

# "A Strategic Approach to Resource Stewardship"

David Ward
Interim Chancellor
UW-Madison

Board of Regents December 8, 2011

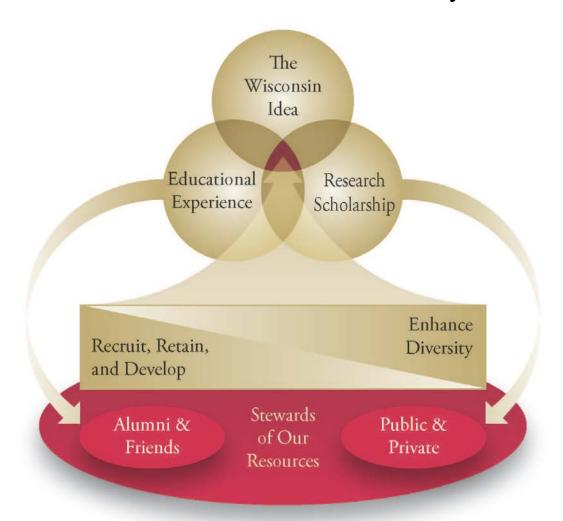


# Shifts in Public Higher Education Financing

## A revenue crisis. A funding gap.

- The "pendulum" of adequate/inadequate funding no longer applies
- No major revenue gains for standard tuition increments
- Federal and philanthropic funds provide the "margin of excellence" rather than "base" budget.
- Public universities need to develop a new strategy to remain competitive and advance a vision.

### A Strategic Framework for Advancing our Vision: "A Model Public University"



# Our Shifting Revenue Sources

#### **EXPENDITURES**

Buildings, Special Programs, Research and Services

Research

Education

**Operations** 

#### **FUNDING SOURCES**

Philanthropy Margin of Excellence

Research and Technology Transfer

#### **Funding Gap**

State Funding

Tuition

Auxiliary Revenue

BASE BUDGET



BASE BUDGET

## Responding to Revenue Shifts

#### **EXPENDITURES: FUTURE**

Buildings, Special Programs, Research and Services

Research

Education

**Operations** 

**FUNDING SOURCES: FUTURE** 

Philanthropy

Research and Technology Transfer

Philanthropy

Research and Technology Transfer

Educational Innovation

State Funding

Tuition

**Auxiliary Revenue** 

Resource Stewardship

BASE BUDGET



BASE BUDGET

### Innovation and Flexibilities

#### **Conventional Sources**

- Promote moderate but targeted tuition increases
- Sustain state support to leverage of other funds

#### **System and State Flexibilities**

- Increased institutional autonomy
- Personnel systems
- Reallocation of base funding

#### **Philanthropy**

- Increased investment in the base budget
- Need-based aid to ensure access
- Fully endowed named professorships
- Funds for Educational Innovation

### Innovation and Flexibilities

#### **Educational Innovation**

- Rethink how we educate
- Rethink academic structures
- Rethink comprehensiveness
- Scale best practices for maximum gains

#### **Administrative Excellence**

- Information technology consolidation and aggregation
- Space management and reduction of leased space
- Demand management of supplies
- Coordination of facilities organizations
- Streamlining grants management processes

#### **Enhancing our Research Impact**

# **Enhancing Research Impact**

Paul M. DeLuca, Jr. Provost

Board of Regents December 8, 2011



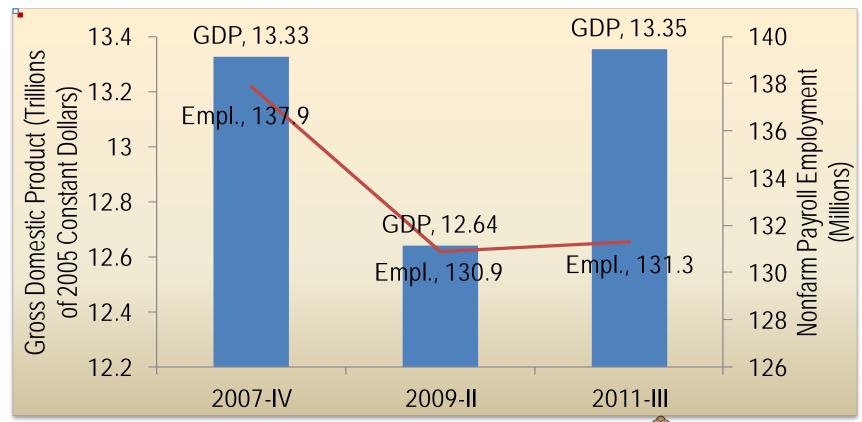
# Can we enhance our research impact?

