Faculty Development Boot Camp 2: Expectations & Success Strategies for Research and Funding

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Associate Dean for Research
College of Engineering
Oregon State University
Today’s Agenda

1:00pm-1:30pm: Welcome and Introduction
1:30pm-2:15pm: Faculty Panel—Best Practices & Strategies
2:30pm-4:00pm: Interactive session—Research Pitch
4:00pm-4:15pm: Undergraduate Research Opportunities
4:15pm-5:00pm: NCFDD (time management, work-life balance), mentoring network development
5:00pm-6:00pm: Social
What’s in an academic job? How to get promoted and tenured?

Major aspects you must excel in:
- Funding
- Publishing and delivering results
- Teaching
- Service
- Marketing
- Networking
- Recruiting and hiring
- Mentoring and supervising
- Accounting
How to Succeed?

One idea - think of it as running your own company!

Completely output driven:

• Take full responsibility for all aspects
• Be entrepreneurial
• Be very organized
• Be resilient
• Be collegial and collaborative
• Have fun with it!
Research Mechanics

Idea/Motivation
Research Mechanics

Idea/Motivation

Budget preparation: COE Proposal Support

Draft of proposal

Ask mentors/peers for feedback

Cayuse certification

Submission

Sponsored Programs Office approval

Waiting/reviews (work on another proposal)

Revise/resubmit

Funded project

x3 (e.g., NSF)
You can’t win if you don’t play...

• Proposal submissions
  – Submit multiple proposals throughout the year
  – Quality more important than quantity
  – Consider different applications for same general ideas
  – Work on small and large proposals to increase odds of funding
  – Plan your proposals, think in terms of phases and submission windows
  – Set aside time for writing!

• Cast a wide net
  – Federal/state agencies
  – Industry opportunities
  – Private foundations
2013 CoE Funding Sources

FY 13 Awards - College of Engineering

National Science Foundation: 28%
Transportation: 6%
NiH: 2%
Nuclear Regulatory Commission: 3%
Industry: 3%
Non-profits: 5%
State Agencies: 1%
ONAMI: 1%
BEST: 3%
Agriculture: 6%
DOD Agencies: 11%
Energy: 30%

Total FY13 Awards: $31,009,614
FY19: $56.8M!!
2019 CoE Funding Sources

FY19 By Sponsor Type

<table>
<thead>
<tr>
<th>Sponsor Type</th>
<th>Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>$30.5</td>
</tr>
<tr>
<td>Federal pass-through</td>
<td>$5.9</td>
</tr>
<tr>
<td>State</td>
<td>$5.3</td>
</tr>
<tr>
<td>Industry/For-profit</td>
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<tr>
<td>Foundation/Non-profit</td>
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<tr>
<td>International</td>
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FY19 COE Collaborators for Federal Pass-through Awards

<table>
<thead>
<tr>
<th>Collaborator Type</th>
<th>Millions</th>
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<tbody>
<tr>
<td>National Labs</td>
<td>$0.37</td>
</tr>
<tr>
<td>Universities</td>
<td>$0.31</td>
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<tr>
<td>Non-profit</td>
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<tr>
<td>Industry/For-profit</td>
<td>$0.15</td>
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</table>

FY19 Awards to COE Faculty from Federal Agencies

<table>
<thead>
<tr>
<th>Federal Agency</th>
<th>Millions</th>
</tr>
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<tbody>
<tr>
<td>NSF</td>
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</tr>
<tr>
<td>DOE</td>
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</tr>
<tr>
<td>DARPA</td>
<td>$1.11</td>
</tr>
<tr>
<td>DOD</td>
<td>$1.00</td>
</tr>
<tr>
<td>NIH</td>
<td>$0.80</td>
</tr>
<tr>
<td>USDA</td>
<td>$0.70</td>
</tr>
<tr>
<td>DOI</td>
<td>$0.11</td>
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<tr>
<td>NASA</td>
<td>$0.10</td>
</tr>
<tr>
<td>FAA</td>
<td>$0.10</td>
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FY19 By Specific Agency

