tr>
<td>Hendrix College, Conway, AR</td>
<td>B.A.</td>
<td>1971-1975</td>
<td>Biology</td>
</tr>
<tr>
<td>Texas A&amp;M University, College Station, TX</td>
<td>M.S.</td>
<td>1975-1978</td>
<td>Forestry</td>
</tr>
<tr>
<td>Texas A&amp;M University, College Station, TX</td>
<td>Ph.D.</td>
<td>1992-200</td>
<td>Molecular and Environmental Plant Sciences</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Employment

1976-1978 Research Assistant, Department of Forest Science, Texas A&M University, College Station, TX.
2001-Present Geneticist, Texas Forest Service. Responsible for the direction of the Texas Forest Service Pine and Hardwood Tree Improvement Programs, Western Gulf Forest Tree Improvement Program – Pine, Western Gulf Forest Tree Improvement Program – Hardwood, and Urban Tree Improvement Program.
2001-Present Assistant Professor, Department of Ecosystem Science and Management (formerly Forest Science). Research problems addresses operational tree improvement problems for both pine and hardwood species.

Other Experience and Professional Memberships

Society of American Foresters
SAF Genetics and Tree Improvement Working Group
Seed Orchard Pest Management Subcommittee of the Southern Forest Tree Improvement Committee (Current Chair)
Texas Forestry Association
Tree Genes Initiative Consortium
Graduate College Faculty appointments to the Departments of Ecosystem Science and Management, Genetics, and Molecular and Environmental Plant Sciences

Honors

1995 & 1999 Tony Squillace Award for the best presentation at SFTIC
2011 USDA Secretary of Agriculture Honor Award for Excellence - Conifer Translational Genomics Team

B. Selected peer-reviewed publications (Postdocs and Graduate Students as shown)


---


NAME
Cai, James Jing

POSITION TITLE
Assistant Professor

Texas A&M Univ.

INSTITUTION AND LOCATION | DEGREE (if applicable) | MM/YY | FIELD OF STUDY
--- | --- | --- | ---
Henan Medical Univ., China | B.S. | 08/96 | General Medicine
Univ. of New South Wales, Australia | M.S. | 05/02 | Biotechnology
Univ. of Hong Kong, Hong Kong | Ph.D. | 08/06 | Fungal Genomics
Stanford Univ., USA | Post-Doc | 08/10 | Population Genomics

A. Positions and Honors

**Positions and Employment**
1996-1998 Research Scientist, Institute of Biological Research, Henan Academy of Sciences, China
2002-2002 Research Associate, HKU-Pasteur Research Institute, Hong Kong
2005-2006 Cheung Kong Research Fellow, Australian National Univ., Canberra, Australia
2006-2010 Postdoctoral Fellow, Department of Biology, Stanford Univ., Stanford, CA
2010-Present Assistant Professor, Dept. of Veterinary Integrative Biosciences, Texas A&M Univ., TX

**Other Experience and Professional Memberships**
2004-Present Member, Society for Molecular Biology and Evolution (SMBE)
2011-Present Associate Editor, Frontiers in Genetics (ISSN 1664-8021)
2011-Present Editorial Board, Genomics, Proteomics & Bioinformatics (ISSN 1672-0229)

B. Selected Peer-reviewed Publications (Selected from 33 publications, *Corresponding author)

NAME
Casola, Claudio

POSITION TITLE
Assistant Professor

eRA COMMONS USER NAME
ccasola

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
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<tr>
<td>University of Pisa, Italy</td>
<td>M.S.</td>
<td>1992-2001</td>
<td>Biology</td>
</tr>
<tr>
<td>University of Pisa, Italy</td>
<td>Ph.D.</td>
<td>2002-2006</td>
<td>Molecular Biotechnology</td>
</tr>
<tr>
<td>University of Texas Arlington, TX</td>
<td>Postdoctoral Training</td>
<td>2006-2007</td>
<td>Evolutionary Genomics</td>
</tr>
<tr>
<td>Indiana University, Bloomington, IN</td>
<td>Postdoctoral Training</td>
<td>2007-2012</td>
<td>Evolutionary Genomics</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Employment

2006-2007  Postdoctoral Research Associate, University of Texas Arlington, TX
2007-2012  Postdoctoral Research Associate, Indiana University, Bloomington, IN
2012-2013  Assistant Professor, Saint Louis University, St. Louis, MO
2014-present  Assistant Professor, Texas A&M University

Member, Faculty of Genetics
Member, Faculty of Molecular & Environmental Plant Sciences
Member, Faculty of Ecology and Evolutionary Biology

Other Experience and Professional Memberships

The Society for Molecular Biology & Evolution (SMBE)

B. Selected peer-reviewed publications


BIOGRAPHICAL SKETCH

NAME
Chapkin, Robert S

POSITION TITLE
Distinguished Professor, Regents Professor and
University Faculty Fellow

eRA COMMONS USER NAME
Robert_S_Chapkin

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Guelph, Ontario, Canada</td>
<td>B.Sc.</td>
<td>1981</td>
<td>Nutrition &amp; Biochemistry</td>
</tr>
<tr>
<td>University of Guelph, Ontario, Canada</td>
<td>M.Sc.</td>
<td>1983</td>
<td>Nutrition</td>
</tr>
<tr>
<td>University of California - Davis</td>
<td>Ph.D.</td>
<td>1986</td>
<td>Nutr. &amp; Physiol. Chemistry</td>
</tr>
<tr>
<td>University of California - Davis</td>
<td>Post-doc</td>
<td>1986-88</td>
<td>Cell Biology</td>
</tr>
</tbody>
</table>

A. Personal Statement: Dr. Chapkin is an expert in environmental modulators related to chemoprevention of colon cancer and chronic inflammatory diseases, e.g., inflammatory bowel disease. He has been continuously funded by NIH for the past 25 years and has made highly significant contributions in cancer chemoprevention and T cell/inflammation biology with specific emphasis in: (i) elucidation of signal transduction processes in intestinal stem cells, (ii) membrane biology and nutritional modulation of epithelia/immune cell membrane structure and function, (iii) investigation of the role of inflammation as a critical factor in cancer development, and its modulation by environmental agents, (iv) establishment of models for chronic inflammation and cancer prevention studies, and (v) development of novel noninvasive Systems Biology-based methodologies to assess crosstalk between the gut microbiome and the host transcriptome and its application to translational research. These activities, together with a history of basic and translational (biomarkers) research using cutting-edge genomics and computational biology methodologies, demonstrate that Dr. Chapkin has the scientific credentials necessary to contribute to this proposal. Dr. Chapkin serves as the Deputy Director of the – the P30 NIEHS sponsored Texas A&M Center for Translational Environmental Health Research (CTEHR).

B. Positions and Honors:
1986-1988: Postdoctoral Fellow, Immunology-Tumor Biology Laboratory, Department of Cell Biology and Human Anatomy, School of Medicine, University of California-Davis.
1988-1993: Assistant Professor, Human Nutrition, Center for Environmental and Rural Health, Texas A&M University.
1994-1999: Associate Professor, Department of Veterinary Integrated Biosciences and Faculty of Nutrition.
1999-Present: American Institute for Cancer Research Grant Review Panel
1999-Present: Professor, Nutrition, Center for Environmental and Rural Health (CERH), Texas A&M University.
2000: Texas A&M Faculty Fellow Award
2001-2006: Texas A&M University Faculty Fellow Scholar
2002-2005: Chair, Intercollegiate Faculty of Nutrition, Texas A&M University
2002-2005: NIH Charter Member: Metabolic Pathology/Chemo-Dietary prevention (CDP) Study Sections
2004-2010: Member, Division Hematol./Oncology, Scott & White Hospital, Texas A&M Health Sci. Center. Co-Director, Genomics and Systems Biology Facility Core, Texas A&M University.
2005-Present: Editorial Board, Chemistry & Physics of Lipids
2005-2010: Director of the P30 NIEHS CERH Genomics & Bioinformatics Core, Texas A&M University
2006: Sigma Xi Distinguished Scientist Award, Texas A&M University Chapter
2007: Texas A&M Senior Faculty Fellow Award
2010-Present: Regents Professor, Texas A&M University System
2010-Present: Editorial Board, British Journal of Nutrition
2011: Distinguished Achievement Award – Association of Former Students, Texas A&M University
2011-2013: Review Editor – Frontiers in Nutrigenomics
2012-Present: Deputy Director – Center for Translational Environmental Health Research, Texas A&M University and Baylor College of Medicine

2012-Present: co-Director – Quantitative Biology Core - Center for Translational Environmental Health Research, Texas A&M University and Baylor College of Medicine

2013: American Society for Nutrition (ASN) Osborne and Mendel Award

2014-Present: Distinguished Professor, Texas A&M University System

C. SELECTED (15) PEER Reviewed Publications FROM A TOTAL OF 229:

Most relevant to the current application:


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Cirillo, Jeffrey D.

POSITION TITLE
Professor of Microbial Pathogenesis & Immunology

eRA COMMONS USER NAME
jcirillo

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pitzer College, Claremont, CA</td>
<td>B.A.</td>
<td>1986</td>
<td>Biology/Chemistry</td>
</tr>
<tr>
<td>Albert Einstein College of Medicine</td>
<td>M.S.</td>
<td>1989</td>
<td>Biological Sciences</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Positions and Employment

1992 - 95  Postdoctoral Fellow, Dept. Micro. & Immuno., Stanford University, Stanford, CA
1995 - 97  Assistant Professor, Dept. Microbiology, University of Hawaii, Honolulu, HI
1998 - 2001 Assistant Professor, Dept. Vet. & Biomedical Sci., University of Nebraska, Lincoln, NE
2001 - 05  Associate Professor, Dept. Vet. & Biomedical Sci., University of Nebraska, Lincoln, NE
2005 - 09  Associate Professor, Micro. & Mol. Path., Texas A&M Coll. Med., Coll. Station, TX
2007 - present Director, Center for Airborne Pathogens Res. & Tuberculosis Imaging Resources.
2009 - present Professor, Micro. & Mol. Path. Texas A&M Coll. Med., Coll. Station, TX
2010 - present Director, Small Animal Model Vaccines and Pathogenesis (SAMVAP), Texas A&M University System, College Station, TX.

Selected Other Experience and Professional Memberships

2009  NIH/NIAID Panel Member, Special Emphasis Panel, ZRG1 IMM-E 58 R
2010  NIH/NHLBI Panel Member, Special Emphasis Panel RFA-HL-10-015, HL-10-022
2011 – present Editorial Board, The Journal of Infectious Diseases
2011 – present Editorial Board, Applied and Environmental Microbiology
2011  NIH/NIAID Panel Member, Study Section, “Host Interactions with Bacterial Pathogens”
2012  DOD/DMRDP Panel Member, Review Panel, “AR-Military Infectious Diseases”

Honors

1999  Junior Faculty Recognition for Excellence in Research
2000  Dinsdale Family Faculty Award for Excellence in Research
2010  Excellence in Innovation Award, Texas A&M University System
2010  Technology Innovation (TIEP) Award, Qatar Science & Technol.
2011  Senior Faculty Recognition for Excellence in Research
2011  Outstanding Service Online Mentor, ASM Minority Program
2014  Frost & Sullivan, Global Imp. Healthcare Access Visionary Innovation Leadership Award

B. Selected 15 Most Relevant Publications (out of >90 papers; 5 book chapters and 40+ abstracts)


**C. Research Support**

**Ongoing Research Support**

Animal Models of Infectious Diseases

- **PI**: Jeffrey D. Cirillo
- **Type**: Contract HHSN2722010000241
- **Period**: 03/22/10-03/21/17

The objectives of this contract are to provide services under contract to NIH for investigators who wish to utilize animal models for the study of infectious disease virulence mechanisms, vaccines and therapeutics.

Application of Imaging to Development of Tuberculosis Interventions

- **PI**: Jeffrey D. Cirillo
- **Type**: R01 (AI104960)
- **Period**: 03/01/13-02/28/19

The objectives of this project are to improve imaging strategies for tuberculosis research and use imaging to evaluate vaccine efficacy.

Real-time Optical Imaging Solutions for Tuberculosis Infections

- **PI**: Jeffrey D. Cirillo
- **Type**: Grant, Bill & Melinda Gates Foundation
- **Period**: 12/01/07-01/15

The objectives of this project are to develop novel real-time imaging technologies to allow visualization of tuberculosis infections directly in live animals.
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Coates, Craig, J.

POSITION TITLE
Assistant Professor

eRA COMMONS USER NAME
cjcoates

EDUCATION/TRAINING  (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

| INSTITUTION AND LOCATION | DEGREE  
(if applicable) | YEAR(s) | FIELD OF STUDY |
<table>
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<tbody>
<tr>
<td>Australian National University, Canberra, Australia</td>
<td>B.Sc. (Hons)</td>
<td>1988-1991</td>
<td>Biochemistry and Molecular Biology</td>
</tr>
<tr>
<td>Australian National University, Canberra, Australia</td>
<td>Ph.D.</td>
<td>1992-1996</td>
<td>Biochemistry and Molecular Biology</td>
</tr>
<tr>
<td>University of California, Irvine, Irvine, California</td>
<td>Postdoctoral Training</td>
<td>1996-1998</td>
<td>Insect Molecular Biology</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Employment

1996-1998  Postdoctoral Research Associate, UCI, Irvine California
1999 -  2005  Assistant Professor, Texas A&M University
2005 -    Associate Professor, Texas A&M University
Member, Faculty of Genetics
Member, Faculty of Biotechnology

Other Experience and Professional Memberships

March 2005  Chair, Session VI at the 4th International Workshop on Transgenesis and Genomics of Invertebrate Organisms
June 2005  Study Section Member, NIH - IDM-M
July 2005  Study Section Member, NIH – VB

Entomological Society of America (ESA)

Honors

2002   Texas A&M University Center for Teaching Excellence Montague Scholar

B. Selected peer-reviewed publications (Postdocs and Graduate Students as shown)


**BIOGRAPHICAL SKETCH**

Provide the following information for collaborators listed on this application. Follow this format for each person.

**NAME**  
Dr. Noah D. Cohen

**POSITION TITLE**  
Professor and Associate Department Head for Research and Graduate Studies

**EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, and include postdoctoral training.)**

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Pennsylvania, Philadelphia, PA</td>
<td>A.B</td>
<td>1979</td>
<td>Oriental Studies/Biology</td>
</tr>
<tr>
<td>University of Pennsylvania, Philadelphia, PA</td>
<td>V.M.D.</td>
<td>1983</td>
<td>Veterinary Medicine</td>
</tr>
<tr>
<td>Johns Hopkins University, Baltimore, MD</td>
<td>M.P.H.</td>
<td>1986</td>
<td>Epidemiology</td>
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<tr>
<td>Johns Hopkins University, Baltimore, MD</td>
<td>Ph.D.</td>
<td>1988</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>Texas A&amp;M University, College Station, TX</td>
<td>Residency</td>
<td>1989-1991</td>
<td>Large Animal Medicine</td>
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</table>

**A. Positions and Honors.**

**POSITIONS**

- **1991-1997**  
  Assistant Professor, Department of Large Animal Medicine & Surgery  
  College of Veterinary Medicine, Texas A&M University, College Station, Texas

- **1998-2003**  
  Associate Professor, Department of Large Animal Medicine & Surgery  
  College of Veterinary Medicine, Texas A&M University, College Station, Texas

- **2004-Present**  
  Professor, Department of Large Animal Clinical Sciences  
  College of Veterinary Medicine, Texas A&M University, College Station, Texas

- **2012-Present**  
  Associate Department Head for Research and Graduate Studies  
  Department of Large Animal Clinical Sciences  
  College of Veterinary Medicine & Biomedical Sciences  
  Texas A&M University, College Station, Texas

**HONORS & AWARDS**

- **1977-1979**  
  Dean's List, University of Pennsylvania

- **1979**  
  Zion Award, Department of Oriental Studies, University of Pennsylvania

- **1979**  
  A.B. Magna Cum Laude, University of Pennsylvania

- **1983**  
  Pennsylvania Veterinary Medical Auxiliary Award for Excellence in Large Animal Clinics, School of Veterinary Medicine, University of Pennsylvania

- **1991**  
  Texas Veterinary Medical Association Auxiliary Clinical Resident Award, College of Veterinary Medicine, Texas A&M University

- **1995**  
  John H. Milliff Award, College of Veterinary Medicine, Texas A&M University

- **1997**  
  Society of Phi Zeta (Veterinary Honor Society), Texas A&M University

- **2001**  
  Pfizer Award for Excellence in Research, Texas A&M University

- **2002**  
  Texas Veterinary Medical Association Research Award

- **2002**  
  John Hickman Memorial Lecture, British Equine Veterinary Association

- **2002**  
  Faculty Fellow Award, Texas A&M University

- **2008**  
  World Equine Veterinary Association/Schering-Plough Applied Equine Research Award

- **2008**  
  Honorary Diplomate, American Veterinary Epidemiology Society

- **2011**  
  Frank J. Milne Honorary Lecture, American Association of Equine Practitioners

- **2013**  
  Texas A&M University Distinguished Service Award for Research

- **2013**  
  Keynote Speaker, Veterinary Research Symposium, College of Veterinary Medicine, University of Georgia
B. Selected (from 225) peer-reviewed publications, in chronological order (earliest to recent).


BIOGRAPHICAL SKETCH
Provide the following information for the key personnel and other significant contributors.

**NAME** Criscitiello, Michael Frederick
**POSITION TITLE** Assistant Professor of Veterinary Pathobiology

**EDUCATION/TRAINING** (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(S)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of North Carolina, Chapel Hill, NC</td>
<td>B.S.</td>
<td>1989-1993</td>
<td>Biology</td>
</tr>
<tr>
<td>East Carolina University, Greenville, NC</td>
<td>M.S.</td>
<td>1995-1997</td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>University of Miami, Miami, FL</td>
<td>Ph.D.</td>
<td>1997-2003</td>
<td>Microbiology and Immunology</td>
</tr>
<tr>
<td>University of Maryland, Baltimore, MD</td>
<td>Postdoctoral</td>
<td>2003-2008</td>
<td>Immunology</td>
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</table>

The Comparative Immunogenetics Laboratory studies immunology, molecular genetics and evolution. Most of my group’s research focuses on the natural history of the vertebrate adaptive immune system, with particular attention given to the genetics of lymphocyte antigen receptors, mucosal immune mechanisms in the gut and antigen presentation, as well as applied shrimp immunogenomics in mariculture. A focus of my lab has been antigen receptor immunogenetics in aquatic vertebrates, and we are well-poised to investigate the adaptive immune loci of these two manatee species.

2008-present; Assistant Professor in Veterinary Pathobiology, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University (TAMU)
2008-present; Ecology and Evolutionary Biology Interdisciplinary Research Program (TAMU)
2008-present; Interdisciplinary Faculty of Genetics (TAMU)
2009-present; Whole Systems Genomics Initiative (TAMU)
2010-present; Interdisciplinary Faculty of Toxicology (TAMU)
2010-present; Professional Program in Biotechnology (TAMU)

**Peer Reviewed Publications from last three years (total n=26, h index=9)**


**Federal Research Support as PI**

**Ongoing Research Support**

<table>
<thead>
<tr>
<th>Agency</th>
<th>Principal Investigator</th>
<th>Title</th>
<th>Role</th>
<th>Funding</th>
<th>Years</th>
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<tbody>
<tr>
<td>NSF</td>
<td>Criscitiello (PI)</td>
<td>Evolution of loci critical in antigen recognition</td>
<td>PI</td>
<td>$655,000</td>
<td>2013-2016</td>
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**INAPESCA**

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<th>Title</th>
<th>Role</th>
<th>Funding</th>
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<tr>
<td>Criscitiello (PI)</td>
<td>RNA Sequencing for Annotation of a Reference Genome for Augmentation of Shrimp Disease Resistance (renewal)</td>
<td>Co-PI</td>
<td>$96,420</td>
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**Recently Completed Research Support**

<table>
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<tr>
<th>Agency</th>
<th>Principal Investigator</th>
<th>Title</th>
<th>Role</th>
<th>Funding</th>
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</thead>
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<tr>
<td>National Institutes of Health (Al73888)</td>
<td>Criscitiello (PI)</td>
<td>Origins of Specialized Mucosal Lymphocyte Subsets and Immunoglobulin Isotypes</td>
<td>PI</td>
<td>$270,000</td>
</tr>
</tbody>
</table>
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Datta, Sumana

POSITION TITLE
Associate Professor of Biochemistry and Biophysics at Texas A&M University (TAMU)

eRA COMMONS USER NAME

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Michigan-Ann Arbor</td>
<td>B.Sc.</td>
<td>1980</td>
<td>Molecular &amp; Cell. Biology</td>
</tr>
<tr>
<td>University of California San Diego</td>
<td>Ph.D.</td>
<td>1987</td>
<td>Biology</td>
</tr>
<tr>
<td>Yale University</td>
<td>Postdoc.</td>
<td>1987-1992</td>
<td>Vertebrate Genetics</td>
</tr>
</tbody>
</table>

Personal Statement: Dr. Datta is the Executive Director of Honors and Undergraduate Research at the flagship campus of the Texas A&M system. As such, she organizes the university-wide programs in undergraduate research both during the academic year and during the summer months. The summer research program provides brown bag seminars, GRE prep, discussions of graduate school, presentation skills, and other topics culminating in a poster session to approximately 100-140 students who come to the TAMU campus to carry out summer research projects. There is also a special series of seminars aimed at under-represented minorities that runs weekly during the summer period. Dr. Datta is leading the process of developing and implementing an application process for the University Honors Program, designing a new Honors Distinction and initiating programmatic changes that will take the place of the previous distinctions, facilitating ways for faculty to easily offer Honors opportunities and promoting better communication and coordination between University, College and Departmental Honors Programs. Dr. Datta is a faculty member in Biochemistry and Biophysics as well as Genetics with an active research program for the past 17 years prior to becoming a full-time administrator. In that period, over 50 undergraduates conducted research projects in her laboratory and went on to graduate or professional school as well as positions in various industries.

A. Positions and Honors.

Positions and Employment

2010-present Executive Director of Honors and Undergraduate Research, Office of Undergraduate Studies, Texas A&M University

2008-present Associate Professor, Department of Biochemistry and Biophysics, Faculty of Genetics, Texas A&M University

2005-2006 Visiting Professor, Department of Urology, Emory Medical School

1999-2009 Associate Professor, Department of Biochemistry and Biophysics, Department of Biology, Faculty of Genetics, Faculty of Neuroscience, Texas A&M University

1993-1999 Assistant Professor, Department of Biochemistry and Biophysics, Department of Biology, Faculty of Genetics, Faculty of Neuroscience, Texas A&M University

Other Experience and Professional Membership

2013 Society for Neuroscience, member

2003-2013 Genetics Society of America, member

2010-present TAMU Genetics and TAMU Neuroscience (TAMIN) graduate program faculty member.

2003-2005 Pittsburgh Supercomputing Center collaboration to development 3D models of sexually dimorphic neural tissues in C. elegans based on electron micrograph reconstructions.


2014-present Collaboration with Jun Kameoka (TAMU Engineering) to develop microfluidic devices for visualizing mitochondria in C. elegans neurons.