- Economic Impact of UW-Madison
- Existing Research Funding Base
- University Research Park
- WARF
- Discovery to Product D2P

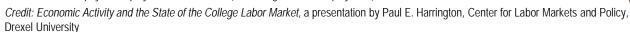


# Trends in the Gross Domestic Product in the US, 2007-IV to 2011-III

(in trillions of constant 2005 dollars) and nonfarm payroll employment (millions of jobs)



Sources: GDP data Bureau of Economic Analysis U.S. Department of Commerce. (www.bea.gov/national /index.htm) Data on Nonfarm payroll employment BLS website (www.bls.gov/data/#employment)





# Trends in the Employment to Population Ratio of the Civilian Non Institutional Working Age Population in the U.S., by Educational Attainment

	Employment-Population Ratio			
	4000 0000	2222 2227	0000 0040	0040 0044
Educational Attainment	1999-2000	2006-2007	2009-2010	2010-2011
H.S. Students	44.5	30.6	25.2	23.8
H.S. Dropouts	40.4	42.4	32.0	31.9
H.S. Graduates	62.5	59.2	57.2	55.9
College Students	47.2	45.1	42.0	42.4
Some College	74.1	67.6	62.8	64.1
Associate's Degree	77.4	70.6	67.6	67.1
Bachelor's Degree	79.7	75.8	75.0	75.4
M.A. or Higher Degree	83.0	76.7	76.5	77.1

Source: U.S. Bureau of the Census Current Population Survey, Public Use Data Files, Tabulations by Center for Labor Markets and Policy, Drexel

Credit: Economic Activity and the State of the College Labor Market, a presentation by Paul E. Harrington, Center for Labor Markets and Policy, 1 2 Drexel University



# **UW-Madison Economic Impact Report**

- \$12.4 Billion in annual total impact on the Wisconsin economy
  - \$9.6 Billion economic impact from UW-Madison operations and spending of faculty, staff, students, and visitors
  - \$2.1 Billion economic impact from out-of-state monies
  - \$1 Billion in research & development expenditures
  - \$2 Billion economic impact from UW-connected startups
- \$862 Million economic impact from UW-affiliated organizations
- 128,146 Wisconsin jobs created and supported
- \$614 Million in tax revenue generated

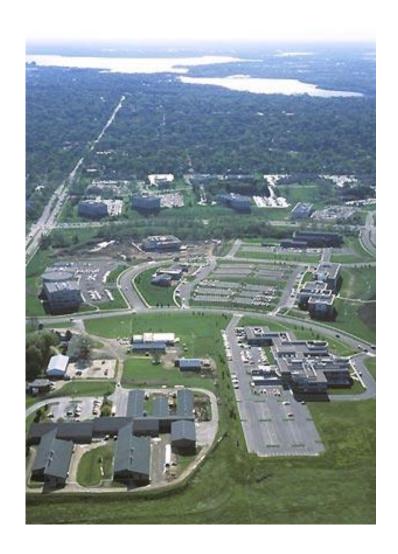


UW-Madison Extramural Research Support



# University Research Park

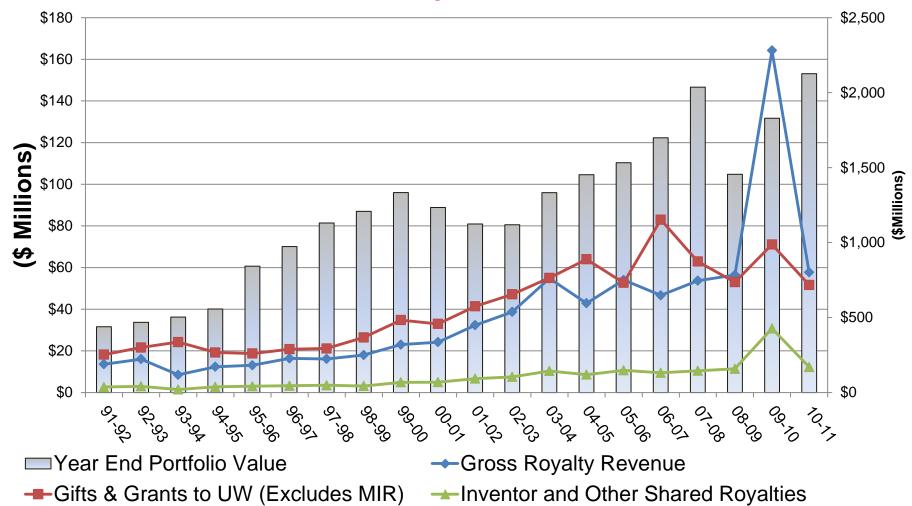
- 126 companies; >3,500 employees, \$183.3M value
  - Urban Campus (2009)
  - URP Phase II (2012)
- URP companies born of UW innovations:
  - FluGen, Quintessence Biosciences, Roche NimbleGen,Stemina Biomarker Discovery, Stratatech, Third Wave Technologies, WiCell Research Institute, Zurex Pharma...
- ~\$500,000/yr returned to UW-Madison research programs
- \$826M annual contribution to WI economy