<table>
<thead>
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<th>Federal Agency</th>
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</thead>
<tbody>
<tr>
<td>NSF</td>
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</tr>
<tr>
<td>DOE</td>
<td>$2.23</td>
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<tr>
<td>DARPA</td>
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<tr>
<td>DOD</td>
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<tr>
<td>NIH</td>
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<tr>
<td>USDA</td>
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<td>Foundation/Non-profit</td>
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<tr>
<td>Federal - other</td>
<td>$0.24</td>
</tr>
<tr>
<td>International</td>
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</tr>
</tbody>
</table>
Guidance: Monitoring Opportunities

• Get to know your individual programs and submission windows
• Regularly visit agency websites to find out about new/unique solicitations
• Sign up for:
  – ORD ListServ at the OSU Research Development Office
    • https://research.oregonstate.edu/node/143
  – Grants.gov, FedBizOpps.gov, NIST, NSF, DOE, DOD, NASA weekly newsletters
    • https://www.grantforward.com/index
• Discuss your research with senior faculty and peers to look for collaboration opportunities on large grants
• Publish with your students
• Have multiple papers out for review at any time
• You need some results & data for proposals—publishing and proposals go together
• Review papers for the journals to which you submit ... editors do keep track of this
• Write constructive reviews...but manage time spent on reviews!
• Should review 2 papers for every one you submit
• On the flip side, it’s OK to say “No” when you feel overwhelmed; recommend a colleague
Guidance: Resilience

• You will have rejections, but learn from them, revise and resubmit (proposals AND papers)
• Ask your colleagues to review your work
  – Seek mentors and peers
  – But you’re not limited to one mentor – use anyone who has the necessary expertise
• Seek and learn from constructive feedback (from head, mentors, review committees) – we really want you to succeed!
Typical Workload

- 40% Research
- 50% Teaching
- 10% Service
Research:

- Request mentors
- Know your programs, opportunities, solicitation windows
- Diversify funding sources
- Look for collaboration opportunities
- Balance collaborations with single PI proposals (CAREER & YIP)
- Seek feedback often (including for grad student mentoring)
- Get to know your program manager (serve on panels)
- Visit industry & national labs (summer fellowships)
- Develop a work plan to review every year with your School Head
- Write write write! (Form writing groups?)
Teaching & advising:

- Work with your area leads/school heads to pick the right courses
- Ask for your colleagues’ lecture notes/slides
- Only create a new course if you are required to
- Seek advice/help for teaching effectiveness, peer evaluations
- Complete the graduate faculty training for mentoring
- Take on graduate students/PhDs preferably, but also good to have MS (and Undergrad research assistants)
- Manage time spent on teaching (built-in accountability!)
Guidance: Path to Success

Service:

• Balance internal vs. external service load
• Pick service assignments that
  • increase your visibility
  • build your network
  • get others to get to know your strengths
• Say no, without guilt and with clarity!
Guidance: Path to Success

• Plan and clarify your career goals (work plan)
• Cultivate relationships (coaches vs. sponsors!)
• Beware of perfectionism holding you back
• Understand P&T criteria & priorities
  • Create built-in accountability for all aspects
  • Don’t overfunction on service & teaching!
  • Align priorities with time
• Invest time in training your students and becoming a good mentor/advisor
• Don’t neglect your personal life and health

Enjoy the best job in the world!
Workload--revisited

Piled Higher and Deeper by Jorge Cham

HOW PROFESSORS SPEND THEIR TIME

- How they actually spend their time:
  - Teaching: 59%
  - Research: 18%
  - Service: 23%

- How departments expect them to spend their time:
  - Teaching: 20%
  - Research: 175%

- How professors would like to spend their time:
  - Don’t tell me what to do

Source: Higher Education Research Institute Survey (1999)

“Service” 20%

www.phdcomics.com

title: “How Professors spend their time” - originally published 8/25/2008
Next up:

– Panel: Best Practices and Strategies
– Break
– Interactive Session: Research Pitch Critique
– Undergraduate Research
– National Center for Faculty Diversity & Development
– Building a Mentoring Network
– Remaining Elements of Faculty Development Workshop Series
– Social Hour!
Pitching Your Research

– Overview:
  • What is your research idea, overall goal?
  • Why is it important, unique, different than others? What will it add/transform?
  • What is the methodology?
  • What objectives must be met in order to accomplish your goal?