Honors
1993 Muscular Dystrophy Association of America Fellowship
2000 National Alliance for Schizophrenia and Depression (NARSAD), Young Investigators Award

B. Selected peer-reviewed publications (in chronological order).

Selected Publications: (bold = undergraduate co-authors)

NAME: Paul de Figueiredo

POSITION TITLE: Associate Professor

INSTITUTION AND LOCATION | DEGREE | MM/YY | FIELD OF STUDY
--- | --- | --- | ---
Rice University, Houston TX | B.A. | 1986 | Mathematics & Political Science
Stanford, Palo Alto CA | M.A. | 1989 | Religious Studies
Cornell, Ithaca NY | Ph.D. | 1997 | Biochemistry, Molecular & Cell Biology
MIT, Cambridge MA | Postdoc | 1998-1999 | Vertebrate genetics
U. Washington, Seattle WA | Postdoc | 2000-2005 | Microbiology

A. PERSONAL STATEMENT
N/A

B. POSITIONS AND HONORS

SELECTED RECENT PROFESSIONAL EXPERIENCE
2006 Member, Faculty of Genetics, Texas A&M University
2010 Investigator, Norman Borlaug Center, Texas A&M University
2013 Assoc. Professor, Dept. of Microbial Pathogenesis and Immunology, Texas A&M Health Science Center

SELECTED OTHER EXPERIENCE AND PROFESSIONAL ACTIVITIES
2008, 2010 Panel Member, NSF Integrated and Organismal systems (IOS)
2008-2012 Panel Member, NIH Special Emphasis Panel/Scientific Review Group ZRG1 IDM-A, Intracellular bacterial pathogenesis
2009-2012 Panel Member, NSF Chemical, Bioengineering, Environmental, and Transport Systems (CBET)
2011 Panel Member, CDC-NIH Family History and Diamond Blackfan Anemia
2005-present Member, American Association for the Advancement of Science
2010-present Associate Editor, Frontiers in Cellular and Infection Microbiology
2013-present Associate Editor, Frontiers in Cell and Developmental Biology

C. SELECTED SERVICE

TEXAS A&M UNIVERSITY
2006-2013 Co-Director, Research Experience for Undergraduates, Texas A&M Agrilife Research
2008-present Faculty mentor, University Scholars Program
2009-present Faculty Mentor, “Invisible Jungle”, a weekly National Public Radio broadcast
2009-2012 Member, Graduate Student Recruiting Committee, Faculty of Genetics
2009-2012 Member, Curriculum Committee, Biotechnology Program
2012-present Member, Institutional Biosafety Committee
2013-present Member, Faculty of Genetics Graduate Mentoring Committee

D. PUBLICATIONS (30 total, 1 in press, 1 in review)

SELECTED RECENT PUBLICATIONS


---

**D. RESEARCH SUPPORT**

**Current support**


3. Qatar National Research Fund (QNRF) (*PI*: Sadr; co-PI: Han; *co-PI*: de Figueiredo), Microfluidic Platforms for High-Throughput Screening of Microbes Utilizing Wastewater, 9/11/2012-9/10/2015


**Prior support (last 4 years)**


10. Leaf Energy, Inc. (*PI*: Dickman; *co-PI*: de Figueiredo), Microdiesel—a next generation biofuel platform, 6/2012-6/2013

11. Texas A&M Genomics and Bioinformatics Seed Grant Program (*PI*: Ficht; *co-PI*: de Figueiredo), Subcellular pathogenomics, 7/2012-7/2013


16. Department of Defense Army Research Office (*PI*: de Figueiredo; co-PIs—Samuel, Ficht, Rice-Ficht, Adams), Confocal microscopy instrumentation for biodefense research


18. NIH NIAID (*PI*: de Figueiredo), Microscopy for infectious disease research, 1/2010


20. NIH MLPCN (*PI*: de Figueiredo), Drug discovery for bone marrow failure diseases, 6/2009-6/2011, No monies, resources only

21. NIH NIAID, (*PI*: de Figueiredo; co-PI: Ficht), Identification and analysis of host factors that support *Brucella* infection, 2/08-1/2010

22. NSF IOS (*PI*: de Figueiredo; co-PI: Ficht), Molecular analysis of *Brucella* host factors, 8/2008-8/2011
BIOGRAPHICAL SKETCH

NAME                     DERR, James N.

POSITION TITLE             Professor

EDUCATION/TRAINING

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR CONFERRED</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Cameron University</td>
<td>B.S.</td>
<td>1980</td>
<td>Biology</td>
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<td>Sul Ross State University</td>
<td>M.S.</td>
<td>1982</td>
<td>Zoology</td>
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<tr>
<td>Texas A&amp;M University</td>
<td>Ph.D.</td>
<td>1990</td>
<td>Genetics</td>
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</table>

Professional Experience

1985-1987         Graduate Teaching Assistant, WFSC, TAMU
1987-1989 Tom Slick Research Fellow, WFSC, TAMU
1989-1990 Staff Research Assistant, WFSC, TAMU
1990-1993 Post-Doc Research Associate, ANSC, TAMU
1993-1999 Assistant Professor, VTPB, TAMU
1995- Director, DNA Technologies Laboratory, VTPB, TAMU
1999- 2006 Associate Professor, VTPB, TAMU
2000-2002 Chair, Graduate Faculty of Genetics, TAMU
2001-2003 President-Elect and President, Texas Genetics Society
2006 - Professor, VTPB. TAMU

Honors and Awards

Phi Kappa Phi Distinguished Alumnus Award, Cameron University, 2000.
Outstanding Student in Training, The Texas Genetics Society. April, 1987, College Station, Texas.

Peer-reviewed publications (last 10 years).


Osterstock, JB; Fosgate, GT; Cohen, ND; Derr, JN; Manning, EJB; Collins, MT; Roussel, AJ. 2008. Familial associations with paratuberculosis ELISA Results in Texas Longhorn cattle. Veterinary Microbiology.129 (1-2), 131-138.


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

**NAME**
Ebbole, Daniel, J.

**POSITION TITLE**
Professor

**eRA COMMONS USER NAME**
Ebbole

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
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<th>FIELD OF STUDY</th>
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<tr>
<td>Indiana University, Bloomington</td>
<td>B.A.</td>
<td>1979-1983</td>
<td>Microbiology</td>
</tr>
<tr>
<td>Indiana University, Bloomington</td>
<td>B.S.</td>
<td>1979-1983</td>
<td>Biochemistry</td>
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<tr>
<td>Purdue University, West Lafayette</td>
<td>Ph.D.</td>
<td>1983-1988</td>
<td>Biochemistry</td>
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<tr>
<td>Stanford University</td>
<td>Postdoctoral Training</td>
<td>1988-1991</td>
<td>Biology</td>
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</table>

**A. Positions and Honors**

**Employment**

1988 - 1991  Postdoctoral Research Associate, Stanford University
1991 - 1997  Assistant Professor, Texas A&M University
1997 - 2004  Associate Professor, Texas A&M University
2004 – present  Professor, Texas A&M University, Department of Plant Pathology & Microbiology
Member, Faculty of Genetics

**Other Experience and Professional Memberships**

Adjunct Professor, Fujian Agriculture & Forestry University, Fuzhou, Fujian, P.R.C.
Genetics Society of America (GSA)
America Phytopathological Society (APS)

**Honors**

1988 - 1991  NIH NRSA Postdoctoral Fellow
2013 – present  Minjiang Scholar, Fujian Province, P.R.C.

**B. Selected peer-reviewed publications** *(Postdocs and Graduate Students as shown)*


BIOGRAPHICAL SKETCH

NAME
Fuchs-Young, Robin

POSITION TITLE
Professor

eRA COMMONS USER NAME (credential, e.g., agency login)
ROBINFY

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
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<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Emory University, Atlanta, GA</td>
<td>B.S.</td>
<td>1978</td>
<td>Biology/English</td>
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<tr>
<td>Vanderbilt University, Nashville, TN</td>
<td>Ph.D.</td>
<td>1988</td>
<td>Pathology</td>
</tr>
<tr>
<td>University of Chicago, Chicago, IL (Ben May Institute)</td>
<td>Post-doc</td>
<td>1988-1991</td>
<td>Biology of Breast Cancer</td>
</tr>
</tbody>
</table>

A. Personal Statement

Dr. Fuchs-Young brings over 25 years of experience in investigations of the basic mechanisms of mammary tumorigenesis. Her research focuses on interacting signaling networks involving the estrogen receptor (ER$\alpha$), p53 and IGF-1 and includes studies of the impact of energy balance and refined carbohydrates on breast cancer susceptibility. Studies in her lab use a broad array of in vitro and in vivo models, including mammary epithelial and breast cancer cells and genetically modified animals. Using a unique transgenic model of IGF-1 overexpression, she and her team recently reported that developmentally regulated, nongenomic (membrane and cytoplasmic) ER$\alpha$ actions determine the impact of IGF-1 on normal and transformed mammary epithelium and susceptibility to mammary carcinogenesis. Dr. Fuchs-Young’s laboratory also studies breast cancer health disparities and the biophysiological mechanisms underlying disproportionately poor cancer outcomes in women of color.

Dr. Fuchs-Young has also directed a community outreach and engagement program for over 15 years. She has developed and implemented a wide variety of high impact programs providing science education and career development for K-16 students, particularly underrepresented minorities in science, and professional development for K-12 teachers. The goal of these programs is to enhance preparation for and stimulate excitement about careers in EHS, medicine and technology. Her community engagement efforts are also aimed at enhancing EHS literacy and promoting community capacity to achieve environmental justice.

B. Positions and Honors.

Research and Professional Experience:

1991-1992 Research Associate, Ben May Institute, University of Chicago, Chicago IL
1992-1996 Senior Scientist, Endocrine Research, Lilly Research Laboratories, Indianapolis IN
1996-2003 Assistant Professor, Department of Carcinogenesis, Science Park - Research Division (SPRD), The University of Texas MD Anderson Cancer Center (UT MDACC), Smithville TX
2004-2011 Associate Professor, Department of Carcinogenesis, SPRD, UT MDACC
2011-2012 Professor, Department of Molecular Carcinogenesis, SPRD, UT MDACC
2012-pres. Professor, Department of Molecular and Cellular Medicine, College of Medicine and the Institute for Bioscience and Technology (IBT), Texas A&M Health Science Center, TAMU

Patents:

US Patent #5604248 Method for minimizing the uterotropic effect of tamoxifen and tamoxifen analogs. Issue: 2/18/97
US Patent #5658931 Method for inhibiting mammalian breast carcinoma with tamoxifen and analogs thereof, and certain naphthyl compounds. Issue: 8/19/97

C. Selected peer-reviewed publications or manuscripts in press (relevant to this proposal).


D. Current Research and Outreach Support

- R01MD006228 (Fuchs-Young, PI) 03/01/11–02/29/16 1.44 calendar month
  NIH/NIMHHD $250,000
  Role of p53 polymorphisms in disparities in breast carcinogenesis and outcome.
  This project will investigate the role of racially disparate p53 polymorphisms in mediating the lack of pregnancy protection and increased susceptibility of minority women to early onset breast cancer.

- RP130639 (Shippen, Fuchs-Young, Co-PIs) 12/1/13-11/31/15 0.6 Calendar Months
  CPRIT $100,000
  A role for non-coding RNA in the regulation of telomerase in breast cancer. Specific aims are: 1. To examine the effect of DNA damage on telomerase enzyme activity in mammary cancer cell lines. 2. To identify DNA damage-induced non-coding RNAs that associate with human telomerase. 3. To investigate the expression profile and biochemical interactions of TERT-associated non-coding RNAs.

- BC123455 (Fuchs-Young, PI) 09/01/13 – 08/31/15 1.2 Calendar Months
  DOD/BCRP – IDEA Expansion
  Undoing the damage: reprogramming the effects of early high sugar/high fat diets through exercise. This project will investigate the potential of exercise to counteract the effects of exposure to hyperinsulinemia/hyperglycemia-inducing diet, during early development, by changing the "metabolic programming" induced by these early dietary exposures.

- P30 ES023512 (Walker, C., PI) 4/2014-3/2018 2.6 Calendar Months
  NIEHS/NIH Center for Translational Environmental Health Research (CTEHR). The goal of this project is to develop a Center to support environmental health research projects at Texas A&M.
  Role: Director of the Community Outreach and Engagement Core; Co-director, Career Development Program.

Training Grants

- NIH/NCI R25T (PI: R. Carroll) 8/1/11 – 7/31/16 unspecified effort
  Post-doc in Nutrition, biostatistics and bioinformatics $2,467,870 direct costs/5 years
  Role: Faculty Mentor
GARCIA, L. Rene.

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
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</thead>
<tbody>
<tr>
<td>Garcia, Luis Rene</td>
<td>Professor</td>
</tr>
<tr>
<td></td>
<td>HHMI Investigator</td>
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</tbody>
</table>

**EDUCATION/TRAINING** (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of Texas at Austin</td>
<td>BS Honors</td>
<td>1986-1990</td>
<td>Microbiology</td>
</tr>
<tr>
<td>University of Texas at Austin</td>
<td>Ph.D.</td>
<td>1990-1996</td>
<td>Microbiology</td>
</tr>
<tr>
<td>California Institute of Technology</td>
<td>Post Doc</td>
<td>1996-2002</td>
<td>Development/Behavior</td>
</tr>
</tbody>
</table>

**A. Positions and Honors**

**Employment**

1. 1990: Research Intern. NIH, Bethesda, Maryland. Supervisor: Dr. Rose Mage.
2. 1990-1996: Graduate Student. University of Texas at Austin, Dept of Microbiology. Supervisor: Dr. Ian J. Molineux
4. 2000-2002: Howard Hughes Postdoctoral Scholar. California Institute of Technology, Division of Biology and Associate, Howard Hughes Medical Institute. Supervisor: Dr. Paul W. Sternberg
5. 2002-2008 Assistant Professor, Department of Biology, Texas A&M University
6. 2008-present Associate Professor, Howard Hughes Medical Institute Investigator, Home Institute, Department of Biology; Texas A&M University

**Honors**

1. The Texas Achievement Award (5 year undergraduate scholarship)
2. NSF minority pre-doctoral fellowship (accepted)
3. Ford Foundation pre-doctoral fellowship (declined in order to accept the NSF Award)
4. University of Texas Ex Students’ Association Ethel and Robert L. Terry Memorial Scholarship.
5. National Research Service Award Postdoctoral fellowship.
6. Searle scholars Award
7. Presidential Early Career Award for Scientists and Engineers
8. Howard Hughes Medical Institute investigator

**B. Selected peer-reviewed publications** (Postdocs and Graduate Students as shown)


Guo, X and García, LR. 2014. SIR-2.1 integrates metabolic homeostasis with the reproductive neuromuscular excitability in aging male C. elegans. *eLife*:3:e01730


BIOGRAPHICAL SKETCH

NAME
Gill, Clare A.

POSITION TITLE
Professor

EDUCATION/TRAINING

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flinders University of South Australia, Australia</td>
<td>B.Biot.</td>
<td>1995</td>
<td>Biotechnology</td>
</tr>
<tr>
<td>University of Adelaide, Australia</td>
<td>Ph.D.</td>
<td>2001</td>
<td>Molecular Genetics</td>
</tr>
<tr>
<td>Texas A&amp;M University, College Station, TX</td>
<td>Post-doc.</td>
<td>1999</td>
<td>Animal Genomics</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Positions and Employment:
1995 - 1998: Graduate Student; University of Adelaide, South Australia, Australia.
2000 - 2001: Associate Research Scientist; Texas A&M University.
2001 - present: Member of the Graduate Faculty, Texas A&M University.
2001 - 2007: Assistant Professor of Animal Genomics; Texas A&M University.
2002 - present: Member of the Interdisciplinary Faculty of Genetics, Texas A&M University.
2003 - present: Member of the Interdisciplinary Faculty of Biotechnology, Texas A&M University.
2007 - 2013: Associate Professor of Animal Genomics; Texas A&M University.
2011 - present: Associate Vice President for Diversity; Texas A&M University.
2013 - present: Professor of Animal Genomics; Texas A&M University.
2013 - present: Faculty Ombuds Officer; Texas A&M University.

Professional Memberships and Honors:

Memberships: American Society of Animal Science, International Society of Animal Genetics, Texas Genetics Society, American Association for the Advancement of Science

1995: AMGEN Australia prize for excellence in biotechnology research
1995: Flinders University Chancellor’s letter of commendation
1998 & 1999: Finalist in the Young Australian of the Year Awards: nominated for The SA Water Science and Technology award for outstanding achievement
2009: Vice Chancellor’s Award in Excellence for Research (The McGregor Bovine Genomics Team)
2011: ADVANCE Administrative Fellow


B. Selected Peer-Reviewed Publications (2009-2014)

of sheep chromosome x and comparison with human and cattle. Cytogenet Genome Res 125: 40-45.

* Graduate student as first author
† Graduate student that I advised as first author
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Gomer, Richard H

POSITION TITLE
Professor of Biology

eRA COMMONS USER NAME (credential, e.g., agency login)
RGomer

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Pomona College, Claremont, CA</td>
<td>B.A.</td>
<td>05/77</td>
<td>Physics</td>
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<tr>
<td>California Institute of Technology, Pasadena, CA</td>
<td>Ph.D.</td>
<td>02/83</td>
<td>Biology</td>
</tr>
<tr>
<td>University of California, San Diego, CA</td>
<td>Postdoctoral</td>
<td>09/88</td>
<td>Biology</td>
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</table>

A. Personal Statement

Our lab studies the genetics and biochemistry of tissue size regulation in Dictyostelium discoideum. Work from this project led to the finding that the human serum protein Serum Amyloid P (SAP) is a potential therapeutic for fibrosing diseases. I co-founded a company to develop SAP as a therapeutic for fibrosis, and SAP is currently in Phase 2 clinical trials. As a PI on five NIH grants, several smaller grants, and as a HHMI Investigator for 15 years, I have successfully supervised research projects, trained students and postdocs, published research papers, and moved some of our basic research into clinical trials.

B. Positions and Honors

Positions and Employment

9/1983-9/1988 Postdoctoral Fellow, Biology Department, UCSD, San Diego, CA
4/1986-7/1999 Consultant, Terrapin Diagnostics
9/1988-6/1994 Assistant Professor of Biochemistry and Cell Biology, Rice University, Houston, TX
4/1990-8/2005 Adjunct Assistant Professor of Cell Biology, Baylor College of Medicine, Houston, TX
6/1990-6/1996 Assistant Investigator, Howard Hughes Medical Institute
7/1994-3/2000 Associate Professor of Biochemistry and Cell Biology, Rice University
7/1996-9/2000 Associate Investigator, Howard Hughes Medical Institute
4/2000-1/2010 Professor of Biochemistry and Cell Biology, Rice University
9/2000-8/2005 Investigator, Howard Hughes Medical Institute
1/2010-present Adjunct Professor of Biochemistry and Cell Biology, Rice University
1/2010-present Professor of Biology, Texas A&M University, College Station, TX
5/2011-present Member, Faculty of Genetics, Texas A&M University

Honors, Awards and Other Professional Activities:

1977 Pomona College Tileston Physics Prize
1977-1982 NIH Predoctoral Traineeship
9/1986-8/1988 American Cancer Society California Chapter Senior Postdoctoral Fellowship
4/2001-4/2003 Member, NIH Surgery, Radiology and Bioengineering special study section 8
7/2001-present Member, Faculty of 1000
9/2004-present Science Advisory Board member, Trellis Bioscience
6/2006-present Chair, IACUC, Rice University
1/2010-present Co-founder and Science Advisory Board member, Promedior
2007-2010 Chair, IACUC, Rice University
5/2008-present Editorial board member, International Journal of Cell Biology
C. Selected peer-reviewed publications (From 120 peer-reviewed publications in genetics and biology, 15 peer-reviewed publications in astronomy, and 13 issued patents) (Postdocs and Graduate Students as shown)


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Gonzalez, Carlos F.

POSITION TITLE
Professor

eRA COMMONS USER NAME
cf-gonzalez

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Texas A&amp;M University</td>
<td>BS</td>
<td>1970</td>
<td>Microbiology</td>
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<tr>
<td>Texas A&amp;M University</td>
<td>MS</td>
<td>1972</td>
<td>Microbiology</td>
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<tr>
<td>University of Nebraska-Lincoln</td>
<td>PhD</td>
<td>1978</td>
<td>Plant Pathology</td>
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<tr>
<td>University of California-Davis</td>
<td>Postdoctoral</td>
<td>1978-1979</td>
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<td>University of Michigan-Medical School</td>
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<td>1979-1980</td>
<td>Microbiology</td>
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A. Positions and Honors

Employment

Professor, Department of Plant Pathology and Microbiology and Faculty of Genetics, Texas A&M University, 2003-Present
Associate Professor, Tenured, Department of Plant Pathology and Microbiology and Faculty of Genetics, Texas A&M University, 1992-Present
Associate Professor, Non-Tenured, Department of Plant Pathology and Microbiology and Faculty of Genetics, Texas A&M University, 1986-1992
Unilever (Microlife Genetics), Microbiologist, 1980-1986
U.S. Army Reserve, Captain, 1972-1982 (Honorable Discharge)

Professional Memberships

American Phytopathological Society
American Society for Microbiology
Society for Minorities in Agriculture, Natural Resources, and Related Sciences

Honors

Ford Foundation Fellowship, University of Nebraska 1974-78
Phi Sigma
Sigma Xi, Charter member of Texas A&M University Chapter, 1971
Vice Chancellor’s Award in Excellence, Texas A&M University, 1994.
Award for Exemplary Service and Leadership 1994. Society for Minorities in Agriculture Natural Resources and Related Sciences
Award for Exemplary Service and Leadership 2000. Society for Minorities in Agriculture Natural Resources and Related Sciences
Award for Exemplary Service as Finance Chair for 2000-2006. Society for Minorities in Agriculture Natural Resources and Related Sciences
Diversity Award-2011-Texas A&M University-Division of Student Affairs-Multicultural Services
US PATENTS: 9 issued, one pending

B. Selected peer-reviewed publications


HALL, Timothy C.

Hall 1100181

University of Nottingham, U.K. B.Sc. (Hons) I 06/1962 Botany, Chemistry
University of Nottingham, U.K. Ph. D. 06/1965 Protein Synthesis
University of Minnesota, St. Paul Postdoc 1965-66 Stress Physiology

Please refer to the application instructions in order to complete sections A, B, C, and D of the Biographical Sketch.

Professional Experience
1992 - present Distinguished Professor and Director, institute of Developmental and Molecular Biology
1984 - 1992 Distinguished Professor and Head, Biology Department, Texas A&M University, College Station, TX
1982 - 1984 Adjunct Professor of Biophysics and Genetics, University of Wisconsin, Madison
1981 - 1984 Director of Advanced Research, Agrigenetics Corporation, Madison, Wisconsin
1966 - 1982 Assistant, Associate (1970) and Full Professor (1975), University of Wisconsin, Madison
2009 Organizer, Bush Foundation Symposium on "A New Look at Transgenic Plants", Peking University, China
2002 - 2005 Member of Scientific Advisory Committee of the China National Center for Biotechnology Development
2005 - present Member of Advisory Board for Program of Excellence, Chinese University of Hong Kong
1998 Organizer, Juan March Meeting on Chromatin and DNA Modification, Madrid, Spain (Oct)
1996 - 2005 Member of the Editorial Board, Journal of Virology
1996 - 1999 Member, NIH Reviewers Reserve; NIH Shared Equipment Grants

Research
Chromatin is the association of DNA with histones, vital to the packaging of DNA in the chromosomes. We were able to demonstrate experimentally that the phas promoter is rotationally and translationally positioned relative to a nucleosome. This architecture is known to confer epigenetic reduction of expression. Chemical changes to residues in the N-terminal tails of nucleosomal histones can be followed by chromatin immunoprecipitation (ChIP) assays, and we have used these to decipher orderly changes in nucleosomal structure during potentiation and activation, two major steps in obtaining expression from the phas promoter. These, and other, studies identified PvALF as a major effector protein for phas expression, with a central role in recruiting accessory proteins to build the SWI/SNF chromatin remodeling complex. Recent experiments using high-throughput sequencing have revealed that over 300 genes contribute to seed protein expression, probably as members of gene networks. This is truly an exciting new approach that promises to reveal much information regarding control of expression from the phas promoter, placing our plant system on competitive par with human and other systems for studying gene regulation.
Selected Reviews and Book Chapters:


Selected publications on Phaseolin project:


BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Hardin, Paul E.

