Finding & Supporting National Security Research Opportunities at MSU
Adjacent Topic: How to Work with the Applied Research Lab

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Why National Security Research?

- The Montana State University (MSU) Applied Research Laboratory (ARL) will endeavor to collaborate with research partners who wish to contribute to national security. This is in accordance with the university's strategic plan and aligns with MSU's charter as a land grant institution.
- Giving students opportunities that enhance research at MSU and prepare them for rewarding careers.
- Need for research that furthers the nation's ability to defend and protect its citizens.
- Great funding opportunities (e.g., DOD allocates ~$13 billion each year (or 2% of the total annual budget) spent on basic research, applied research and technology development…#1 funding agency at MSU last year)

Assumption re: finding funding:

Audience is familiar with how and where to find traditional national security-related funding and the opportunities that exist. (ORD's wheelhouse)

- Prospective research partners may include National Laboratories, Military Services Research Labs & other government entities, large companies such as defense prime contractors, other academic institutions, and regional/local businesses involved in research or development activities). Vast majority of these opportunities are unclassified efforts, and thus are ARL independent.
- Traditional funding methods include (not limited to)
  - SAM.gov
  - Grants.gov
  - Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR)
  - EPSCOR (Established Program to Stimulate Competitive Research – NSF, NASA and DOE)
  - DEPSCoR (DoD Established Program to Stimulate Competitive Research)
  - DOD Services (Air Force, Army, Navy) & DARPA (Defense Advanced Research Projects Agency)
  - DOE
  - NSF
  - National Security Agency
  - National Labs
  - DHS
  - Dept of Ag
- MSU tools/opportunities
  - SPIN / InfoEd Funding Database
  - TechLink / Montana Innovation Partnership (SBIR/STTR) – Ann Peterson, Program Director
  - Weekly ORD Email
  - Research Development Day (early January)
  - DEPSCoR Day (5/18/23 at MSU)
  - ARL staff may travel individually or as a small group to relevant national security events to present MSU research competencies and capabilities, research efforts, and conduct networking activities. (Opportunity to meet program officers.)
- While most funding opportunities begin as unclassified projects, many have an opportunity to take the work classified – don't view has roadblock or avoid such opportunities. MSU is built for this! (Land Grant Institution & Strategic Plan directives come through in restricted research policy)

MSU's Restricted Research Policy & Vocab
- MSU is committed to an open academic environment that supports the discovery and public dissemination of new knowledge arising from the scholarly activities of its faculty, staff, and students.
- The University is also committed to its public service mission and, as part of that commitment, understands that faculty and staff may offer unique contributions by participation in certain kinds of research that may result in restrictions in the level of public dissemination.
- MSU recognizes that the University and the public may benefit from participation in restricted research and supports those faculty, staff and students who engage in this valuable research.
- When searching for funding or speaking with colleagues, you may come across various terms related to the particular research areas we are discussing today.
- **Restricted research terms**
    o The obvious:
        ▪ Classified information—information requiring protection against unauthorized disclosure in the interests of national defense and security or foreign relations of the U.S. The potential damage to the national security is denoted by the classification levels Top Secret, Secret, or Confidential.
        ▪ Security clearance—(cleared to work with classified info) – we can process clearances on MSU employees or MSU consultants pursuant to a classified contract (DD254/CSCS).
            • We can use a cleared employee from another company as a consultant if needed.
            • We cannot process clearances on another company's employees directly. We can process clearances for MSU students doing work or research for the university, but companies are responsible for the clearances for students working as interns directly for them.
            • cannot promise security clearances to anyone; FSO processes the paperwork/prints and marshals the process through the USG and the USG adjudicates.
            • We cannot process a clearance on MSU employees or consultants unless two conditions are met:
                1) That person is associated to a classified contract that we have or one that we are obtaining.
                2) That person has a need to access classified materials/information to accomplish the contract (need to know).
    o Less obvious
        ▪ Facility clearance – we can hold security clearances and classified information and have spaces cleared for classified (ARL) at MSU
        ▪ "Safeguarding capability" – we can safeguard classified information and information systems at the ARL
- What else can we do/can't we do?
    o We can advertise our capabilities to any cleared facility (company with a clearance) including any cleared person from one of those companies if that is pursuant to discussions intended to create a classified research effort or collaboration.
        ▪ *We can sponsor a company for a facility clearance under one of our classified contracts if we want to make them a sub-contractor.*
    o We can't advertise details about the fact we have a Facility Clearance in open-source materials.
        ▪ This includes any website accessible to the general public, any publication, email or other communication that leaves MSU to the general public.
        ▪ Information on MSU's FCL may be maintained on MSU internal websites that are properly protected with encryption and access controls (i.e. sites that require MSU NetID and password) to prevent unauthorized access to non-MSU employees.

