Research Report

Bob Buhrman
Senior Vice Provost for Research
Vice President for Technology Transfer and Research Policy

Report to Faculty Senate
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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:

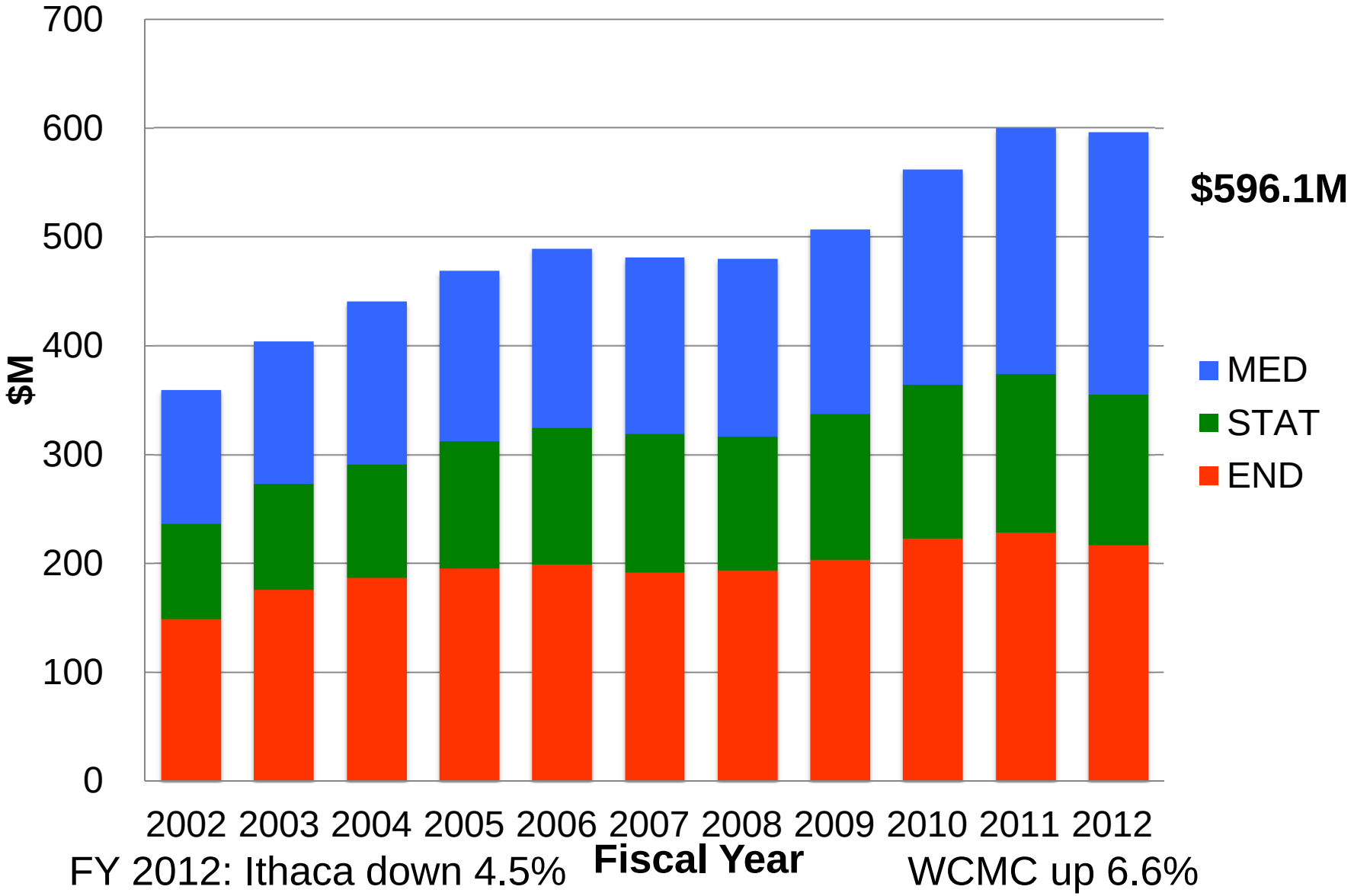
Supporting and overseeing Cornell's organized research on Ithaca, Geneva and NYC Tech campuses