POSITION TITLE
Distinguished Professor of Biology

EDUCATION/TRAINING
(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern Methodist University</td>
<td>B.S.</td>
<td>1982</td>
<td>Biology</td>
</tr>
<tr>
<td>Indiana University</td>
<td>Ph.D.</td>
<td>1987</td>
<td>Genetics</td>
</tr>
<tr>
<td>Brandeis University</td>
<td>Postdoc</td>
<td>1991</td>
<td>Neurogenetics</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Positions and Employment
1991-1995 Assistant Professor, Department of Biology and the Center for Advanced Invertebrate Molecular Sciences, Texas A&M University.
1995-2000 Associate Professor, Department of Biology and Biochemistry, University of Houston.
2000-2005 Professor, Department of Biology and Biochemistry, University of Houston.
2004-2005 John and Rebecca Moores Professor, Department of Biology and Biochemistry, University of Houston.
1996-2005 Adjunct Professor, Department of Biology, Texas A&M University.
2005-2008 John W. Lyons ’59 Chair and Professor, Department of Biology, Texas A&M University.
2005- Adjunct Professor, Department of Biology and Biochemistry, University of Houston.
2006- Member, Faculty of Genetics, Texas A&M University.
2006- Member, Faculty of Neuroscience, Texas A&M University.
2008- John W. Lyons Jr. ’59 Chair and Distinguished Professor, Department of Biology, Texas A&M University.

Other Experience and Professional Memberships
2000-2001 NIH Conte Center study section (ad hoc)
2002-2008 NIH Integrative, Functional and Cognitive Neuroscience D study section (ad hoc)
2004- Affiliate Editor, Journal of Biological Rhythms
2004- Secretary, Society for Research on Biological Rhythms
2004- NIH Neurogenesis and Cell Fate Study Section (ad hoc)
2008-2010 Treasurer, Society for Research on Biological Rhythms
2010-2012 Comptroller, Society for Research on Biological Rhythms
2005- Member, Society for Research on Biological Rhythms
2009-2010 NIH Biological Rhythms and Sleep Study Section, member
2010-2013 NIH Neuronal Development, Plasticity and Rhythms Study Section, member
2012-2014 President-elect, Society for Research on Biological Rhythms
2014-2016 President, Society for Research on Biological Rhythms
2013- Member, Society for Neuroscience
2013- Member, Genetics Society of America

Honors
1985 M.D. Anderson Biochemistry and Molecular Biology Fellowship
1988 National Research Service Award
B. Selected peer-reviewed publications (of 91 total; Post-docs and Graduate Students as shown).


## BIOGRAPHICAL SKETCH

### NAME
Herring, Andy D.

### POSITION TITLE
Associate Professor

### EDUCATION/TRAINING

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Tarleton State University, Stephenville, TX</td>
<td>B.S.</td>
<td>1988</td>
<td>Animal Science</td>
</tr>
<tr>
<td>Texas A&amp;M University, College Station, TX</td>
<td>M.S.</td>
<td>1991</td>
<td>Animal Breeding</td>
</tr>
<tr>
<td>Texas A&amp;M University, College Station, TX</td>
<td>Ph.D.</td>
<td>1994</td>
<td>Genetics</td>
</tr>
</tbody>
</table>

### A. Positions and Honors

**Professional Experience:**
- Associate Professor and Holder of John K. Riggs ’41 Beef Cattle Professorship
  Department of Animal Science Texas A&M University, 2002 - present
- Associate Professor (2000 - 2002), Assistant Professor (1994-2000)
  Department of Animal and Food Sciences, Texas Tech University,
- Graduate Teaching and Research Assistant
  Department of Animal Science, Texas A&M University, 1988 to 1994

**Selected Honors and Awards:**
- 2009 Vice Chancellor’s Award in Excellence for Graduate Teaching
- 2009 Vice Chancellor’s Award in Excellence for Research Team “McGregor Bovine Genomics Team”
- Outstanding Young Animal Scientist – Education (2000), Southern Region, American Society of Animal Science
- Texas Tech University Teaching Academy (Inducted 1999)
- 1998 NACTA National Teacher Fellow Award

### B. Selected Peer-Reviewed Publications (2009-2014)


**Books and Chapters:**


**Selected Relevant Scientific Abstracts**


*Graduate student directed or advised
Hu, James C

Professor

Stanford University, Stanford, CA
B.S. 1975 Biological Sciences
University of Wisconsin, Madison, WI
M.S. 1982 Molecular Biology
University of Wisconsin, Madison, WI
Ph.D. 1987 Molecular Biology
Mass. Inst. of Technology, Cambridge, MA
Postdoc. 1987-1992

A. Positions and Honors

Employment
1992-1998 Assistant Professor Dept. of Biochemistry and Biophysics, Texas A&M Univ.
1998-2011 Associate Professor Dept. of Biochemistry and Biophysics, Texas A&M Univ.
2011-present Professor Dept. of Biochemistry and Biophysics, Texas A&M Univ.
1994-present Member Graduate Faculty of Genetics, Texas A&M Univ.
2000-2005 Chair of the steering committee Program in Microbial Genetics and Genomics, Texas A&M Univ.
2003-2006 Steering committee Chemistry-Biology Interface Training Program

Other Experience and Professional Memberships
Reviews Editor, Protein Science, 2002-2006
EcoliHub Steering Committee 2006-2009
NSF Microbial Molecular Genetics Advisory Panel 2005-2009
Organizer, Molecular Genetics of Bacteria and Phage Meeting. 2008-2010
Organizer, Texas Protein Function and Folding Conference 1993-present
Genetics Society
American Society for Microbiology
ASBMB
Protein Society
International Society of Biocurators

Honors
Graduation with distinction and departmental honors, Stanford 1975
Support on NIH Cell and Molecular Biology Training Grant, University of Wisconsin 1975-7
NIH Postdoctoral Fellowship, 1987-1990
Biochemistry Graduate Association Faculty Recognition Award, Texas A&M, 1996, 2000

B. Selected Peer-reviewed Publications (Postdocs and Grad students as shown)


# BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hurtado-Clavijo, Luis A.</td>
<td>Assistant Professor</td>
</tr>
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</table>

**eRA COMMONS USER NAME**

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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</thead>
<tbody>
<tr>
<td>Universidad Nacional de Colombia, Bogotá, Colombia</td>
<td>B. Sc.</td>
<td>1986-1992</td>
<td>Biology</td>
</tr>
<tr>
<td>Instituto Tecnológico y de Estudios Superiores de Monterrey, Campus Guaymas, México</td>
<td>M.Sc.</td>
<td>1994-96</td>
<td>Conser., Ecol. and Manag. of Natural Resources</td>
</tr>
<tr>
<td>Rutgers University, New Jersey, USA</td>
<td>Ph.D.</td>
<td>1997-2002</td>
<td>Ecology and Evolution</td>
</tr>
<tr>
<td>University of Arizona, Tucson, Arizona</td>
<td>Postdoc.</td>
<td>2002-2005</td>
<td>Evolution</td>
</tr>
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</table>

**A. Positions and Honors**

**Employment**

- 2006-08 Research Assistant Professor, Department of Wildlife and Fisheries Sciences, Texas A&M University
- 2005-06 Research Assistant Professor, Department of Biological Sciences, University of Texas at El Paso
- 2002-05 Postdoctoral Associate, Arizona Research Labs/Department of Ecology and Evolutionary Biology, University of Arizona

**Other Experience and Professional Memberships**

- 2009 NSF Panelist, Population and Evolutionary Processes

**Honors**

- 1996 Award from the Mexican Government Environmental Agency ‘Procuraduría Federal de Protección al Medio Ambiente del Gobierno de México (PROFEPA)’ for research on massive mortality of dolphins occurred in 1995 in the Gulf of California

**B. Selected peer-reviewed publications** 


Liu S*, Sun J, Hurtado LA C. 2013. Genetic differentiation of Portunus trituberculatus, the world's largest crab fishery, among its three main fishing areas. Fisheries Research 148: 38-46. DOI: 10.1016/j.fishres.2013.08.003


**BIOGRAPHICAL SKETCH**

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<tbody>
<tr>
<td>Ing, Nancy Hughes</td>
<td>Associate Professor of Animal Science and Veterinary Integrated Biosciences</td>
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<tr>
<th>NAME</th>
<th>eRA COMMONS USER NAME (credential, e.g., agency login)</th>
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<tr>
<td>Ing, Nancy Hughes</td>
<td>NANCYING</td>
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**EDUCATION/TRAINING** (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of Florida</td>
<td>B.S.</td>
<td>1979</td>
<td>Zoology</td>
</tr>
<tr>
<td>University of Florida</td>
<td>D.V.M.</td>
<td>1984</td>
<td>Veterinary Medicine</td>
</tr>
<tr>
<td>University of Florida</td>
<td>Ph.D.</td>
<td>1988</td>
<td>Biochemistry Mol. Biology</td>
</tr>
<tr>
<td>Baylor College of Medicine</td>
<td>Post-doctoral</td>
<td>1992</td>
<td>Cell Biology</td>
</tr>
</tbody>
</table>

**A. Personal Statement**

My research focuses on steroid hormone-regulated gene expression in mammalian reproductive tissues. My independent laboratory discovered the post-transcriptional mechanism by which estradiol up-regulates estrogen receptor expression to enhance estrogen responsiveness in the uterus: estradiol stabilizes estrogen receptor mRNA via specific sequence elements in the 3' untranslated region of the message. These studies are leading to investigations of microRNAs regulating gene expression via steroid hormones in responsive tissues. I am excited to extend my studies to glucocorticoid repression of testosterone synthesis in stallion testes, expected to have high relevance to man. I am dedicated to mentoring diverse students at undergraduate as well as graduate levels and my track record extends throughout my career.

**B. Positions and Honors.**

**Positions and Employment**

<table>
<thead>
<tr>
<th>Years</th>
<th>Position</th>
<th>Department</th>
<th>Institution/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986-1988</td>
<td>Research Assistant</td>
<td>Department of Animal Science</td>
<td>University of Missouri</td>
</tr>
<tr>
<td>1988-1992</td>
<td>Post-Doctoral Fellow</td>
<td>Department of Cell Biology</td>
<td>Baylor College of Medicine</td>
</tr>
<tr>
<td>1992-</td>
<td>Assistant Professor</td>
<td>Department of Animal Science</td>
<td>Texas A&amp;M University</td>
</tr>
<tr>
<td>1992-</td>
<td>Joint Appointment</td>
<td>Department of Veterinary Anatomy and Public Health</td>
<td>Texas A&amp;M University</td>
</tr>
<tr>
<td>1998-</td>
<td>Associate Professor</td>
<td>Department of Animal Science</td>
<td>Texas A&amp;M University</td>
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**Other Experience and Professional Memberships**

<table>
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<tr>
<th>Years</th>
<th>Position</th>
<th>Institution/Location</th>
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<tr>
<td>1986</td>
<td>Member, Publication and Membership Committees</td>
<td>Society for the Study of Reproduction</td>
</tr>
<tr>
<td>1993</td>
<td>Member, Exec. Comm., Faculty of Genetics</td>
<td>Texas A&amp;M University</td>
</tr>
<tr>
<td>1996</td>
<td>Member</td>
<td>Endocrine Society</td>
</tr>
<tr>
<td>1999</td>
<td>Member, Exec. Comm., Faculty of Reproductive Biology</td>
<td>Texas A&amp;M University</td>
</tr>
<tr>
<td>1997 - 2001</td>
<td>Editorial Board</td>
<td>Biology of Reproduction</td>
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<tr>
<td>2000</td>
<td>Member, Exec. Comm., Faculty of Biotechnology</td>
<td>Texas A&amp;M University</td>
</tr>
<tr>
<td>1998 - 2002</td>
<td>Editorial Board</td>
<td>Domestic Animal Endocrinology</td>
</tr>
<tr>
<td>2007</td>
<td>Member</td>
<td>Texas Faculty Association</td>
</tr>
</tbody>
</table>
Honors
1979 Rita McTigue O’Connell Award                     Gainesville Women’s Club
1979 Phi Beta Kappa                                   American Medical Association
1980 Graduate Fellowship for Women Entering Non-Traditional Careers University of Florida
1980 ERF Award                                       American Medical Association
1995 American Registry of Professional Animal Scientists
2000 Gamma Sigma Delta (Agricultural Honor Society) Texas A&M University
2005 Phi Zeta (Veterinary Medicine Honor Society) Texas A&M University
2012 Dean’s Outstanding Achievement Award for Faculty Mentoring Texas A&M University

C. Peer-reviewed publications (Selected from 45 peer-reviewed publications)


# BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
<th>NAME</th>
<th>Ji, Jun-yuan</th>
</tr>
</thead>
<tbody>
<tr>
<td>eRA COMMONS USER NAME (credential, e.g., agency login)</td>
<td>JITAMHSC</td>
</tr>
<tr>
<td>POSITION TITLE</td>
<td>Assistant Professor, Department of Molecular and Cellular Medicine Texas A&amp;M University Health Science Center</td>
</tr>
</tbody>
</table>

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>Lanzhou University, China</td>
<td>B.S.</td>
<td>06/94</td>
<td>Cell Biology</td>
</tr>
<tr>
<td>Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing</td>
<td>M.S.</td>
<td>06/97</td>
<td>Developmental Biology</td>
</tr>
<tr>
<td>University of Washington, Seattle, WA</td>
<td>Ph.D.</td>
<td>12/03</td>
<td>Zoology</td>
</tr>
<tr>
<td>Massachusetts General Hospital Cancer Center, Harvard Medical School, Dept. of Pathology</td>
<td>Postdoctoral</td>
<td>08/09</td>
<td>Molecular Oncology</td>
</tr>
</tbody>
</table>

**Positions and Employment**

2004-2009 Research Fellow, Massachusetts General Hospital Cancer Center and Harvard Medical School, Department of Pathology, Boston, Massachusetts;
2009- Assistant Professor, Department of Molecular and Cellular Medicine, College of Medicine, Texas A&M University Health Science Center, College Station, Texas;
2009- Assistant Professor, Faculty of Genetics, Texas A&M University, College Station, Texas;
2012- Member, Interdisciplinary Faculty of Toxicology, Texas A&M University, College Station, Texas.

**Other Experience and Professional Memberships:**

2004- Genetics Society of America
2011- American Association for Cancer Research

**Honors and Awards:**

2011 The American Heart Association NCRP Spring 2011 Scientist Development Award
2011 The AHA SCA Spring 2011 Beginning Grant-in-Aid (Declined)
2009 MGH Fund for Medical Discovery (FMD) Postdoctoral Fellowship Award
2006 Tosteson Postdoctoral Fellowship Award from Massachusetts Biomedical Research Corporation
2005 *Drosophila* Image Award Finalists
1997 Di-Ao Award for Excellent Graduate Student of Chinese Academy of Sciences
1994 Excellent Graduate Award of Lanzhou University

**Selected Publications (reverse chronological order)**


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person. DO NOT EXCEED FOUR PAGES

NAME
Johnston, J. Spencer

POSITION TITLE
Professor of Entomology/Genetics

eRA COMMONS USER NAME
JSPENCERJ

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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</thead>
<tbody>
<tr>
<td>University of Washington, Seattle, WA</td>
<td>B. S.</td>
<td>1967</td>
<td>Zoology</td>
</tr>
<tr>
<td>University of Arizona, Tucson, AZ</td>
<td>Ph. D.</td>
<td>1972</td>
<td>Genetics</td>
</tr>
<tr>
<td>University of Texas, Austin, TX</td>
<td>Post Doctoral</td>
<td>1975</td>
<td>Genetics</td>
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</table>

A. Personal Statement

I am interested in arthropod genome size evolution, and to this end, have examined genome size of a number of insect species. Recent work includes the relationship of genome size and Drosophila life history traits. To address this, we produced high-resolution estimates of the average female genome size of the 205 DGRP isolines of D. melanogaster. Three important published findings from that work are first; genome size varies among Drosophila lines that were extracted from nature, second, genome size correlates with development time in a temperature-dependent fashion, and third, chromosomal inversions affect both average genome size and the magnitude of genome size variation.

Our goal is to extend this work to naturally occurring populations. To this end, we have measured a small subset of the D. melanogaster and D. simulans populations studied by Begun et al., and found significant genome size variation – which variation is more than sufficient to achieve, in a timely fashion, the goals of the proposed research.

I have a great deal of experience estimating genome size and have utilized flow cytometry to determine the total genome size for most, if not all, complete arthropod genome projects, and continue to provide genome size estimates for scientists and genome centers across the world. With M. Bennett et al. in 2005 we established the genome size standard for D. melanogaster by comparison against the fully sequenced genome of Caenorhabditis elegans. With Ryan Gregory, I published the genome size for 78 Drosophila species. For the DGRP we measured genome size for more than 1000 D. melanogaster.

Most recently, I published evidence that the majority of nuclei from the thorax of D. melanogaster are underreplicated. The underreplication peak can be compared to the 2C peak from the same individual, allowing an estimation of the replicated (and unreplicated) portions of the genome with very high accuracy and precision. Within a given line, the standard error of this measurement (N = 5) is less than 0.0001 Mb. Between lines there are very significantly different proportions, providing thereby a powerful new tool to help successfully address the objectives in the proposal in a timely fashion.

B. Positions and Honors

Positions and Employment

1975 - 1979  Assistant Professor of Biology, Biology, Baylor University
1980 - 1986  Associate Professor of Genetics, Plant Sciences, Texas A&M University
1986 – 1997  Associate Professor of Entomology, Entomology, Texas A&M University
1997 –      Professor of Entomology, Dept. Entomology, Texas A&M University
**Other Experience and Professional Memberships**

1980-   Faculty of Genetics, TAMU  
1991-   Director of Cytometry, Center for Systematics and Biodiversity, TAMU  
1999   Visiting Senior Research Fellow, Department of Zoology, Oxford University  
2003   Visiting Senior Fellow, St. Hugh's College, Oxford University  

**Honors**

1992   Outstanding Undergraduate Genetics Professor  
1996   Outstanding Undergraduate Genetics Professor  
2005   Paper in Ann. Botany listed in Science Citation Index as most cited in its field.  
2005   Two papers in Ann. Botany listed among 50 most cited in the journal history.  
2006   Author of the year: Jn. Insect Molecular Biology - (865 citations).  
2006   Four papers in Ann. Botany listed among 10 most cited in the journal history.  

**C. Selected peer-reviewed publications.**


Kelley, J.L et al. 2014. Insights into evolution of the small genome of the Antarctic midge: Environmental extremes constrain genome architecture, not gene content. Nature. 35.2


Baxter SW, Davey JW, J. S. Johnston JS et al. Linkage Mapping and Comparative Genomics Using Next-
BIOGRAPHICAL SKETCH
Provide the following information for the key personnel and other significant contributors.
Follow this format for each person.  DO NOT EXCEED FOUR PAGES.

NAME
Geoffrey Kapler

eRA COMMONS USER NAME
gkapler@tamu.edu

POSITION TITLE
Professor and Chair
Department of Molecular and Cellular Medicine
Texas A&M Health Science Center

EDUCATION/TRAINING  (Begin with baccalaureate or other initial professional education, such as nursing, and...)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Connecticut, Storrs CT</td>
<td>B.S.</td>
<td>1979</td>
<td>Biology</td>
</tr>
<tr>
<td>Harvard University, Cambridge MA</td>
<td>Ph.D.</td>
<td>1989</td>
<td>Genetics</td>
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<tr>
<td>University of California, San Francisco CA</td>
<td>Postdoctoral</td>
<td>1900-1994</td>
<td>Microbiology and Immunology</td>
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A. PERSONAL STATEMENT
For the past 20 years the Kapler lab has used the model eukaryote Tetrahymena thermophila, to gain insights into the genetic and epigenetic control of DNA replication. Aberrations in replication initiation (gene amplification) and elongation (fork collapse) induce genome instability, a hallmark of all cancer cells. My lab has exploited genetically programmed and environmentally induced conditions to address fundamental questions in the DNA replication field. We discovered a novel mechanism for the selective recruitment of the origin recognition complex (ORC) to sites for gene amplification, in which a novel RNA component of ORC binds to amplified origins through Watson-Crick RNA:DNA base pairing. We identified a novel single strand DNA binding protein, TIF1p, that regulates the intra-S phase DNA damage/replication stress checkpoint response, and provided the first evidence for epigenetic control of replication fork elongation. Most recently, we discovered a robust unconventional DNA replication program that operates in the virtual absence of conserved initiator proteins (ORC and the MCM2-7 replicative helicase). This cell cycle program is activated by environmental agents that damage DNA. Genotoxic agents arrest the cell cycle at the G1/S border and trigger the ATR-dependent degradation of ORC and MCM complexes. Remarkably, upon removal of these agents, the entire genome is replicated before the initiator proteins are replenished. The molecular underpinnings of this ‘alternative DNA replication program’ are being assessed by nascent strand deep sequencing. Finally, we have identified a role for histone H3 K27 monomethylation in the regulation of replication fork elongation. TXR1 methyltransferase mutant strains exhibit profound genome instability that is associated with gross genome rearrangements (microhomology induced inverted repeats) proximal to replication initiation sites.

B. POSITIONS AND HONORS
1990-1993  Damon Runyon-Walter Winchell Postdoctoral Fellow, UCSF, mentor: Elizabeth Blackburn
1994  California Cancer Research Coordinating Board Committee Postdoctoral Fellow, University of California, San Francisco, mentor: Elizabeth Blackburn
1994-2002  Assistant Professor, Medical Biochemistry and Genetics, Texas A&M Health Science Center
1994-present  Member, Interdisciplinary Faculty of Genetics, Texas A&M University
1997-present  Member, Department of Biochemistry and Biophysics, Texas A&M University
1999-2004  Member, Tetrahymena Genome Project Steering Committee
2001-present  Board of Reviewers, Current Genetics
2002-2005  Chair, Interdisciplinary Faculty of Genetics, Texas A&M University
2002-2006  Associate Professor, Dept. of Medical Biochemistry and Genetics, TAMHSC
2003  Ad hoc reviewer, NIH Study Section in Comparative Medicine (October 2003)
2003/2004  Ad hoc member, NIH Study Section in Genetics (June 2003, February 2004)
2006-present  Professor, Dept. of Molecular and Cellular Medicine, Texas A&M Health Science Center
2007  Ad hoc member, NSF Study Section, Eukaryotic Genetics (April 2007)
2007-2009  Associate Chair, Dept. of Molecular and Cellular Medicine, Texas A&M Health Science Center
2009  Recipient, Texas A&M Health Science Center Excellence in Research Award
2009-2011  Meeting Organizer, 2011 FASEB Ciliate Molecular Biology Conference, Crete, Greece
2010-2011  Interim Chair, Dept. of Molecular and Cellular Medicine, Texas A&M Health Science Center
2011  Ad hoc member, NSF Study Section, Eukaryotic Genetics (April 2011)
2011-present Tetrahymena Research Advisory Board (Chair, 2013-2015)
2012- Chair, Dept. of Molecular and Cellular Medicine, Texas A&M Health Science Center
2012- Tom and Jean McMullin Endowed Chair in Genetics
2013-2016 Coordinating Committee, Genetics Society of America, 2016 Genetics Conference, TAGC
(GSA 100th anniversary meeting), Orlando, FLA

C. SELECTED PEER-REVIEWED PUBLICATIONS (in reverse chronological order)


D. RESEARCH SUPPORT
Source: TAMU/National Science Foundation of China Research Grant Program
Title: Transcriptome analysis of a novel stress-induced DNA replication program in Tetrahymena.
Funding Period: 9/01/13 – 8/31/14
PI: GM Kapler, Co-PI, Wei Miao (Institute of Hydrobiology, Chinese Academy of Science, Wuhan, China)
Funding Period: 8/01/14 – 7/31/18 (effort: 1.0 month) Budget: $25,000 (direct cost to GMK)

Source: National Science Foundation (Division of Molecular and Cellular Biosciences)
Title: Dissecting the role of histone lysine 27 mono-methylation in DNA replication.
PI: Y Liu, Univ. of Michigan; Co-PI, GM Kapler
Funding Period: 8/01/14 – 7/31/17 (effort 1.0 month) Sub-contract budget for Kapler lab: (cumulative direct cost to Kapler lab: $61,585, total cost $89,299 (direct and indirect))

Source: Jean and Tom McMullin Endowed Professorship in Genetics (annual direct costs ~$60,000)
**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kunkel, Gary R.</td>
<td>Associate Professor of Biochemistry</td>
</tr>
</tbody>
</table>

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)*

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of California, Davis</td>
<td>B.S.</td>
<td>06/75</td>
<td>chemistry</td>
</tr>
<tr>
<td>University of California, Los Angeles</td>
<td>Ph.D.</td>
<td>12/81</td>
<td>biochemistry</td>
</tr>
<tr>
<td>Worcester Foundation for Biomedical Research</td>
<td>postdoc</td>
<td>04/82-12/88</td>
<td>cell &amp; mol. biology</td>
</tr>
</tbody>
</table>

**A. Personal Statement**

I have directed research projects involving efforts of graduate students, undergraduate students and technicians in the general field of eukaryotic transcriptional control for over 20 years. My laboratory is skilled in transcription assays, transfection of cultured cells, protein expression, and manipulation/analysis of DNA and RNA. Starting in 2005, we began work using zebrafish as a model organism, collaborating with Prof. A. Lekven’s laboratory at Texas A&M. To hone those skills, both technical and conceptual, I performed sabbatical research in 2009 with Prof. D. Raible’s laboratory at the University of Washington.

