University of Wisconsin-Madison

Mission:

To sustain and strengthen our position of preeminence in research and higher education (UW-Madison Strategic Plan)
A few facts about UW-Madison:

- Major public ‘very high research activity’ (Carnegie designation) institution
- Educating
  - 29,500 undergrads
  - 9,000 grads
  - 2,500 professional students
  - over 25,000 non-traditional or off-campus students (credit and non-credit)
- 2200 faculty (1800 non-Med School)
### Budget by Source of Funds

(Dollars in Millions)

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Excludes University Hospitals and Clinics - See Technical Note #4.

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**Percent of Budget Supported by State Taxes**

- 1998: 29%
- 1999: 27%
- 2000: 25%
- 2001: 23%
- 2002: 21%
- 2003: 19%
- 2004: 17%
- 2005: 17%
- 2006: 19%
- 2007: 21%

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**UW-Madison 2007 Budget: Source of Funds**

- **State Taxes**
  - Specific Purpose: 7%
  - General Program: 12%
  - Tuition: 15%
  - Gifts and Grants: 19%
  - Federal: 30%
  - State Labs: 1%
  - Operations: 3%
  - Auxiliaries: 13%
UW-Madison: Teaching and Research

An integrated teaching + research culture infiltrates most of what we do:

• Who is here (students, staff, faculty) and why they came, why they stay, and why they leave.

• What they do. What each values, expects, hopes for, aspires to…

• What ‘education’ means
Research is all about applying fundamental ‘knowledge’ to new situations to uncover new connections, realizations, understanding, and ‘truths’; and applying these to the world outside academia. Parallel’s Blooms Taxonomy amazingly well!

– What is the process by which these new understandings can be generated, tested, modified, and applied in complex systems? (meta-view of learning)

– How will our graduates solve problems during their careers that we don’t even realize are problems yet—or whose solutions have been put off by past and current generations but can’t be put off any longer?
There are other foundational views, but a ‘teaching and research’ view serves well in an environment where issues are more sophisticated and complex than can be addressed solely by fact-based retention and repetition.

- Inductive rather than deductive creation/organization of knowledge
- ‘Knowledge’ is dynamic; what is ‘true’ today may be found to be an oversimplification tomorrow.
- Lifelong learning is essential, as is the attitude that we’re always learning.
UW-Madison: Teaching and Research

• How do our students get to experience this? Practice.
  – Embedded in most parts of the curriculum because this kind of thinking is what excites faculty
  – Some specific out-of-class opportunities in the undergraduate curriculum were presented last year by Interim Provost Virginia Sapiro.
UW-Madison: Teaching and Research

What are the hallmarks of excellence in this environment?

- A natural and effective way for students, staff, and faculty to integrate conventional ‘teaching’ and research perspectives
  - For faculty and staff—complementary, not competitive views on where they spend their time and effort and for what do they get recognized.
  - For students--a recognized ability to address new problems in society
    - Indicators:
      » Participation while here
      » Action upon graduation
UW-Madison: Teaching and Research

What are the hallmarks of excellence in this environment?

– Continued leadership in undergraduate and graduate education
  • Many large (NSF NISE, SCALE, CIRTL projects) and smaller projects;
  • WCER
  • NIH traineeships
  • Innovative faculty

– A dynamic and ‘successful’ spectrum of research activity that allows UW-Madison to continue to be recognized as one of the best research universities in the world.
Average Time-to-Degree and Graduation Rates

• Advance Learning
Minority Students as a Percentage of Fall Enrollment (all levels combined)
Minorities as a Percentage of Faculty and Staff

- Nurture Human Resources
Extramural Research Support

Millions of Dollars

- Non-Federal
- Federal
- Total
Patents and Licensing

• Amplify the Wisconsin Idea
### Federal Research Awards by Agency

(Millions of Dollars)

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### Federal Research Awards 1997

- **HHS**: 50%
- **NASA**: 5%
- **NSF**: 17%
- **Energy**: 9%
- **Defense**: 5%
- **Education**: 5%
- **Agriculture**: 3%
- **Commerce**: 3%
- **Other**: 3%

### Federal Research Awards 2006

- **HHS**: 49%
- **NASA**: 28%
- **NSF**: 28%
- **Energy**: 9%
- **Defense**: 5%
- **Education**: 1%
- **Agriculture**: 2%
- **Commerce**: 1%
- **Other**: 3%
## Non-Federal Research Awards by Source

### (Millions of Dollars)

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### Non-Federal Research Awards in 1997

- **WARF**: 21%
- **UW Foundation**: 14%
- **Business and Industry**: 38%
- **Other Foundations**: 19%
- **Other**: 8%

### Non-Federal Research Awards in 2006

- **WARF**: 18%
- **UW Foundation**: 23%
- **Business and Industry**: 21%
- **Other Foundations**: 27%
- **Other**: 11%
# Research Expenditure Rankings

## Total R&D Expenditures

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## Federally Financed R&D Expenditures

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## Non-Federally Financed R&D Expenditures

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Source: National Science Foundation Research and Development Expenditure Survey

### 2004 Total R&D Expenditures: Top Ten Public Univ. (Millions of Dollars)

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### 2004 Fed. R&D Expenditures: Top Ten Public Univ. (Millions of Dollars)

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UW-Madison: Teaching and Research

How do we retain (enhance) current performance?

- Recognize key elements that contribute to current success (Reaccreditation)
- Forecast role of higher education and UW-Madison in the next N years, and how to best prepare our graduates for the world they will enter and lead 5, 10, or 20 years from now. (also reaccreditation leading to renewed strategic plan)
- Continuous improvement strategies
  - e.g. Annual Campus Quality Improvement Showcase--March 27, 2007
- Forward-looking use of resources: anticipating the future needs of the campus and its students
UW-Madison: Teaching and Research

Accountability and assessment:
- To whom, for what, and to what purpose?
  - National movement (Spellings Commission)
    - Program assessments
    - Undergraduate survey (every 3 years)
    - Alumni survey (with WAA)
    - Faculty climate survey (WISELI)
- Where are we strong, where are we not, and how do we get better?

Major challenges?
- Changes in the environment for higher education (expectations, aspirations…)
- Changes in students
- Changes in faculty and staff
INVESTING IN 21st CENTURY RESEARCH FACILITIES
INITIATIVES SINCE 1991

- WISTAR: $233M, 50/50 match with State
- HEALTHSTAR: $215M, 1/3 State funding
- BIOSTAR: $262M, 50/50 match with State
- WISCONSIN INSTITUTES FOR DISCOVERY: $150M, 1/3 State funding
WISTAR

- Buildings identified by individual colleges
- CALS: Biochemistry, Greenhouses
- Engineering: Research Centers, Materials Science
- Letters and Science: Chemistry,
- Graduate School: Biotech/Genetics, Primate Center
HEALTHSTAR

• Combine and consolidate Health Sciences
• Pharmacy
• Health Sciences Learning Center
• West Parking Ramp
• Interdisciplinary Research Center
BIOSTAR

- Consolidate cross-college Bioscience programs
- Biotechnology Addition
- Microbial Sciences
- Biochemistry II
WISCONSIN INSTITUTES FOR DISCOVERY

- Non-departmental interdisciplinary research
- Intersection of Biotechnology, Infotechnology, and Nanotechnology
- Combined Public and Private Institutes for maximum flexibility
WISTAR PROJECTS
HEALTHSTAR PROJECTS
CAMPUS MASTER PLAN

- Provides design context
- Site capacity
- Scheduling sequence
- Utility capacity and connections
- Transportation considerations
- Open space