Discovery with Delivery

Richard Buckius
Vice President for Research

New Faculty Orientation
August 15, 2013
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[https://www.purdue.edu/research/vpr/rschdev/events.php](https://www.purdue.edu/research/vpr/rschdev/events.php)
Discovery with Delivery
  • Research infrastructure
  • Trends
  • Discovery Park
  • Research highlights

Contacts; additional seminars
Mission elements: "... discovery, dissemination, preservation and exchange of knowledge"
**Mission:** OVPR supports the faculty in their creation of new knowledge, development of exceptional research programs, and production of the most competitive research proposals possible.
Research Administration
- Track research funding
- Assist in proposal development (grant writing and coordination primarily for large interdisciplinary efforts…)
- Coordinate limited submissions, internal competitions
- Cost sharing and assist with splits

Research Integrity and Regulatory Affairs
- Compliance with policies, regulations, statutes, and federal and state rules
- Manage/resolve potential financial conflicts of interest
- Respond to allegations of research misconduct
- Ensure protection of research subjects and safe use of potentially hazardous materials
- Assist in managing research subject to export controls
Corporate and Foundation Relations
- Industry sponsors (sponsored research, testing, consortia, workshops, …)
- Connections to OTC, PRF and Development (IP, gifts, economic development, …)

University Infrastructure
- Discovery Park
- Research core infrastructure (animal facilities, electron microscopes, data management, bioinformatics, central machine shop, others)
- Other centers – Purdue Cancer Research Center
http://www.purdue.edu/research/vpr
Mission: SPS enhances the competitiveness and societal impact of Purdue's programs by providing seamless, customer-centered, value-added services to assist faculty, staff and students in securing and managing sponsored program support.
Pre-Award Center Model
- Service-oriented approach
- Staff dedicated to specific college units
- Focused expert support
- Centrally funded
- Regular feedback

Services Provided
- Review sponsor guidelines and identify key issues
- Assist with sponsor forms and electronic submission systems
- Prepare the budget and review budget justification
- Secure all necessary subcontract documentation
- Assist with cost share documents and approvals
- Institutional approval
Organization – SPS Post-Award

- Post-Award area is committed to:
  - Provide timely, accurate, and courteous assistance
  - Exercise good fiscal management practices
  - Provide expertise to interpret guidelines
  - Promote compliance with sponsor and University policies
  - Focus on faculty
  - Improved communications between SPS and Academic Post-Award staff
  - Proactive and focused interactions with customers
  - Thoughtful analysis of accounts for faculty and support staff
Mission: OTC shepherds Purdue University’s intellectual property towards realization efficiently, effectively and to the maximum benefit of the public.
Entrepreneurship

- Purdue Foundry
  - Entrepreneurship and commercialization hub to help Purdue innovators to form a startup or license discoveries
  - Managed by Purdue Research Foundation; in collaboration with programs in Burton D. Morgan Center for Entrepreneurship

- Discovery Park Partners Facility
  - Office space for corporations who partner with Purdue on research, as well as a hub for Purdue-affiliated entrepreneurs.

- Purdue Anvil
  - Nonprofit entity founded by students that will be used for Purdue entrepreneurial co-space
FY13 expenditures and FY14 awards and expenditures amounts are projected
Data Source: Purdue Sponsored Program Services
Awards by Agency

FY10

- NSF: 25%
- DHHS (NIH): 18%
- Industrials & Foundations: 13%
- USDA: 11%
- DoD: 8%
- DoE: 12%
- Other Fed <$10M, & Foreign Govts.: 11%
- PRF/PU: 2%

Total: $438,039,750

FY11

- NSF: 23%
- DHHS (NIH): 14%
- Industrials & Foundations: 16%
- USDA: 11%
- DoD: 7%
- DoE: 9%
- Other Fed <$10M, & Foreign Govts.: 12%
- PRF/PU: 3%

Total: $419,558,510

FY12

- NSF: 25%
- DHHS (NIH): 13%
- Industrials & Foundations: 21%
- USDA: 10%
- DoD: 6%
- DoE: 6%
- Other Fed <$10M, & Foreign Govts.: 9%
- PRF/PU: 4%

Total: $353,552,375

FY13

- NSF: 25%
- DHHS (NIH): 11%
- Industrials & Foundations: 22%
- USDA: 7%
- DoD: 9%
- DoE: 7%
- Other Fed <$10M, & Foreign Govts.: 10%
- PRF/PU: 3%

Total: $320,180,336

Data Source: Purdue Sponsored Program Services
Research Proposal Trends

Data Source: Purdue Sponsored Program Services
FY13 Awards
$311.9M
West Lafayette Campus

Note: Areas of pie charts are proportional to award amounts
Collaborations within Purdue’s colleges continues to grow. From FY02 to FY13, the awards including two or more colleges has increased from 13% to 37% of all of Purdue’s awards, based upon dollars.