**B. Positions and Honors**

**Positions**

Research Associate, Worcester Foundation for Experimental Biology, Shrewsbury, MA, 1982-1985  
Senior Research Associate, Worcester Foundation, 1985-1988  
Assistant Professor of Biochemistry, Texas A&M University, 1989-1994  
Visiting Associate Professor, Department of Molecular Genetics, M.D. Anderson Cancer, Houston, TX, Fall 1997-Spring 1998  
Associate Professor of Biochemistry, Texas A&M University, 1994-present  
Visiting Scholar, Department of Biological Structure, University of Washington, 2009

**Honors**

Robert E. Wood Foundation National Merit Scholarship, 1971-1975  
University of California Regent's Fellowship, UCLA  
NIH NRSA Predoctoral Trainee, UCLA, 1977-1979  
NIH NRSA Postdoctoral Fellowship, 1983-1985  
Outstanding Faculty Award, Undergraduate Biochemistry Society, Texas A&M University, 1993  
Outstanding Teacher Award, Undergraduate Genetics Society, Texas A&M University, 1993  
Faculty Recognition Award, Biochemistry Graduate Student Association, 2004

**C. Selected Peer-reviewed Publications**


D. Research Support

Ongoing

NSF DBI-1358941, 04/01/2014-03/31/2019, “REU Site – Summer Undergraduate Research Program in Biochemistry”

The goals of this project are to recruit participants and administer a summer undergraduate research program in the Department of Biochemistry and Biophysics at Texas A&M University. G.R. Kunkel is the P.I. for this grant and co-director of the program.

American Heart Association SWA Winter 2014 Grant-in-Aid: 14GRNT20460146, 07/01/2014-06/30/2016, “Mechanism of Control of Zebrafish Heart Development by a Multifunctional Transcriptional Activator Protein”

The goals of this project are to perform experiments to understand the mechanism of zebrafish heart development under transcriptional control by ZNF143 activator protein. Aims are to perform a detailed phenotypic analysis of heart marker gene expression after knockdown of ZNF143 and to determine molecular steps controlled by ZNF143 at one or more such gene promoters.
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Leibowitz, Julian

POSITION TITLE
Professor of Microbial and Molecular Pathogenesis

eRA COMMONS USER NAME
JLeibowitz

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfred University, Alfred, NY</td>
<td>B.A.</td>
<td>1964-1968</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Albert Einstein College of Medicine, Bronx, NY</td>
<td>Ph.D.</td>
<td>1970-1975</td>
<td>Cell Biology</td>
</tr>
<tr>
<td>Albert Einstein College of Medicine, Bronx, NY</td>
<td>M.D.</td>
<td>1968-1975</td>
<td>Medicine</td>
</tr>
<tr>
<td>University of California, San Diego, CA</td>
<td></td>
<td>1975-1977</td>
<td>Intern/Resident Pathology</td>
</tr>
<tr>
<td>University of California, San Diego, CA</td>
<td></td>
<td>1977-1979</td>
<td>Exptl Neuropathology</td>
</tr>
</tbody>
</table>

A. Positions and Honors.

Positions:
1970-75. Medical Scientist Trainee, Albert Einstein College of Medicine, Bronx, N.Y.
1975-77. Intern and Resident, Department of Pathology, University of California, San Diego.
1979-83. Assist. Prof. of Pathology in Residence, University of California, San Diego.
1983-95. Assist. Prof., Assoc. Prof., Prof. of Pathology and Laboratory Medicine, University of Texas Medical School-Houston.
June, 1995-December, 2005. Prof. of Pathology and Laboratory Medicine, Texas A&M College of Medicine, College Station, TX.
Jan. 2006-present. Prof. of Microbial and Molecular Pathogenesis, Texas A&M College of Medicine, College Station, TX.
July 1998-present. Prof. of Veterinary Pathobiology, Texas A&M University, College Station, TX.

Other Experience and Professional Memberships
Member, American Society of Virology, 1981-present
Member, American Society for Microbiology, 1977-present
Member, American Association for the Advancement of Science, 1975-present
Member, Association of University Pathologists, 1991
Member, Veteran's Administration Merit Grant, Infectious Diseases Panel, 1994 -1997
NIH Ad hoc Peer Reviewer for Virology, Path B, CBNT, Neurology, and 7 Special Study Sections, 1987-2013
Peer Reviewer for Medical Research Council, UK, 2008
External Reviewer, Qatar National Research Fund, March 2013

Honors and Awards:
Eta Mu Alpha, College Honor Society
New York State Regents Medical School Scholarship
Elected to the Pluto Club (Association of University Pathologists), 1991

B. Selected peer-reviewed publications (Selected from 100 peer-reviewed publications)
Graduate students and post-docs are underlined.

Liu, Q, Johnson, RF, and Leibowitz, JL. (2001) Secondary structural elements within the 3' untranslated region of mouse hepatitis virus strain JHM genomic RNA. J. Virol. 75:12105–12113. PMCID: PMC116106


Liu, P, Li, L, Keane, SC, Yang, D, Leibowitz, JL, and Giedroc, DP. (2009). Mouse hepatitis virus stem-loop 2 adopts an uYNMG(U)a-like tetraloop structure that is highly functionally tolerant of base substitutions. J. Virol. 83:12084–12093. PMCID: PMC2786756


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Lightfoot, J. Timothy

POSITION TITLE
Omar Smith Endowed Professor

eRA COMMONS USER NAME
jtlightf

Director of the Sydney and JL Huffines Institute for Sports Medicine and Human Performance

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast Louisiana University, Monroe, LA</td>
<td>BS</td>
<td>1981</td>
<td>Physical Education/Math</td>
</tr>
<tr>
<td>Northeast Louisiana University, Monroe, LA</td>
<td>MEd</td>
<td>1982</td>
<td>Exercise Physiology</td>
</tr>
<tr>
<td>University of Tennessee, Knoxville, TN</td>
<td>PhD</td>
<td>1986</td>
<td>Exercise Physiology</td>
</tr>
<tr>
<td>Johns Hopkins University, Baltimore, MD</td>
<td>Post-doc</td>
<td>1989</td>
<td>Physiology</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Positions and Employment

1985 Research Consultant, The Bionetics Corporation, NASA, Kennedy Space Center;
1986-1989 Post-doctoral Research Fellow, Div. Physiology, Johns Hopkins University, Baltimore, MD;
1989-1993 Assistant Professor, Dept of Exercise Science, Florida Atlantic University, Boca Raton, FL;
1994-1996 Associate Professor & Dept Chair, Dept Exercise Science, Florida Atlantic University, Boca Raton, FL;
1996-2001 Associate Professor & Dept Chair, Dept of Kinesiology, University of North Carolina-Charlotte, Charlotte, NC;
2001-2005 Professor & Dept Chair, Dept of Kinesiology, University of North Carolina-Charlotte, Charlotte, NC;
2005-2010 Professor, Dept of Kinesiology, University of North Carolina-Charlotte, Charlotte, NC;
2010-current Omar Smith Endowed Professor & Director of the Huffines Inst. Sports Medicine and Human Performance, Dept. of Health and Kinesiology, Texas A&M University, College Station, TX.
2010-current Member, Faculty of Genetics (interdisciplinary faculty) Texas A&M University, College Station, TX.
2010-current Member, A&M Whole Systems Genomics Institute (interdisciplinary faculty) Texas A&M University, College Station, TX.

Other Experience and Professional Memberships

1983-curr Member, Southeast American College of Sports Medicine
1985-curr Member, American College of Sports Medicine
1991-curr Member, American Physiological Society
2003-06 American Physiological Society, Porter Physiology Minority Development Committee
2005 National Institutes of Health P50-Centers Of Research Translation Reviewer (ZAR1-MLB-G)
2005 National Institutes of Health – R03 Special Emphasis Study SectionReviewer (ZAR1-EHB-G)
2005 Compliance/Product Analyses US Army Medical Research Core
2006 U.S. Dept. of Defense/USARIEM Human Performance Optimization review panel (PRMRP)
2006-07 NIH P50-Centers Of Research Translation - Special Emphasis Reviewer (ZAR1-MLB-G)
2007 NIH, AMS 2008-01 Training Program Review Study Section
2008 NIH, Special Emphasis Panel/Scientific Review Group 2009/05 ZRR1 SEPA-6
2008-09 U.S. Dept. of Defense/USARIEM Human Performance Optimization review through the American Institute of Biological Services
2009 NIH, Special Emphasis Panel/Scientific Review Group ZAR1 EHBF(M2)
2009 NIH, Special Emphasis Panel/Scientific Review Group ZDK GRB-9(O1)
2010-12 Associate Editor, American College Sports Medicine’s Health and Fitness Journal
2010 Panelist, NIH NIAMS Roundtable “Mechanisms of Exercise Induced Health” (11/15/10)
Program Director/Principal Investigator: LIGHTFOOT, J. Timothy

2011-15 Member, ACSM Science Integration & Leadership Committee
2013-curr Member, National Exercise Clinical Trials Network (NExTNet)

B. Selected Peer-reviewed Publications (Selected from 60 peer-reviewed publications; *indicates student author)


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Lints, Robyn

POSITION TITLE
Associate Professor of Biology at Texas A&M University (TAMU)

eRA COMMONS USER NAME
RLINTS

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of Auckland, New Zealand</td>
<td>M.Sc.</td>
<td>1987-1989</td>
<td>Molecular biology</td>
</tr>
<tr>
<td>University of Melbourne, Australia</td>
<td>Ph.D</td>
<td>1989-1993</td>
<td>Molecular genetics</td>
</tr>
<tr>
<td>Albert Einstein College of Medicine (AECOM), NY.</td>
<td>Fellow</td>
<td>1996-2003</td>
<td>Developmental biology</td>
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<tr>
<td>C. elegans Anatomy Center, AECOM, NY.</td>
<td>Associate</td>
<td>2003-2005</td>
<td>Anatomy, Electron Micros</td>
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</table>

A. Positions and Honors.

Positions and Employment
1993-1996 Post-doctoral Fellow, Rutgers University, NJ. Research: Characterization of degenerin ion channel gene function in the vertebrate nervous system.
1996-2000 Post-doctoral Fellow, Albert Einstein College of Medicine, NY. Research: Genetic control of dopaminergic and serotonergic neuron development in *C. elegans*.
2000-2003 Instructor of Molecular Genetics, Albert Einstein College of Medicine, NY. Research: Genetic control of dopaminergic and serotonergic neuron development in *C. elegans*.
2003-2005 Associate of Neuroscience, Center for *C. elegans* Anatomy, Albert Einstein College of Medicine, NY. Research: Generation of a web-based anatomical atlas for the *C. elegans* male (http://www.wormatlas.org/handbook/contents.htm).
2005-2013 Assistant Professor, TAMU. Research: Optogenetic interrogation of sexually dimorphic circuits in *C. elegans*.
2013-present Associate Professor, TAMU. Research: Genetic and molecular dissection of neural circuit physiology using *C. elegans* as a model.

Other Experience and Professional Membership
2013 Society for Neuroscience, member
2003-2013 Genetics Society of America, member
2010-present TAMU Genetics and TAMU Neuroscience (TAMIN) graduate program faculty member.
2003-2005 Pittsburgh Supercomputing Center collaboration to development 3D models of sexually dimorphic neural tissues in *C. elegans* based on electron micrograph reconstructions.
2014-present Collaboration with Jun Kameoka (TAMU Engineering) to develop microfluidic devices for visualizing mitochondria in *C. elegans* neurons.

Honors
1993 Muscular Dystrophy Association of America Fellowship
2000 National Alliance for Schizophrenia and Depression (NARSAD), Young Investigators Award.
B. Selected peer-reviewed publications (in chronological order).


*C*Corresponding author.

C. Research Support

Institutional research support  
Robyn Lints, Ph.D (PI)  
Texas A&M University Faculty Reinvestment Plan – R. Lints Start-Up Funds  

NSF Grant (0818595)  
Robyn Lints, Ph.D (PI)  
Total Amount budgeted (direct + indirect): $556,890
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

**NAME**
Liu, Fei

**POSITION TITLE**
Associate Professor

**LIUFEIHSC**

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>4th Military Medical University, China</td>
<td>MB</td>
<td>1989-1995</td>
<td>Medicine</td>
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<tr>
<td>4th Military Medical University, China</td>
<td>MS</td>
<td>1995-1998</td>
<td>Immunology</td>
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<tr>
<td>4th Military Medical University, China</td>
<td>Ph.D.</td>
<td>1999-2002</td>
<td>Immunology</td>
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<tr>
<td>University of Dundee, Scotland, UK</td>
<td>postdoctoral training</td>
<td>2003</td>
<td>Developmental Biology</td>
</tr>
<tr>
<td>University of Aberdeen, Scotland, UK</td>
<td>postdoctoral training</td>
<td>2003-2005</td>
<td>Developmental Biology</td>
</tr>
<tr>
<td>University of Pennsylvania, USA</td>
<td>postdoctoral training</td>
<td>2005-2008</td>
<td>Developmental and Cellular Biology</td>
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**A. Positions and Honors**

**Employment**
Aug 1998–Aug 1999 Instructor, Department of Immunology, 4th Military Medical University, Xi’an, China
Aug 2002–Jan 2003 Lecturer, Department of Immunology, 4th Military Medical University, Xi’an, China
Oct 2008–Aug 2013 Assistant Professor, Institute for Regenerative Medicine at Scott & White, TAMHSC, Temple, TX
Sep 2014–present Associate Professor, Institute for Regenerative Medicine at Scott & White, TAMHSC, Temple, TX

**Other Experience and Professional Memberships**
2008-2009 Member, Society for Developmental Biology
2008-2009 Member, International Society for Stem Cell Research
2010-present Member, American/International Association for Dental Research
2011, 2012 Israel Science Foundation, ad hoc reviewer
2011-2014 Medical Research Council of United Kingdom, ad hoc reviewer
2012, 2014 NIH Peer Review Committee: NIDCR SPECIAL GRANTS REVIEW COMMITTEE (DSR)

**B. Selected publications (from 41 papers)**

2. **Fei Liu**, Boquan JIN, Yin LIU et al. The transcription co-repressor TLE1 Interacted with the intracellular...


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Loopstra, Carol A.

POSITION TITLE
Associate Professor

eRA COMMONS USER NAME

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
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<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Oregon State University</td>
<td>B.Sc.</td>
<td>1979</td>
<td>Forest Management</td>
</tr>
<tr>
<td>Oregon State University</td>
<td>M.Sc.</td>
<td>1984</td>
<td>Forest Science</td>
</tr>
<tr>
<td>North Carolina State University</td>
<td>Ph.D</td>
<td>1992</td>
<td>Genetics and Forestry</td>
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</table>

A. Positions and Honors.

- 2001-present  Associate Professor, Dept. of Ecosystem Science and Management, Texas A&M University, College Station, TX, USA
- 2002-2006  Associate Department Head for Graduate Programs, Dept. of Forest Science, Texas A&M University
- 1995-2001  Assistant Professor, Dept. of Forest Science, Texas A&M University
- 1995-present  Member of the Faculty of Molecular and Plant Sciences, Texas A&M University
- 1995-present  Member of the Faculty of Genetics, Texas A&M University
- 2000-present  Member of the Faculty of Biotechnology, Texas A&M University
- 1993 - 1994  Research Officer, The University of Queensland, Brisbane, Australia*
- 1992 - 1993  Research Fellow, Griffith University, Brisbane, Australia*
  • These were the same postdoctoral position. Our university affiliation changed.

B. Selected peer-reviewed publications (in chronological order).


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Magill, Clint

POSITION TITLE
Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>University of Illinois</td>
<td>B.Sc.</td>
<td>1963</td>
<td>Agricultural Science</td>
</tr>
<tr>
<td>Cornell University</td>
<td>Ph.D.</td>
<td>1968</td>
<td>Genetics</td>
</tr>
<tr>
<td>University of Minnesota</td>
<td>Postdoctoral Training</td>
<td>1967-69</td>
<td>Genetics</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Employment

1969-75 Assistant Professor, Dept. of Plant Sciences, Texas A&M University
1975-1989 Associate Professor, Dept. of Plant Sciences became Plant Pathology & Microbiology, TAMU
1989- Professor, Department of Plant Pathology & Microbiology
1969- Member, Faculty of Genetics
1994- Member, Molecular and Environmental Plant Sciences (MEPS)
2005- Faculty, Masters in Biotechnology Program

Other Experience and Professional Memberships

Classroom Teaching (Current on an annual basis): Genetics 310, Principles of Heredity; Genetics 603 Introductory Graduate Genetics; BESC 481 and GENE 482, Undergraduate Seminars, Plant Pathology 610, Host Resistance
Member, American Association for the Advancement of Science & American Phytoathology Society
Editorial Advisory Board, Physiological and Molecular Plant Pathology

Honors

1986: TAMU-COALS Award for Excellence for Undergraduate Teaching
2008-2009 Speaker, TAMU Faculty Senate
2009: Named a Fellow of the American Association for the Advancement of Science

B. Selected peer-reviewed publications (Postdocs and Graduate Students as shown)


PHS 398/2590 (Rev. 09/04) Page ___ Biographical Sketch Format Page


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

---

**NAME**
Mateos, Mariana

**POSITION TITLE**
Associate Professor

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITESM-Campus Guaymas, Sonora, México</td>
<td>B.Sc. (Hons)</td>
<td>1991-1995</td>
<td>Biochemical Engineer in Aquatic Resources</td>
</tr>
<tr>
<td>Rutgers University</td>
<td>Ph.D.</td>
<td>1996-2002</td>
<td>Ecology and Evolution</td>
</tr>
<tr>
<td>University of Arizona</td>
<td>Postdoc.</td>
<td>2002-2005</td>
<td>Ecology and Evolution</td>
</tr>
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---

**A. Positions and Honors**

**Employment**

- 1995 Coordinator’s Assistant, Conservation International, Mexico
- 1996-99 Graduate Research Assistant, Rutgers University
- 1999-02 Monterey Bay Aquarium Research Institute Graduate Research Assistant
- 2005-06 Assistant Professor, Dept. Biology, University of Texas at El Paso
- 2006-14 Assistant Professor, Dept. Wildlife and Fisheries Sciences, Texas A&M University
- 2014-P Associate Professor, Dept. Wildlife and Fisheries Sciences, Texas A&M University

Member, Faculty of Genetics
Member, IRB Ecology and Evolutionary Biology

**Other Experience and Professional Memberships**

- 2008 Panelist NSF-“Population and Evolutionary Processes”
- 2012 Co-Chair, Session at the Entomological Society of America’s Annual Meeting
- 2013 Panelist NSF-“Evolutionary Processes”

**Honors and Awards**

- 1996-99 Fulbright-García Robles Fellowship for Doctoral studies
- 2014-15 Award from CONACyT (Consejo Nacional de Ciencia y Tecnología) for sabbatical visit hosted by Dr. Esperanza Martínez-Romero, Centro de Ciencias Genómicas, Universidad Nacional Autónoma de México (UNAM)
- 2014-17 Level II Distinction of the National Researcher System of Mexico (Sistema Nacional de Investigadores)

---

**B. Selected peer-reviewed publications** *(Graduate students in my lab, ** Undergraduate students in my lab, †Graduate students who interned in my lab, Corresponding author, Contributed equally)*

http://www.researcherid.com/rid/B-5235-2008
http://scholar.google.com/citations?user=5crpC3sAAAAJ


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
McKnight, Thomas D.

POSITION TITLE
Professor & Head of Biology at Texas A&M University (TAMU)

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>University of Georgia</td>
<td>B.Sc.</td>
<td>1975</td>
<td>Microbiology</td>
</tr>
<tr>
<td>University of Georgia</td>
<td>Ph.D.</td>
<td>1983</td>
<td>Mol. &amp; Pop. Genetics</td>
</tr>
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</table>

A. Positions and Honors.

Positions and Employment
1982-1985    Postdoctoral Associate, Atlantic Richfield Plant Cell Research Institute, Dublin CA
1985-1991   Assistant Professor, Department of Biology, Texas A&M University
1985-       Member of Interdepartmental Faculties of Genetics and Plant Physiology
1991-2002   Associate Professor, Department of Biology, Texas A&M University
2002 -      Professor, Department of Biology, Texas A&M University
2003 - 2014 Associate Head, Department of Biology, Texas A&M University
2003 - 2007 Director, Introductory Biology Program, Texas A&M University
2008        Acting Department Head, Department of Biology, Texas A&M University
2013        Interim Department Head, Department of Biology, Texas A&M University
2014 -      Department Head, Department of Biology, Texas A&M University

B. Selected peer-reviewed publications (in chronological order).

SELECTED PUBLICATIONS (from 48 total):


A. Personal statement

The goal of the proposed research is to investigate the contribution of the three-dimensional organization of the genome in the coordination of rhythmic gene expression by the circadian clock. Specifically, we plan to characterize long-range chromatin interactions in mouse tissues collected at different time of day, and examine whether dynamic changes in chromatin interactions underlie rhythmic gene expression. To this end, we will use several techniques including the Chromatin Interaction Analysis by Paired-End Tag sequencing (ChIA-PET), which has been successfully set up in our lab.

I have the motivation, expertise and leadership necessary to successfully carry out the proposed work. I have worked in the field of circadian biology for 16 years and, as a postdoctoral fellow at Brandeis University, I more particularly investigated the molecular basis of circadian rhythms in insects and mammals. Over the last 5 years, I initiated independent projects as a HHMI Research Specialist and examined the role of the molecular clock in the generation of circadian rhythms at the genome-wide level in the mouse. I set up a wide-range of molecular and biochemical techniques that include next-generation sequencing (RNA-Seq, ChiP-Seq, Nascent-Seq and MNase-Seq) and produced several high-profile peer-reviewed publications. I recently started my own lab in the Department of Biology and the Center for Biological Clock Research at Texas A&M University to continue my work on the molecular basis of circadian rhythms in the mouse. In particular, we are expanding our recent discovery that the molecular clock promotes rhythmic chromatin remodeling (Menet et al., 2014), a finding that laid the groundwork for the proposed research. I have trained a graduate student, Alexandra Trott, who will work on this specific project during her Ph.D. thesis.

In summary, I have a demonstrated record of productive research projects in the field of molecular circadian rhythms, and my expertise and experience have prepared me well to lead the proposed project.

