Graduate Education and The Graduate School at MSU

New Administrators Orientation 2017

- Provide overview of the landscape of graduate education at Michigan State

- Introduce mission and goals of the Graduate School

- Outline our partnerships on and off campus

- Highlight our support for graduate students and faculty mentors

- Let you know what is distinctive about us

- Let you know what we can do for you

- Provide you with contacts

Graduate Education Fast Facts

- Graduate programs in 14 colleges at MSU
- 11,254 graduate and graduate professional students enrolled fall 2016 (21.4% of MSU's student body)
- Over 500 enrolled in grad classes through lifelong education
- Students from 50 states and 169 countries
  - grad: 24.7% international; 29.9% non-resident; 45.4% resident
  - professional: 4.2% international; 12.7% non-resident; 83.2% res
- 39% racial/ ethnic minority grad, 23% grad professional
- Spring 2016: ~3200 graduate assistants (mainly PhD)
  - 40% teaching (under union contract definitions); 6% non-union
  - 54% research

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Graduate Professional Students

- 2543 enrolled fall 2016
- 619 grad professional degrees conferred 2015-16

MSU College of Law students

- 845 enrolled fall 2016 (JD & other degrees)
- 291 JDs conferred 2014-15

Degrees

- 8 dual degrees with College of Law
- Dual professional graduate: MD/PhD, DO/PhD, DVM/MS, DVM/PhD
- 7 regional medical campuses

Students

– 5550 students enrolled fall 2016

– 2246 master's degrees conferred 2015-16

Degrees

– 137 (on-campus, online, hybrid) degree programs

– 2 established cross-disciplinary degree programs

– 10 off-campus master's

– 23 university-level master's graduate specializations

Students

- 3318 enrolled in on-campus degrees fall 2015
- 533 doctoral degrees conferred 2015-16
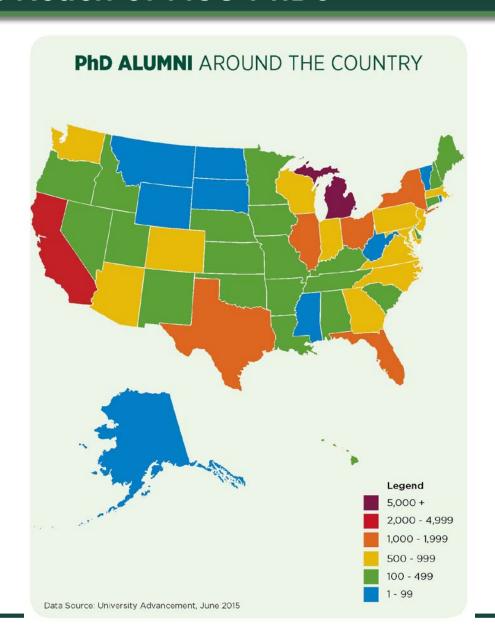
Degrees

- 100 doctoral degrees (on-campus, online, hybrid)
- 3 online and hybrid degrees
- 1 off-campus degree
- 10 established cross-disciplinary programs
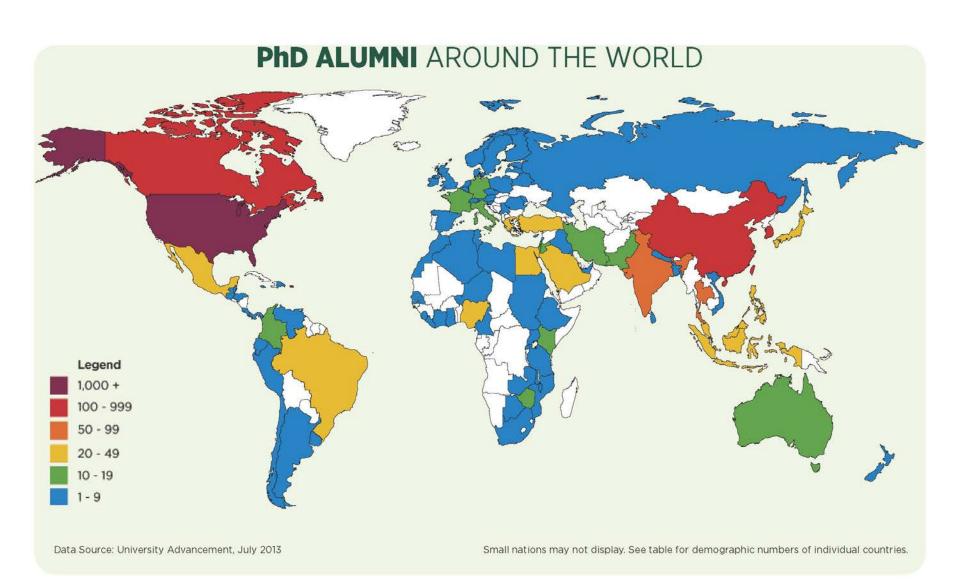- 18 university-level doctoral specializations