External collaborators, both university and non-university partners, have also increased from 24% of all of Purdue’s awards in FY03 to 31% in FY12, based upon dollars.
Federal Research Investment

2012 Federal Research Obligations for Fields of Science and Engineering at Universities and Colleges (Preliminary)

Total: $26,948 million

Source: NSF Survey of Federal Funds for Research and Development
Purdue’s hub for interdisciplinary and translational research, conceived as a place where scholars from all disciplines could work together to define whole new areas of research and solve grand challenges.

- Enables large interdisciplinary research grants
- Provides facilities
- Builds partnerships
- Facilitates commercialization opportunities
- Engages students, faculty, and community
### Technical
- Research Cores – partner with academic units
- Equipment and facilities
  - $32.4 million in new research equipment
  - 189,500 sq. ft. of research laboratory, office and support space

### Administrative
- Administrative model assists in building interdisciplinary collaborations
- Project coordination
- Web site integration
- Special events
- Bindley Bioscience Center
- Birck Nanotechnology Center
- Burton D. Morgan Center for Entrepreneurship
- Center for Drug Discovery
- Center for Predictive Materials and Devices (c-PRIMED)
- Discovery Learning Research Center
- Global Sustainability at Purdue
  - Center for the Environment
  - Energy Center
  - Purdue Climate Change Research Center
  - Center for Global Food Security
  - Water Community
- ACCESS: Advanced Computational Center for Engineering and Sciences
  - Cyber Center
  - Rosen Center for Advanced Computing (ITaP)
- Oncological Sciences Center
- Regenstrief Center for Healthcare Engineering
<table>
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<tr>
<th><strong>Founded</strong></th>
<th>1961</th>
<th>2001</th>
</tr>
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<tr>
<td><strong>Purpose</strong></td>
<td>Entrepreneurship, startups and university collaborations</td>
<td>Interdisciplinary research</td>
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<tr>
<td><strong>Location</strong></td>
<td>Off-campus US 52 Highway</td>
<td>Main Campus State Street</td>
</tr>
<tr>
<td><strong># People</strong></td>
<td>&gt;3200 employees</td>
<td>~1000 faculty members</td>
</tr>
<tr>
<td><strong># Buildings</strong></td>
<td>52</td>
<td>5</td>
</tr>
<tr>
<td><strong># Companies/ Centers</strong></td>
<td>159 Companies</td>
<td>8 Centers</td>
</tr>
<tr>
<td><strong>Area</strong></td>
<td>725 acres</td>
<td>40 acres</td>
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<tr>
<th>Name</th>
<th>Position</th>
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<tr>
<td>Jeff Bolin</td>
<td>Associate Vice President for Research</td>
<td>61938 or <a href="mailto:jtb@purdue.edu">jtb@purdue.edu</a></td>
</tr>
<tr>
<td>Sally Bond</td>
<td>Assistant Director of Research Development Services</td>
<td>61985 or <a href="mailto:sbond@purdue.edu">sbond@purdue.edu</a></td>
</tr>
<tr>
<td>Voichita Dadarlat</td>
<td>Assistant Vice President, Research Compliance</td>
<td>41763 or <a href="mailto:voichi@purdue.edu">voichi@purdue.edu</a></td>
</tr>
<tr>
<td>Sue Grimes</td>
<td>Assistant Director of Research Development Services</td>
<td>45858 or <a href="mailto:sgrimes@purdue.edu">sgrimes@purdue.edu</a></td>
</tr>
<tr>
<td>Marietta Harrison</td>
<td>Associate Vice President for Research</td>
<td>44231 or <a href="mailto:harrison@purdue.edu">harrison@purdue.edu</a></td>
</tr>
<tr>
<td>Libby Hart-Wells</td>
<td>Assistant Vice President for Research</td>
<td>588-3473 or <a href="mailto:ehartwel@purdue.edu">ehartwel@purdue.edu</a></td>
</tr>
<tr>
<td>Mike Ludwig</td>
<td>Director of Sponsored Program Services</td>
<td>41063 or <a href="mailto:mrludwig@purdue.edu">mrludwig@purdue.edu</a></td>
</tr>
<tr>
<td>Alan Rebar</td>
<td>Senior Associate Vice President for Research, Executive Director of Discovery Park</td>
<td>66625 or <a href="mailto:rebar@purdue.edu">rebar@purdue.edu</a></td>
</tr>
<tr>
<td>John Schneider</td>
<td>Assistant Vice President for Research</td>
<td>45532 or <a href="mailto:jas@purdue.edu">jas@purdue.edu</a></td>
</tr>
<tr>
<td>Geanie Umberger</td>
<td>Assistant Vice President for Research</td>
<td>63723 or <a href="mailto:gumberger@purdue.edu">gumberger@purdue.edu</a></td>
</tr>
<tr>
<td>Howie Zelaznik</td>
<td>Associate Vice President for Research</td>
<td>63824 or <a href="mailto:hnzela@purdue.edu">hnzela@purdue.edu</a></td>
</tr>
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</table>
Associate Deans for Research