### Wisconsin Alumni Research Foundation

- Over \$1.25 Billion in grant support to UW-Madison from successful technology commercialization outcomes
- Hundreds of active commercial licensees for UW-Madison innovations with \$882M in license revenues
- Over 50 startups attracting \$800M+ in investment capital (last 10 years)
- National Medal of Technology recipient for long record of tech transfer success
- Broad-based real-world benefits on a truly global scale; agriculture, nutrition, health care, information technology

## Descriptive title





## WARF: Start Ups

University spin-outs
 Equity in over 30 companies

Licenses with over 50 active companies



**Deltanoid Pharmaceuticals** 

Representative technologies of start-ups

Biotechnology: medical, agricultural, tools

Medical devices

**Telecommunications** 

Small molecule pharmaceutical

Software







# Institutional Performance What's wrong with this slide!

	Wisconsin	 Utah	
Startups	**1000110111	o tarr	
2009	1	23	
2008	6	23	
2007	6	16	
2006	9	20	
2005			
Disclosures			
2009	293	180	
2008	324	195	
2007	368	190	
2006	337	170	
Commercially Spo	nsored Research		
2009	\$47.4 mil	\$40.4 mil	
2008	\$29.5 mil	\$29.5 mil \$44.2 mil	

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# Discovery to Product: D2P

**Discovery Product** To Discovery: Creation of New Knowledge Identify potential commercializable technologies **Protection of Intellectual Property** Pre-commercialization development Capitalization (funding research and concepts, product development, pre-startup funding **Venture Funds** Business development, seek investors or licensees, and venture services

# D2P – Two paths: License or Commercialize

License or Commercialize? **Expands** on **Entirely new** existing products technology base License to Commercialize company Inventor Founder VC-Manager Lead Lead

# D2P: Coordinating the Whole Process

Discovery

To Product

Disclosure 

Incubation 

Business 

License 

Startup 

Funding 

Marketplace

Plan









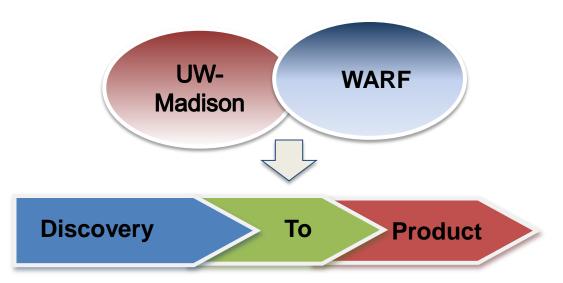








### D2P Structure



Target Areas – High Potential Technologies

Physical Sciences/ Engineering

Agriculture

Medical Devices

Comp. Science/ Info Tech

Pharma

Other Target Areas...



### **Future Issues**

- Does the State's investment provide adequate leverage for:
  - Philanthropy
  - Research and Technology Transfer
- Are the Current flexibilities adequate to support leveraged revenues?
- How do we combine our National and Statewide Roles?