– Intellectual Merit:
  • What will come out of the research? Why/how will it advance knowledge base of science or engineering?
  • Why are you uniquely qualified to conduct the research?
Pitching Your Research

– Broader Impact:
  • What broader impact will your work have?
  • What is the potential to benefit society and contribute to the achievement of specific, desired societal outcomes? (e.g., economic, environment, education, underrepresented populations)

– Agencies:
  • What funding sources will you target?
Office of Undergraduate Research, Scholarship, & the Arts

Sophie Pierszalowski – Associate Director of Undergraduate Research

pierszas@oregonstate.edu
(541) 737-4892
Waldo Hall 140
The Office of URSA

*your one-stop shop for undergraduate research-related resources!*

• Undergraduate research advising (Mon. & Tues. 1-3pm, Waldo 140)
• Undergraduate research preparation workshops
• Campus-wide student showcases of student work (spring and fall)
• Undergraduate Research Ambassadors
• URSA Engage Program
The Office of URSA

your one-stop shop for undergraduate research-related resources!

The URSA Engage Program

• The goal of the URSA Engage Program is to provide first and second year students, and transfer students in their first year at OSU, opportunities to pursue research or a creative activity under the guidance of an OSU mentor.

• Students who are selected will receive an award of $750 and their faculty mentors will receive $250 for project-related costs.
The Office of URSA

your one-stop shop for undergraduate research-related resources!

The URSA Engage Program

URSA ENGAGE PROGRAM
FACULTY MENTOR SUMMARIES
2018-2019

COLLEGE OF EDUCATION

Mentor: Cory Boston
Department: Science and Mathematics Education
* able to mentor an E-campus student
Research Focus: Research on engaging immigrant students, families, and communities in science learning
Potential Student Project: For the past 10 years, I’ve been doing research in Georgia on community engagement in STEM in immigrant and newcomer communities as a way to support students and families in learning about STEM academic and occupational pathways. We are now starting a new research project on this same topic here in Oregon. Potential student projects will involve participation in a needs assessment in immigrant communities and in the design, implementation, and study of bilingual workshops for families.

Attributes/skills/background sought in undergraduate:
- Interest in community engagement with adolescents and families (required)
- Interest in STEM learning and STEM careers (required)
- Experience working in immigrant communities (preferred)
- Intermediate Spanish language skills (preferred)

Mentoring Plan: I plan to meet weekly with the student during the period of time that the student will work with me on this project. As an E-campus student, these meetings will take place on Thursdays from 12:10-2:00 PM, if possible for the student to attend these meetings that will be the best way to be most fully engaged in the research project. I can also meet with the student individually after this meeting for 2-on-1 mentoring as needed.

Workshop Dates: N/A
Contact: c Mutation@oregonstate.edu
The Office of URSA

your one-stop shop for undergraduate research-related resources!

The URSA Engage Program
The Office of URSA

your one-stop shop for undergraduate research-related resources!

The URSA Engage Program

Faculty Expectations:
• Meet with student(s) at least once a week, or 2-3 times a quarter if a graduate student or postdoc is available to meet with the mentee at least once a week

Student Expectations:
• 5 hours a week, 15 weeks (mid-winter to end of spring)
• Presentation at campus symposium
• Final report
• Professional development workshop
• Check-in with program staff
The Office of URSA

**your one-stop shop for undergraduate research-related resources!**

**Resources for mentors**

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**Sample UR Agreement**

**Sample Mentoring Agreement Between an Undergraduate Researcher and a Faculty Mentor**

One key feature of effective mentoring is establishing clear expectations from the beginning. We have created a sample mentoring agreement for you to use with your undergraduate researcher(s) in order to make communication more clear and effective. After making this document your own, you may want to go over this agreement with new undergraduate researchers at your first meeting. Clearly articulating these details at the beginning of a student's research experience could lead to a wide range of benefits, including preserving expensive equipment, avoiding miscommunication, contributing to a student's sense of belonging, increasing student productivity and independence, and streamlining the research process.

