Facility Perspectives on Federal Research Funding

University of Illinois Board of Trustees Meeting

University Senates Conference Report
March 16, 2016
Prof. Harley Johnson (UIUC)
Prof. Mary Jo LaDu (UIC)
Research $$
(\sim$546M in FY14)

Federal Funding:
Enables UI faculty to **generate ideas and make discoveries**

- Raises UI prestige
- Increases value of UI degree
- Attracts best and brightest to Illinois

Role of individual faculty:
- Write research proposals (individual and collaborative)
- Win funding through competitive processes
- Manage research funds to run research programs
- Generate ideas, make discoveries, develop innovative technology

UI faculty use federal funds to run research programs... like small businesses!
Federal Funding: Enables UI faculty to **generate ideas and make discoveries**

Total FY14 Federal Funding (expenditures) by Agency:

- **UIUC**: $343M
  - NSF 37%
  - HHS 20%
  - DOE 13%
  - DOD 13%
  - USDA 5%
  - DOT 2%
  - Other 8%

- **UIC**: $203M
  - HHS 75%
  - NSF 10%
  - DOE 5%
  - DOD 4%
  - DOT 1%
  - Veterans Affairs 1%
  - Other 2%

- **UIUC** is ranked #1 in NSF funding among all US research institutions
  - Nearly 1000 separate awards for $127M total from NSF in 2014
- **UIC** has 26 NIH/HHS centers and 829 separate awards for $153M total in 2014
- **UIS** has federal funding from National Institute of Justice, US DOJ
NSF & NIH funding is awarded through a competitive, peer reviewed process.
NSF Funding for Sciences and Engineering

NSF invests over $7B annually in research in physical sciences, life sciences, social sciences, engineering

Major funding “mechanisms”:
- **“Single-investigator” grants**: ~$150K/yr for 3 yrs
- **Major centers**: $3-5M/yr, many investigators
  (e.g. Center for Power Optimization of Electro-Thermal Systems: New $18.5M center at UIUC)
- **Pre- and postdoctoral fellowships**
- Other major research projects, e.g. LIGO

credit: Center for Advanced Materials for Water Purification, UIUC
NIH Funding for Biomedical Sciences

Major funding “mechanisms”:

- **Pre- and post-doctoral fellowships**, early career researchers and researchers returning to work force
- **R21**: Proof of concept grant, characterized as high risk/high gain: $150K/yr for 2 yrs
- **R01**: “single-investigator” awards: $250K+/yr for 5 yrs
- **Center and training grants**: $10-50M/yr for 5 yrs (e.g. UIC Center for Alcohol Research in Epigenetics, and Neuroscience of Mental Health)

Investment: >$30B/yr

credit: LaDu lab, UIC
NIH Funding for Biomedical Sciences

Federal funding is increasingly competitive!

...a decline in funding rates makes it more difficult for faculty to maintain their research activities

2000 to 2015, overall NIH funding rates declined from 32% to 17%

...from 2001 to 2014, NSF funding rates also declined, from 27% to 20%
2014 Doctoral degrees: ~1,750 (UIUC+UIC+UIS)

2014 Journal articles: ~10,700 (UIUC+UIC+UIS)

2014 Technology royalties: > $30M (UIUC+UIC+UIS)
Federal Funding: Enables UI faculty to **generate ideas and make discoveries**

- Faculty run research programs, like small businesses
- NSF and NIH funding are major sources of federal funding for research at UI
- Output: - ideas and discoveries, and,
  - students and scholarship
  - development of innovative technology

Given state budget pressure, UI must continue helping researchers to win federal funds and capitalize on discoveries.
Thank you for your continued advocacy for the University of Illinois

...and thank you for helping us to generate ideas and make discoveries.