- Graduate Certificates
- Degrees
  - 33 graduate certificates
  - 4 types
    - Part of degree program requirements
    - Distinct entity not related to degree program
    - Distinct entity not transcriptable
    - Distinct entity at University level

PhD **ALUMNI** AROUND THE COUNTRY

Legend
- 5,000 +
- 2,000 - 4,999
- 1,000 - 1,999
- 500 - 999
- 100 - 499
- 1 - 99

Data Source: University Advancement, June 2015

PhD ALUMNI AROUND THE WORLD

Legend
- 1,000 +
- 100 - 999
- 50 - 99
- 20 - 49
- 10 - 19
- 1 - 9

Data Source: University Advancement, July 2013

Small nations may not display. See table for demographic numbers of individual countries.

Decentralized Graduate Admissions

- Done at the program or department level

- Centralized admissions portal GAMS

- Graduate School works with Admissions on policy (e.g., degree standards, language proficiency) and reviews waivers

- Graduate School provides fellowship dollars for recruitment

The Graduate School-Mission

The mission of the Graduate School at Michigan State is to advocate for graduate and post-doctoral education within and beyond the University, and to enhance the quality of graduate education at MSU in all its diverse dimensions.

- Partner with faculty and programs on innovations in research and graduate training, areas of national need, and cross-field graduate research

- Promote student success through a focus on professional development, career planning, and wellness

- Work to increase the recruitment, retention and completion of a diverse graduate population

- Provide national leadership on graduate education

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Fellowship support for grants focused on graduate and postdoctoral training

- NIH, NSF, USDA, DOE
- Recent examples include:
  » Reproductive and Developmental Sciences Training Program
  » Integrative Pharmacological Sciences Training Program
  » Training Program in Drug Dependence Epidemiology
  » Pathobiology and Diagnostic Investigation
  » Integrative Neurobiology of Social Processes
  » Plant Biotechnology for Health and Sustainability

Support for innovative centers, groups, and programs

  » BMS Gateway
  » BEACON (evolution)
  » Environmental and Integrative Toxicological Sciences
  » GAANN Fellows (bioelectronics)
  » Sloan Engineering Program
  » American Economic Association Summer Program

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Fellowship dollars to colleges

- Dissertation completion fellowships
- Recruitment fellowships
- Travel awards

University Fellowship Programs (UDF & UEF)

- Doctoral and MFA domestic applicants
- Academic and research excellence, leadership, contributions to diverse educational community

Help sponsor events or journals that cross fields and include graduate student participation or organization

- International Research Collaborations: Addressing Environmental Challenges
- Migration without Boundaries Conference
- Journal of West African History International Conference

- New graduate program director orientation and training
- Workshops and training for administrative and clerical staff who work with graduate students and programs
- Research mentor training
- Workshops for junior faculty on working productively with graduate students
- Workshops on national issues in graduate education

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Search...

Office of Regulatory Affairs

VPRGS   FUNDING   PROPOSAL PREPARATION   COMPLIANCE   COMMERCIALIZATION   RESOURCES   EDUCATION   UNITS

ORA
Announcements

Boards & Committees

ORA Units

RCR
CITI Programs
GS Workshops
Tracking

Training

Contact Us

Responsible Conduct of Research

What is Tracked & How to View Records?
Saba LMS provides registration, automated tracking, and viewing of completed training records for several Responsible Conduct of Research courses. http://ora.msu.edu/RCR-ORA-tracked

What training do I need?
Requirements vary. It depends on your academic department and your position (grad student, post doc, federally-funded research personnel).

