Cornell Research and Scholarship

Two components – as seen by federal agencies

- “Departmental Research” – not separately budgeted or reported

- “Organized Research” – separately budgeted research activities
  - Includes:
    - Externally sponsored research
    - Research supported by state and federal appropriations
    - Research supported by separately budgeted Cornell funds

Research Division’s primary concern:

Supporting and overseeing Cornell’s organized research on Ithaca, Geneva and NYC Tech campuses
Scope of Cornell’s Organized Research

- $509M research expenditures (Ithaca campus) – FY2012
  - Sponsored, state and federal appropriations, internal support (mainly contract colleges)
  - 26% of Ithaca campus budget

- ~1,900 graduate students (GRAs only)
  ~3,900 total personnel supported with sponsored funds

- ~1,100 principal investigators with active awards

- >225 department and college research administrators
Sponsored Research Expenditures

FY 2012: Ithaca down 4.5% WCMC up 6.6%

0.5% decrease from FY2011
Research Expenditures by Major Discipline

- Medical Sciences: 43%
- Biology: 15%
- Multidisciplinary: 8%
- Agriculture: 8%
- Physics: 5%
- Astronomy: 3%
- Comp Sci: 2%
- Economics: 2%
- Chem Engineering: 2%
- Electrical: 2%
- Sociology: 1%
- Other: 9%
Sponsored Research (Direct) by Unit

- Engineering: 18%
- Arts & Sciences: w. RC's+CHESS: 26%
- Agriculture & Life Sciences: 33%
- Computing & Information Sciences: 5%
- Veterinary Medicine: 10%
- Human Ecology: 6%
- Industrial & Labor Relations: 2%
Federally Funded Research Expenditures

Fiscal Year

$466M
Much of drop in ‘10 due to re-categorization of flow-thru of federal funds
Sponsored Research Funding by Source

Cornell #3 University in NSF Research funding – FY12
in billions of constant FY 2012 dollars

and FY 2013 figures are latest estimates. Basic research only.
© 2012 AAAS
National Science Foundation Budget

Budget Authority in billions of constant FY 2012 dollars

Source: National Science Foundation budget requests. FY 2012 figures are latest AAAS estimates and FY 2013 figures are President’s request.

© 2012 AAAS
National Institutes of Health Budget, 1998-2013
budget authority in billions of constant FY 2012 dollars

Source: AAAS Report: Research and Development series and agency budget documents. FY 2012 and FY 2013 figures are latest estimates.
© 2012 AAAS
Research Division Components

1. Research Administration Units

Office of Sponsored Programs (OSP)
- ~1,900 new proposals annually
- ~3,700 active awards; 608 active sub-awards

Office of Research Integrity and Assurance (ORIA)
Faculty compliance committees
- IACUC - 500+ animal use protocols
- IRB - 1,400+ human subject research protocols
- Institutional Biosafety Committee – 240 active protocols
- fCOI Committee

Cornell Center for Technology Enterprise and Commercialization
- 390 invention disclosures, 158 patents,
- 7 startup companies, 184 new licenses
- $12.6M CCTEC gross revenue
Research Division Components

2. Research Support Facilities

Center for Animal Resources and Education (CARE)
  930 unique CU users (2012)
Biotech Institute/Life Sciences Core Facilities
  1059 unique CU users
Center for Materials Research (shared facilities) (CCMR)
  822 unique CU users
Center for Advanced Computing (CAC)
  645 unique CU users
Nanobiotechnology Center (NBTC)
  318 unique users
Cornell Nanoscale Facility (CNF)
  434 unique CU users
Cornell High Energy Synchrotron Source (CHESS),
  217 unique CU users

Cornell Institute for Social and Economics Research
Survey Research Institute
Cornell Research and Scholarship

*Excellence and Productivity*

Academic Reputation – ranked 6th by US News
Cornell Research: Excellence and Productivity

More graduate programs ranked in the top 10 by Academic Analytics’ “Faculty Scholarly Productivity Index” metric than any other university.

Third in number of graduate programs ranked in top 5

Why?

Excellence within the disciplines

More than the sum of the parts
  Graduate field system
  Efficiency and effectiveness of shared resources
  Interactions and collaborations across the disciplines
Research Division Components

3. Interdisciplinary Research Centers and Institutes
   Includes:
   
   Center for Accelerator Based Sciences and Education (CLASSE)

   Cornell Center for Materials Research (CCMR)
   Center on the Microenvironment and Metastasis (CMM)
   Energy Materials Center at Cornell (EMC2)
   Center for Radiophysics and Space Research
   KAUST-Cornell Center for Energy and Sustainability
   Weill Institute for Cell and Molecular Biology
   Atkinson Center for a Sustainable Future
   Kavli Institute at Cornell for Nanoscience
   Center for Vertebrate Genomics
   Cornell Center for Comparative and Population
Cornell Humanities – More than the sum

Society for the Humanities: Est. 1966

“One of the world's leading incubators of interdisciplinary innovations in the humanities”

Mellon Foundation Awards – Three $1M+ awards recently, one a matching challenge for an endowment
Cornell Nanoscience – More than the sum
Kavli Institute at Cornell for Nanoscale Science

Shared nano-instrumentation facility – *in PSB*
Shared postdocs, multiple PI - team projects
23 Science and Nature Journals papers in 2.5 years

16 Faculty Members
5 KIC PDs
1 Visiting Faculty Fellow
Cornell Research: Looking Forward

- External-based (federal) prospects: Challenging, at least for short term
  - Increasing regulatory burden on researchers and institutions
  - Available federal funding
    - flat (in current dollars) at best
    - 6% or more reduction possible this year due to sequestration

- Internal prospects positive – strong and growing foundation for success
  - Faculty renewal – making good progress
  - Cornell’s research enterprise is well oriented for today’s challenges
    - Culture of success in multi-disciplinary collaborations
      - Arising from strength in the disciplines
    - Shared/core facilities that are truly shared and that efficiently meet the needs of our researchers
    - Institutes and centers that truly promote interaction and creativity