

AN OVERVIEW OF WHAT'S TO COME

OVERVIEW OF OPPORTUNITIES:

THE BIG ONES, THE COMPLICATED ONES, AND NEW INITIATIVES

OFFICE OF RESEARCH DEVELOPMENT

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TODAY'S GOALS...

- Share how funders use different types of opportunities to further their goals, and how complex, collaborative projects can make a big impact for our institution, and individual investigators.
- Review several specific upcoming opportunities and agency priorities with potential impact across colleges.
- Share some insight on the upcoming content planned for the remainder of the year's seminars.
- Introduce the MSU Research Support team.

SO.....

How do funders use different types of opportunities to further their goals?

Large projects leverage expertise & capacity and require consideration for sustainable impact.

- Focused investments for systemic change, breakthrough science and innovation – more than the sum of parts.
- The biggest, most complex challenges (and solutions!) exist at intersections
- Ensuring all voices and perspectives are heard and valued

It is critical that we understand the motivation behind the opportunities to put forth a compelling proposal.

How can complex, collaborative projects can make a big impact for our institution, and individual investigators?

- A place for EVERYONE and every discipline
- Making an impact and improving the quality of life in our region and beyond as the “people’s university”
- Professional and personal enrichment for our university community (research, planning and assessment, administration and management)
- We must position ourselves for these opportunities to be competitive

A BRIEF REVIEW OF AGENCY PRIORITIES

- **U.S. Department of Agriculture**
- **National Science Foundation**
- **National Institutes of Health**
- **Department of Energy**
- **Department of Education**

USDA CROSS-CUTTING PRIORITIES

- Addressing climate change via climate-smart agriculture, forestry, and renewable energy.
- Advancing racial justice, equity, and opportunity.
- Creating more and better markets for producers and consumers at home and abroad.
- Tackling food and nutrition security while maintaining a safe food supply.

USDA STRATEGIC GOALS

- **Strategic Goal 1:** Ensure USDA programs are delivered efficiently, effectively, and with integrity and a focus on customer service.
- **Strategic Goal 2:** Maximize the ability of American agricultural producers to prosper by feeding and clothing the world.
- **Strategic Goal 3:** Promote American agricultural products and exports.
- **Strategic Goal 4:** Facilitate rural prosperity and economic development.
- **Strategic Goal 5:** Strengthen the stewardship of private lands through technology and research.
- **Strategic Goal 6:** Ensure productive and sustainable use of our national forest system lands
- **Strategic Goal 7:** Provide all Americans access to a safe, nutritious, and secure food supply.

AGRICULTURE AND FOOD RESEARCH INITIATIVE COMPETITIVE GRANTS PROGRAM EDUCATION AND WORKFORCE DEVELOPMENT PROGRAM

The AFRI-EWD focuses on developing the next generation of research, education, and extension professionals in the food and agricultural sciences.

- Strategic Goal 2: Maximize the Ability of American Agricultural Producers to Prosper by Feeding and Clothing the World;
- Strategic Goal 3: Promote American Agricultural Products and Exports;
- Strategic Goal 4: Facilitate Rural Prosperity and Economic Development;
- Strategic Goal 5: Strengthen the Stewardship of Private Lands Through Technology and Research;
- Strategic Goal 6: Ensure Productive and Sustainable Use of Our National Forest System Lands; and
- Strategic Goal 7: Provide All Americans Access to a Safe, Nutritious, and Secure Food Supply

THE AGRICULTURE AND FOOD RESEARCH INITIATIVE - EDUCATION AND WORKFORCE DEVELOPMENT (EWD)

This program focuses on developing the next generation of research, education, and extension professionals in the food and agricultural sciences. In 2022, the National Institute of Food and Agriculture (NIFA) requests applications for the AFRI's Education and Workforce Development program areas to support:

1. Professional development opportunities for K-14 educational professionals;
2. Non-formal education that cultivates food and agricultural interest in youth;
3. Workforce training at community, junior, and technical colleges;
4. Training of undergraduate students in research and extension;
5. Fellowships for predoctoral candidates and postdoctoral scholars; and
6. Special workforce development topics

National Science Foundation

MISSION: promote the progress of science by investing in research to expand knowledge in science, engineering and education. NSF also invests in actions that increase the capacity of the U.S. to conduct and exploit such research.