Graduate Student - The Grad School has developed guidelines effective Fall 2016 (MSU Grad School Chart.pdf). All academic units must provide RCR training plans. Thus, your college or department may require additional training (all unit plans).

Federally-funded researcher - If working under a federal grant, that agency's requirements must also be met including NSF, or USDA-NIFA, NIH, or if conducting research involving animals or human subjects. (Agency requirements)

About CITI Program registration/completion/imports - http://ora.msu.edu/CITI-RCR-registration

About The Grad School Workshop Series - https://grad.msu.edu/rcr

For more information on the Responsible Conduct of Research, visit the Research Integrity page of the following website:
https://grad.msu.edu/researchintegrity

- Writing Center assistantships
    - work with graduate students at the Center
    - facilitate graduate writing groups
- Writing Fellows in the Discipline
    - work in departments and programs
    - receive professional development fellowship
- Write-In @ the Graduate School
    - one Friday each month
- Dissertation Support Groups
    - -Graduate Life & Wellness, Counseling Center
- Thesis and Dissertation Submission

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- ## Teaching Assistants Programs
  - August 17 Quick Start Teaching for Student Success
  - Aug. 18 New TA Institute
  - Aug. 18-19 International TA Orientation
- ## TA Institute extended training (fall 2017):
  - active shooter and emergency response
  - mandatory reporting for policies on relationship violence and sexual misconduct

  - introduction to libraries and instructional technology

Student Success: Teaching Certification

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University Certification in College Teaching Program:

Through a series of focused workshops, a class on disciplinary teaching methods, and a mentored project, participants will build and consolidate their preparation for college and university teaching
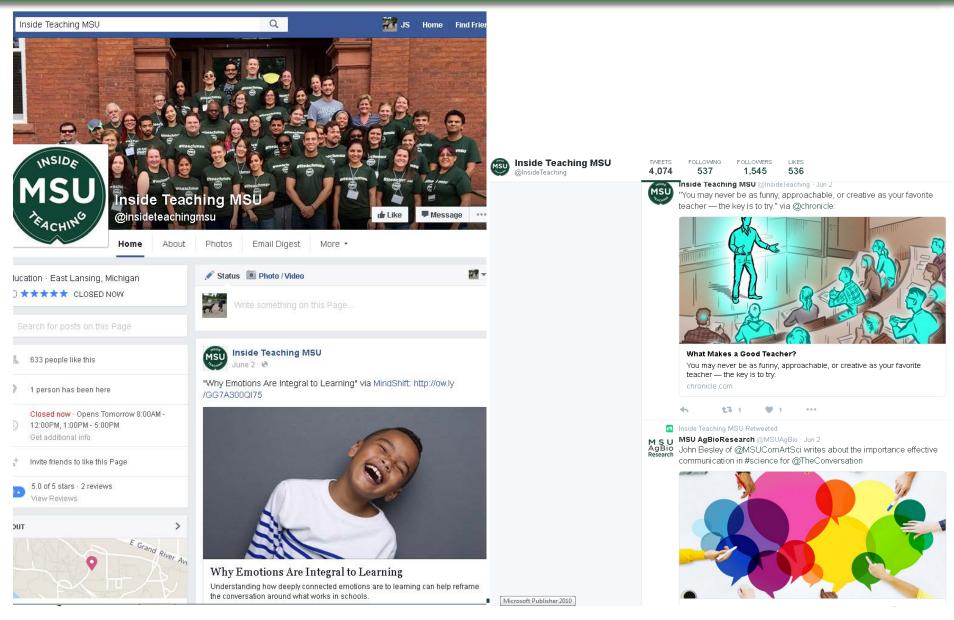
- 10 colleges with official program or programs
- Organized around teaching competencies
- Final portfolios reviewed by Grad School
- Included on MSU transcript

Certification in College Teaching May Institute

- Two days of intensive teaching workshops
- Develop mentored teaching project
- Supported by 2 NSF Grants and CGS grant
- 100 graduate students and postdocs each year