B. Positions and Honors.

Positions and Employment

1998-1999  Master student, Louis Pasteur University, Strasbourg, France
1999-2003  Ph.D. student, Louis Pasteur University, Strasbourg, France
2002-2003  Lecturer, Louis Pasteur University, Strasbourg, France
2003-2009  Post-doctoral Fellow, Michael Rosbash laboratory, Brandeis University, Waltham, MA
2009-2013  HHMI Research Specialist, Michael Rosbash laboratory, Brandeis University, Waltham, MA
2013-   Assistant Professor, Department of Biology, Texas A&M University, TX

Other Experience and Professional Memberships

2008-  Member of the Society for Research on Biological Rhythms
2013-  Member of the Center for Biological Clocks Research, Texas A&M University, TX
2013- Faculty of Genetics, Texas A&M University, TX
2014- Faculty of Neuroscience, Texas A&M Institute for Neuroscience, Texas A&M University, TX

**Grant Review**
2014- Ad hoc reviewer, National Science Foundation, Division of Molecular and Cellular Biosciences

**Journal Review**

**Honors and Awards**
1999-2002 Ph.D. fellowship from the French Ministry of National Education and Research
2004-2005 Long-term EMBO post-doctoral fellowship
2008 Young Investigator Award, French-speaking Society of Chronobiology
2009 Talk selected for the Hot Topic symposium of the 11th congress of the EBRS
2011 Hot Topic presentation at the Chronobiology Gordon Research Conference
2013 Chair of the Chronobiology Gordon Research Seminar
2013 Hot topic presentation at the Chronobiology Gordon Research Conference

**C. Selected Peer-reviewed Publications (of 20 total)**

**D. Research Support**
2013-2016 Texas A&M startup funds
2014- Center for Biological Clock Research Seed Fund ($14,000)
NAME
Miller, Jr., J. Creighton

POSITION TITLE
Professor

eRA COMMONS USER NAME
jcmillerjr

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Louisiana State University</td>
<td>B.S.</td>
<td>1965</td>
<td>General Studies</td>
</tr>
<tr>
<td>Louisiana State University</td>
<td>M.S.</td>
<td>1967</td>
<td>Horticulture</td>
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<tr>
<td>Michigan State University</td>
<td>Ph.D.</td>
<td>1972</td>
<td>Horticulture (Plant Breeding)</td>
</tr>
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</table>

A. Positions and Honors

Employment

1965-67  Research Assistant, Louisiana State University
1967-68  Research Assistant, University of Wisconsin
1968-72  Research Assistant, Michigan State University
1972-75  Assistant Professor, Texas Agricultural Experiment Station, Lubbock
1975-77  Assistant Professor, Texas A&M University
1977-82  Associate Professor, Texas A&M University
1980-83  Interim Head, Horticultural Sciences Department
1981 -   Graduate Faculty of Genetics
1982 -   Professor, Texas A&M University
1984 - 2008  Graduate Faculty of Molecular and Environmental Plant Sciences
2010 -   Graduate Faculty of Biotechnology

Other Experience and Professional Memberships

1992  American Society for Horticultural Science, Southern Region, President
1976  American Society for Horticultural Science
1998-99  The Potato Association of America, President
1970  American Association for the Advancement of Science

Honors

1987  American Society for Horticultural Science, Fellow
1997  Horticulture Graduate Council, Faculty Distinguished Service Award
2002  Southern Region, American Society for Horticultural Science, L.M. Ware Distinguished Teaching Award
2003  Honorary Life Member, Potato Association of America
2005  Association of Former Students Distinguished Teaching Award
2009  Outstanding Researcher Award, American Society for Horticultural Science
2009  Research Patent Award, TAMU System Office of Technology Commercialization

B. Selected peer-reviewed publications (Postdocs and Graduate Students as shown)


A. Personal Statement:
My primary research interest is in maternal-fetal health, with a focus on fetal brain development, stem cell programming and the biology of microRNAs. In 2007, we were the first research group to identify microRNAs as a target for teratogens and drugs of abuse like alcohol (PMCID: 2915840). Since then, we have focused on identifying additional teratogen-sensitive miRNAs associated with the maturation of fetal neural stem cells, as well as miRNAs associated with neural adaptation to degeneration. My laboratory is also currently using a variety of high-throughput screening approaches to identify vascular circulating microRNA biomarkers for ethanol consumption and for fetal ethanol exposure (as part of a consortium, U24 AA014811). I expect that our research on microRNAs and their mRNA targets will uncover novel mechanisms of fetal brain adaptation and plasticity that are amenable to therapeutic intervention.

B. Positions and Honors
1983-1984 St. Xavier’s College, Bombay India, University Grants Commission teaching assistant
1983 Psychaid, Bombay, India, Clinical assistant, psychological testing
1984-1989 University of Rochester, Depts. of Psychology and Neuroscience: Teaching assistant.
1990-1994 Columbia University College of Physicians and Surgeons, Instructor, Medical Neuroanatomy
1995-2000 Texas A&M University, Dept. Human Anatomy and Medical Neurobiology, Assistant Professor.
2000-2009 Texas A&M, Health Science Center, Dept. Neurosci & Expt. Therapeutics, Associate Professor
2009- Texas A&M Health Science Center, Professor
2005- Texas A&M University, Department of Psychology, Adjunct Professor
1995-present Member of the Faculties of Neuroscience, Reproductive Biology and Toxicology at TAMU
1999-present Member, Center for Environmental and Rural Health, Texas A&M University
2002-2003 Ad-hoc reviewer, NIH, ALTX-3 and NAL study section
2004-2007 Member, NIH, NAL (Neurotoxicology and Alcohol) study section
2006-2009 Ad. Hoc. Member, NIH AA-1, ZAA1-BB98, NCF, MNG & AA-4 study sections
2009-2012 Member, NIH AA-4 study section.
2012-2015 Chair, AA-4 study section
2009-2011 Treasurer, vice president Fetal Alcohol Spectrum Disorders Study Group (FASDSG)
2011-2012 President, Fetal Alcohol Spectrum Disorders Study Group
2012- Member of the Steering Committee on FASD prevention at the Texas PHS Office for Prevention of Developmental Disabilities
Relevant Publications:

D. Other Support:
AA13440 (P.I.: Rajesh C. Miranda) 03/01/2002-08/31/2014
NIAAA
Fetal Alcohol exposure and neurodevelopment
I serve as PI for this project. AA13440 investigates (1) the role of alcohol exposure on the control of receptor-neural stem cell maturation. (2) The involvement of miRNAs as critical mediators of ethanol’s effects on stem cell maturation.

1R01NS074895 (Sohrabji, PI) 9/01/2011- 05/30/2016
NIH
Neuroprotection in the Aging Female Brain
I serve as a co-investigator on this project. The overall goal of this application is determine the interaction of estrogen and IGF-1 in the context of stroke and neuroprotection in middle age females, using an animal model

U01 AA014835-09 (Chambers, PI) 2012-2017
NIH
Early Identification of Affected Children and Risk Factors for FASD in Ukraine
I serve as a co-investigator on this proposal. My role will be to screen for plasma miRNA biomarkers for alcohol exposure in mothers and children in an FASD cohort in the Ukraine. This proposal will correlate the expression of miRNA biomarkers with other epigenetic markers and anatomical markers of fetal alcohol exposure.
A. Positions and Honors.
Positions and Employment
1999-2005  Director, Institute for Plant Genomics and Biotechnology, Texas A&M University
1993-1999  Director, Crop Biotechnology Center, Texas A&M University
1991-present  Professor, Department of Biochemistry and Biophysics, Texas A&M University
1986-1991  Associate Professor, Department of Biochemistry and Biophysics, Texas A&M University
1983-1986  Assistant Professor, Department of Biochemistry & Biophysics, Texas A&M University
1980-1983  NIH Postdoctoral Fellow, Rockefeller University
1978-1980  NATO research at the CNRS, France, 1980; Japan, 1978

B. Selected peer-reviewed publications (in chronological order).


Yang, S., Murphy, R.L., Morshige, D.T., Klein, P.E., Rooney, W.L., and Mullet, J.E. (2014) Sorghum Phytochrome B Inhibits Flowering in Long Days by Activating Expression of *SbPrr37* and *Sbghd7*, Repressors of *SbEhd1*, *SbCN8* and *SbCN12*. *PloS* One (submitted)


10.3835/plantgenome2013.11.0040).


NAME                  Murphy, William J. 

POSITION TITLE          Professor 

EDUCATION/TRAINING  (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Illinois State University, Normal, Illinois</td>
<td>BS</td>
<td>1992</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>The University of Tulsa, Tulsa, Oklahoma</td>
<td>PhD</td>
<td>1997</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>Laboratory of Genomic Diversity, National Cancer Institute, NIH, Frederick, Maryland</td>
<td>Postdoc</td>
<td>1997-2003</td>
<td>Comparative Genomics</td>
</tr>
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</table>

A. Positions and Honors

Positions and Employment

- 2013-present: Professor, Dept. of Veterinary Integrative Biosciences, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University, College Station, TX
- 2004-2013: Associate Professor (tenured in 2008), Dept. of Veterinary Integrative Biosciences, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University, College Station, TX
- 2008-present: Research Associate, National Museum of Natural History, Smithsonian Institution, Washington, D.C.
- 2005-present: Faculty of Genetics, Texas A&M University, College Station, TX
- 2006-present: Faculty of Ecology and Evolutionary Biology, Texas A&M University, College Station, TX
- 2003-2004: Senior Scientist, SAIC-Frederick, Inc., Laboratory of Genomic Diversity, National Cancer Institute, Frederick, MD

Honors

- 1997-1999: NIH IRTA Postdoctoral Fellowship
- 2001-2002: National Institutes of Health Loan Repayment Program Recipient
- 2007: Pfizer Animal Health Award for Research Excellence
- 2009: JoAnn Treat Research Excellence Award, Texas A&M Research Foundation
- 2010: Texas A&M University Association of Former Students Distinguished Achievement Award in Research
- 2013: American Veterinary Medical Foundation/Winn Feline Foundation Excellence in Research Award

Other Experience

- 2009-present: Mammal co-chair, G10K Community of Sciences
- 2007-present: Associate Editor, Journal of Mammalian Evolution
- 2008-present: Associate Editor, Journal of Heredity
- 2008: Editor, Phylogenomics: Methods in Molecular Biology, Humana Press

B. Selected peer-reviewed publications (from 94 journal articles and book chapters)


Davis, B.W., Li, G., and **W.J. Murphy**. 2010. Reconciling the evolutionary radiation of the big cats (*Panthera*) using a Y chromosome supermatrix and a critical reanalysis of mitochondrial DNA. *Molecular Phylogenetics and Evolution*. 56: 64-76. PMID: 21940861


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

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<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
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<tbody>
<tr>
<td>Murray, Seth C.</td>
<td>Associate Professor</td>
</tr>
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</table>

eRA COMMONS USER NAME

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Michigan State University</td>
<td>B.Sc.</td>
<td>2001</td>
<td>Crop and Soil Sciences</td>
</tr>
<tr>
<td>Cornell University</td>
<td>Ph.D.</td>
<td>2008</td>
<td>Plant Breeding &amp; Genetics</td>
</tr>
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</table>

A. Positions and Honors.

Professional Appointments:
2014-present  Associate Professor, Texas A&M University, College Station
2008-2014    Assistant Professor, Texas A&M University, College Station

Synergistic Activities:
2013 – present  Associate Editor, Crop Science
2009 – present  Associate Editor (Maize), Journal of Plant Registrations
2012    Program Chair, American Seed Trade Association Corn and Sorghum Meeting
2009 – present  Executive Committee (Web Editor), National Association of Plant Breeders and Plant Breeding Coordinating Committee
- Grant review panels: USDA-DOE, NSF-PGRP (1 year each)
- Run an applied public corn breeding program focused on improving aflatoxin resistance, yield, stress resistance, and exotic introgression across the State of Texas. Developing and releasing new germplasm, inbred lines, populations and hybrid combinations.

Awards:
2014   Crop Science Society of America, Young Crop Scientist Award
2013   National Association of Plant Breeders Early Career Award
2007  The Barbara McClintock Graduate Student Award, Cornell College of Ag. & Life Sci.
1998  Eagle Scout, Boy Scouts of America

B. Selected peer-reviewed publications (in chronological order).

Total refereed – 32, conference abstracts – 83, book chapters – 4, extension publications – 5; graduate students listed in italics; * corresponding author;


C. Research Support

PI/co-PI of 25 projects totaling $7,198,439, of which $1,001,601 are/were for Murray; 19 were external (not from Texas AgriLife or TAMU).
Biographical Sketch

NAME: Panin, Vladislav M.

POSITION TITLE: Associate Professor

EDUCATION/TRAINING

<table>
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<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Moscow State University, Moscow (USSR)</td>
<td>B.S., M.S.</td>
<td>1981-1987</td>
<td>Biophysics</td>
</tr>
<tr>
<td>Moscow State University, Moscow (USSR)</td>
<td>Ph. D.</td>
<td>1987-1990</td>
<td>Biophysics</td>
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<tr>
<td>Waksman Institute, Rutgers University, Piscataway, NJ</td>
<td>Postdoc</td>
<td>1995-2001</td>
<td>Developmental Biology &amp; Glycobiology</td>
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</table>

A. Positions and Honors

Positions and Employment

1990-1992 Junior Research Scientist, Engelghardt Institute of Molecular Biology, Drosophila Molecular Genetics Laboratory, The Russian Academy of Sciences, Moscow, Russia
1992-1995 Research Scientist, Senior Research Scientist, Laboratory of Neurogenetics and Developmental Biology, Institute of Gene Biology, The Russian Academy of Sciences, Moscow, Russia
1994 Visiting Scientist, Laboratory of Mammalian Genetics and Neurobiology, Institut Pasteur, Paris, France
1995-2001 Postdoctoral Research Associate, Research Associate, Waksman Institute of Microbiology, Rutgers University, Piscataway, New Jersey, USA
2002-2008 Assistant Professor, Department of Biochemistry & Biophysics, Texas A&M University, College Station, Texas, USA
2008-2013 Chair, Graduate Recruitment and Admission Committee, Department of Biochemistry & Biophysics, Texas A&M University, College Station, TX
2009-2012 Member, Faculty of Genetics Executive Committee, Texas A&M University, College Station, TX
2013-2014 Faculty Development Leave: Visiting Professor, Richard Benton’s laboratory, Center for Integrative Genomics, University of Lausanne, Switzerland
2003-present Member, Faculty of Genetics, Texas A&M University, College Station, TX
2006-present Participating Investigator, the Consortium for Functional Glycomics (CFG). CFG is a large research initiative supported by NIH to define the paradigms of carbohydrate functions, http://www.functionalglycomics.org.
2008-present Member, Faculty of Neuroscience, Texas A&M Institute for Neuroscience, College Station, TX
2008-present Associate Professor, Department of Biochemistry & Biophysics, Texas A&M University
2013-present Member, Graduate Program Committee, TAMU Institute for Neuroscience

Other Professional Experience and Memberships

1993 Participant, Summer School on Bioinformatics, International Center for Genetic Engineering & Biotechnology, Trieste, Italy
1995 Invited Lecturer, Moscow State University, Moscow, Russia
1997-present Member, The Genetics Society of America
2000-present Member, The Society for Glycobiology
2009-present Member, The Society for Neuroscience
2010-present Board of Directors, The Society for Glycobiology
2013-present Editorial Board Member, Journal of Biological Chemistry
Honors and Fellowships
1987 Diploma Summa Cum Laude, Moscow State University, Moscow, Russia
1994 Honor Fellowship for Outstanding Young Scientists from the President of Russia Boris Yeltsin, Moscow, Russia
1994 Fellowship from the International Science Foundation (est. by George Soros), New York, NY
1998 Charles and Johanna Busch Fellowship, Waksman Institute, NJ
2003 Basil O’Connor Starter Scholar Research Award, March of Dimes Foundation, NY

C. Selected peer-reviewed publications
(in reverse chronological order, postdocs, graduate and undergraduate students as shown)
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

<table>
<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
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<tbody>
<tr>
<td>Park, William D.</td>
<td>Professor</td>
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<th>eRA COMMONS USER NAME</th>
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</table>

EDUCATION/TRAINING  (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

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<tr>
<th>INSTITUTION AND LOCATION</th>
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<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of South Carolina</td>
<td>B.Sc.</td>
<td>1973</td>
<td>Chemistry</td>
</tr>
<tr>
<td>University of University of Florida</td>
<td>Ph.D.</td>
<td>1977</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>University of Minnesota</td>
<td>Postdoc.</td>
<td>1978-1980</td>
<td>Genetics and Cell Biology</td>
</tr>
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</table>

A. Positions and Honors.

Positions and Employment

1980 - 1983  Assistant Professor, Horticulture, Purdue University
1984 - 1990  Associate Professor, Biochemistry and Biophysics, TAMU
1991- Present  Professor, Biochemistry and Biophysics, TAMU

Honors

2014:  Invited to participate in the symposium “Dietary fiber: Optimizing accuracy of data for Labeling, Databases and Research” to be held at the Institute for Food Technologist annual meeting in June 2014.
2012:  Our work on deficiencies in the CODEX compliant total dietary fiber assay AOAC 2009.01/AACCI 3245.01 was cited by the originator of the assay, Barry McCleary, in a formal request to both AOAC and AACCI to revise the official assay protocols for dietary fiber that are used when making nutrient composition claims on food products.
2011:  Based on the success of our long term collaboration, MARS Inc. donated an additional $45,000 to upgrade starch analytical capabilities of the Department of Biochemistry and Biophysics.
2010:  Faculty Recognition Award from the Biochemistry Graduate Association.
2010:  Based on the success of our long term collaboration, MARS Inc. donated $94,000 to upgrade starch analytical capability of the Department of Biochemistry and Biophysics.
2009:  Our lab was officially recognized as a key component of the MARS Global Food Platform.
2007:  MARS Inc. recognized our “outstanding research and significant contributions on rice knowledge”. This award was presented in person jointly by the Vice President of Research and Development for MARS FOOD USA, and his counterparts from Europe and Australia.
2007:  Faculty Recognition Award from the Biochemistry Graduate Association
2007:  Invited to speak at MARS’ Science Advisory Council Meeting in Amsterdam and to attend the Executive Session to set directions for the use of molecular methods to enhance nutrition in MARS human and pet food programs
2006.  Invited to speak at MARS’ Plant Breeding Multidisciplinary Research Unit meeting at MARS corporate headquarters and to attend the “closed” Executive Session to set directions for the MARS’ cocoa program
B. Selected peer-reviewed publications (in chronological order).


BIOGRAPHICAL SKETCH

NAME
Payne, Susan

POSITION TITLE
Associate Professor Veterinary Pathobiology

eRA COMMONS USER NAME (credential, e.g., agency login)
spayne

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

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<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Southeastern MA Univ., N. Dartmouth MA</td>
<td>B.S.</td>
<td>1978</td>
<td>Marine Science</td>
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<tr>
<td>Louisiana State University, Baton Rouge LA</td>
<td>Ph.D.</td>
<td>1983</td>
<td>Microbiology</td>
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<tr>
<td>Louisiana State University, Baton Rouge LA</td>
<td></td>
<td>1983-1988</td>
<td>Molecular Virology</td>
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A. Positions and Honors

Employment

1983-1988  Postdoctoral Research Associate, Dept. of Biochemistry, LSU, Baton Rouge, LA
1988-1996  Assistant Professor of Molecular Biology and Microbiology, Case Western Reserve University, Cleveland, OH
1990-1996  Assistant Professor of General Medical Sciences, Case Western Reserve University, Cleveland, OH
1996-1999  Assistant Professor of Biology, The University of Texas at Arlington
1999-2001  Associate Professor of Biology, The University of Texas at Arlington
2001-2002  Associate Professor, Veterinary Pathobiology, Texas A&M University
2002-2007  Member, Intercollegiate Faculty of Genetics, Texas A&M University
2007-      Member Graduate Faculty, TAMU, Health Science Center Graduate School of Biomedical Sciences

Other Experience and Professional Memberships

1996-2001  Radiation Safety Committee Member, The University of Texas at Arlington.
2001-      Chair, Radiation Safety Committee, The University of Texas at Arlington.
2000-2001  Associate Chair of Biology, The University of Texas at Arlington.
2006-2009  Institutional Biosafety Committee, Texas A&M University.
2007-2008  Interim Biosafety Officer (09/1/07-01/30/08), Texas A&M University.

American Society for Microbiology (ASM)
American Society for Virology (ASV)
American Association for the Advancement of Science (AAAS)

B. Selected Peer-reviewed Publications (Postdocs and Graduate Students as shown)


**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

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<thead>
<tr>
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<th>POSITION TITLE</th>
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</thead>
<tbody>
<tr>
<td>Peterson, David O.</td>
<td>Professor and Associate Department Head</td>
</tr>
</tbody>
</table>

**eRA COMMONS USER NAME**

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as)*

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pomona College, Claremont, CA</td>
<td>B.S.</td>
<td>1968-1972</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Harvard University, Cambridge, MA</td>
<td>Ph.D.</td>
<td>1972-1978</td>
<td>Chemistry</td>
</tr>
</tbody>
</table>

**A. Positions and Honors**

**Employment**

- 1981 - 1987 Assistant Professor, Biochemistry and Biophysics, TAMU
- 1982 - present Graduate Faculty of Genetics, TAMU
- 1987 - 1996 Associate Professor, Biochemistry and Biophysics, TAMU
- 1993 - 1998 Associate Head for Graduate Programs, Biochemistry and Biophysics, TAMU
- 1996 - present Professor, Biochemistry and Biophysics, TAMU
- 2002 Visiting Professor, Institute of Molecular Biology, University of Oregon
- 2007 - present Associate Head for Undergraduate Programs, Biochemistry and Biophysics, TAMU

**Honors**

- 1972 Phi Beta Kappa
- 1978-1981 Helen Hay Whitney Postdoctoral Fellowship
- 1999, 2009 TAMU Association of Former Students Distinguished Achievement Award in Teaching (College Level)
- 2008, 2010 TAMU Wells Fargo Honors Student Faculty Mentor Award
- 2014 Margaret Annette Peters Advising Award

**B. Selected peer-reviewed publications**


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Polymenis, Michael

POSITION TITLE
Associate Professor

eRA COMMONS USER NAME

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Patras, Greece</td>
<td>Pharm. D.</td>
<td>1988</td>
<td>Pharmacy</td>
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<tr>
<td>Tufts University</td>
<td>Ph.D.</td>
<td>1994</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Harvard Medical School</td>
<td>Postdoc.</td>
<td>1994-1999</td>
<td>Cancer Center</td>
</tr>
</tbody>
</table>

A. Positions and Honors.

PROFESSIONAL APPOINTMENTS
1999 - 2005 Assistant Professor, Biochemistry and Biophysics, TAMU
2005 - present Associate Professor , Biochemistry and Biophysics, TAMU

AWARDS, HONORS, EDITORIAL, REVIEW AND ADVISORY BOARD APPOINTMENTS

Grant Review
The Czech Academy of Sciences – mail reviewer (2007)
National Science Foundation – mail reviewer (2007)
National Science Foundation – Cell Regulation Panel (2009)
NIH Director’s Pioneer Award (NDPA) outcome evaluations – mail reviewer (2010)
National Science Foundation – SBIR –Phase I, Platforms and Diagnostics Panel (2013)
The Netherlands Organization for Scientific Research –mail reviewer (2013)
National Science Foundation – SBIR –Phase II, Platforms and Diagnostics Panel (2014)

Editorial
PLoS One (2009-present)
Microbial Cell (2014-present)

Other
Session Chair, International Conference on Yeast Genetics & Molecular Biology (2013)
ASM-NSF/LINK award (2013)

B. Selected peer-reviewed publications (in chronological order).

(SINCE 2005, out of 35 total):


Pathak, R., L.M. Bogomolnaya, J. Guo, and **M. Polymenis**. A novel function for Kem1p that

C. Research Support

Current Support

9/14-8/15  Genomics Initiative - TAMU (Role: PI)
“Targets of translational control that link protein synthesis with initiation of division”

Completed Support (since 2006)

9/08-8/13 National Science Foundation (MCB-0818248; Role: PI)
“Control of Initiation of Cell Division by the Unfolded Protein Response”
10/12-3/13 National Science Foundation (IIP-1265349; Role: PI)
“An effective and rapid platform to identify factors that delay aging of cells and organisms”
### A. Personal Statement

This proposal tests the time-of-flight model for Intraflagellar Transport (IFT) regulation, where the IFT particles can tell how long they have been inside the flagellum. My group will investigate the biochemistry of IFT complexes when retrograde motion is slowed down with mutants and inhibitors, and express G protein mutants that are predicted to alter catalytic efficiency for quantitative TIRF imagine. Being in the field over 12 years, I have accumulated the necessary expertise and reagents to address the questions asked in the proposal.