CORE VALUES: NSF's core values are essential and enduring tenets that guide everyone in the organization as we support the agency's mission. They have been developed with the active engagement of NSF staff. These values identify who we are and what is important to us. They guide how we make decisions, set priorities, address challenges, manage trade-offs, recruit and develop personnel and work together with our awardees.

*Scientific Leadership

*Integrity and Excellence

*Innovation and Collaboration

*Diversity and Inclusion

*Public Service



NSF STRATEGIC GOALS & OBJECTIVES

GOALS:



Empower

Empower STEM talent to fully participate in science and engineering



Discover

Create new knowledge about our universe, the world and ourselves



Impact

Benefit society by translating knowledge into solutions



Excel

Excel at NSF operations and management

OBJECTIVES:

EMPOWER- Ensure accessibility and inclusivity; Unleash STEM talent for America

DISCOVER- Advance the frontiers of research; Enhance research capability

IMPACT- Deliver benefits from research; Lead globally

EXCEL- Strengthen at Speed and Scale; Invest in People

NSF Cross-Cutting Initiatives

- **Broadening Participation in STEM** (expanding the opportunities in STEM to all)
- **Convergence Accelerator** (merging innovative ideas, approaches, and technologies from a wide and diverse range of sectors and expertise)
- **Established Program to Stimulate Competitive Research** (to enhance research competitiveness by strengthening STEM capacity and capability through a diverse portfolio of investments from talent development to local infrastructure)
- **Innovation Corps (I-Corps)** (an immersive, entrepreneurial training program that facilitates the transformation of invention to impact)
- **NSF Research Traineeship Program** (program dedicated to effective training of STEM grad students in high priority interdisciplinary or convergent research areas, through a comprehensive traineeship model)
- **Partnerships for Innovation (PFI)** (offers researchers from all disciplines of S&E funded by NSF the opportunity to perform translational research and technology development, catalyze partnerships and accelerate the transition of discoveries from the laboratory to the marketplace for societal benefit)
- **Regional Innovation Engines** (create regional-scale innovation ecosystems nationwide)

NSF Opportunities on the Horizon

NSF Innovation Corps (I-Corps)- Hubs Program- NSF 22-566

- Prepares scientist and engineers to extend their focus beyond the laboratory to increase the economic and societal impact of NSF-funded and other basic research projects.
- I-Corps Hubs have 2 tracks
 1. Track 1 → Former sites (up to \$3M for up to 5 years)
 2. Track 2 → Institutions new to I-Corps (up to \$15M for up to 5 years)
- LOI → Not required
- Preliminary Proposal → Not required
- Roll around in ~ 4-5 years

NSF Opportunities

Science and Technology Centers: Integrative Partnerships- NSF 22-521

- Conduct world-class research through partnerships among academic institutions, national labs, industrial organizations and other entities.
- Undertake significant investigations at the interfaces of disciplines and/or using highly innovative approaches within disciplines.
- Can involve any areas of science and engineering that NSF supports.

- LOI → Currently not required
- Preliminary Proposal → Required
- \$30M over 5 years

NSF Opportunities

National Artificial Intelligence (AI) Research Institutes- NSF 22-502

- Advance research, transform society, and grow the American workforce
- Joint government effort between the NSF & multiple other agencies
- The Program Solicitation is broken down into a variety of themes (choose 1)

- LOI's → Currently not required
- Preliminary Proposal → Now required!!
- Up to \$16-20M for a 4 to 5-year period
- Roll around in ~ 5 years

National Institutes of Health

MISSION: to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability NIH-wide strategic plan framework.

OVERVIEW OF NIH NIH'S STRATEGY: public health challenges across the lifespan collaborative science minority health and health disparities women's health data science research areas research capacity research conduct foundational science disease prevention and health promotion treatments, interventions, and cures workforce infrastructure and resources stewardship partnerships accountability and confidence management and operations.