ARL staff are in search of potentially restricted (classified) research opportunities, and we will pass these opportunities along to ORD, who will in turn pass them along to departments or in general announcements. If you are interested in these types of opportunities for yourself or your students, you can come to us directly. We'd like to have a cohort of interested researchers, because often opportunities come to us.

Linking to MSU Expertise

ARL staff members are consistently approached by third parties who are looking for MSU partnerships. We have numerous and recent requests for research or subject matter expertise at MSU over a wide range of research areas.

- We need to know your appetite and relevant subject areas
- If we were to come to you for technical expertise to contribute to a project what does that mean?
  - For PI-level of involvement (hours/location/security clearance/publication)
  - For student involvement what does that mean with regard to funding and coursework
    - Tuition fees/ they need an on-campus advisor—willingness to have free student with oversight of thesis/dissertation
  - Standard Operating Procedures (in work)
    - When MSU is asked for PhD students to work on a project at the ARL
      - ARL Faculty Liaison is the lead for linking the organization desiring to include PhD candidates in their research with the right faulty / staff who can find the right student(s) in the right disciplines.
      - The funding/interaction model selected by the approaching organization will drive how the graduate students are in fact paid.
        - If a contract is not offered between MSU and the organization all students must be directly paid through the contracting organization. Organizations should know that graduate students often have tuition and fees covered when they are funded through the university, in addition to a monthly stipend.
        - If a contract for research support is indeed created, graduate student funding should be added to the contract.
  - Dependent on clearances—but again, it's possible because of MSU's facility clearance and ARL staff

MSU PIs Working with the ARL

- We support these efforts every day for MSU
- Enabling classified contracts/SOWs
- Enhancing economic development in Montana and the Gallatin Valley (current occupants)

Current space in ARL that contract F&A rate normally covers

8 Collateral Labs	(920 ft^2)	[3 currently available]
3 SCIF Offices	(144 ft^2)	[occupied]
SCIF Conf. Rm	(444 ft^2)	[occupied]
SCIF Lab Space	(1089 ft^2)	[occupied]

ARL Operational Support
The ARL Team:
- provides support to MSU researchers in conjunction with OSP FM(s), Finance, Procurement, HR, etc., to allow researchers to focus on their project.
- as applicable, facilitates contract and subcontract coordination through PI(s), Contracting Services, Legal, OSP, Safety & Risk, and ORC to ensure compliance with MSU policies and responsibilities under the law.
- as applicable, coordinates and executes a Shared Services Agreement (SSA) when developing a contract with an outside party.
- coordinates with the industry or laboratory customer as required.
- communicates new SSA/contracts with Finance to ensure billing activities for services are complete.