For more on Inside Teaching, visit their website at http://insideteaching.grad.msu.edu/
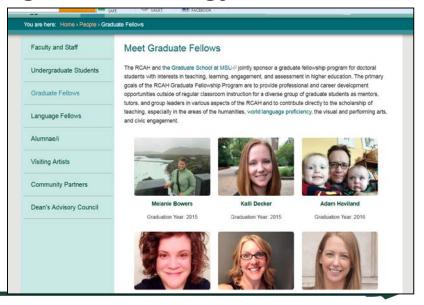
The Graduate School funds teaching-as-research fellows in 3 MSU Residential Colleges

- RCAH
- James Madison
- Lyman Briggs

and in

- Office of the Associate Provost for Undergraduate Education
- The Hub for Innovation in Learning and Technology

Explore the fellows programs: https://grad.msu.edu/teaching-communities-and-fellowships
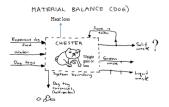
Year-long mentored teaching projects in STEM

- Case Studies Modeling
- Cooperative Learning
- Problem-Based Learning

NSF

Background
(Material Balance)

MATERIAL BALANCE (DOG)

Planned analyses

Population characterizations, Course comparisons

AoE, OtE, relationship, change
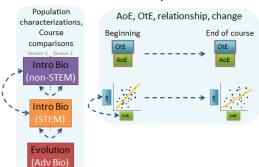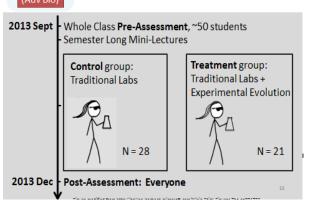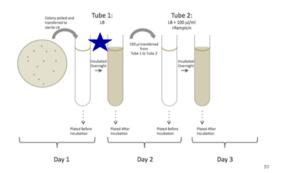
- 106 participants
- Mean TTD 4.9 yrs
- High placement rate in university positions without postdoc

Question 1. What is the relation of different patterns of maternal care to the offspring's response to restraint stress?

High Maternal Care-High LG-ABN

Low Maternal Care-Low LG-ABN

Distribution of responses: All sections (F12/S13/F13)

Question Code	Description
1	Correct response, correct explanation
2	Correct response, partially correct explanation
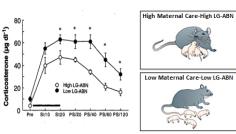
Content assessment: mutation timing

Figure 1. *E. coli* culture inoculation, growth, and transfer as described in the above text.

Tube 1: LB

Tube 2: LB + 100 µl/ml rifampicin

Day 1   Day 2   Day 3

Example: Question Revision

Original question: What is the name of the structure through which neurons interact with one another?

Chemical synaptic transmission is the process used by neurons to communicate with each other. This process has at least 6 core components:

Synapse ✓
Pre-synaptic component ✓
Post-synaptic component ✓
Synaptic Cleft ✓
Neurotransmitters ✓
Neurotransmitter Receptor ✓

Structure & Function			
	Neuronal Structure	Main Function	Properties
Pre-synaptic	Nerve/Axon Terminal	Send out the	Contain the

2013 Sept — Whole Class **Pre-Assessment**, ~50 students
Semester Long Mini-Lectures

Control group:
Traditional Labs

N = 28

Treatment group:
Traditional Labs + Experimental Evolution

N = 21

2013 Dec — **Post-Assessment: Everyone**

https://grad.msu.edu/fast

NSF-CIRTL Center for the Integration of Research, Teaching and Learning

129 MOOC-centered learning communities, participants from 129 countries

https://grad.msu.edu/cirtl

Student Success: CareerSuccess

Development funded in part by CGS Ph.D. Completion Project Grant

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Career and Professional Development Programs
(<u>P</u>lanning, <u>R</u>esilience, <u>E</u>ngagement, <u>P</u>rofessionalism)

PREP
The Graduate School
Michigan State University

PREP Goals
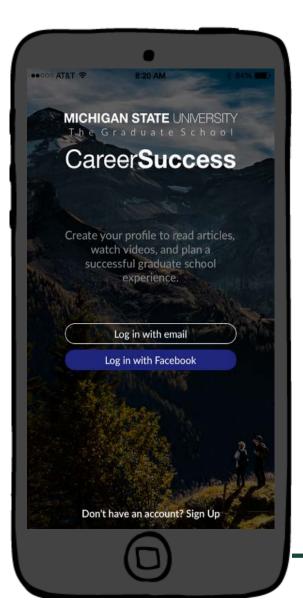
- Broaden awareness of professional expectations in graduate education
- Prepare students to plan and manage their own careers
- Promote graduate student retention and completion
- Provide students with a competitive edge in securing professional positions