Scope of Cornell's Organized Research

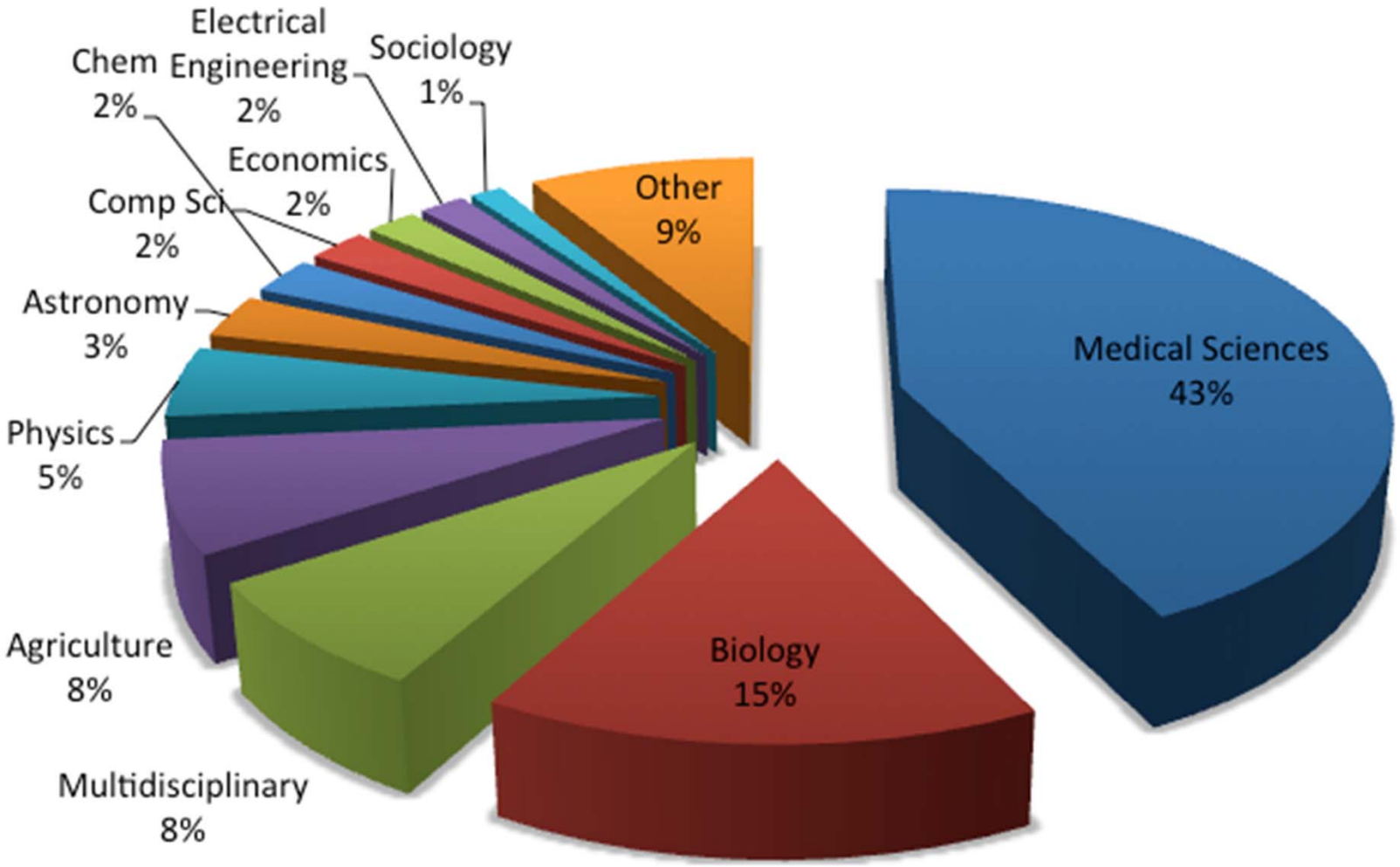
- $509M research expenditures (Ithaca campus) – FY2012
  - Sponsored, state and federal appropriations, internal support (mainly contract colleges)
  - 26% of Ithaca campus budget
- ~1,900 graduate students (GRAs only)

  ~3,900 total personnel supported with sponsored funds
- ~1,100 principal investigators with active awards
- >225 department and college research administrators