- tracks period of performance on SSAs/contracts and coordinate engagement for SSA renewal or termination with PI or other leads; communicates with the occupant if there are any SSA / Contract violations.
- is responsible for all classified facility and personnel requirements.
- provides Program and Grants Manager support (as needed)
  - assist with monitoring budget
  - developing spend plans with the PI
  - paying invoices
  - monitoring spend/monthly reconciling
  - travel requests
  - P-card assistance

BACKUP INFO

DOE

https://www.energy.gov/science/bes/basic-energy-sciences

Regular submissions are typically in October
- Solicitations happen throughout the year but more so early in the calendar year; many proposals due by March/April
- ORD sends info on many solicitations
- You can register on the DOE website and monitor the solicitations
- DOE has fast turnaround from solicitation announcement to proposal submission

Do your homework in positioning your idea to future directions of DOE
- Contact the program manager and pitch your idea
- This may take a few iterations
- You may be invited to submit a white paper

Military Services and their Labs (AFOSR, ARO, ONR)

Army	Army Research Office (ARO) https://www.arl.army.mil/who-we-are/aro/	Combat Capabilities Development Centers (CCDCs) Army Research Laboratory (ARL, Aberdeen Proving Ground, Adelphi, …) C5ISR (formally CERDEC) Armaments Research Center (formally ARDEC) Ground Vehicle Systems Center (formally TARDEC) Chem. Bio Center (formally ECBC) Soldier Systems Center (formally NSRDEC) Aviation & Missile Research Center (formally AMADEC)
Navy	Office of Naval Research (ONR) https://www.onr.navy.mil/	Research and Development Labs and Warfare Centers Naval Research Laboratory (NRL) Naval Surface Warfare Centers (NSWC, Carderock, Crain, Dohlgren, Philly) Naval Underwater Warfare Center (NUWC) Naval Information Warfare Systems Command (formally SPAWAR)
Air Force	Air Force Office of Scientific Research (AFOSR) https://www.wpafb.af.mil/afrl/afosr/	Research and Development Labs Air Force research laboratory (AFRL) Air Force Materiel Command Research Centers Air Force Life Cycle Management Centers (Aero Armament, Electronic Human, Aircraft Combat)
Others	Defense Advanced Research Projects Agency (DARPA) https://www.darpa.mil/ National Security Agency (NSA)	Defense Threat Reduction Agency (DTRA) Missile Defense Agency (MDA) Defense Intelligence Agency (DIA) National Reconnaissance Office Acquisition Resource Center (NSA Research)

Broad Agency Announcements (BAAs)	The defense agencies announce funding opportunities in a variety of ways, including Broad Agency Announcements (BAAs). Each agency typically issues a "Long Range BAA," which outlines technical research interests and priorities of the agency over a several-year range, as well as targeted BAAs, which address more specific competitions, and other targeted solicitations. University research is often funded through unsolicited proposals based on the Long Range BAA.
Young investigator awards	ONR Young InvestigatorProgram (YIP): https://www.onr.navy.mil/en/Education-Outreach/Sponsored-Research/YIP AFOSR Young Investigator Program (YIP): (https://www.grants.gov/web/grants/view-opportunity.html?oppId=313523) ARO Young Investigator Program (YIP): (https://www.aro.org/aro-young-investigator-award) DARPA Young Faculty Award : (https://www.darpa.mil/work-with-us/for-universities/young-faculty-award)
Program Officer's Individual Science and Technology Programs (S&T)	All DoD program officers at ARO, ONR, AFOSR and DARPA have S&T budgets that they can use to fund various projects. They fund these through their long range BAAs. Budgets vary considerably depending on the particular program manager. Funding decisions are primarily made by the program officers themselves. Potentially great opportunity for long term funding
Multidisciplinary University Research Initiative (MURI)	University teams work on fundamental research projects (6.1) for 3-5 years $1.25M-1.5M per year Topic areas and calls for proposals come out once per year
Defense University Research Instrumentation Program (DURIP)	~$50M per year for the purchase of major equipment <$1M Equipment is intended to benefit current DoD programs. Need to have buy-in from program manager
Small Business Innovation Program (SBIR) and Small Business Technology Transfer Program (STTR)	Must work with small business (<500 employees) Phase I: 6-9 months $100k-150k Phase II: 24 months $1M-1.2M STTRs must send 30% to university partner SBIR PIs must work 51% with company STTR PIs can be university professor Topic calls come out a few times per year (https://www.sbir.gov)