National Institutes
of Health

NIH Priorities

<https://www.nih.gov/sites/default/files/about-nih/strategic-plan-fy2021-2025-508.pdf>

OBJECTIVE 1: ADVANCING BIOMEDICAL AND BEHAVIORAL SCIENCES

Driving Foundational Science; Preventing Disease and Promoting Health; Developing and Optimizing Treatments, Interventions, and Cures

OBJECTIVE 2: DEVELOPING, MAINTAINING, AND RENEWING SCIENTIFIC RESEARCH CAPACITY

Enhancing the Biomedical and Behavioral Research Workforce; Supporting the Research Resources and Infrastructure

OBJECTIVE 3: EXEMPLIFYING AND PROMOTING THE HIGHEST LEVEL OF SCIENTIFIC INTEGRITY, PUBLIC ACCOUNTABILITY, AND SOCIAL RESPONSIBILITY IN THE CONDUCT OF SCIENCE

Fostering a Culture of Good Scientific Stewardship; Leveraging Partnerships, Ensuring Accountability and Confidence in Biomedical and Behavioral Sciences; Optimizing Operations

NIH - CROSSCUTTING THEMES

- **Improving minority health and reducing health disparities**
- **Enhancing women's health**
- **Addressing public health challenges across the lifespan**
- **Promoting collaborative science**
- **Leveraging data science for biomedical discovery**

Priorities by Institute can be found here:

<https://grants.nih.gov/policy/nih-funding-strategies.htm>

NIH Opportunities

The BRAIN Initiative

The *brain research through advancing innovative neurotechnologies*[®] (BRAIN) initiative is aimed at revolutionizing our understanding of the human brain. By accelerating the development and application of innovative technologies, researchers will be able to produce a revolutionary new dynamic picture of the brain that, for the first time, shows how individual cells and complex neural circuits interact in both time and space. Long desired by researchers seeking new ways to treat, cure, and even prevent brain disorders, this picture will fill major gaps in our current knowledge and provide unprecedented opportunities for exploring exactly how the brain enables the human body to record, process, utilize, store, and retrieve vast quantities of information, all at the speed of thought.

<https://braininitiative.nih.gov/>

<https://braininitiative.nih.gov/funding/funding-opportunities>

NIH Opportunities

Collaborative Program Grant for Multidisciplinary Teams (RM1)

National Institute of General Medical Sciences

Supports applications from a highly integrated team of investigators addressing a single-focused, ambitious, and challenging project that cannot be addressed by individual R01 applications. The RM1 is a single application and not a collection of sub-projects. **Groups are typically comprised of three to six principal investigators.** The research topic must be central to the NIGMS mission areas and projects should not be achievable by individual efforts. The RM1 program requires the participation of multiple investigators with complementary expertise to achieve the team's research objectives. **Applications must have well-defined goals that can be achieved within 5-10 years.**

[https://www.nigms.nih.gov/grants/RM1/Pages/Collaborative-Program-Grant-for-Multidisciplinary-Teams-\(RM1\).aspx](https://www.nigms.nih.gov/grants/RM1/Pages/Collaborative-Program-Grant-for-Multidisciplinary-Teams-(RM1).aspx)

NIAID on Building a Team: <https://www.niaid.nih.gov/grants-contracts/build-your-team>

NIH Opportunities

Crosscutting Research Education Programs

- [Research Supplements to Promote Diversity in Health-Related Research](#)
- [National Research Mentoring Network](#)
- [Institutional Development Award](#)
- [Short Courses, Summer Institutes and Other Research Education Activities](#)

More details at <https://extramural-diversity.nih.gov/career-pathways/infographic/research>

Department of Energy Priorities & Opportunities

Modernizing the Energy Grid (prioritizing “opportunity zones”)

- **University Research Consortium Grid Resilience**
- **Hydrogen Shot – reducing costs of clean hydrogen**
- *these are collaborative because they are tied to economic development initiatives and expect contributions from stakeholders across sectors.