### B. Positions and Honors.

**Positions and Employment**
Assistant Professor, Texas A&M University, 2006-present

**Honors**
- 2002-2004 Polycystic Kidney Disease Foundation Postdoctoral Fellowship
- 1999 “DiAo” Predoctoral Fellowship, Chinese Academy of Sciences, China
- 1993-1996 “SunShine” Predoctoral Fellowship, China

### C. Selected peer-reviewed publications (Selective from 25 publications)


---

### BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
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<th>POSITION TITLE</th>
</tr>
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<tbody>
<tr>
<td>Qin, Hongmin</td>
<td>Assistant Professor of Cell Biology</td>
</tr>
</tbody>
</table>

<table>
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<th>eRA COMMONS USER NAME</th>
<th>HONGMINQ</th>
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<th>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</th>
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<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shandong University, China</td>
<td>B.S.</td>
<td>1989-1993</td>
<td>Microbiology</td>
</tr>
<tr>
<td>Shandong University, China</td>
<td>M.S.</td>
<td>1993-1996</td>
<td>Microbiology</td>
</tr>
<tr>
<td>The Institute of Microbiology, Chinese Academy of Sciences, China</td>
<td>Ph. D.</td>
<td>1996-1999</td>
<td>Plant Molecular Biology</td>
</tr>
<tr>
<td>Yale University</td>
<td>Postdoctoral Training</td>
<td>1999-2005</td>
<td>Cell Biology</td>
</tr>
</tbody>
</table>


**C. Research Support**

**Ongoing Research Support**
NSF MCB-0923835 Qin (PI) 02/01/2010 - 02/28/2013, no cost extension
Small GTPase regulators of Intraflagellar Transport (IFT)
The goal of this study is to understand the regulatory role of small GTPases in IFT.
Role: PI

**Completed Research Support in the Past Three Years**
Polycystic Kidney Diseases Foundation 173G08a Qin (PI) 03/01/2008 - 02/28/2011
Identification of Effectors for IFT27, an Intraflagellar Transport Particle Protein Functioning in the Cell cycle
Role: PI

American Heart Association 09SDG2280325 Qin (PI) 07/01/2009 - 06/30/2013
Small GTPase regulators of Intraflagellar Transport (IFT)
The grant was relinquished on April 1st, 2010 before the funds for the same proposal from the NSF was released. Role: PI
BIOGRAPHICAL SKETCH

NAME
Raudsepp, Terje

POSITION TITLE
Associate Professor (tenured)

eRA COMMONS USER NAME
traudsepp

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>Tartu University, Estonia</td>
<td>MSc</td>
<td>1982</td>
<td>Genetics &amp; Cytology</td>
</tr>
<tr>
<td>The Swedish University of Agricultural Sciences, Uppsala, Sweden</td>
<td>PhD</td>
<td>1999</td>
<td>Molecular Genetics</td>
</tr>
</tbody>
</table>

A. Personal Statement
I have had extensive research experience (20 years, 98 peer reviewed publications, 11 book chapters) in the areas of mammalian genomics, cytogenetics, studies on mammalian sex chromosomes, and the genomics of reproduction. I have received funding from federal and private agencies, published in high impact journals, such as Science, PNAS, Genome Research, PLoS Genetics, and Theriogenology and trained 3 post-docs, 18 graduate students, and 22 undergraduates.

B. Positions and Honors

Positions and Employment

2011– present  **Associate Professor, Associate Director** of Texas A&M Molecular Cytogenetic Service Laboratory, Department of Veterinary Integrative BioSciences (VIBS), Texas A & M University, College Station, TX 77843, USA

2005–2011 **Assistant Professor, Associate Director** of Texas A&M Molecular Cytogenetic Service Laboratory, Department of Veterinary Integrative BioSciences (VIBS), Texas A & M University, College Station, TX 77843, USA

2001–2005 **Assistant Research Scientist**, Department of Veterinary Anatomy & Public Health, Texas A & M University, College Station, TX 77843, USA

1999–2001 **Assistant Research Professor**, Dept. of Animal Breeding and Genetics, The Royal Veterinary & Agricultural University, Copenhagen, Denmark

1999 **Guest Scientist**, Dept. of Animal Breeding and Genetics, The Royal Veterinary & Agricultural University, Copenhagen, Denmark *(Recipient of NorFA scholarship for three months)*

1995–1999 Dept. of Animal Breeding and Genetics, Swedish University of Agricultural Sciences, Uppsala, Sweden *(Recipient of the Swedish Institute’s International scholarship for two years)*


Other Experience and Professional Memberships

- Ad hoc external reviewer for Estonian Science Foundation, National Science Foundation, AKC Canine Health Foundation, CONACYT and FONDECYT Programs.
- Member of International Society of Animal Genetics (ISAG); Texas Genetics Society (TGS), American Association of Clinical Cytogenetics, American Genetic Association and Horse Genome Haplotype Committee.
- Member of the editorial board: The Journal of Fertility Biomarkers; Scholarena Journal of Genetics; BMC Genomics

Honors/Awards

- Cold Spring Harbor Laboratory (USA) Travel Award, March 2003.
- 2010-2011 Montague Center for Teaching Excellence Scholar.
C. Selected peer-reviewed publications out of 100 (¥ corresponding author)


4. Das, P.J., Chowdhary, B.P., Raudsepp, T¥ . 2009. Characterization of the bovine pseudoautosomal region (PAR) and comparison with sheep, goat and other mammalian PARs. Cytogenet. Genome Res., 126, 139-147.


D. Research Support (current)

1. USDA-AFRI (Chowdhary PI) 2012-2015. Sequencing and functional analysis of the horse Y chromosome, role co-PI.

2. American Quarter Horse Foundation (AQHF), Discovery of Genomic Copy Number Variants in Equine Cryptorchidism, 2012- 2014, role PI.


4. Morris Animal Foundation (MAF); D14LA-005, 2014-2017, Improving the Alpaca Genome Sequence Assembly to Allow Efficient Discovery of the Underlying Genetic Causes of Diseases, Disorders and Traits, role PI.
BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person.  DO NOT EXCEED FOUR PAGES.

NAME
Riggs, Penny K.

POSITION TITLE
Associate Professor of Functional Genomics

eRA COMMONS USER NAME (credential, e.g., agency login)
pk-riggs

EDUCATION/TRAINING  (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
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<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Purdue University, West Lafayette, IN</td>
<td>B.S.</td>
<td>8/87</td>
<td>Biology</td>
</tr>
<tr>
<td>Purdue University, West Lafayette, IN</td>
<td>M.S.</td>
<td>5/91</td>
<td>Animal Cytogenetics</td>
</tr>
<tr>
<td>Texas A&amp;M University, College Station, TX</td>
<td>Ph.D</td>
<td>5/96</td>
<td>Molecular Genetics</td>
</tr>
<tr>
<td>NASA Johnson Space Center / Univ. of Houston, TX</td>
<td>Postdoc</td>
<td>9/96-10/97</td>
<td>Radiation Biophysics</td>
</tr>
<tr>
<td>Univ of Texas M.D. Anderson Cancer Center, TX</td>
<td>Postdoc</td>
<td>11/97-5/02</td>
<td>Carcinogenesis</td>
</tr>
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</table>

A. Positions and Honors

Employment

1996 – 1997  Texas Aerospace Postdoctoral Fellow, Dept of Pharmacological and Pharmaceutical Sciences, University of Houston, Institute of Space Systems Operations (ISSO) and Medical Operations Branch, NASA L.B. Johnson Space Center.

1997  Visiting Scientist, National Institute of Radiological Sciences, HIMAC, Chiba, Japan

1997 – 2002  Postdoctoral Fellow, University of Texas M.D. Anderson Cancer Center, Department of Carcinogenesis, Science Park – Research Division, Smithville, TX.

2002 – 2006  Instructor, Department of Carcinogenesis, University of Texas M.D. Anderson Cancer Center, Science Park – Research Division.


2006 – 2012  Assistant Professor, Department of Animal Science, Texas A&M University

2007 –  Adjunct Faculty, Department of Veterinary Integrative Biosciences, Texas A&M University

2007 –  Member, Faculty of Genetics, Texas A&M University, College Station, TX.

2007 –  Steering committee, Alliance for Bioinformatics, Computational Biology and Systems Biology, Texas A&M University

2012 –  Associate Professor, Department of Animal Science, Texas A&M University.

2013 – 2015  Texas A&M Council of Principal Investigators (Executive Committee 2013-15)

Other Experience and Professional Memberships

1988 –  member, American Genetic Association

1991 –  member, Gamma Sigma Delta

1992 –  member, American Association for the Advancement of Science

1992 –  member, Texas Genetics Society (Board of Directors 2006-2009, President 2013-14)

1997 –  member, American Association for Cancer Research

2007 –  member, American Society of Animal Science (Public Policy Comm 2013-16)

2007 –  member, International Society of Animal Genetics

2007 –  member, USDA NIFA Multistate Regional Project NC1131: Molecular Mechanisms Regulating Skeletal Muscle Growth and Differentiation (Secretary 2008-09, Chair 2009-10, Project Renewal writing team 2009)

2007 –  member, USDA National Animal Genome Program, NRSP8 (Bovine workshop chair 2009)

2011 – 2014  USDA NIFA Review Panel

2014  National Science Foundation, Panelist
Honors
2001 American Association for Cancer Research Brigid G. Leventhal Scholar award.
2009– Selected participant – National Academies Keck Futures Initiative (Synthetic Biology)
2009 Vice-Chancellor’s Award in Excellence – McGregor Genomics Team Research Award
2013 Faculty Award for Merit in Research, Gamma Sigma Delta (TAMU chapter)

C. Peer-reviewed Publications (past 2 years)
Proteomic and pathway analyses reveal a network of inflammatory genes associated with differences in skin tumor promotion susceptibility in DBA/2 and C57BL/6 mice. Carcinogenesis 33:2208–2219.


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Riley, Bruce B.

POSITION TITLE
Professor

eRA COMMONS USER NAME

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
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<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of Colorado-Boulder</td>
<td>B.Sc.</td>
<td>1982</td>
<td>Biology</td>
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<tr>
<td>University of Wisconsin-Madison</td>
<td>Ph.D.</td>
<td>1990</td>
<td>Mol. And Dev. Biology</td>
</tr>
<tr>
<td>University of Wisconsin-Madison</td>
<td>Postdoc.</td>
<td>1989-1992</td>
<td>Chick Development</td>
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Personal Statement

I have worked in the field of zebrafish developmental genetics for over 20 years, with 19 years as a PI running my own lab. Research in my lab has focused primarily on development of the zebrafish inner ear, with a number of seminal contributions to the field: We were the first group to demonstrate that Fgf is the primary factor responsible of otic placode induction; we were amongst the first to directly test the role of Delta-Notch signaling in patterning hair cells and support cells; we demonstrated that Atoh1 acts akin to proneural genes, establishing the entire pro-sensory equivalence group rather than simply promoting hair cell differentiation; we were the first to demonstrate that Sox2 potentiates the pro-sensory activity of Atoh1; and we showed that Sox2 is essential for hair cell regeneration (to our knowledge the first such gene identified in the inner ear).

A. Positions and Honors.

Positions and Employment

2007-present  Professor, Biology Department, Texas A&M University.
2000-2007     Associate professor, Biology Department, Texas A&M University.
1995-2000     Assistant professor, Biology Department, Texas A&M University.
1985-1990     Graduate research with Steve Barclay, University of Wisconsin-Madison.

Honors

1982          B.A. with distinction, University of Colorado
1992-1994     Postdoctoral Fellowship, NIH, University of Utah
1994-1996     Postdoctoral Fellowship, ACS, University of Utah
1996-1998     Texas Advanced Research Program awardee
1998-present  NIH awardee
B. Selected peer-reviewed publications (in chronological order).


## BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
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<tr>
<td>Riley, David, G.</td>
<td>Associate Professor</td>
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### EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

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<th>FIELD OF STUDY</th>
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<tr>
<td>Texas A&amp;M University, College Station</td>
<td>B.Sc.</td>
<td>1980-1984</td>
<td>Agricultural Economics</td>
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<td></td>
<td>M.S.</td>
<td>1995-1997</td>
<td>Animal Breeding</td>
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<tr>
<td></td>
<td>Ph.D.</td>
<td>1997-2000</td>
<td>Genetics</td>
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### A. Positions and Honors

#### Employment

- **1984-1985** United States Army, Fort Sill, OK
- **1985-1995** Manager, DeKalb Swine Breeders, Plains, KS
- **2000-2009** Research Geneticist, USDA Agricultural Research Service, Subtropical Agricultural Research Station, Brooksville, FL
- **2009-present** Associate Professor, Department of Animal Science, Texas A&M University
  - Member, Faculty of Genetics

### Other Experience and Professional Memberships

- American Society of Animal Science

### Honors

- **2011** Brahman Friend of the Year, American Brahman Breeders Association

### B. Selected peer-reviewed publications (Graduate Students as shown)


A. Personal Statement

I have spent my career studying sexual selection and hybridization in swordtail fish. The core set of techniques developed in my lab involves sophisticated measures of morphological and behavioral phenotypes associated with sexual selection. I have been working in central Mexico since 1993 and have established good working relationships with Mexican colleagues and regulatory agencies. With three PhD students graduated (James B. Johnson, PhD 2013; Zach Culumber, CONACyT postdoctoral researcher at Universidad Autónoma del Estado de Hidalgo; Heidi Fisher, NRSA trainee in Hopi Hoekstra’s lab at Harvard, assistant professor at College of William & Mary starting August 2013) and three former postdocs with faculty jobs (Seth Coleman – Gonzaga University; Michael Tobler – Oklahoma State University; Bob Wong – Monash University), I have an established track record of mentoring trainees. I have two NSF-funded projects nearing completion, which have laid the methodological foundation for this proposal. One project involves characterizing female mating preferences in two naturally-hybridizing species, while the other focuses on developing software for presentation of realistic and biologically rigorous computer animations to animals in behavioral assays. The data we are generating on quantifying variation in visual performance will be directly applicable to the proposed work.

B. Positions and honors

Positions and Employment

1993 Research assistant, Smithsonian Tropical Research Institute, Gamboa, Panama.
1993-94, ’96-98 NSF predoctoral fellow, University of Texas at Austin.
1994 Assistant researcher, Texas Natural History Collection, Texas Memorial Museum.
1994-1995 Teaching assistant, University of Texas at Austin.
1995-1996 University fellow, University of Texas at Austin.
1998-2000 Graduate research assistant, University of Texas at Austin.
2002-date Assistant Professor, Department of Biology and Marine Program, Boston University.
2003 Visiting Professor, Interuniversity Institute, Eilat, Israel.
2002-2006 Assistant Professor, Department of Biology, Boston University.
2006-2009 Assistant Professor, Department of Biology, Texas A&M University
2006-date Faculties of Neuroscience, Genetics, Reproductive Biology, and Marine Biology, Texas A&M University
2005-date Director, Centro de Investigaciones Científicas de las Huastecas “Aguazarca”
2009-2013 Associate Professor, Department of Biology, Texas A&M University
2011-date Chair, Faculty of Ecology & Evolutionary Biology, Texas A&M University
2013-date Professor, Department of Biology, Texas A&M University
Other Experience and Professional Memberships

1993-date Member, Animal Behavior Society  
1994-date Member, Society for the Study of Evolution  
1994-date Member, American Society of Naturalists  
1994-date Member, American Society of Ichthyologists and Herpetologists  
1995-date Member, International Society for Behavioral Ecology  
1998-date Member, Sociedad de Ictiología Mexicana, A.C.  
2006-2008 Public Affairs Chair, Animal Behavior Society  
2010-date Associate Editor, *Behavioral Ecology*

Honors

1989 National Scholar, Harvard University.  
1992 NSF RTG Undergraduate Fellowship, University of California at Davis.  
1993 University Fellowship, University of Texas at Austin.  
1993 University of California Special Regents’ Fellowship (declined).  
1993 National Science Foundation Predoctoral Fellowship.  
1995 Texas chapter American Fisheries Society Scholarship.  
1995 Sigma Xi Grant-in-Aid of Research.  
1997 National Science Foundation Doctoral Dissertation Improvement Grant.  
1999 American Livebearer Association research award.  
2000 Outstanding Doctoral Dissertation Award, University of Texas at Austin.  
2000 National Research Service Award, NIH.  
2003 Lipper Fellowship.

C. Selected peer-reviewed publications (from 72 publications)

*Most relevant to the current application*


*Additional recent publications of importance to the field (in chronological order)*


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME Matthew S. Sachs

POSITION TITLE Professor

eRA COMMONS USER NAME SACHSM

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Cornell University, Ithaca, NY</td>
<td>A.B.</td>
<td>1979</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>Massachusetts Institute of Technology, Cambridge, MA</td>
<td>Ph.D.</td>
<td>1986</td>
<td>Biology</td>
</tr>
<tr>
<td>Stanford University, Stanford, CA</td>
<td>Postdoc.</td>
<td>1986-1990</td>
<td>Biological Sciences</td>
</tr>
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</table>

A. Personal Statement

My research focuses on two key areas of biology: understanding post-transcriptional control mechanisms, and understanding fungal biology at the whole genome-level. With respect to post-transcriptional control, I have probed the functions of upstream open reading frames (uORFs), important in controlling gene expression. My laboratory discovered that the nascent arginine attenuator peptide (AAP), encoded by an evolutionarily conserved uORF in fungal mRNA for an arginine biosynthetic enzyme, stalls ribosomes in response to arginine, reducing gene expression. As a result of these efforts, AAP is currently the best understood eukaryotic ribosome arrest peptide, and is a paradigm for understanding how arrest peptides, like antibiotics, interfere with protein synthesis. We discovered that AAP-mediated stalling leads to mRNA degradation through the NMD pathway. This work provided the first conclusive link between ribosome occupancy of a uORF termination codon and mRNA stability. My expertise in translation was instrumental in uncovering an unexpected role for nonoptimal codon usage in regulating the synthesis rate of a core component of the circadian clock, necessary for circadian rhythmicity. With respect to genome work, I coauthored The Neurospora Compendium: Chromosomal Loci (Academic Press, 2001), which encyclopedically described, gene-by-gene, what was known about the biochemistry, cell biology and genetics of N. crassa from the Nobel-Prize winning studies of Beadle and Tatum through the millennium. This remains a standard reference for Neurospora. I was co-PI on the project to sequence the N. crassa genome. This was the first public genome of a filamentous fungus, and it opened the floodgates for fungal genome sequencing, and provided the necessary platforms for fungal genome analyses. I am a co-PI on the NIH-P01 that knocked-out, and made publicly available, nearly every predicted N. crassa gene, and using my laboratory’s transcriptome studies established experimentally verified gene models for annotation. The resources generated by the P01 have revolutionized basic research in N. crassa, as well as having a major impact on understanding the biology of fungal pathogens. By combining my expertise in translation and genome biology, along with my record of success in administering grants, we are now in a unique position to successfully attack mechanisms of ribosome arrest, and to obtain a comprehensive genome-wide view of how upstream translation of uORFs and related sequences impacts eukaryotic gene expression.

B. Positions and Honors

1990-1995 Assistant Professor, Oregon Graduate Institute of Science and Technology, Beaverton, OR
1995-2001 Associate Professor, Oregon Graduate Institute of Science and Technology, Beaverton, OR
Matthew S.

1995-2001 Adjunct Associate Professor, Department of Molecular Microbiology and Immunology, Oregon Health & Science University (OHSU), Portland, OR
2001-2006 Associate Professor, OGI School of Science & Engineering, OHSU; Joint Associate Professor, Department of Molecular Microbiology and Immunology, OHSU
2007 Professor, OGI School of Science & Engineering, OHSU, Department of Molecular Microbiology and Immunology, OHSU
2007-present Professor, Department of Biology, Texas A&M University, College Station, TX
2011 Association of Former Students of Texas A&M University Distinguished Achievement Award, College of Science – Teaching
2011 Student Recognition Award for Teaching Excellence
2013 American Association for the Advancement of Science Fellow
2014 American Academy of Microbiology Fellow

C. Selected Peer-Reviewed Publications (out of 55)

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.

NAME
Samuel, James E.

POSITION TITLE
Professor and Chair

eRA COMMONS USER NAME (credential, e.g., agency login)
SAMUELJ

EDUCATION/TRAINING  (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>Miami University</td>
<td>B.A.</td>
<td>1976</td>
<td>Zoology &amp; Chemistry</td>
</tr>
<tr>
<td>Washington State University</td>
<td>M.S.</td>
<td>1983</td>
<td>Biology</td>
</tr>
<tr>
<td>Washington State University</td>
<td>Ph.D.</td>
<td>1986</td>
<td>Microbiology</td>
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<tr>
<td>Uniformed Services University</td>
<td>Post-Doc</td>
<td>1987-1990</td>
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</table>

B. POSITIONS AND HONORS

1991-1994 Director, Molecular Biology, MicroCarb Inc., Gaithersburg, MD
1994-2000 Assistant Professor, Dept. of Med. Micro. College of Medicine, TAMUSHSC
2000-2005 Associate Professor, Dept. of Med. Micro. College of Medicine, TAMUSHSC
2005-Present Professor, Dept. of Med. Micro. College of Medicine, TAMUSHSC
2006-2010 Associate Dept. Chair, Dept. of Micro. & Mol. Pathogenesis, TAMUSHSC
2010-present Dept. Chair, Dept. of Microbial Pathogenesis & Immunology, TAMUSHSC

C. SELECTED (15) PUBLICATIONS: LAST 5 YEARS (From list of ~105)


C. RESEARCH SUPPORT.


**SOUTHWEST RCE: VACCINE DEVELOPMENT AGAINST Q FEVER** (J.E. Samuel, Major Project)

The goal of this project is to develop heterologous expression of *Coxiella burnetii* LPS dominant antigens (O-side chain) and evaluate its ability to confer protective immunity in combination with dominant T cell antigen-containing proteins.

**R01AI090142-01A1 NIH/NIAID** (Samuel, J.E. PI) 8/20/2012-7/31/2016 IDENTIFICATION AND ROLE OF TYPE 4 EFFECUTOR PROTEINS IN COXIELLA BURNETII. The goal of this project is to identify a wide group of type 4 secretion system effector proteins using Legionella pneumophila as a heterologous expression system. Candidates will be verified in *C. burnetii* using novel genetic methods. Effector functions will be monitored using in vitro and in vivo mutations defining mechanisms at the cellular level.

**HDTRA1-13-1-0003** (Samuel, J.E., PI) DOD/DTRA 10/22/12-10/21/17

TRANSPOSTON AND TARGETED MUTATIONAL ANALYSIS OF COXIELLA BURNETII TO IDENTIFY VIRULENCE DETERMINANTS OF ACUTE AND CHRONIC DISEASE. The goal of this project is broad screen of mutant libraries of *C. burnetii* to identify virulence related loci responsible for intracellular growth in vitro and in vivo as well as pathotype manipulation of innate responses.

**DTRA1-CMB-03** (Samuel, J.E., PI) DOD/DTRA 1/14-12/31/18. Q FEVER VACCINE. The recent progress in antigen characterization and definition of components of protective immunity provide the opportunity to pursue strong candidates for novel vaccines. These include both T cell and B cell dependent antigens that have shown protection in rodent models of Q fever with lead candidates formulations examined in a non-human primate model of Q fever. Based on rodent and NHP results, lead candidate vaccine compositions will undergo manufacturing development, leading to pilot lot production and validation of efficacy in animal models.
BIOGRAPHICAL SKETCH

NAME
Scholthof, Herman Bertus

POSITION TITLE
Professor of Plant Pathology & Microbiology

eRA COMMONS USER NAME (credential, e.g., agency login)
hscholthof

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>Wageningen University, The Netherlands</td>
<td>B.S./M.S.</td>
<td>11/86</td>
<td>Plant Virology</td>
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<tr>
<td>University of Kentucky, Lexington KY</td>
<td>Ph.D.</td>
<td>12/90</td>
<td>Molecular Virology</td>
</tr>
<tr>
<td>University of California, Berkeley CA</td>
<td>Postdoctoral</td>
<td>10/94</td>
<td>Molecular Virology</td>
</tr>
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</table>

A. Positions and Honors

Positions and Employment
1990-1994 Postdoctoral Associate/Fellow, Plant Biology, University of California at Berkeley
1994-2000 Assistant Professor, Plant Pathology and Microbiology, Texas A&M University
2000-2005 Associate Professor, Plant Pathology and Microbiology, Texas A&M University
2002 Visiting Associate Professor, Biological Chemistry and Molecular Pharmacology, Harvard Medical School (June-December)
2003 Visiting Associate Professor, Biological Chemistry and Molecular Pharmacology, Harvard Medical School (May-August)
2005- Professor, Plant Pathology and Microbiology, Texas A&M University
2009 Visiting Scientist, Boyce Thompson Institute for Plant Research, Cornell University (February-August)

Other Experience and Professional Memberships

Editorial Responsibilities
1998-2001 Associate Editor Phytopathology
2001-2004 Associate Editor Molec. Plant-Microbe Interact.
2003-2004 Senior Editor Phytopathology
2004- Editorial Board Virology
2008- Editorial Board Journal of Virology

Selected Federal Grant Proposal Panels
USDA-NRI-Competitive Grants Program Plant Pathology (2x)
NSF Mol. Cell. Bioscience (1x)
NIH Topics in Virology (2x)
NIH Special Emphasis panel (1x)

Honors
2006 Outstanding Professor, Plant Pathology and Microbiology, Texas A&M University
2007 Ruth Allen Award for innovative research, American Phytopathological Society
2009 TAMU Association of Former Students Distinguished Achievement Award for Research
2009 Fellow, American Phytopathological Society
B. Selected Peer-reviewed Publications.


