Research Development Support

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Agenda

• Welcome
• Research Development
• Faculty Research
• Lunch
Research Development Website

Research Networking Events

• 5 events to date
• Over 300 attendees; 155 presentations
• Over 80% found it useful

Facebook:
BYU Research Development
@BYUResDev
https://www.facebook.com/BYUResDev

Twitter:
Research Development
@BYUResDev
https://twitter.com/BYUResDev

Instagram:
BYU Research Development
@BYUResDev
https://www.instagram.com/byuresdev/

Get updates about what’s happening with BYU RD—take a moment, pull out your phone, and follow us now.

http://researchdevelopment.byu.edu/
Objectives of Research Networking
Foster Awareness of the Diverse Research/Scholarship at BYU

Departments and Disciplines with Active Research/Scholarship Programs

Physical & Mathematical Science
- Chemistry
- Biochemistry
- Geology
- Physics
- Astronomy
- Computer sciences
- Mathematics
- Statistics

Engineering and Technology
- Chemical engineering
- Civil engineering
- Electrical engineering
- Mechanical engineering
- School of Technology

Family, Home and Social Sciences
- Anthropology
- Economics
- History
- Geography
- Psychology
- Archeology
- Family Life
- Economics
- Political sciences
- Sociology
- Social Work

Life Sciences
- Agriculture
- Biology
- Health Sciences
- Microbiology and Molecular Biology
- Nutrition, Dietetics and Food Science
- Physiology
- Developmental Biology
- Exercise Science
- Plant and Wildlife Sciences

Education
- Education and Schooling
- Counseling and Special Education
- Teacher Education

Nursing

Humanities (Languages)

Law

Visual and Performing Arts

Business
Facilitate Interdisciplinary/Collaborative Research

“Interdisciplinary research (IDR) is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice.”

1Facilitating Interdisciplinary Research Committee on Facilitating Interdisciplinary Research, National Academy of Sciences, National Academy of Engineering, Institute of Medicine, 2005.
Strong Support from Federal Funders for Interdisciplinary Research

- “...marked shift toward scientific research that spans disciplines and organizational boundaries and is carried out by teams rather than individuals...”¹

- “NSF gives high priority to promoting interdisciplinary research ...35% of active NSF solicitations in 2008 included the term “interdisciplinary””²

- “DoD’s Multidisciplinary Research Program of the University Research Initiative (MURI) supports basic research in the science and engineering areas intersecting more than one traditional discipline in order to accelerate research”³

¹from “Addressing Complexity: Fostering Collaboration and Interdisciplinary Science Research at the Smithsonian”, May, 2009


³Department of Defense News Release, June 2, 2015
Categories of Research at BYU

**Percent of Awards and Proposals Over a 10-year Period**

- **Individual** - one investigator (does include some subawards, ~30% total awards)
- **Collaborative** – multiple investigators from the same department
- **Interdisciplinary** - multiple investigators from more than one department

There are relatively few proposals and awards for interdisciplinary/collaborative research
Creating IDR Topics

• Faculty discussions
  o NSF has developed programs based on topics from collaborative faculty discussions

• Select from Grand Challenges

  “Research themes and questions that have the greatest potential to advance STEM disciplines and to promote human wellness and sustainability (NSF definition)”

  o Grand challenges topics have been developed by NSF, NIH, USDA, USAID, National Academies of Science and Engineering, the White House, Foundations, etc.; examples include

  • Develop food plants to adapt and grow sustainably in changing environments
  • Expand sustainable alternatives to fossil fuel
  • Develop and manage smart grids
  • Provide access to clean water
  • Manage the nitrogen cycle
  • Restore and improve urban infrastructure
  • Develop better forecasting and proactive mitigation strategies for invasive species
  • Reverse engineer the brain
  • Increase the spatial resolution of regional climate change models
  • Manage and utilize data effectively
RD Support for Interdisciplinary Research Efforts

• Develop databases of research interests
• Facilitate IDR meetings
  • INFEW's team
  • Brain team
  • Arctic team
  • Diabetes
  • Dementia
  • Data
• Identify potential collaborators
• Identify funding opportunities
• Work with program officers
• Manage IDR proposals
• Well established research networking program
• Provide food (lunch, snacks)

Conference Room for IDR Planning
• Large computer display screen
• Printer, white boards, printer, speaker phone, storage
• Reconfigurable as long conference table or separate work areas

Contact Sarah Dorff sarahdorff@byu.edu to schedule room