Karen Plaut – College of Agriculture; 48362; kplaut@purdue.edu

James Lehman – College of Education; 48474; lehman@purdue.edu

Melba Crawford – College of Engineering; 63224; mcrawfordl@purdue.edu

Dorothy Teegarden – College of Health and Human Sciences; 48246; teegarden@purdue.edu

Hyunyi Cho – College of Liberal Arts; 43665; cho19@purdue.edu

Suresh Chand – Krannert School of Management; 44530; suresh.chand.1@purdue.edu

Eric Barker – College of Pharmacy; 49940; bakerel@purdue.edu

B. J. Taparowsky – College of Science; 47978; taparows@purdue.edu

Richard Voyles – College of Technology; rvoyles@purdue.edu

Harm HogenEsch – School of Veterinary Medicine; 63467; hogenesch@purdue.edu

Phillip Pope – The Graduate School; 46963; p pope@purdue.edu

Scott Brandt – Libraries; 42889; techman@purdue.edu
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Questions?
Research Administration
Bolin, Harrison, Rebar, Zelaznik, Buckius

Research Development
Bolin, Harrison

Centers, Institutes & Cores
Bolin

Pre- & Post-award and SPS Interface
Hart-Wells

Cost Sharing
Millsaps

Awards & Special Grants
Harrison

Research Communications
Burroff-Murr

Research Space
Rebar

Research Policies
Harrison, Bolin

Government Relations
Bolin, Rebar, Buckius
Lead Proposal Coordinator
- Point of contact-large proposal assistance and assignments
- Large proposal assistance with writing and organizing
- Small proposal consults
- Proposal Coordinator training

Assistant Director
- Site visit planning and oversight
- Limited submissions
- Funding search assistance
- Grantsmanship event planning
- Presentations

Project Coordinator
- Teambuilding for proposal development
- Project planning/facilitation

Proposal Coordinators (4)
- Large proposal assistance w/organizing and writing
- Small proposal consults

Secretary
- Assistance to Proposal Coordinators

Funding Specialist
- Funding opportunity identification
- Website management

Administrative Assistant
- Scheduling
- Event facilitation
- Sample proposals
- Limited submission support
Awards and Expenditures

-FY13 expenditures are projected

Data Source: Purdue Sponsored Program Services

* FY13 expenditures are projected
UNIVERSITY PARTNERS
(based on FY12 Expenditures)

Cornell University
Michigan State University
State University of New York
Pennsylvania State University
University of California
University of Nevada Las Vegas
Massachusetts Institute of Technology
Indiana University
Rensselaer Polytechnic Institute
University of Nebraska
University of Michigan
University of Michigan
University of Minnesota
University of Texas At Austin
IU School of Medicine
University of Maryland
University of Illinois at Chicago
Rutgers, The State University of New Jersey
University of Illinois
 Oregon State University
 Lehigh University
Non-University Partners
(based on FY12 Expenditures)
**Purdue West Lafayette Campus**