Sponsored Research Expenditures

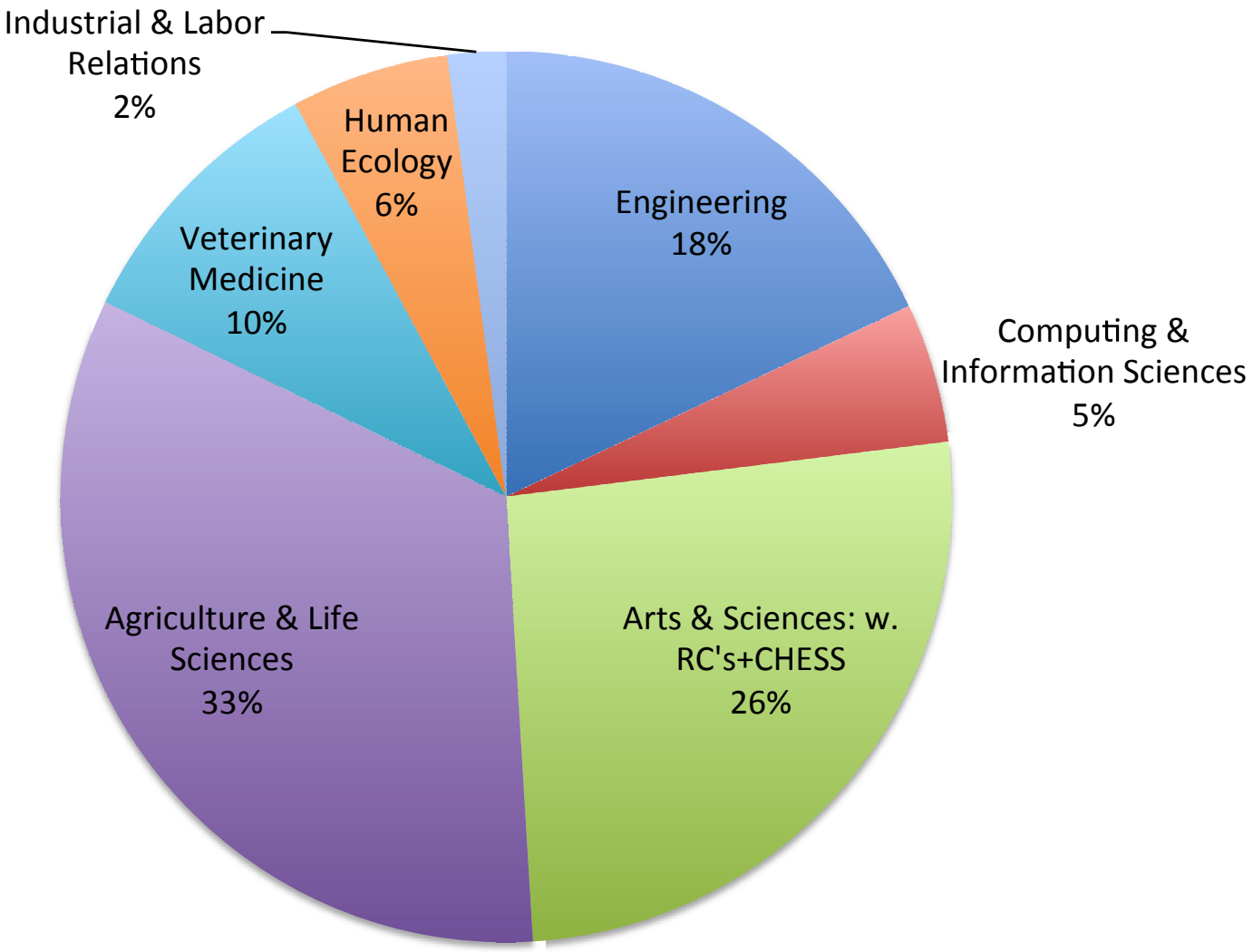


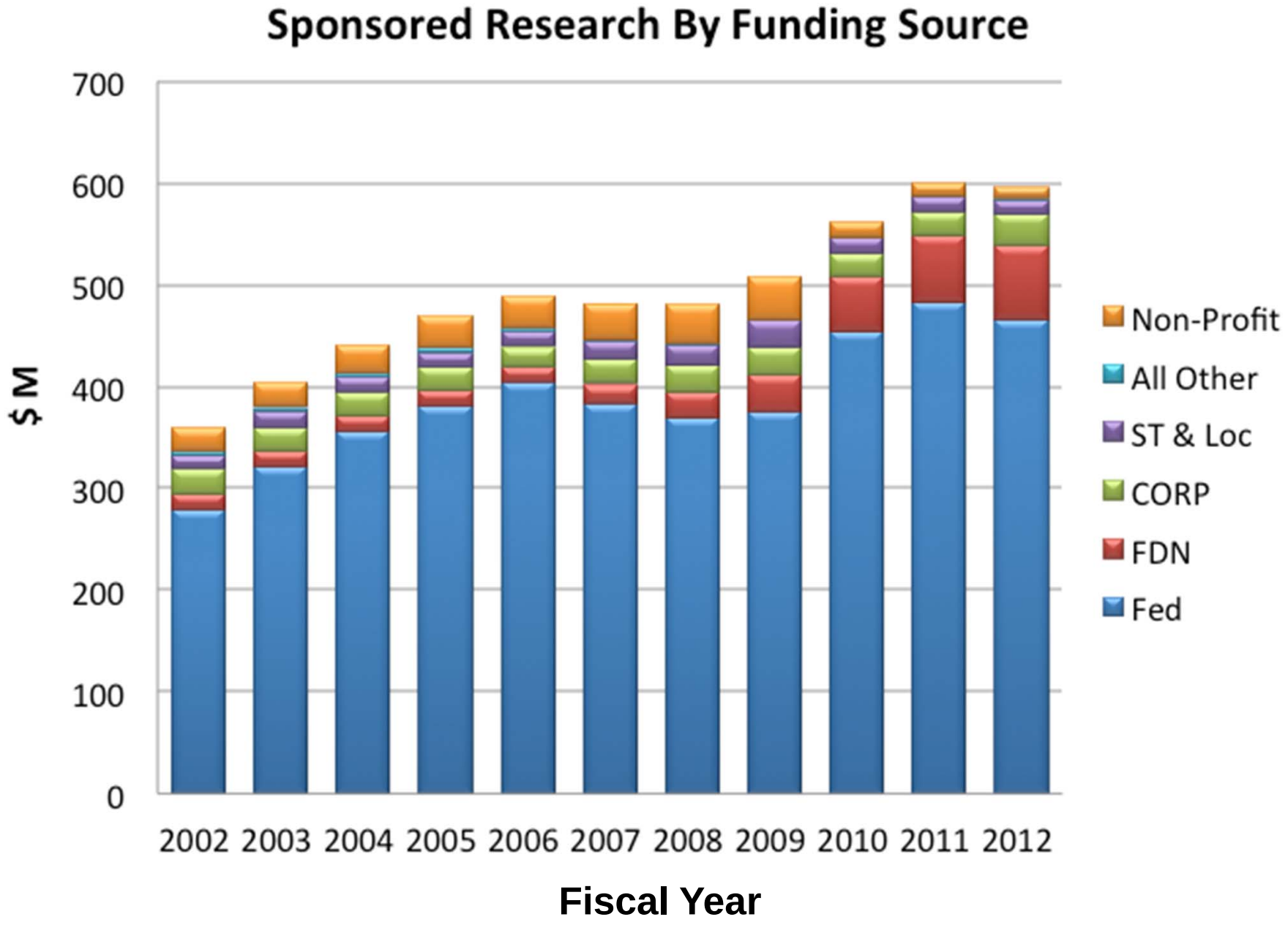
0.5% decrease from FY2011



Research Expenditures by Major Discipline