H2@Scale Initiative

- Hydrogen production, transport, storage, and utilization to enable decarbonization and revenue opportunities across multiple sectors
- Metals, biofuels, synthetics, thermochemical applications

Advanced Scientific Computing Research (ASCR) Recently solicited, with 4 **MATHEMATICAL MULTIFACETED INTEGRATED CAPABILITY CENTERS** (MMICCS) centers expected.

<https://www.energy.gov/>

Bipartisan Infrastructure Law Opportunities

ED Priorities

<https://www.performance.gov/agencies/ed/>

FY 2022 -2026 STRATEGIC PLAN

- 1. Promote equity in student access to educational resources, opportunities, and inclusive environments.**
- 2. Support a diverse and talented educator workforce and professional growth to strengthen student learning.**
- 3. Meet students' social, emotional, and academic needs.**
- 4. Increase postsecondary value by focusing on equity-conscious strategies to address access to high-quality institutions, affordability, completion, post-enrollment success, and support for inclusive institutions.**
- 5. Enhance the Department's internal capacity to optimize delivery of its mission.**

ED Opportunities

1. IES: NATIONAL CENTER FOR SPECIAL EDUCATION RESEARCH:
LEAD A CAREER AND TECHNICAL EDUCATION NETWORK FOCUSED ON CRITICAL
PROBLEMS OF EDUCATION POLICY AND PRACTICE GRANT PROGRAM
DUE 2/23/23
2. IES NATIONAL CENTER FOR EDUCATION RESEARCH:
RESEARCH NETWORKS FOCUSED ON CRITICAL PROBLEMS OF EDUCATION POLICY
AND PRACTICE
DUE 2/23/23
3. IES: NATIONAL CENTER FOR SPECIAL EDUCATION RESEARCH:
SPECIAL EDUCATION RESEARCH AND DEVELOPMENT CENTER
DUE 1/12/23

What to expect from this year's Seminar Series

- “Positioning” faculty for success (individual AND collaborative efforts)
- Capacity Assessment and Building
- Identifying Collaborators and Building Teams
- Educating on Proposal Development and Preparation Processes
- Infrastructure for managing large projects
- Thinking toward long-term impacts and sustainability

- Monthly topics will explore a common theme from several perspectives.
- Format is designed to enable “a la carte” participation and all content will be archived for viewing and sharing
- Participation and suggestions are encouraged!

Next month: Positioning for Success and Determining Readiness

- Evaluating the Merit of your Idea in Relation to the Opportunity (*Brenner & Strawderman*)
- Institutional Capacity and Applicant Credibility (*Pruett & Thibaudeau-Munn*)
- Project Feasibility: Organizational and Investigator Readiness (*ORD*)



MEET YOUR
RESEARCH
SUPPORT TEAM

OFFICE OF RESEARCH AND ECONOMIC DEVELOPMENT

- Oversees, provides support for, and disseminates information on all funded research and outreach initiatives;
- Works with the President, Provost, Faculty Senate, and legislative liaisons regarding strategic investments, institution-wide research and outreach targets, and potential partnerships;
- Institutional resource for information on funding opportunities, research impact, and research integrity;
- Provides oversight for several institutional multi-disciplinary Centers and Institutes
- Lead unit for research advocacy (external & internal –in concert with Associate Deans for Research;)
- Support units work collaboratively to reduce administrative burden on investigators

ORED TOOLS & RESOURCES

- Dear Colleague Letter
- Research Seminar Series and Program Archives Funding Opportunity Announcements
 - OpsWatch/ Fuller Updates (weekly)
 - DDD listserv – various updates and announcements pertaining to research (contact tgammill@research to be added)
 - Academic Research Funding Strategies , LLC (monthly)
- Legislative & Sponsor Relations
 - Contacts, messaging, best practices (program officers, staffers, conferences and meetings, appropriations)
 - Agency and Research Administration Organization Education Resources
- Research & Economic Development Collaboration Facilitation
- Internal Funding
- Leadership Development

Office of Sponsored Projects

Overseeing sponsored projects for grants, contracts, and other sponsored agreements. Coordinating interaction between the University, research faculty, and sponsors by providing services such as proposal review, agreement negotiation, and award acceptance.