PREP, the Graduate School's career and professional development program, was recognized as a national best practice in the Council of Graduate School's 2017 *Professional Development: Shaping Effective Programs for STEM Graduate Students*
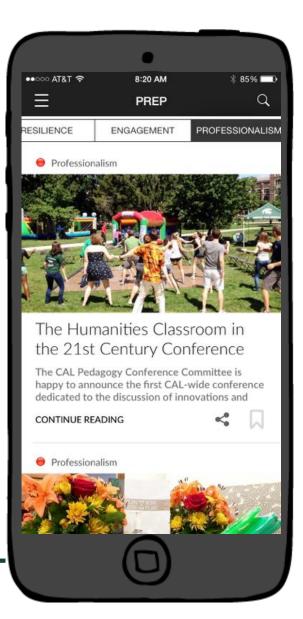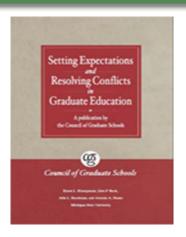
GoPREP app

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Setting Expectations & Resolving Conflicts in Graduate Education (CGS, 2008)

Developed by the MSU Graduate School, offered as a workshop, train-the-trainer program, or tailored activity by trained facilitators

An interactive program that uses short videos of conversations between faculty mentors and graduate students/postdocs to facilitate discussion of strategies to set expectations and avoid conflicts in research teams and in classroom situations. The strategy showcased for both setting expectations and managing conflicts is an interest-based approach of negotiation.
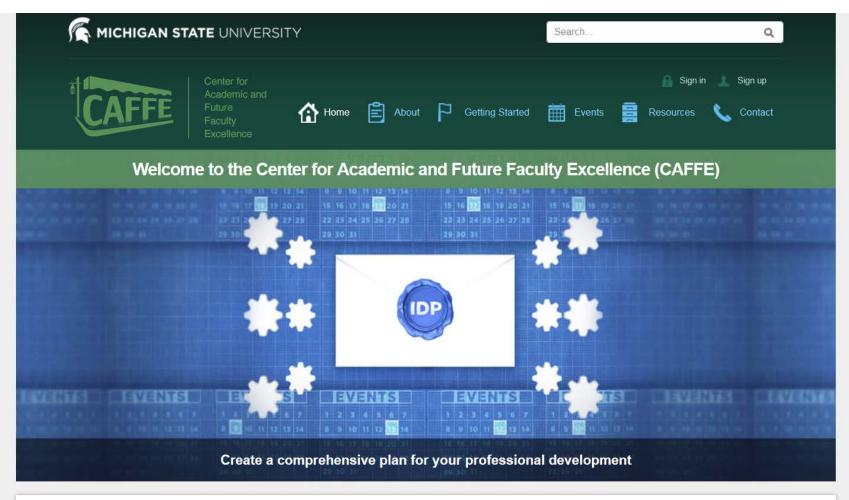
CAFFE for Academic Careers @ http://caffe.grd.msu.edu/

NIH National Institutes of Health   NIH-BEST @ http://best.msu.edu/

Plan Your Career
Over 60% of biomedical PhDs work outside academe: what do YOU want to do?

Learn Scientific Communication
Tell your stories well and to diverse audiences

Practice Wellness
Navigate your world with health and purpose

Work with an amazing team
Your mentor, peers, and BEST leaders work together to support YOUR goals

CareerSuccess

MSU › BEST
Broadening Experiences in Scientific Training

Understand how You work
Use proven metrics and frameworks to promote YOUR vision of success

Experience Career Externships
Test out areas of career interest in Innovation/Technology, Legal, Government and Public Relations, Regulatory Affairs and Academic Externships!
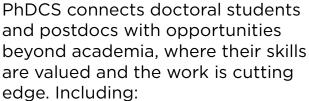
49% of graduating PhDs do not pursue faculty careers**

https://grad.msu.edu/phdcareers

Focus: expanded career preparation for MSU PhDs

*87% of MSU doctoral students surveyed would like opportunities to meet employers in the public, private, and non-profit sectors (outside academia)**