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Shaw, Brian D.

POSITION TITLE
Associate Professor

eRA COMMONS USER NAME
bdshaw

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Michigan State University</td>
<td>B.A. (Hons)</td>
<td>1988-1992</td>
<td>Multidisciplinary</td>
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<tr>
<td>Cornell University</td>
<td>Ph.D.</td>
<td>1995-2000</td>
<td>Plant Pathology</td>
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<tr>
<td>University of Georgia</td>
<td>Postdoctoral Training</td>
<td>2000-2003</td>
<td>Fungal Biology</td>
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</table>

A. Positions and Honors

Employment

2009-present  Associate Professor. Dept. of Plant Pathology and Microbiology. Texas A&M University

2003-2009     Assistant Professor. Dept. of Plant Pathology and Microbiology. Texas A&M University


Other Experience and Professional Memberships

American Phytopathological Society
Genetics Society of America
Mycological Society of America (Fellow)

Honors

2014         Fellow Mycological Society of America

2009,10,11    SLATE Award (Student Led Award for Teaching Excellence), Texas A&M University

2009         Alexopolous Prize. Mycological Society of America

B. Selected peer-reviewed publications


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors.
Follow this format for each person.

NAME
Shippen, Dorothy E.

POSITION TITLE
Professor, Biochemistry and Biophysics

eRA COMMONS USER NAME
dshippen

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

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<th>FIELD OF STUDY</th>
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<tr>
<td>Auburn University, Montgomery Alabama</td>
<td>BS</td>
<td>1982</td>
<td>Biology</td>
</tr>
<tr>
<td>Univ. Alabama, Birmingham</td>
<td>PhD</td>
<td>1987</td>
<td>Biology</td>
</tr>
<tr>
<td>Univ. California, Berkeley</td>
<td>Postdoc</td>
<td>1987-90</td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>Univ. California, San Francisco</td>
<td>Postdoc</td>
<td>1990-91</td>
<td>Molecular Biology</td>
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</table>

A. PERSONAL STATEMENT

My research program is focused on elucidating fundamental properties of telomeres and their engagement with the telomerase reverse transcriptase. I have studied telomeres and telomerase for 27 years, beginning with postdoctoral training in the laboratory of Dr. Elizabeth Blackburn. As a faculty member in the Biochemistry and Biophysics Department at Texas A&M University since 1991, I have investigated basic aspects of telomerase function and regulation and the role of telomere capping proteins in promoting genome stability. Our initial work employed ciliated protozoa as a model to investigate the biochemistry of telomerase. However, in the mid 1990’s my lab developed the flowering plant Arabidopsis as a new model for telomeres. A multicellular, genetically tractable eukaryote, Arabidopsis allows a broad and deep range of investigation using molecular, cytological, biochemical and evolutionary approaches. Over the years we amassed a large toolbox of telomere-specific molecular and biochemical assays to complement the powerful genetic and transgenic approaches in this system. Along the way, we discovered that Arabidopsis is extraordinarily tolerant to telomere dysfunction, a unique characteristic that has allowed us to elucidate functions and interactions of essential telomere components in a manner not possible in vertebrate systems. I have sustained continuous research funding from NIH and NSF throughout my career. With these funds I have managed a highly interactive and productive research team of postdoctoral fellows, graduate students and undergraduate students.

B. POSITIONS AND HONORS

Professional Experience
1997-2002 Associate Professor 1997-02, Dept. Biochemistry and Biophysics, Texas A&M University
2002-present Professor 2002-present Texas A&M Univ., Dept. Biochemistry and Biophysics

Honors, Awards and Other Professional Activities
1982 B.S. summa cum laude; AUM Outstanding Biology Undergraduate Student; 1987 Phi Kappa Phi Honor Society; 1989-91 American Cancer Society Postdoctoral Research Fellowship; 1991 American Cancer Society Senior Postdoctoral Fellowship (California Division); 1993 Texas A&M Biochemistry Graduate Association Faculty Recognition Award; 1999-2009 Editorial Board Molecular and Cellular Biology; 2000-2005 Texas A&M Faculty Fellow; 2000-present Ad-hoc reviewer for NIH CDF-2, NDT, MGC study sections; 2001 Instructor, Burroughs Wellcome Fund/Howard Hughes Medical Institute Laboratory Management Course; Participant Arabidopsis Molecular Genetics Course, Cold Spring Harbor Laboratory; 2002 Keynote Speaker, Canadian Telomere Workshop, Vancouver, UBC; Keynote Speaker, Texas A&M Univ. Ethel Ashworth-Tsutsui Memorial Lecture for Women in Science and Engineering; NSF Committee of Visitors to evaluate Division of Molecular and Cellular Biosciences; 2002-04 Executive Committee Texas A&M Univ. Council of Principal Investigators; Texas A&M President’s Life Sciences Advisory Committee; 2002-2008 Chair, Texas A&M Univ. Molecular and Cell Biology Graduate Training Program; 2005 Featured Speaker, 47th Annual Maize Genetics Conference, Lake Geneva WI., Co-Organizer, American Society of Plant Biologist Conference on Plant Genetics, Snowbird, UT; Texas Agriculture Experiment Station Faculty Fellow; 2006 Invited Speaker, Grand Opening of the Gregor Mendal Institute, Vienna Austria; Vice Chancellor’s Award for Research; 2007 Co-Organizer Cold Spring Harbor Laboratory Telomere and Telomerase Meeting; Co-Organizer EMBO Conference on Plant DNA Repair and Recombination, Gien, France; 2008 Texas A&M Univ. Association of Former Students Award for Excellence in Research; 2009 Co-Organizer Cold Spring Harbor Laboratory Telomere and Telomerase Meeting; 2010 Keynote Speaker Anat Krauskopf Symposium, Tel Aviv University, Israel; Invited Speaker, NCI lab management workshop for new
grantees; Leadership Team NSF-sponsored ADVANCE program, TAMU; Editorial Board Frontiers in Plant Genetics and Genomics; 2011 Co-Organizer Cold Spring Harbor Laboratory Telomere and Telomerase Meeting; Senior Faculty Fellow AgriLife Research, TAMU; 2014 Organizer International Plant Genomic Stability and Change Conference, Pacific Grove, CA.

C. SELECTED PEER-REVIEWED PUBLICATIONS: (from 60 total)
Five most relevant to the current application:

Other significant publications (since 2010):
Banks et al. (103 authors) (2011) The compact Selaginella genome identifies changes in gene content associated with the evolution of vascular plants. Science 332: 960-963. PMCID: PMC3162616
Beilstein MA, Renfrew KB, Song X, Shakirov EV and Shippen DE. Evolution of the telomerase-associated protein POT1a is characterized by positive selection to reinforce protein-protein interaction. In preparation.

D. RESEARCH SUPPORT
Ongoing:
NIH R01-GM065383 “Telomere structure and function in Arabidopsis” 12/10-11/14 $920,000 (direct costs) D. Shippen (PI)
NSF (MCB-1052018) “Negative regulation of telomerase in Arabidopsis” 4/11-3/15 $730,000 (total costs) D. Shippen (PI)
Cancer Prevention Research Institute of Texas (CPRIT-RP130639) “A role for noncoding RNA in the regulation of telomerase in breast cancer” 6/13-5/2015 $199,912 (direct costs) D. Shippen (PI) and R. Fuchs-Young (Co-PI)

Pending:
NIH R01-GM065383 “Telomere structure and function in Arabidopsis” 1/15-12/18 $1,174,302 (direct costs requested) D. Shippen (PI) Competitive Renewal
NAME
Siegele, Deborah A.

POSITION TITLE
Associate Professor

Dept. of Biology

Texas A&M University
dsiegel

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

INSTITUTION AND LOCATION
DEGREE
YEAR(s)
FIELD OF STUDY
Northwestern University, Evanston, IL
B.A.
1976
Biochemistry
University of Wisconsin, Madison, WI
Ph.D.
1989
Molecular & Cell Biology
Harvard Medical School, Boston, MA
Post-doc.
1989-92
E. coli mol. genetics

A. Positions and Honors.

Employment

1992-1997
Assistant Professor, Dept. of Biology, Texas A&M University, College Station, TX

Graduate Advisor, Dept. of Biology, Texas A&M University, College Station, TX

1996-present
Member, Graduate Faculty of Genetics, Texas A&M University, College Station, TX

2002-present
Member, Professional Program in Biotechnology, Texas A&M University

1997-present
Associate Professor, Dept. of Biology, Texas A&M University, College Station, TX

Other Experience and Professional Memberships

EcoliHub Steering Committee, 2006-2009
Member, Genetics Society of America Board of Directors, 2013-2015
American Society for Microbiology
Genetics Society of America

Honors

Support on NIH Cell and Molecular Biology Training Grant, University of Wisconsin 1983-85
NIH Postdoctoral Fellowship, 1990-1992

B. Selected peer-reviewed publications (Graduate students and undergraduates as shown.)


**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors.

Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

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<thead>
<tr>
<th>NAME</th>
<th>POSITION TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitcheran, Raquel</td>
<td>Assistant Professor</td>
</tr>
</tbody>
</table>

| eRA COMMONS USER NAME (credential, e.g., agency login) | raquel_sitcheran |

| EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.) |

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
</tr>
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<tbody>
<tr>
<td>Columbia University, New York, NY</td>
<td>A.B.</td>
<td>05/92</td>
<td>Molecular Biology</td>
</tr>
<tr>
<td>University of California, San Francisco, CA</td>
<td>Ph.D.</td>
<td>06/00</td>
<td>Physiology &amp; Genetics</td>
</tr>
<tr>
<td>University of North Carolina at Chapel Hill, NC</td>
<td>Postdoc</td>
<td>07/06</td>
<td>Molecular &amp; Cell Biology</td>
</tr>
</tbody>
</table>

A. POSITIONS & HONORS

**Positions and Employment**

1994 – 2000 Graduate Student with Keith R. Yamamoto, PhD, Department of Cellular and Molecular Pharmacology, University of California, San Francisco, CA

2000 – 2006 Postdoctoral Fellow with Albert S. Baldwin, PhD, Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC

2006 – 2009 Research Associate, Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC

2009 – present Assistant Professor, Department of Molecular and Cellular Medicine, Texas A&M University Health Science Center, College Station, TX

**Honors**

1994 – 1996 Eugene Cota Robles Graduate Student Fellowship

2000 – 2001 Lineberger Comprehensive Cancer Center Postdoctoral Fellowship

2001 – 2004 Cancer Research Institute Postdoctoral Fellowship

2002 Keystone Scholarship Award for “NF-κB: Bench to Bedside” Meeting

2004 Keystone Scholarship Award for “NF-κB: Biology and Pathology” Meeting

2004 American Society for Cell Biology Minority Affairs Committee Travel Award

2005 Joseph S. Pagano Award, Lineberger Cancer Center, UNC Chapel Hill

2008 Keystone Symposia Minorities Affairs Committee (MAC) Travel Award & Best Poster Award (3rd place)
C. PUBLICATIONS


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Skare, Jon T.

POSITION TITLE
Professor and Associate Chair

eRA COMMONS USER NAME
jskare

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of California at Irvine, Irvine, California</td>
<td>B.S.</td>
<td>1986</td>
<td>Biology</td>
</tr>
<tr>
<td>Washington State University, Pullman, WA</td>
<td>Ph.D.</td>
<td>1992</td>
<td>Microbiology</td>
</tr>
<tr>
<td>Univ. of Calif. at Los Angeles, Los Angeles, CA</td>
<td>Post-Doc</td>
<td>1992-1996</td>
<td>Microbial Pathogenesis</td>
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</table>

Personal Statement

Current research in the Skare laboratory focuses on the pathogenesis of the Lyme disease spirochete, Borrelia burgdorferi. Specific questions are designed to address (i) the ability of B. burgdorferi to modulate gene expression as it adapts to the diverse environments it occupies in nature (e.g., both arthropod vectors and mammals), (ii) the role of the borrelial oxidative stress response to promote survival in ticks and mammals, and (iii) the importance of surface exposed proteins in the colonization and dissemination of the bacterium following infection in mammalian hosts. Molecular genetics approaches, coupled with in vivo imaging technology, are used to evaluate the role of genes and gene products in borrelial pathogenesis.

1. Positions/Employment, Memberships and Honors.

Professional Experience:
1996-2002 Assistant Professor, Department of Medical Microbiology and Immunology, College of Medicine. Texas A&M University Health Science Center, College Station, TX.
1997-present Full Member, Faculty of Genetics, Texas A&M University, College Station, TX.
2002-2006 Associate Professor, Department of Medical Microbiology and Immunology, College of Medicine. Texas A&M University Health Science Center, College Station, TX.
2006-present Professor, Department of Microbial Pathogenesis and Immunology, College of Medicine. Texas A&M Health Science Center, College Station, TX.
2012-present Associate Chair, Department of Microbial Pathogenesis and Immunology, College of Medicine. Texas A&M Health Science Center, College Station, TX.

Selected Awards and Honors:
1994-1996 Individual National Research Service Award, NIAID
1997-1999 Editorial Board, Infection and Immunity
1998-2002 Scientist Development Grant, the American Heart Association, National Award
2002 & 2004 ad hoc Reviewer for the Bacteriology and Mycology 1 Study Section, NIAID
2003 Manuscripts cited by Faculty of 1000 (Ojaimi et al., 2003 and Labandeira-Rey et al., 2003)
2004-2007 Peer Review Panel, Immunology and Microbiology, American Heart Association
2004 Invited speaker, Gordon Research Conference, Biology of Spirochetes
2006 Invited speaker, Gordon Research Conference, Biology of Spirochetes
2006-present ad hoc Reviewer for “Topics in Bacterial Pathogenesis”, NIAID (11 times)
2008-2010 Editorial Advisory Board, Molecular Microbiology
2008 Chair of site visit, Science Foundation of Ireland
2009-present ad hoc Reviewer for Special Emphasis Panel for Study Section Members (6 times)
2009 Manuscript featured in MicroCommentary in Molecular Microbiology (Hyde et al., 2009)
2009-2017 Editorial Board, Infection and Immunity
2010 Manuscript featured in Infection and Immunity Spotlight, Jan. 2010 issue (Hyde et al., 2010)
2010-present Review Editor, Frontiers in Cellular and Infection Microbiology
2011 Manuscript featured in Infection and Immunity Spotlight, Mar. 2011 issue (Wu et al., 2011)
2012-2015 Editorial Advisory Board, Molecular Microbiology
2013 Texas A&M HSC, College of Medicine, Excellence in Research Award, 2013
2. Selected Publications (from over 40 manuscripts and reviews).


CURRENT:

1. R01-AI042345; J.T. Skare, PI 04/25/09-03/31/15 (no cost extension)
   NIH/NIAID  "Genetic Mechanisms in Borrelia burgdorferi Pathogenesis"
The major goals of this project are to characterize the response of B. burgdorferi to oxidative stress in the context of the global regulatory protein BosR and linked genes in the bosR-containing operon.

2. R21-AI095935; J.T. Skare, PI 04/01/12-03/31/15 (no cost extension)
   NIH/NIAID "An Intracellular Niche for Borrelia burgdorferi"
The goal of this project is to determine if invasion in non-innate immune cells promotes escape from clearance and contributes to borrelial persistence in vivo.

3. R21-AI113200-01; J. Skare, PI 05/15/14-04/30/16
   NIH/NIAID "A New Mammalian-specific Function for OspC in Lyme borreliosis"
The major goals of this grant are to characterize novel OspC binding activity to host thrombospondin proteins.

4. R21-AI101740; J. Hyde, PI 07/01/12-06/30/15 (no cost extension)
   NIH/NIAID "In vivo Dual Bioluminescence Reporter System of Infectious Borrelia burgdorferi"
The major goals of this grant are to track the expression of various virulence determinants and regulatory loci during active infection in live mice.

5. Contract HHSN2722010000241; J. Cirillo, PI 03/22/10-03/21/17
   NIH/NIAID "Animal Models of Infectious Diseases"
The objectives of this contract are to provide services under contract to NIH for investigators who wish to utilize animal models for the study of infectious disease virulence mechanisms, vaccines and therapeutics. Dr. Skare directs work designed to test spirochete infections.
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

**NAME**
Stelly, David M.

**POSITION TITLE**
Associate Professor of Soil & Crop Science at Texas A&M University (TAMU)

**EDUCATION/TRAINING**
(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of Wisconsin</td>
<td>B.Sc.</td>
<td>1975</td>
<td>Genetics</td>
</tr>
<tr>
<td>Iowa State University</td>
<td>M.Sc.</td>
<td>1979</td>
<td>Plant Breeding &amp; Cyto.</td>
</tr>
<tr>
<td>University of Wisconsin</td>
<td>Ph.D</td>
<td>1983</td>
<td>Plant Breeding &amp; Plant Gene.</td>
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</table>

**A. Positions and Honors.**

Positions and Employment

2000-present  Professor, Faculty of Molecular & Environmental Plant Sciences (MEPS)
1997-2000  Professor, Dept. Forest Sciences FRSC: (joint appt.)
1993-present  Professor, Dept. Soil & Crop Sciences (SCSC), and Faculty of Genetics (GENE)
1996-2006  Director, Laboratory for Plant Molecular Cytogenetics (LPMC)
1989-1993  Associate Professor, SCSC, and GENE
1983-1989  Assistant Professor, SCSC, and GENE

HONORS, AWARDS AND MEMBERSHIPS

1995: Cotton Genetics Award
2008: Cotton Genetics Award (member of 3-person team)
2002: International Cotton Genome Initiative (ICGI) - First elected Chair
2009 Elected as Secretary (2010), Vice-President (2011), President (2012) and Past-President (2013), National Association of Plant Breeders.
2009:- Chair, P&T Committee, Dept. Soil & Crop Sciences, TAMU
2013: Research Award for 2012, Dept. Soil & Crop Sciences, TAMU
Memberships: AAAS, Crop Science Society of America, National Association of Plant Breeders, Int'l Cotton Genome Initiative, Sigma Xi

**B. Selected peer-reviewed publications** (in chronological order).

ILLUSTRATIVE RECENT PUBLICATIONS OF LAB RESEARCH (*postdoc & †student)


**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

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<thead>
<tr>
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<tr>
<td>Straight, Paul D.</td>
<td>Assistant Professor</td>
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**EDUCATION/TRAINING**

(Start with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

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<tr>
<td>University of Colorado, Boulder</td>
<td>Ph.D.</td>
<td>2000</td>
<td>Mol, Cell. &amp; Dev. Biology</td>
</tr>
<tr>
<td>Harvard Medical School</td>
<td>Postdoc.</td>
<td>2001-2007</td>
<td>Microbiology</td>
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**A. Positions and Honors.**

**Positions and Employment**

- 2007 - 2008   Instructor, Harvard Medical School and Broad Institute
- 2008 - present  Assistant Professor

**AWARDS, HONORS, EDITORIAL, REVIEW AND ADVISORY BOARD APPOINTMENTS**

- 2011-2012  Faculty Recognition Award, Biochemistry Graduate Association
- 2008  New England Biolabs, New Faculty Startup Award
- 2006  US/EU Task Force Fellowship for Biotechnology, Funds for International Research
- 2003-2005  NSF Postdoctoral Fellowship in Microbial Biology and Depression (NARSAD), Young Investigators Award.

**B. Selected peer-reviewed publications** (in chronological order).


*These authors contributed equally to the work.


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
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<th>NAME</th>
<th>POSITION TITLE</th>
<th>eRA COMMONS USER NAME</th>
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<tbody>
<tr>
<td>Tesh, Vernon Lewis</td>
<td>Professor</td>
<td></td>
</tr>
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</table>

**EDUCATION/TRAINING** *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

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<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>University of Virginia, Charlottesville, VA</td>
<td>B.A.</td>
<td>1976</td>
<td>Biology</td>
</tr>
<tr>
<td>Emory University, Atlanta, GA</td>
<td>Ph.D.</td>
<td>1988</td>
<td>Microbiol. &amp; Immunol.</td>
</tr>
<tr>
<td>Uniformed Services University of the Health Sciences, Bethesda, MD</td>
<td>post-doc</td>
<td>1988-1992</td>
<td>Microbiology</td>
</tr>
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</table>

A. Positions and Honors

**Positions**

- 1976-1979 Lab technician, Pathology Clinical Labs., University of Virginia Hospital, Charlottesville VA
- 1979-1983 Supervisor, Anaerobic Bacteriology and Parasitology Labs, University of Virginia Hospital, Charlottesville, VA
- 1979-1983 Instructor, Medical Technology Program, University of Virginia Hospital, Charlottesville, VA
- 1983-1988 Graduate Student, Department of Microbiology and Immunology, Emory University, Atlanta, GA
- 1988-1992 Post-doctoral Fellow, Department of Microbiology, Uniformed Services University of the Health Sciences, Bethesda, MD
- 1992-1998 Assistant Professor, Department of Medical Microbiology and Immunology, Texas A&M Health Science Center, College Station, TX
- 1998-2005 Associate Professor, Department of Medical Microbiology and Immunology, Texas A&M Health Science Center, College Station, TX
- 2001-pres. Member, Center for Food Safety, Institute for Food Safety and Engineering, Texas A&M University, College Station, TX
- 2005-pres. Professor, Department of Microbial and Molecular Pathogenesis, Texas A&M Health Science Center, College Station, TX
- 2006-pres. Member, Faculty of Genetics, Texas A&M University, College Station, TX
- 2011-2013 Associate Dean for Faculty Affairs and Curriculum Management, College of Medicine, Texas A&M Health Science Center, Bryan, TX
- 2013-pres. Vice President for Academic Affairs, Texas A&M Health Science Center, Bryan, TX

B. Selected Peer-reviewed Publications (in chronological order, from a total of 62)


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.
Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Threadgill, David W.