Sponsored Research (Direct) by Unit




Sponsored Research By Funding Source
700
600
500
400
300
200
100
0
$ M
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
Fiscal Year
Non-Profit
All Other
ST & Loc
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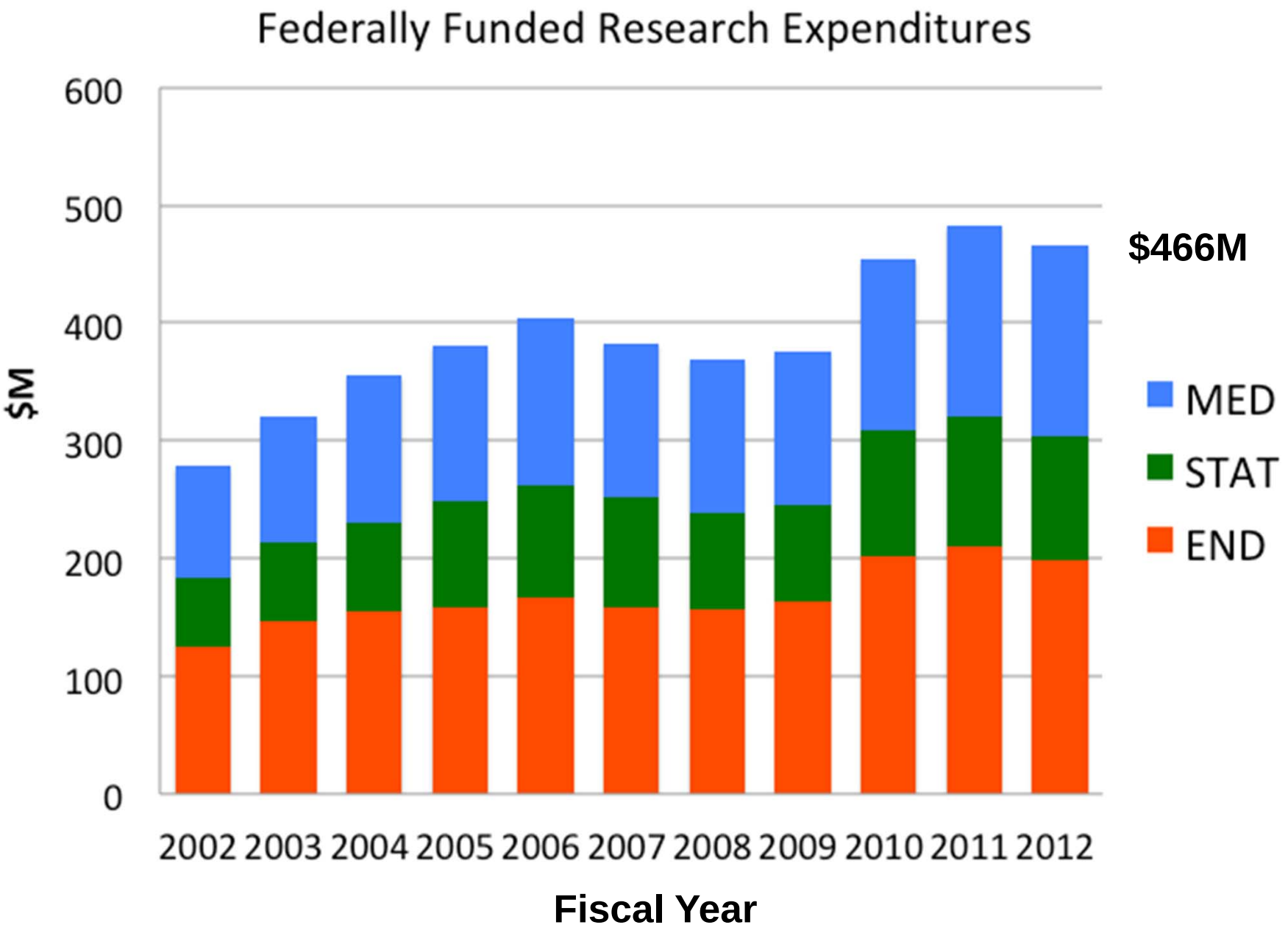
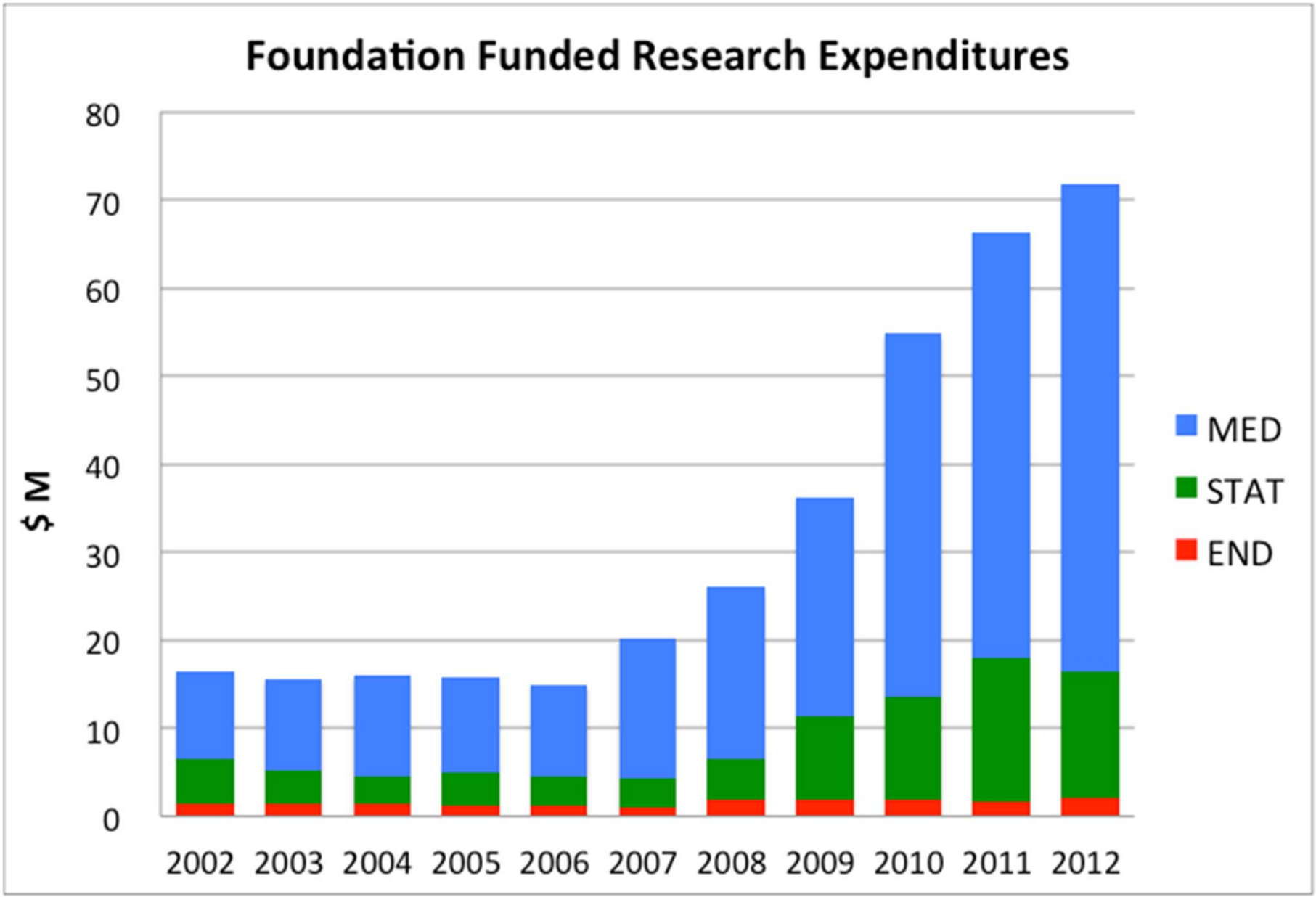
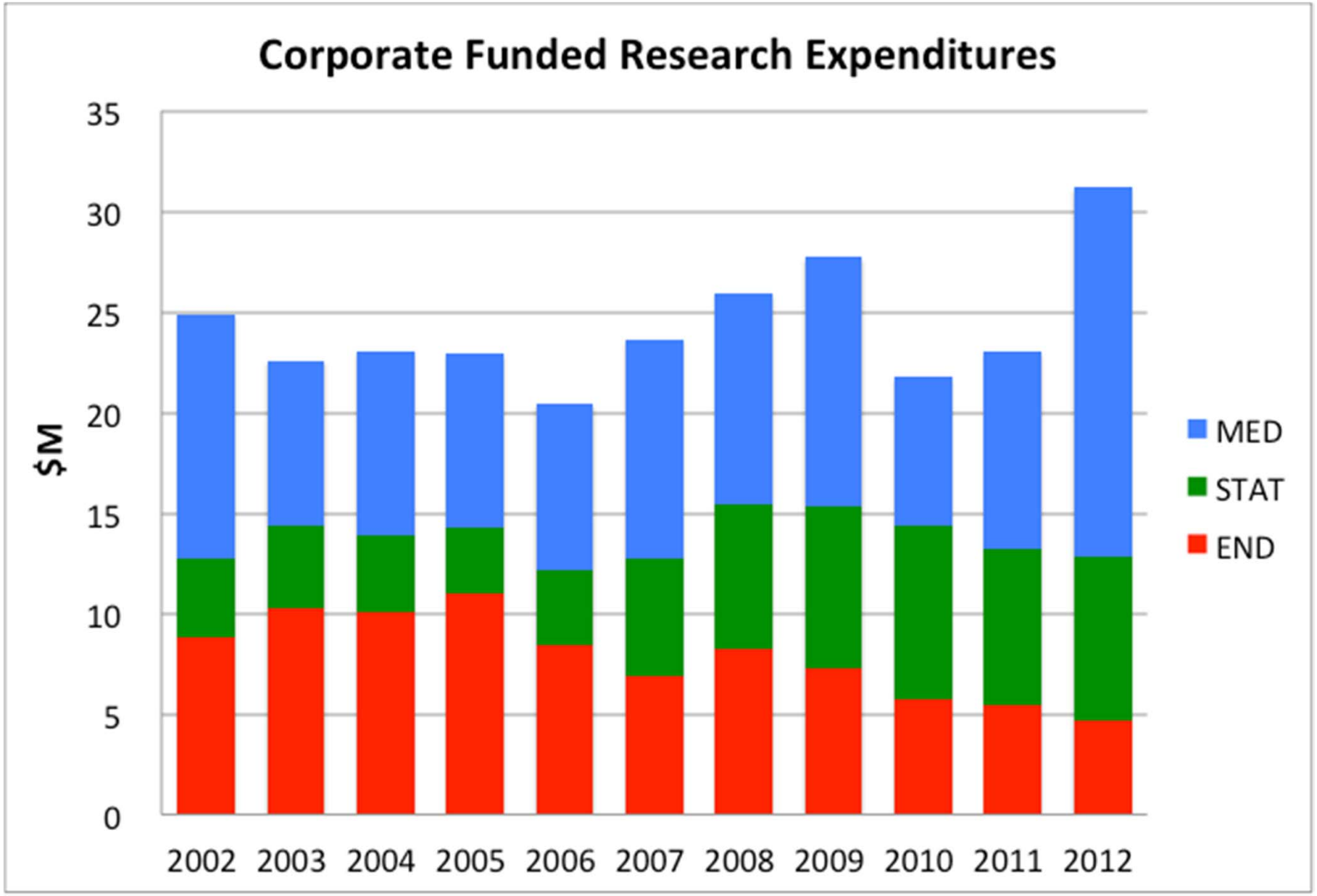
Fed