- **36.7 hours**
  - Average weekly classroom use FY12

- **$23,468**
  - Avg resident ug cost FY13

- **$1,957 M**
  - Budgeted revenue FY13

- **$630 M**
  - Sponsored programs expenditures FY12

- **7,500**
  - Classes offered FY12

- **15,612**
  - Faculty and staff fall ‘12

- **1,018,520**
  - Total credit hours FY12

- **39,256**
  - WL campus enrollment fall’12

- **6,823**
  - Bachelor’s degrees FY12

- **656**
  - Doctorate degrees FY12

- **433,250**
  - Cumulative purdue degrees

- **1,807**
  - TT faculty spring ‘13

- **39,256**
  - Cumulative purdue degrees
Academic Colleges and Schools

- Agriculture
- Education
- Engineering
- Health and Human Sciences
- Liberal Arts
- Management
- Pharmacy
- Science
- Technology
- Veterinary Medicine
2012-13 Student Enrollment
- Undergraduate - 30,147
- Graduate - 8,163
- Professional - 946

2011-12 Degrees Conferred
- Baccalaureate - 6,823
- Master's - 1,606
- Doctorate - 656
- Associate - 295
- Professional - 219
- Educational Specialist - 4
Faculty and Lecturers – 2,693
  – Distinguished and Named Faculty – 187

Adjunct Faculty – 362

Administrative and Professional Staff – 3,975

Clerical and Service Staff – 3,574

Extension Educators – 285

Graduate Student Staff – 4,723
Herrick Lab Center for High Performance Buildings

- $30.75 million ($11.75 million from National Institute of Standards and Technology; remainder from private donors)
- 63,991 gross square feet
- Expected completion Summer 2013
- This facility will contain a Living Laboratory; Perception-Based Engineering Laboratory; and Engine Test Cells, Vibration Electromechanical and Thermal Systems Laboratories.
Facilities and Infrastructure

Multidisciplinary Cancer Research Facility

- $15.9 million with $14.9 million from National Institutes of Health
- 28,603 gross square feet
- Expected completion Spring 2014

This research building will enhance existing capabilities of Birck Nanotechnology, Center for Cancer Research, Biomedical Engineering and Structural Biology to integrate scientific expertise from the molecular level through animal disease modeling.
Drug Discovery Facility

- $28.7 million (bonds and gifts)
- 65,397 gross square feet
- Expected completion Spring 2014
- This new facility will provide state-of-the-art drug discovery research space that is modular and capable of strict environmental control.
Facilities and Infrastructure

Lyles-Porter Hall

- $38 million (bonds and gifts)
- 129,545 gross square feet
- Expected completion Fall 2014
  - Speech, Language, and Hearing Sciences; Medical Education; Clinical Facilities
  - Adjacent Parking Garage – $16 million
Growing the Research Enterprise

Research Themes

- Life and health sciences
- Energy, environment and sustainability
- Security, defense and space sciences
- Cyber/information technology
- Science, Technology, Engineering and Mathematics (STEM) Education
The mission of Purdue University is to serve the citizens of Indiana, the United States, and the world through:

- **Discovery** that expands the realm of knowledge.
- **Learning** through dissemination and preservation of knowledge.
- **Engagement** through exchange of knowledge.
1862 – President Lincoln signed the Morrill Land Grant Act, which gave public lands to any state that agreed to use the land sale proceeds to maintain a college teaching agriculture and the “mechanic arts.”

1865 – The Indiana General Assembly voted to participate in the plan and took steps to establish such an institution.

1869 – The Indiana General Assembly chose the Lafayette area for the new institution and accepted a $150,000 gift from John Purdue, as well as $50,000 from Tippecanoe County and 100 acres of land from local residents. The legislature named the new school Purdue University.

1872 – Purdue’s first president, Richard Owen, started his term.

1874 – Classes began with six instructors and 39 students; Purdue’s first graduating class had 14 students.
STRATEGIC PLAN

Three major goals form the plan's foundation:

- **Launching tomorrow's leaders** by enhancing student success with careers in a dynamic global society, as well as fostering intellectual, professional and personal development for lifelong learning.

- **Promoting discovery with delivery** by conducting field-defining research with breakthrough outcomes and catalyzing research-based economic development and entrepreneurship.

- **Meeting global challenges** by enhancing Purdue's presence and impact in addressing grand challenges of humanity.