PhDCS connects doctoral students and postdocs with opportunities beyond academia, where their skills are valued and the work is cutting edge. Including:

- Company & organization site visits
- Employer and alumni networking events
- Info sessions and career advice from PhDs working in industry, government & non-profits

*88% of MSU doctoral students surveyed are interested in one-on-one advising appointments through PhD Career Services**

PhDCS had **284** unique advising interactions with PhD & master's students, postdocs and graduate alumni

Program evaluations report that students learn from these interactions and want more such opportunities

54% of MSU doctoral students surveyed in 2014 did not have clear career goals when entering graduate school*

*681 MSU doctoral students completed a career needs survey in September 2014
** "Understanding PhD Career Pathways for Program Improvement: A CGS Report" (data from NSF SED)

#WELLNESS

Invest in Wellness

Graduate Student Life & Wellness

Graduate Student Life & Wellness believes that wellness is multi-dimensional.

The Six Dimensions of Wellness are:
- ➤ Physical
- ➤ Emotional
- ➤ Spiritual
- ➤ Intellectual
- ➤ Occupational
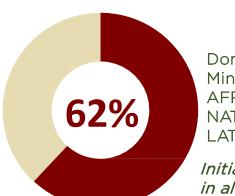- ➤ Social

GSLW offers a wide range of programs including:
- ✓ Graduate Fitness Classes
- ✓ Leadership Institute
- ✓ Dissertation Support Group
- ✓ Workshops about sleep habits, time management and productivity.

Providing the resources you need for success and a well-balanced life in graduate school
https://grad.msu.edu/wellness

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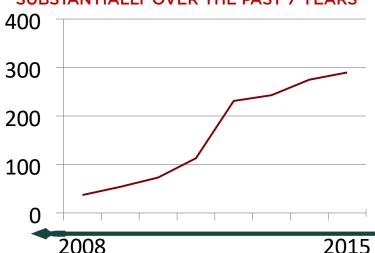## NSF-AGEP Alliance for Graduate Education and the Professoriate

Participation of MSU-URM Doctoral Students

62%

Domestic Underrepresented Minorities (URM) :
AFRICAN-AMERICAN
NATIVE AMERICAN
LATINO/HISPANIC

Initial emphasis in STEM, now in all areas of scholarship

PARTICIPATION IN MSU-AGEP HAS GROWN SUBSTANTIALLY OVER THE PAST 7 YEARS

Features of AGEP

- Steered by graduate students
- Self-sustaining community
- Vibrant support community
- Professional development
- Practice presenting their work to persons outside of their discipline
- Preparation for job interviews

https://grad.msu.edu/agep

"The AGEP community has been a constant source of support and inspiration during my time at Michigan State. Meeting regularly with a diverse group of scholars from different backgrounds and various research interests encourages me to think about my work as an emerging social scientist in new ways"

NSF

MONTHLY MEETING ACTIVITES: Invited speakers, CrossTalk presentations, Science & Society discussion, Networking, Group Trips

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SROP

SUMMER RESEARCH OPPORTUNITIES PROGRAM

MSU-SROP : OFFERING OPPORTUNITIES AND STRATEGIES FOR SUCCESS IN GRADUATE STUDIES

https://grad.msu.edu/srop

B1G
ACADEMIC ALLIANCE

The SUMMER RESEARCH OPPORTUNITIES PROGRAM (SROP) is a gateway to graduate education at Michigan State University (MSU). The goal of the program is to increase the number of domestic undergraduate students who pursue graduate study and careers in teaching and research at colleges and universities. MSU-SROP helps prepare undergraduates for graduate study through intensive research experiences with faculty mentors, and other academic

MSU-SROP helps undergraduate students gain research experience to give them a competitive advantage as a graduate applicant by:

- intense RESEARCH ACTIVITIES that broaden technical and presentation skills;

- PROFESSIONAL DEVELOPMENT WORKSHOPS;

- SEMINARS that introduce students to a range of research fields across disciplinary lines;

- INFORMAL GATHERINGS that provide a forum for student and faculty exchange of ideas and perspectives;

- OPPORTUNITIES TO PRESENT research at a multi-university program symposium and in

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THE ANDREW W. **MELLON** FOUNDATION