Proposals

Awards

Subawards

Procedures



Service Portal



Forms



Research Data



Quick Facts



MISSISSIPPI STATE UNIVERSITY
OFFICE OF TECHNOLOGY MANAGEMENT

Search Office of Technology Management

Inventors Entrepreneurs Industry Technologies Related Links About Us

Technologies Available for Licensing

MSU technologies are grouped into 16 industry sectors. Browse through the technologies by interest or search by keyword.

Office of Research Compliance and Security

The Office of Research Compliance & Security protects the research community at MSU by thoughtfully applying ethical and safe practices.

myProtocol

Check Your Training

About Us



Compliance



Security



My Training



Office of Research Development

We support individual and institutional efforts to attract external funding through development of quality, competitive proposals, strategic collaboration, and providing expert support to increase impact, foster professional growth, and build capacity of researchers to expand MSU's funding portfolio.

Services

Finding Funding

Proposal Preparation

Education and Events



PIVOT



Tools & Templates



Calendar



Development Resources



Broader Impacts

OFFICE OF SPONSORED PROJECTS - OSP

- Serve as Authorized Organization Representative; represent MSU in communication with agencies/sponsors
- Review for compliance with **federal, agency, and institutional regulations**
- Review proposals for correct formatting, completeness, and accuracy prior to submission
- Do NOT review for quality, competitiveness, or determine intellectual property
- Agree to required assurances and other submission protocols
- Confirm PI credentials with sponsor
- Facilitate communication with Program Officer/ Sponsor Representatives
- Mitigate contractual and subaward risks
- Execute non-financial agreements

OFFICE OF TECHNOLOGY MANAGEMENT - OTM

Office Functions

- Evaluate disclosures using the [Opportunity Assessment](#)
- Recommend an appropriate strategy for protecting the technology.
- Identify potential licensees and market the invention
- Negotiate license agreements
- Manage patent prosecution and maintenance
- Monitor licenses for compliance with due diligence provisions, etc.

The office supports Office of Sponsored Projects by reviewing IP terms of research grants, MTAs, IIAs, NDAs, etc. We also comply with the reporting and commercialization requirements which enables the university to take title to inventions developed with Federal support.

Mission Statement

The Office of Technology Management (OTM) works to assess, protect, and manage the intellectual property (IP) developed by MSU faculty, staff, and students. The IP can stem from new ideas, inventions, software, know-how, and other creative works generated by research and other scholarly activity. OTM serves the university and its stakeholders by facilitating the transition of MSU-owned IP to the marketplace.

The [Commercialization Process](#) starts with the disclosure of new ideas, inventions, software and creative works resulting from research and other scholarly activities. Once the office receives a fully signed disclosure, we initiate the following key steps:

OFFICE OF RESEARCH COMPLIANCE AND SECURITY - ORCS

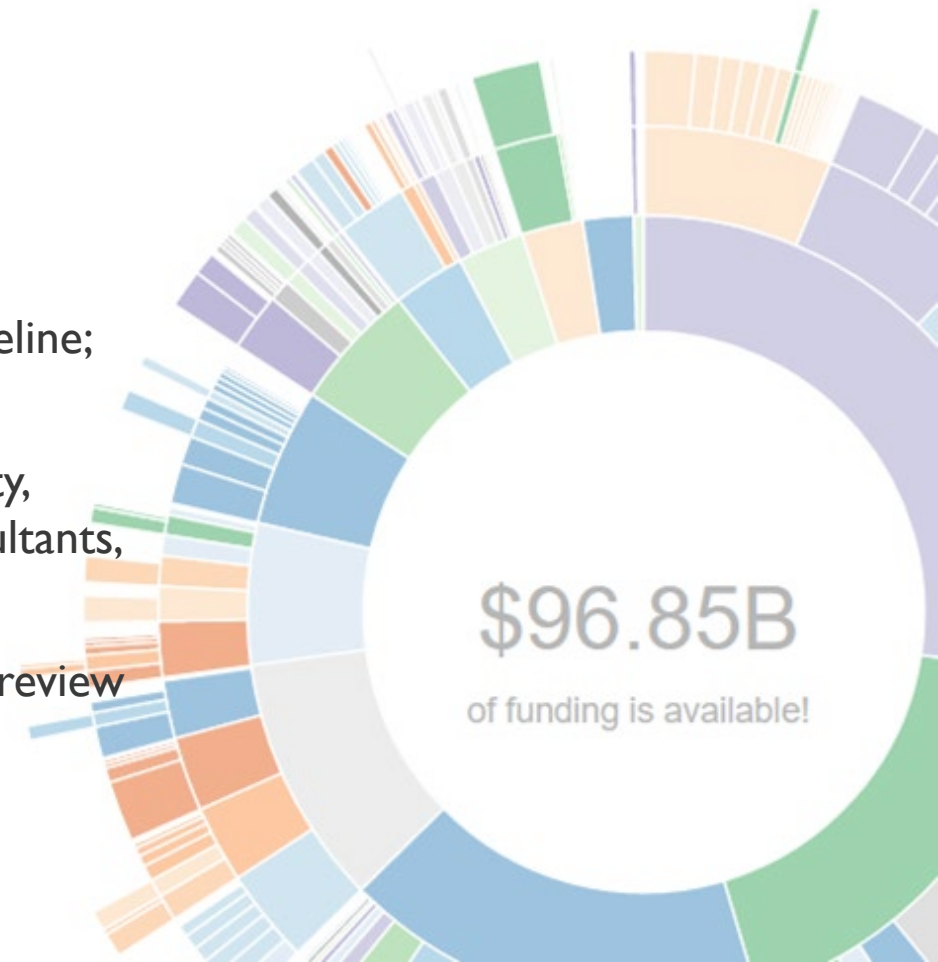
- Animal Care and Use
- Human Subjects
- Conflict of Interest
- Responsible Conduct of Research
- Biosafety
- Controlled Substances
- Export Control
- Data Security
- International Risk Management
- Facility Security
- Hosted Visitors

Our Mission

To provide support and protection for MSU's research enterprise with the highest standards of security, compliance, and ethics utilizing outreach, education, and effective, fair, and consistent customer service.

OFFICE OF RESEARCH DEVELOPMENT- ORD

- Support large-scale institutional, multi-investigator, and/or collaborative initiatives
- Program consulting for alignment with agency/solicitation priorities and regulations
- Strategic planning for proposal development and aligned with goals of MSU, ORED, and unit
- Preparation and management of RFP-specific development outlines and timeline; team building and coordination of proposal assignments;
- Facilitate resources for pertinent data/services/collaborators (ex: community, institution, demographic, student, evaluation, stakeholder engagement, consultants, etc.)
- Editorial, formatting, stylistic reviews; including facilitation of peer/technical review
- Review for compliance with review criteria, agency guidance, and sponsor's funding priorities
- Grantsmanship education & liaison among PI/Department and OSP



ASSOCIATE DEANS FOR RESEARCH

ADRS play a vital role in MSU's research enterprise:

- Work with ORED in identifying strategic initiatives and opportunities for collaboration
- Advocate for faculty and manage the research/funding portfolio for their respective College
- Convene as a body with the Faculty Research Advisory Council, Faculty Senate, and ad hoc for research-related issues
- ADRs are involved in research policy formulation and implementation
- Serve as a resource for faculty and admin staff regarding opportunities, services, policies, and procedures

Bagley College of Engineering	Kari Babski-Reeves
College of Agriculture & Life Sciences and MAFES	Jamie Larson
College of Forest Resources & Wildlife Research Center	Wes Burger
College of Arts and Sciences	Giselle T. Munn
Shackouls Honors College	Anastasia Elder
College of Architecture, Art & Design	Bimal Balakrishnan
College of Education	Daniel Gadke
College of Business	Kevin Rogers
College of Veterinary Medicine	David Smith
University Library	Deborah Lee



QUESTIONS?