POSITION TITLE
Professor

eRA COMMONS USER NAME (credential, e.g., agency login)
david_threadgill

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>MM/YY</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>Texas A&amp;M University, College Station, TX</td>
<td>B.S.</td>
<td>05/83</td>
<td>Zoology</td>
</tr>
<tr>
<td>Texas A&amp;M University, College Station, TX</td>
<td>Ph.D.</td>
<td>05/89</td>
<td>Genetics</td>
</tr>
<tr>
<td>Case Western Reserve University, Cleveland, OH</td>
<td>Postdoc</td>
<td>06/96</td>
<td>Developmental Biology</td>
</tr>
</tbody>
</table>

A. Positions and Honors

Positions and Employment

- 1996-2000  Assistant Professor, Department of Cell Biology, Vanderbilt University, Nashville, TN
- 2000-2008  Assistant, Associate Professor, Department of Genetics, University of North Carolina, Chapel Hill, NC
- 2008-2013  Professor and Head, Department of Genetics, North Carolina State University, Raleigh, NC
- 2013-  Professor, Department of Veterinary Pathobiology, Texas A&M University, College Station, TX
- 2013-  Professor, Department of Cellular and Molecular Medicine, Texas A&M University Health Science Center, College Station, TX
- 2013-  Director, Whole Systems Genomics Initiative, Texas A&M University, College Station, TX

Other Experience and Professional Memberships

- 1997- Member, American Association for Cancer Research
- 1998- Steering committee member, NCI Mouse Models of Human Cancer Consortium
- 2000-2013  Member, Lineberger Comprehensive Cancer Center, UNC
- 2002  Co-founder, Complex Trait Community (CTC)
- 2003-2008  Member and Director of Transomics Research Core, Center for Environmental Health and Susceptibility
- 2004  Co-chair, NCI Director’s Think Tank on Susceptibility and Resistance to Cancer
- 2005-2008  Member, NIH Cancer Genetics Study Section
- 2007-2010  Secretariat member (elected), International Mammalian Genome Society
- 2007- Member, Society for Toxicology
- 2008- Member, Environmental Mutagen Society
- 2008- Editorial board, Cancer Prevention Research
- 2009- Associate editor, Genetics
- 2010-2013  Editorial board, Genetics Research
- 2010- Editorial board, Frontiers Genetics
- 2011- Editorial board, Mammalian Genome
- 2010-2012  President (elected), International Mammalian Genome Society
- 2010-2012  National Institutes of Health College of CSR Reviewers

Honors

- 1998-2000  March of Dimes Basil O’Connor Award
- 1998-2000  V Foundation Scholar
- 2005  UNC-Lineberger Comprehensive Cancer Center Clinical/Translational Research Award
- 2004-2008  Jefferson Pilot Scholar Award
- 2010  Society of Toxicology award for most influential paper published in 2009 affecting the science of risk assessment (Genome Research 19:1507-1515)
- 2011  Fellow (elected) of the American Association for the Advancement of Science
- 2013-  Tom and Jean McMullin Chair in Genetics, Texas A&M University Health Science Center, College Station, TX
B. Peer-reviewed Publications (Selected from >140 peer-reviewed publications; Postdocs, graduate students and undergraduate students as shown)


La Merrill M, Kuruvilla BS, Pomp D, Birnbaum LS, Threadgill DW. 2009. Dietary fat alters body composition, mammary development, and cytochrome p450 induction after maternal TCDD exposure in DBA/2J mice with low-responsive aryl hydrocarbon receptors. Environmental Health Perspectives 117:1414-1419


Eversley CD, Xie Y, Pearsall RS, Threadgill DW. 2012. Mapping five new Susceptibility to Colon Cancer (Scc) loci using a mouse inter-specific backcross. G3: Genes, Genomes and Genetics 2:1577-1584

Bautz DJ, Broman KW, Threadgill DW. 2013. Identification of a Novel Polymorphism in X-Linked Sterol-4-alpha-carboxylate-3-dehydrogenase (Nsdhl) Associated with Reduced HDL Cholesterol Levels in I/LnJ Mice. G3: Genes, Genomes and Genetics 3:1819-1825


BIOGRAPHICAL SKETCH
Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FOUR PAGES.

NAME
Threadgill, Deborah

POSITION TITLE
Assistant Professor

eRA COMMONS USER NAME (credential, e.g., agency login)
Deborah_Threadgill

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

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<th>FIELD OF STUDY</th>
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<tr>
<td>Texas A&amp;M University</td>
<td>B. S.</td>
<td>1980</td>
<td>Animal Sciences</td>
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<tr>
<td>Purdue University</td>
<td>M. S.</td>
<td>1985</td>
<td>Cytogenetics</td>
</tr>
<tr>
<td>Texas A&amp;M University</td>
<td>Ph.D.</td>
<td>1990</td>
<td>Genetics</td>
</tr>
<tr>
<td>Case Western Reserve University</td>
<td>Post-doc</td>
<td>1990-1993</td>
<td>Virology</td>
</tr>
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<td>Case Western Reserve University</td>
<td>Post-doc</td>
<td>1993-1996</td>
<td>Immunology</td>
</tr>
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</table>

A. Positions and Honors.

Professional Positions:
1996-1998 Research Assistant Professor Dept. of Medicine, Division of Infectious Diseases, Vanderbilt University School of Medicine

1998-2000 Research Assistant Professor Dept. of Cell Biology, Vanderbilt University School of Medicine

7/2000-9/2008 Research Assistant Professor, Dept. of Genetics, University of North Carolina School of Medicine

10/2008-7/2013 Assistant Professor, Dept. of Microbiology, North Carolina State University

8/2013-present Assistant Professor, Dept. of Veterinary Pathobiology, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University

Other Experience

Research mentor for Seeding Postdoctoral Innovators in Research and Education (SPIRE), an IRACDA sponsored program at UNC, Research mentor for Promoting Minority Advancement in the Biomedical Sciences (PMABS) at UNC

Honors, Awards, Fellowships:
1998-1999 Recipient of a CNRU pilot grant (Vanderbilt University)
1999-2000 Recipient of an NSF POWRE individual faculty development award

B. Selected peer-reviewed publications (in chronological order).
[*postdoctoral trainees, §SPIRE fellows]


### BIOGRAPHICAL SKETCH

**NAME**
Turner, Nancy Delane

**POSITION TITLE**
Associate Professor

**eRA COMMONS USER NAME:**
n-turner@tamu.edu

<table>
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<td><strong>INSTITUTION AND LOCATION</strong></td>
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<td>Texas A&amp;M University, College Station</td>
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<td>Texas A&amp;M University, College Station</td>
</tr>
</tbody>
</table>

**A. Personal Statement**

Dr. Turner’s research focuses on identifying dietary bioactives that suppress colon carcinogenesis and inflammatory bowel disease. She has experience studying the regulation of proliferation and apoptosis in colonocytes, and the impact of dietary and microbe-derived metabolites on gene transcription and epigenetic profile in colonocytes. Current research is designed to understand how diet influences the intestinal environment, with particular attention to the interaction between the microbiota and the colon epithelia. The most recent outcomes of the work have identified dietary interventions containing polyphenolic molecules that protect against colon disease through the establishment of beneficial bacterial populations that produce desirable microbial metabolic byproducts. Those modifications were found to contribute to a beneficial host metabolomic profile indicative of improved glucose tolerance in overweight and obese human subjects.

**B. Positions and Honors**

**Positions**
1996-1998 Assistant Research Scientist, Animal Science Department, Texas A&M University
1998-2003 Research Assistant Professor, Animal Science Department, Texas A&M University
2003- Associate Professor, Nutrition and Food Science Department, Texas A&M University

**Professional Committee Memberships, Leadership Positions, and Honors**
1999 Ethel Ashworth-Tsutsui Memorial Award for Mentoring
2002-2003 Member, USDA/NRI program review panel
2004 Ad hoc reviewer, USDA’s NRI program on Improving Human Nutrition for Optimal Health
2005-2008 Chair, Intercollegiate Faculty of Nutrition
2005 Ad hoc reviewer, USDA’s NRI program on Improving Human Nutrition for Optimal Health
2006 Ad hoc member for the Chemo/Dietary Prevention Study Section, NIH
2007-2010 Secretary/Treasurer for Nutrition Sciences Council of ASN
2008-2011 Chair-Elect, Chair, and Past-Chair of the ASN Diet & Cancer Research Interest Section
2009 Member, NSBRI Postdoctoral review panel
2009-2013 Councilor of the Society for Experimental Biology and Medicine
2011 Ad hoc reviewer, National Medical Research Council of Singapore
2011-2012 Member of the NASA Oxidative Stress and Damage Working Group
2012 Nutrition & Food Science Department Award for Mentoring
2013 President-Elect, TAMU chapter of Sigma Xi

**Editorial and Review Experience**

**Editorial positions:**
2000-2013 Associate Editor of Nutrition Notes (American Society for Nutrition)
2002 Guest co-Editor of Nutrition
2010-present Editorial Board for Advances in Nutrition
2011-2012 Guest editor of Molecules: Bioactive Compounds
2013 Guest editor of Nutrients: Dietary Fiber and Nutrition

Ad hoc reviews: Journal of Nutrition; Advances in Nutrition; Cancer Prevention Research; Nutrition and Cancer; BMC Cancer; American Journal of Clinical Nutrition; Molecular Carcinogenesis; Journal of Nutritional Biochemistry;
C. Peer-reviewed publications (Selected from the last 4 years out of 60).


Select relevant earlier works


NAME  
Welsh, C. Jane

POSITION TITLE  
Professor, Veterinary Integrative Biosciences and Neuroscience  
Assistant Dean for Graduate Studies

eRA COMMONS USER NAME (credential, e.g., agency login)  
CJWelsh

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FOUR PAGES.

INSTITUTION AND LOCATION  

DEGREE (if applicable)  
MM/YY  
FIELD OF STUDY

University of London, U.K.  
B.Sc. (Hons)  
06/76  
Microbiology

University of London, U.K.  
Ph.D.  
10/81  
Immunology/Biochem.

King's College Hospital, U.K.  
Postdoc  
1979-1981  
Autoimmune liver

Dept. of Pathology, Cambridge, U.K.  
Postdoc  
1982-1985  
Rheumatoid arthritis

Dept. of Pathology, Cambridge, U.K.  
Postdoc  
1985-1989  
Multiple sclerosis

B. Positions and Honors

POSITIONS

1988-1989  Special Supervisor in Pathology, Newnham College, Cambridge University

1989-  Visiting Assistant Professor (1989-1991), Assistant Professor (1991-2000); Associate Professor (2000-2006), Professor (2006-present) Dept. of Veterinary Integrative Biosciences and Dept. of Veterinary Pathobiology, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University

1991-  Member of the Faculty of Neuroscience and Graduate Faculty, Texas A&M University

1998-  Member of the Genetics Faculty, Biotechnology Faculty and Executive Committee of the Faculty of Virology, Texas A&M University

2002-  Departmental Graduate Advisor

2006-  Associate Department Head, Dept. Veterinary Integrative Biosciences

2007-  Joint appointments in the Dept. Neuroscience and Experimental Therapeutics, College of Medicine, Texas A&M Health Science Center and Dept. Psychology, Texas A&M University

2011-  Chair of the Texas A&M Institute for Neuroscience

2011-  Assistant Dean for Graduate Studies, College of Veterinary Medicine

HONORS AND ACTIVITIES

2001  Alzheimer’s Association Grant Reviewer

2003  Biotechnology and Biological Sciences Research Council, UK- NIH Brain Disorders and Clinical Neuroscience Special Emphasis Panel (ZRG1-NMB)

2004  NSF Fellowship Review Panel, NMSS Pilot Grant Reviewer

2005  2008 & 2009 NSF Graduate Fellowship Review Panel

2006  NIH Brain Disorders and Clinical Neuroscience Special Emphasis Panel

2007  2008 2009 American Heart Association Grant Review Panel

2009  NIH Clinical Neuroimmunology and Brain Tumor Grant Review Panel

2010  NSF Grant Reviewer

2010  Texas A&M University’s (TAMU) Women’s Progress Award for faculty

2011  NIH P50 Reviewer

2011  TAMU Women’s Faculty Outstanding Mentoring Award

2012  TAMU Association of Former Students Distinguished Achievement Award for Graduate Mentoring

2013  Fast Forward MS Grant reviewer & 2013 Italian Multiple Sclerosis Society

Editorial Board:  Brain, Behavior and Immunity

Ad hoc reviewer for:  J. Infectious Diseases, Infection and Immunity, J. Virology, American Journal of Physiology: Heart and Circulation, Clinical and Diagnostic Laboratory Immunology, J. Neuroimmunology, Neuroimmunomodulation,
**Brain Behavior and Immunity, PNAS, Neurotoxicology, Developmental Neuroscience, Neuropathology and Applied Neurobiology, Toxicology in Vitro, J. Neuroscience, Plos One**

### C. Publications relevant to the current application


Vichaya EG, Young EE, Reusser NM, Cook JL, Steelman AJ, Welsh CJR, & Meagher MW (2011) Social Disruption Induced Priming of CNS Inflammatory Response to Theiler’s Virus is Dependent upon Stress Induced IL-6 Release. J. Neuroimmunology, 239: 44-52. PMID 2200153


### D. Research Support

**Ongoing Research Support**

**NIH/NINDS R01 NS060822** 12/01/2007-3/30/14 (includes two year no-cost extension)

Mary Meagher (PI)

Impact of stress-induced cytokines on an animal model of MS

Goals: This grant examines the role of cytokines in mediating the adverse effects of social stress on Theiler’s virus infection. Role Co-PI
A. Personal Statement.

I have been involved with the development and application of animal biotechnology and Assisted Reproductive Technologies (ARTs) for the past 30 years, and provided leadership for numerous research projects. My laboratory is best known for research involving animal cloning which resulted in our group cloning more different animal species than any other institution in the world, including the world’s first cat and first white-tailed deer. More recently my research focus has switched to improving the technology for producing transgenic livestock in which specific genes have been targeted for silencing by RNA interference. My laboratory group has already produced genetically modified offspring expressing transgenes encoding various shRNAs in sheep, pigs, goats and cattle. We have also successfully utilized RNAi to silence the expression of various genes involved with epigenetic reprogramming during preimplantation development in cattle, then determine the effects on development. More recently we have utilized TALENs and the CRISPR/Cas system to induce targeted mutations in genes critical for normal development. Over the course of my career I have served as chair or co-chair for 14 PhD students and 5 MS students. I have also served on the committees of numerous additional graduate students, mentored 5 postdoctoral fellows, and served as advisor for numerous undergraduate students conducting research in my lab. Given these and other experiences I am ideally suited to participate in the proposed project.

B. Positions and Honors.

Positions and Employment
Mountain Home, AK.
March 1987 - December 1991. Research Scientist, Granada Biosciences, College Station, TX
July 1989 - April 1, 1992. Adjunct Professor, Department of Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX.
April 1, 1992 – August 31, 1998. Assistant Professor, Department of Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX.
September 1, 1998 – April 2007. Associate Professor, Department of Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX.
April 2007 – Present. Professor, Department of Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX.

C. Selected peer-reviewed publications (selected from > 70 peer-reviewed publications).

Most relevant to the current application


Additional recent publications of importance to the field

D. Research Support. (last 3 years)

Ongoing Research Support

1R24RR032683-01 Long (PI) 9/10/2011-7/31/2015
NIH- NCRR
Inducible Tissue Specific Transgene Expression in Large Animal Biomedical Models
The goal of this project is to produce a porcine model of human disease via tissue specific inducible expression of transgenes.
Role: Co-PI

1RO1HD058969 NIH-NIHCD Westhusin (PI) 04/15/2010 - 02/28/2015
Functional Analysis of the Embryonic Epigenome in a Non-Rodent Model
The major goals of this project are to characterize the expression and function of genes and proteins during early embryonic development in bovine embryos which are responsible for nuclear reprogramming and establishment of the epigenome e.g. DNA methyltransferases, Histone deacetylases and related proteins.
Role: PI
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
<th>NAME</th>
<th>Wilson, Wilson G.</th>
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</thead>
<tbody>
<tr>
<td>POSITION TITLE</td>
<td>Professor and Vice Dean for Research and Graduate Studies</td>
</tr>
<tr>
<td>eRA COMMONS USER NAME</td>
<td>WILSONVAN</td>
</tr>
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</table>

**EDUCATION/TRAINING** (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tbody>
<tr>
<td>Georgia Institute of Technology, Atlanta, GA</td>
<td>B.S.</td>
<td>1975</td>
<td>Applied Biology</td>
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<tr>
<td>Case Western Reserve University, Cleveland, OH</td>
<td>Ph.D.</td>
<td>1980</td>
<td>Microbiology</td>
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<tr>
<td>State University of New York (SUNY) at Stony Brook, NY</td>
<td>Post-doctoral</td>
<td>1980-1983</td>
<td>Virology</td>
</tr>
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</table>

Please refer to the application instructions in order to complete sections A, B, and C of the Biographical Sketch.

**A. Positions and Honors**

**Positions**

- **3/1983-1/1/2006** Assistant Professor to Professor in the Department of Medical Microbiology and Immunology (Renamed Microbial Pathogenesis and Immunology in 2013), College of Medicine, Texas A&M Health Science Center
- **4/1/2006-Present** Vice Dean for Research and Graduate Studies, College of Medicine, Texas A&M Health Science Center

**Honors**

- Summa Cum Laude (1975)
- Beta Beta Beta (1975)
- NIH Predoctoral Fellowship (1975-1980)
- NIH Young Investigator Travel Award (1989)
- Sigma Xi Outstanding New Member Award (1994)
- Merck/Association for Academic Minority Physicians Summer Research Fellowship to Support John A. Sandoval (1997)
- College of Medicine 2005 Distinguished Teaching Award (2006)

**Editorial Boards: Virus Research**

**Journal Reviews:** Antimicrobial Agents and Chemotherapy; BBA Gene Structure and Expression; Biochemical Journal; Biochemistry; BioTechniques; Cellular and Molecular Life Sciences; Cold Spring Harbor Protocols; EMBO Journal; EMBO Reports; Expert Reviews in Molecular Medicine; FEBS Letters, FEMS Microbiology Letters; Gene Therapy; Journal of Cellular Physiology; Journal of Clinical Microbiology; Journal of General Virology; Journal of Virology; Molecular Biology of the Cell; Molecular and Cellular Biochemistry, Molecular and Cellular Proteomics; Nature Reviews Molecular Cell Biology;
B. Recent Publications


The PI has an additional 67 peer-reviewed publications, 15 book chapters, and has edited 2 books on sumoylation.
BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME  
Womack, James E.

POSITION TITLE  
Distinguished Professor of Veterinary Pathobiology and of Genetics

eRA COMMONS USER NAME (credential, e.g., agency login)  
JEWOMACK

EDUCATION/TRAINING  
(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

<table>
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<tr>
<th>INSTITUTION AND LOCATION</th>
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<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<td>Abilene Christian University</td>
<td>B.S.</td>
<td>1964</td>
<td>Mathematics Ed.</td>
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<tr>
<td>Oregon State University</td>
<td>Ph.D.</td>
<td>1968</td>
<td>Genetics</td>
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A. Personal Statement

I am a geneticist with expertise in comparative genomics and the genetic basis for variation in susceptibility to infectious diseases. My laboratory is committed to the One Medicine concept and the study of genome evolution to understand similarities and differences in host response to pathogens in different species, including domestic animals, laboratory animals and humans. I am currently working on host response to Rift Valley Fever Virus in laboratory rats and have worked previously with mice as well as several livestock species including cattle and chickens.

B. Positions and Honors

Positions

1968-1971 Assistant Professor, Abilene Christian College
1971-1973 Associate Professor, Abilene Christian College
1973-1975 Visiting Scientist, The Jackson Laboratory
1975-1977 Staff Scientist, The Jackson Laboratory
1977-1983 Associate Professor, Texas A&M University
1983- Present Professor, Veterinary Pathology, Texas A&M University
1987-Present W.P. Luse Professor, Texas A&M University
1989-1996 Director, Center for Animal Genetics, Institute of Biosciences & Technology
1990-1993 Interim Asst. Department Head, Veterinary Pathobiology, Texas A&M University
2001-Present Distinguished Professor, Texas A&M University
2001-2010 Director, Center for Animal Biotechnology and Genomics, Texas A&M University

Honors

Alumni Citation Award, Abilene Christian University, 1983
Faculty Distinguished Achievement Award for Research, Texas A&M University, 1987
Carrington Award for Research in Cell Biology, 1990
McMaster Fellow, CSIRO, Australia, 1990
CIBA Prize for Research in Animal Health, 1993
Outstanding Texas Geneticist, Texas Genetics Society, 1996
Fellow, American Association for the Advancement of Science, 1999
National Academy of Sciences, USA, 1999
Wolf Prize in Agriculture, 2001
Distinguished Service Award, Texas Genetics Society, 2006
Outstanding Alumnus of the Year, Abilene Christian University, 2006
Dean’s Impact Award, CVM, Texas A&M University, 2007
Bush Excellence Award for Faculty in International Research, Texas A&M University, 2008
Student-Led Award for Teaching Excellence, Texas A&M University System, 2009
Elected to Sports Hall of Fame, Abilene Christian University, 2010
Faculty Distinguished Achievement Award for Graduate Student Mentoring, Texas A&M University, 2010
C. Selected peer-reviewed publications (from total of 350+)


BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

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<td>Zimmer, Warren E.</td>
<td>Professor, Faculty of Genetics; and Toxicology, Texas A&amp;M University; Department of Medical Physiology, Texas A&amp;M HSC</td>
<td>wezimmer</td>
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EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

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<th>INSTITUTION AND LOCATION</th>
<th>DEGREE (if applicable)</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
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<tr>
<td>University of Houston, Houston, TX</td>
<td>B.S.</td>
<td>1977</td>
<td>Biology/Biochem</td>
</tr>
<tr>
<td>Baylor College of Medicine, Houston, TX</td>
<td>Ph.D.</td>
<td>1985</td>
<td>Cell &amp; Mol. Biology</td>
</tr>
<tr>
<td>Vanderbilt University, Nashville, TN</td>
<td>Postdoc</td>
<td>1985-1989</td>
<td>Cell &amp; Mol. Biology</td>
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**Personal Statement:**

My lab has for many years been involved in understanding how genes are regulated during normal development and how these regulatory paradigms change in disease states. Thus, we have extensive expertise in culturing cells and transfections to examine how they regulate SMC specific genes. We have developed numerous assays including nucleic acid isolation and analysis, protein analyses through western blotting and through immunofluorescence. Prior studies from our lab have indicated that normal development is enhanced by matrix components the cells are grown upon, both in vivo and in vitro. One segment of my lab is involved in the analysis of how cells capture information from outside influences and then translates this information into biochemical signals for the cell. From these studies we have also found a smooth muscle actin is expressed in the prostate epithelial cell, from our analyses we believe this may provide a new cellular footprint for Cancer diagnosis. These studies employ the making of mouse models as well as examining human cells for expression of the smooth muscle actin and how it is structurally different from that expressed in the smooth muscle cell. With these models we are beginning to ask questions of molecular mechanisms leading to cancer, as well as developing models to test the initiation events, including environmental influences that lead to prostate cancer.

I have been able to work with undergraduate students throughout my entire career. At South Alabama we had a robust NSF funded research experience to fund students each summer for a 10-week program to work in the lab. This provided an experience for both the student and the mentor. Since coming to TAMHSC I have had the pleasure to work with numerous undergrad students. I have had several undergrad students work for pay, and many work in the lab as an intro to research class. I have been mentor for 2 undergraduate students for Honors Theses. For the past 8 years I have been the Director of the College of Medicine Summer Research Program. Our program is structured so that we have 15-25 undergraduates each summer work in labs and attend lectures or talks on the conduct of biomedical research. This has been a richly rewarding experience and we have developed a great track record of having >75% of the students going on to a career in sciences. I know from our surveys that the students believe our experience helps them chose a career path, and they feel they are better able to understand concepts in their classes, both undergraduate and graduate levels. Thus, I know the advantages the R25 funding of EHS SURP will provide and I am more than highly supportive by having students under my mentor as well as becoming a director for the experience here at TAMHSC. I am especially excited to work with the directors and faculty of the newly formed environmental research center. They have the formula for success specifically with a strong commitment to teaching and increasing awareness of STEM based careers to undergraduate students, and I am happy to support and participate with their program.

**Professional Position:**

<table>
<thead>
<tr>
<th>Year</th>
<th>Position</th>
<th>Institution</th>
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<td>2005-present</td>
<td>Professor, Interdepartmental Faculty of Toxicology, Texas A&amp;M University</td>
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<tr>
<td>2004-present</td>
<td>Professor, Faculty of Genetics, Texas A&amp;M University</td>
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<td>2004-present</td>
<td>Professor, Texas A&amp;M College of Medicine, Department of Medical Physiology</td>
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<tr>
<td>2005-2010</td>
<td>Co-Director, Texas A&amp;M Genetic Engineered Mouse (GEM) Facility</td>
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<tr>
<td>2003-2004</td>
<td>Professor, University of South Alabama, Department of Cell Biology and Neuroscience</td>
<td></td>
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<tr>
<td>2000-2004</td>
<td>Co-Director, USA COM Transgenic Animal and ES Cell Core Laboratory.</td>
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</table>
1999-2003 Adjunct Associate Professor, Baylor College of Medicine, Department of Cell and Molecular Biology.

1995-2003 Associate Professor, University of South Alabama Medical School, Department of Cell Biology and Neuroscience.

1989-1995 Assistant Professor, University of South Alabama Medical School, Department of Structural and Cellular Biology.

Publications, (Selected listing from 90 publications):