ACM *Expand your world.* ASSOCIATED COLLEGES OF THE MIDWEST
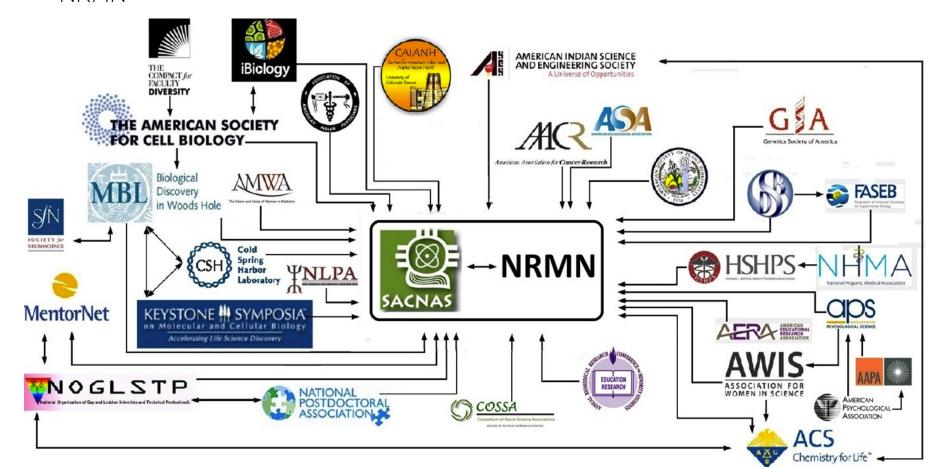
B1G ACADEMIC ALLIANCE

Underrepresented students in humanities, humanistic social sciences, & the arts

- Undergraduate fellowships to support mentoring, career development, and experiential research opportunities for 280 students from ACM colleges on Big Ten Academic Alliance campuses

- Faculty fellowships in tenure-track positions at ACM colleges for 30 new scholars with terminal master's or doctoral degrees, from Big Ten Academic Alliance universities, whose backgrounds, life experiences and goals will enhance diversity on the ACM campuses.

- A series of annual ACM-BTAA meetings and workshops focused on strengthening connections between the liberal arts colleges and research universities in the two consortia. These meetings will provide resources for colleges to create academic settings and hiring practices to support diverse and inclusive faculties.

Career development and networking for postdocs through collaborative NSF-Professorial Advancement Initiative (PAI) and NIH-NRMN-CAN

Network of Professional Societies and National Organizations connected to NIH-NRMN

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- ## Nationally recognized career and professional development programs

  - 2010 recipient of the Council of Graduate Schools/ Educational Testing Service Award for Promoting Success in Graduate Education

  - PREP career and professional model featured in *Chronicle of Higher Education* and *US News & World Report* as an "exemplary program" for doctoral students

  - *Setting Expectations and Resolving Conflicts* program the subject of a 2008 Council of Graduate Schools model practices publication

  - Innovations in future faculty preparation supported by NSF, NIH, and CGS grants

- ## Leadership in and featured presentations for:
    - AAU (AGS) grad deans
    - Association of Public and Land-Grant Universities (APLU)
    - Council of Graduate Schools
    - Big Ten Academic Alliance grad deans/schools
    - Midwest Association of Grad Schools
    - Graduate Career Consortium
    - Professional and Organizational Development Networks
    - Disciplinary associations

- ## Graduate School staff have contributed to:
    - Government technical panels and federal hearings
    - Steering committees for NSF, NIH & Mellon grants
    - Publications on research in graduate education

Recent Graduate School Research

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Graduate School as PI or Co-PI on current grants

- NIH-BEST
- NSF-AGEP
- NSF-CIRTL
- NSF-WIDER
- Great Lakes Higher Education Guaranty Corporation
- Professional and Organizational Development Network Research Grant

Graduate School administrators on steering committees for:

- CIC/ACM Mellon Foundation Grant
- NSF-CIC AGEP PAI
- NIH NRMAN-CAN

In the past two years, the GS team has

- published 56 articles on these activities
- given 10 invited talks at national conferences in connection with grant projects

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- [Academic Programs](#) Academic Programs is the listing of programs, policies and related information for all students at MSU. For the section specific to graduate education go to: https://reg.msu.edu/AcademicPrograms/Text.aspx?Section=111

- [Graduate Students Rights and Responsibilities](#) The GSRR specifically addresses student conduct, academic pursuits, keeping of records, and publications. It describes procedures for formulating regulations governing student conduct and for providing due process in the adjudication of student disciplinary cases. It also defines channels and procedures for student complaints and grievances.