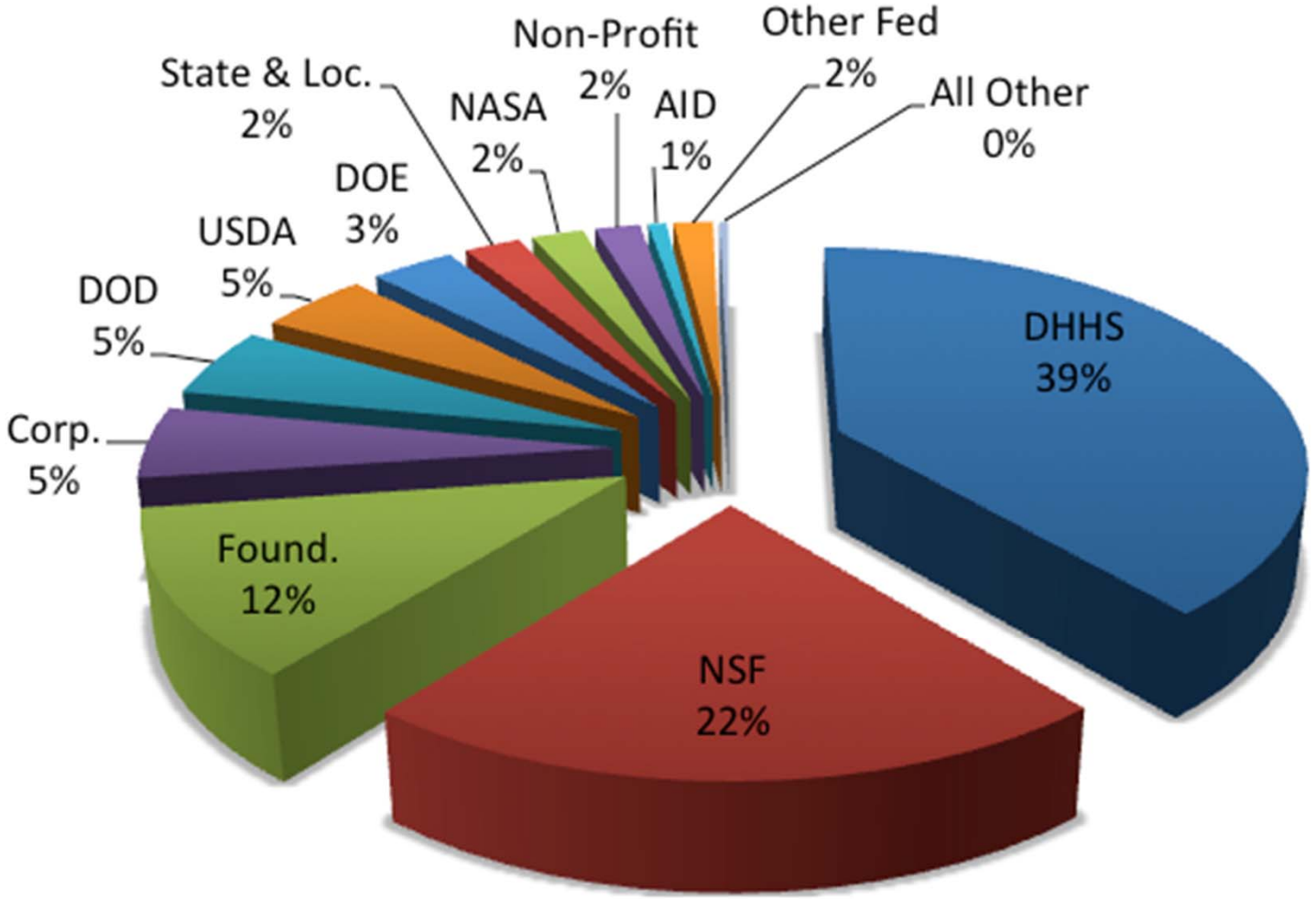

Federally Funded Research Expenditures
600
500
400
300
200
100
0
$M
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
Fiscal Year
$466M
MED
STAT
END


Foundation Funded Research Expenditures
$ M
80
70
60
50
40
30
20
10
0
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
MED
STAT
END
Fiscal Year