CLICK HERE TO DOWNLOAD THE SAMPLE MENTORING AGREEMENT!
Resources for mentors

Undergraduate Researcher Publications

Below is a list of publications that include undergraduate authors which have resulted from undergraduate/faculty research partnerships. We applaud both students and faculty mentors for these amazing accomplishments! Bold text indicates undergraduate author and the name in italics indicates their faculty mentor.

Do you know of another publication with an OSU undergraduate author that is not listed below? Please email us at  
ugr@oregonstate.edu!


**Hurtado, D., Heinonen, G., Dumet L., Greenspan, S.** [Early-career nurses with fewer patient handling supportive peers are likely to quit](#). International Nurse Review.
The Office of URSA
your one-stop shop for undergraduate research-related resources!

Resources for mentors

ENGAGING UNDERGRADUATES IN RESEARCH

Hosted by the Office of Undergraduate Research, Scholarship, & the Arts (URSA) in partnership with the Louis Stokes Alliance for Minority Participation (LSAMP) and the College of Agricultural Sciences.

In this session for faculty, we will explore:

• Best practices for engaging undergraduates in research
• The value of the mentor/mentee relationship
• University sources of financial support for students engaged in research

We will also hear from a panel of faculty well known for their mentorship of undergraduate researchers who will share their experiences and how mentoring has benefited them. Lunch will be provided.

THURSDAY, FEBRUARY 6
12:00-1:00 P.M.
RSVP FOR LOCATION

RSVP at https://tinyurl.com/y3sksu6z

Accommodations for disabilities may be made by contacting 541-737-4892 or ugr@oregonstate.edu.
The OSU STEM Leaders Program

- Designed for students that are traditionally underrepresented in STEM fields at OSU
- Incoming first-year and transfer students in the Colleges of Science, Agricultural Sciences, and Engineering
- Students are paid for 5-hours a week during winter and spring term
- Three students looking for mentors right now!

Stephanie Ramos, M.Sc.
STEM Leaders Program Coordinator
Waldo102
541-737-4523
stephanie.ramos@oregonstate.edu
Pronouns: she/her/hers
National Center for Faculty Diversity & Development

- Institutional membership: SIGN UP using your OSU email!
- Core Faculty Success Curriculum webinars and slides:
  - Developing a work plan
  - Aligning your time with your priorities
  - Developing a regular writing practice
  - Mastering time management
  - Saying ‘NO’
  - Cultivating your network of mentors & sponsors
  - Overcoming academic perfectionism
  - Dealing with stress and rejection
  - How to win an NIH grant
  - Everything you need to know about grant writing
  - How to prepare for stress free teaching
  - How to seek and get foundation funding
Guidance: Forming Your Mentoring Network

TOM, MENTORING IS ABOUT MORE THAN ENCOURAGING PEOPLE TO BE JUST LIKE YOU
Mentoring Network Model

Experts
(Successful researchers & teachers)

You
(Faculty)

Administrators

Peer group

Emotional support or
Work/Life balance
Mentoring Network: What’s the Point?

• Connect you with mentors and key personnel in/ across your unit and COE in order to set you up for success
• Start a handbook of resources to support you
• Use faculty development workshops to develop your network with peers and senior faculty!
• Look for overlap between your professional and personal networks to cultivate positive relationships and advocates!
Faculty Development Workshops

• **Boot Camp Series:**
  – 1: Surviving the Classroom and Graduate Student Affairs & Mentoring
  – 2: Research & Funding
  – 3: Faculty Advancement & Building Momentum

• **Regular Workshop Series:**
  – NSF CAREER Proposals 1: Developing the Research Focus
  – Successful Grant Management
  – Student CARE Team Faculty Support Toolkit
  – Developing Industry Partnerships
  – NSF CAREER Proposals 2: Education Plan and Broader Impacts
  – Academic Integrity in COE: Trends, Process, & Prevention
  – Social Justice Education Initiative
  – COE Partnerships with the OSU Accelerator (commercialization)