- [Medical Student Rights and Responsibilities](#) This MSRR contains guidelines to the rights and responsibilities of medical students in matters of conduct, academic pursuits, keeping of records, and employment. This document describes structures and procedures for adjudicating medical student disciplinary cases, and for channeling medical student complaints, grievances, or concerns to faculty, staff, and administrators for appropriate action.

- [Law Student Rights and Responsibilities](#) This document and related documents (including the Academic Hearing Procedures for the MSU College of Law and the Code of Student Discipline) contain guidelines to the rights and responsibilities of law students in matters of conduct, professionalism and ethics, academic pursuits, keeping of records, and employment.

- [MSU Student Rights and Responsibilities](#) This report (along with the GSSR document and the MSRR and LSRR documents) contains guidelines to the rights and duties of students in matters of conduct, academic pursuits, the keeping of records and publications.

- [General Student Regulations](#) The GSR apply to all students regardless of class level, place of residence, or group affiliation as well as to all governing bodies, governing groups, living groups, and registered students organizations; their purpose is to secure the safety of members of the University community and University facilities, maintain order, and ensure the successful operation of the institution.

- [Integrity of Scholarship and Grades](#) This statement of University policy addresses principles and procedures to be used in instances of academic dishonesty, violations of professional standards, and falsification of academic or admission records.

- [Guidelines for Integrity in Research and Creative Activities](#) Integrity in research and creative activities is based not only on sound disciplinary practice but also on a commitment to basic personal values such as fairness, equity, honesty, and respect. These guidelines are intended to promote high professional standards by everyone—faculty, staff, and students alike.

- [Responsible Conduct of Research Plans](#) Each college and/or department has specific requirements for research integrity training for its graduate students.

- [Guidelines on Authorship](#) The intent of this document is to serve as a general guideline for consideration of important issues surrounding authorship as scholars construct a piece of work for public distribution. Some programs have their own written policies.

- [Research Data: Management, Control, and Access](#) Describes MSU's best practices for recording and archiving data. Departments and labs may have their own additional requirements.

- [Research Data Management Guidance](#) A joint effort of the MSU Libraries and University Archives, this service helps faculty create and execute data management plans. This includes an online template and tutorial for creating DMPs, a guide to research data management fundamentals, and a template for lifecycle data management planning.

- [The Institutional Animal Care and Use Committee](#) The IACUC advises the University President and the Institutional Official regarding all aspects of the responsible use of animals in university research and instructional activities. The IACUC reviews protocols, and the animal care and use program, and monitors related activities to ensure compliance with standards and regulatory requirements.

- [The Human Research Protection Program](#) The HRRP's primary mission is the protection of individuals who are the subjects of research. MSU has established three Institutional Review Boards (IRBs) that have oversight for all research conducted under its Federal Wide Assurance.

- [Procedures Concerning Allegations of Misconduct in Research and Creative Activities](#) This report details the procedures for the investigation and evaluation of alleged or apparent misconduct in order to safeguard the integrity of research and creative activities at MSU.

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- [Code of Teaching Responsibility](#) Satisfaction of teaching responsibilities by instructional staff members is essential to the successful functioning of a university. This document dictates the expected duties and responsibilities of all instructors. It can be found in the Academic Programs guide: https://reg.msu.edu/AcademicPrograms/Text.aspx?Section=112#s514

- [Graduate Employees Union Contract 2015-19](#) The GEU contract dictates terms and conditions of employment for graduate teaching assistants at MSU, and includes agreements on rates of pay, hours, health care, and procedures for the resolution of differences.

- [Health Insurance Benefits Associated with Graduate Assistantships](#) This website details the health insurance options available to MSU Graduate Assistants.

- [Academic Programs: Research Assistantship Policies](#) This document outlines the responsibilities associated with MSU Research Assistantships.

- [Graduate Students Rights and Responsibilities](#) Article 4. This section of GSRR outlines policies related to graduate assistants.