Much of drop in ‘10 due to re-categorization of flow-thru of federal funds

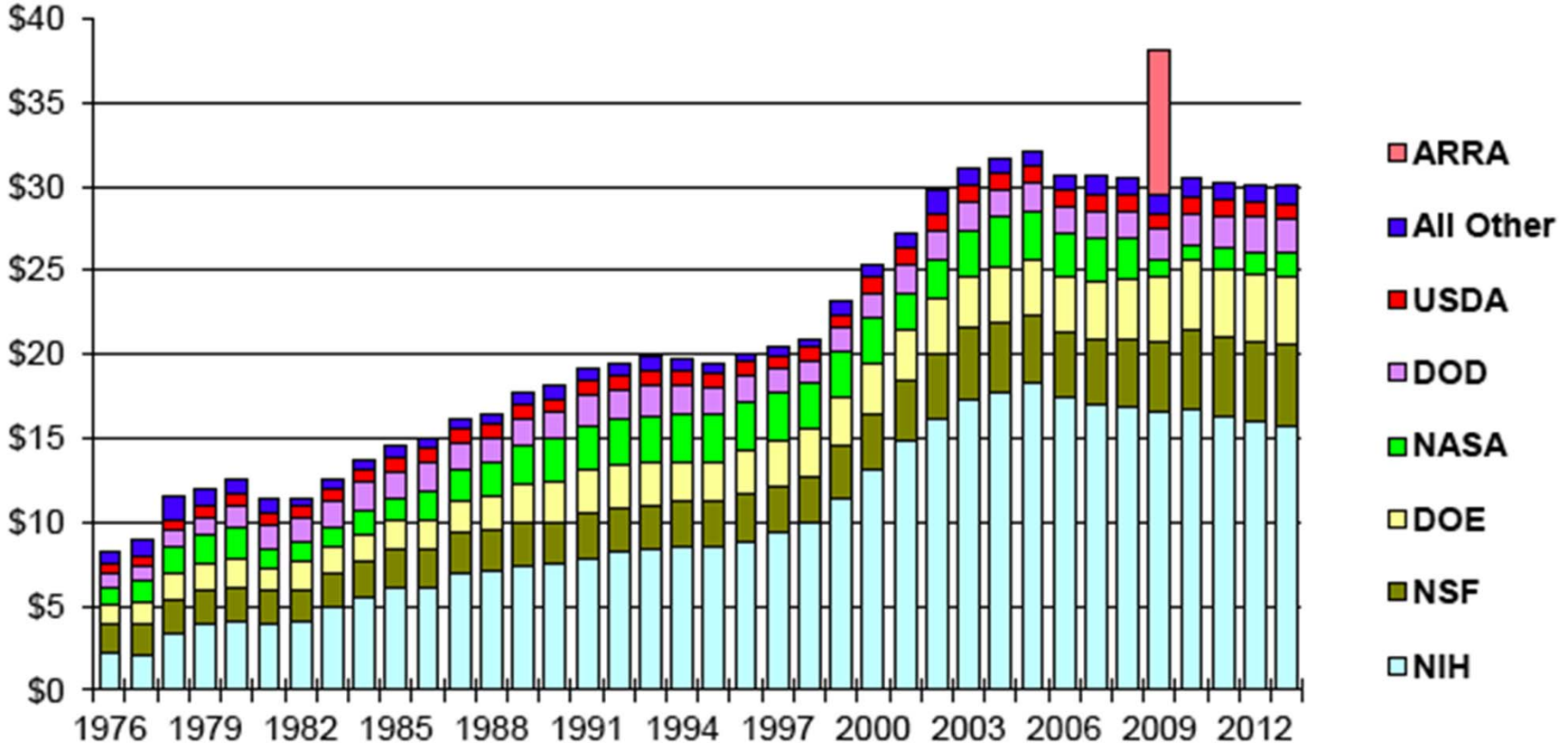
Sponsored Research Funding by Source



Cornell #3 University in NSF Research funding – FY12

Trends in Basic Research by Agency, FY 1976-2013

in billions of constant FY 2012 dollars

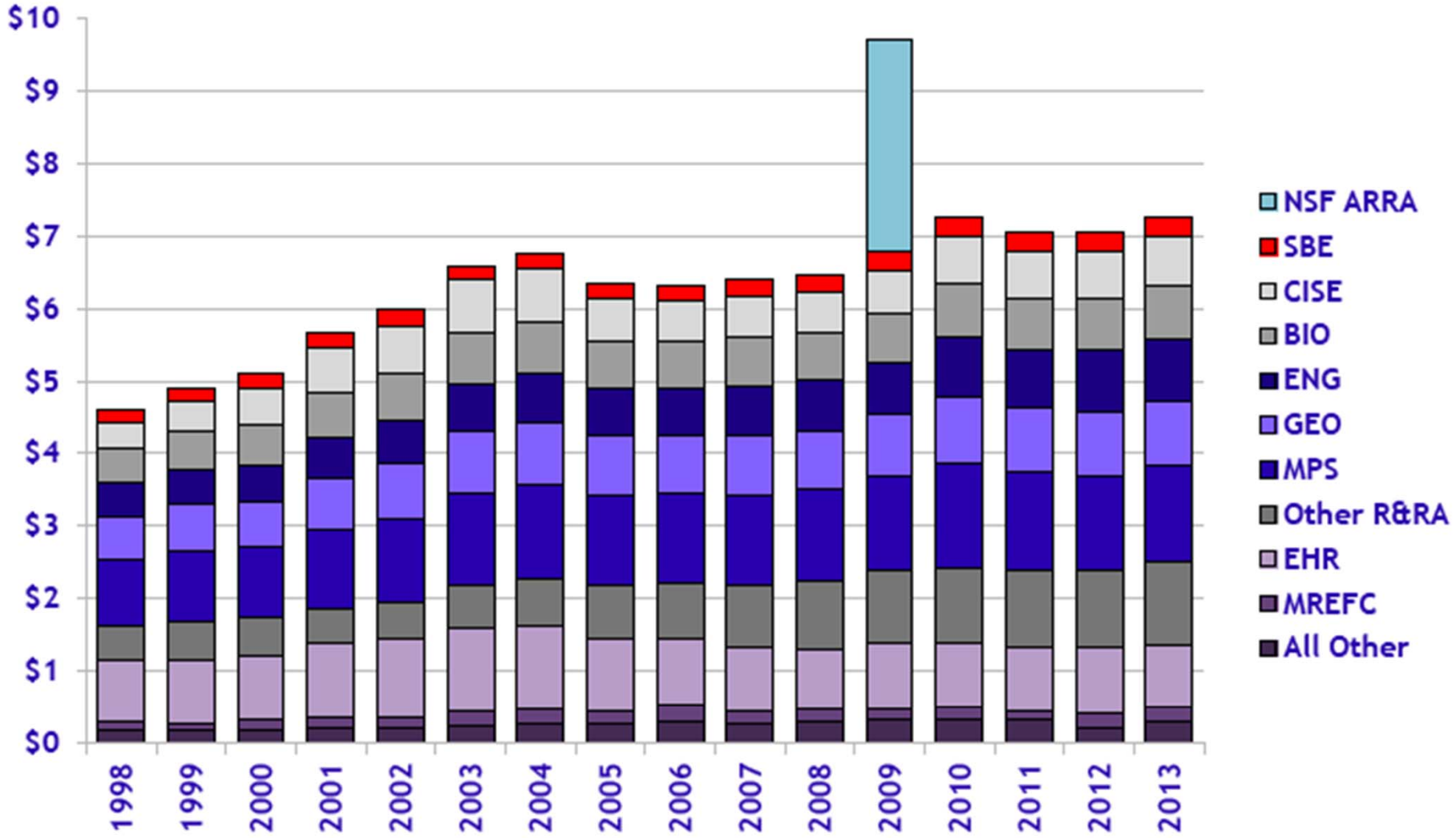


Source: *AAAS Report: Research & Development* series. FY 2012 and FY 2013 figures are latest estimates. Basic research only.

AAAS

National Science Foundation Budget

Budget Authority in billions of constant FY 2012 dollars

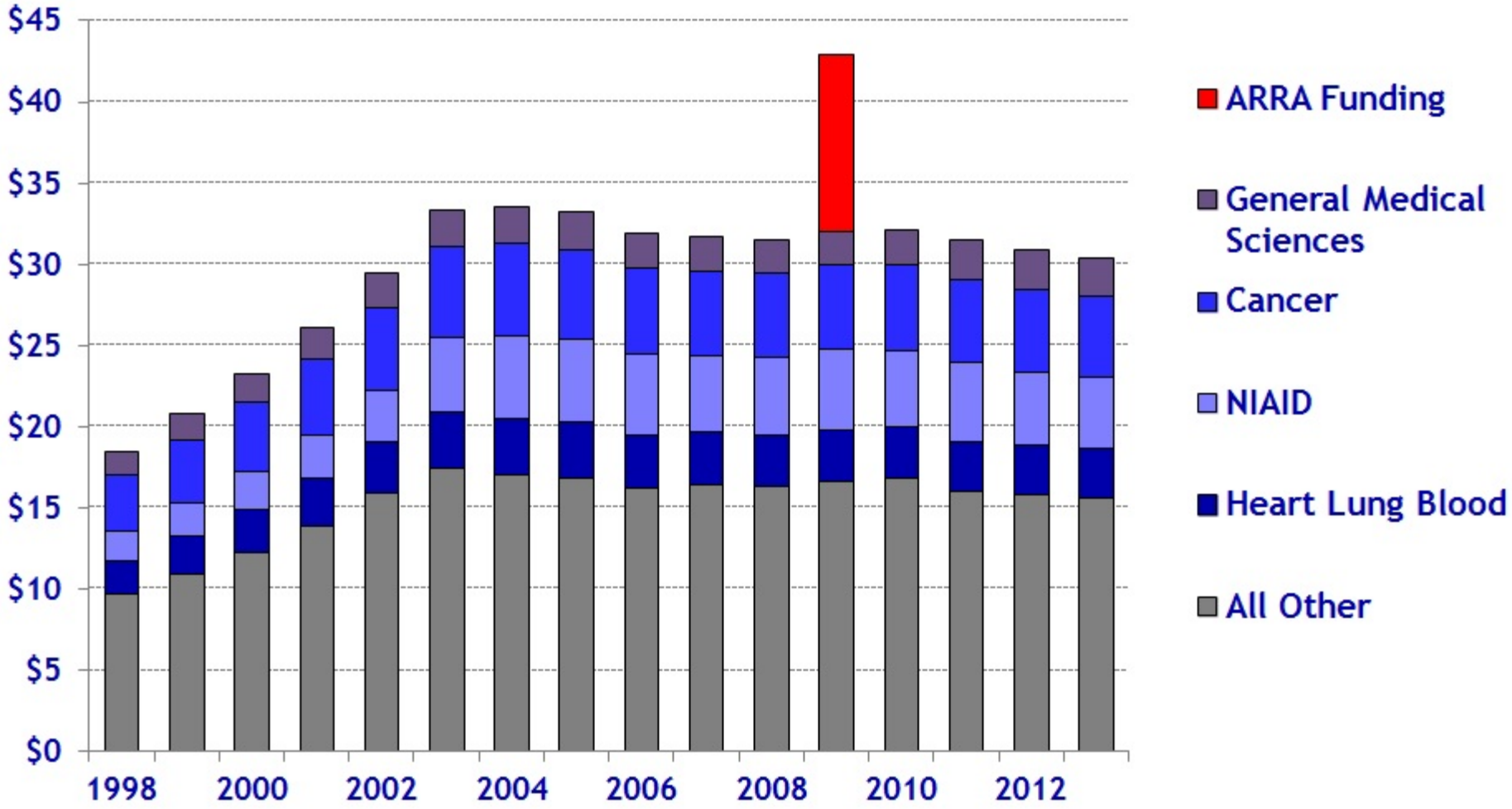


Source: National Science Foundation budget requests. FY 2012 figures are latest AAAS estimates and FY 2013 figures are President's request.

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.

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

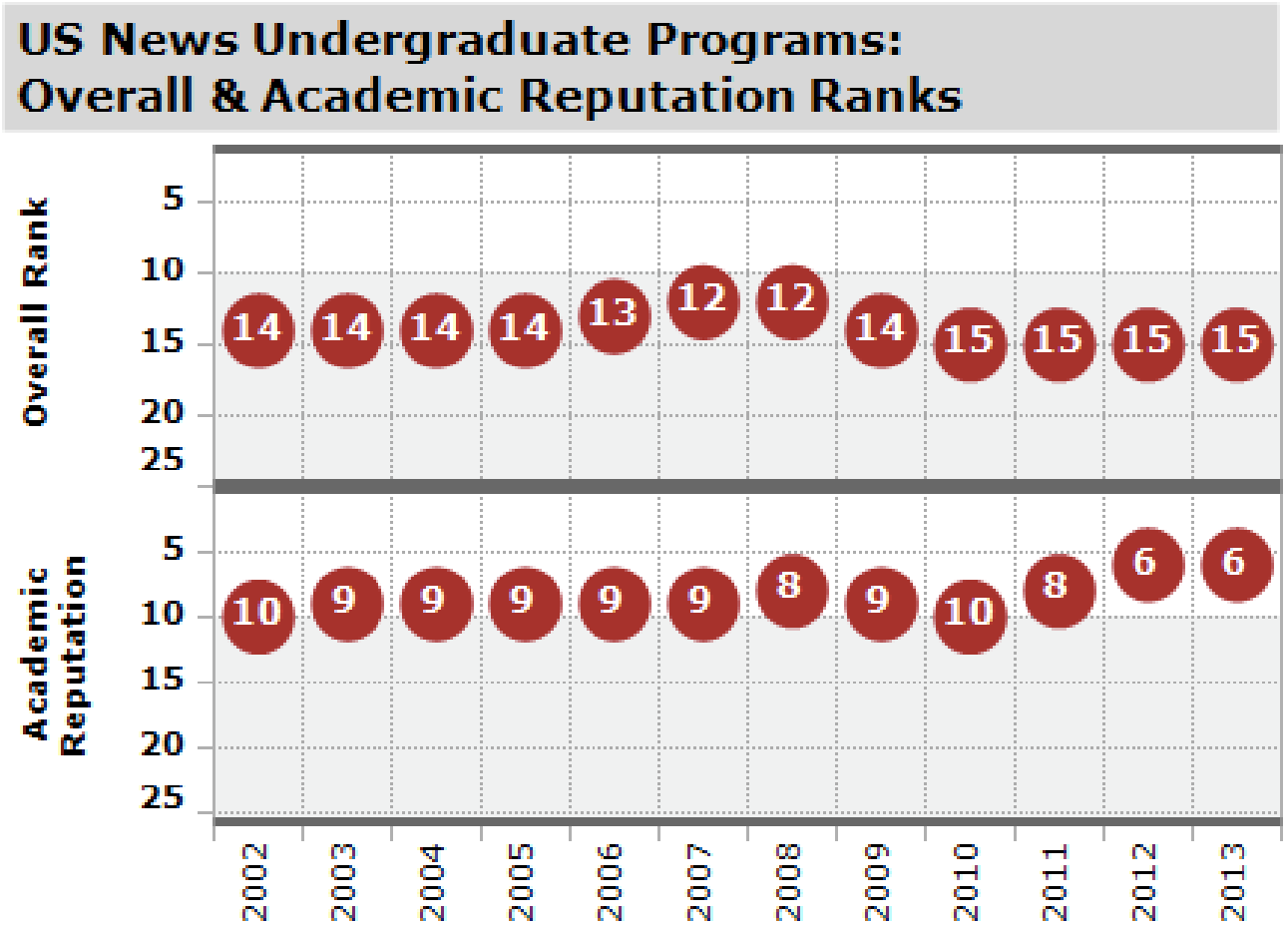
Research Division Components

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






KIC
Kavli Institute at Cornell

Shared nano-instrumentation facility – *in PSB*
Shared postdocs, multiple PI - team projects

KIC
Kavli Institute at Cornell









23 Science and Nature Journals papers in 2.5 years

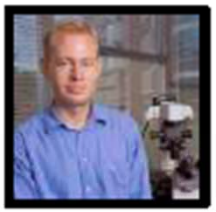
KIC
Kavli Institute at Cornell

16 Faculty Members
5 KIC PDs
1 Visiting Faculty Fellow














THE KAVLI FOUNDATION

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