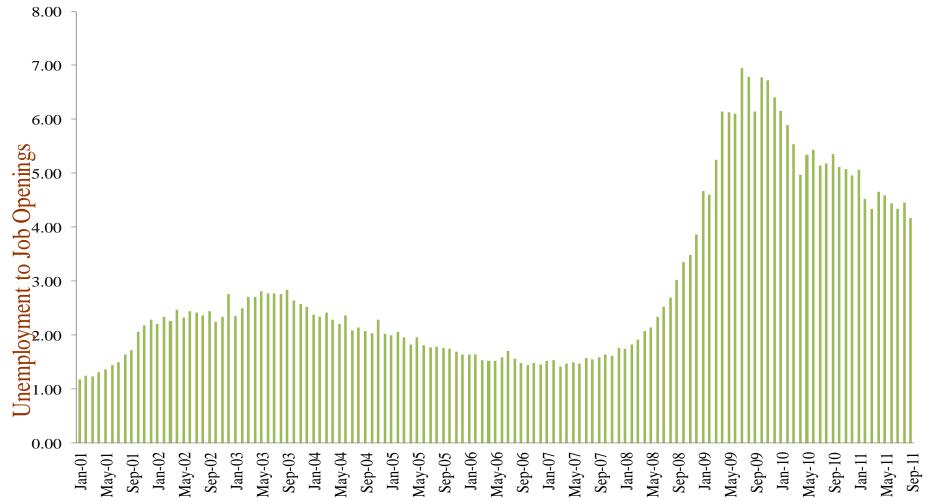




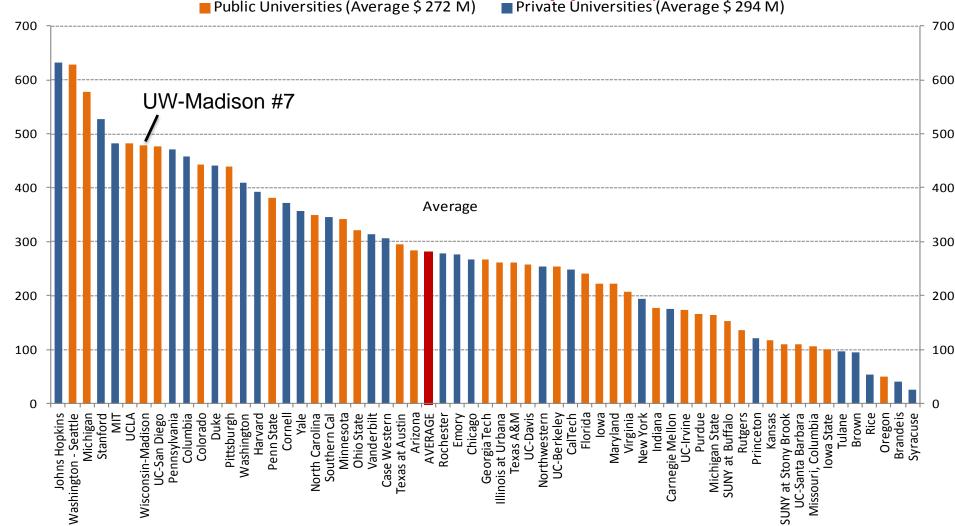
#### **Additional Resources**



# US Unemployment/Job Openings January 2001 - September 2011

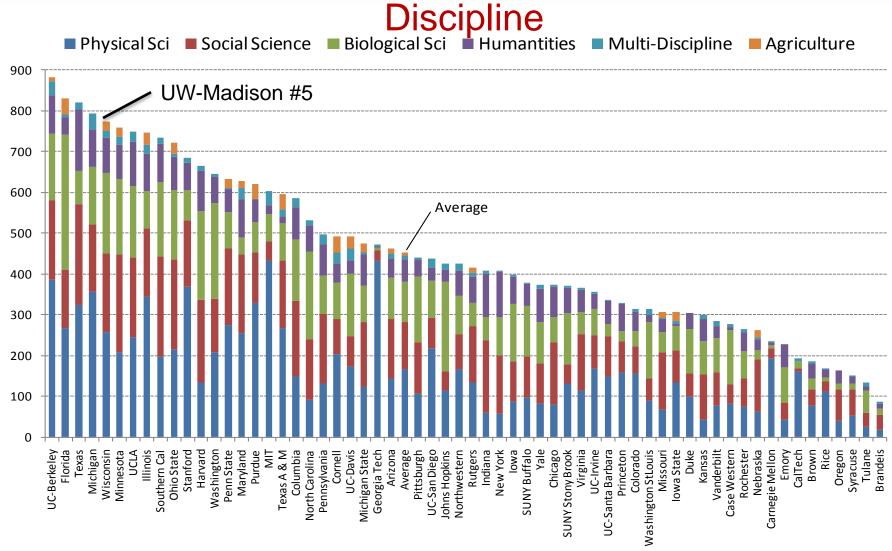


# AAU Members: Annual Competitively-Funded Federal Research Support (in \$M) Public Universities (Average \$ 272 M) Private Universities (Average \$ 294 M)



Notes: NSF report on federal research expenditures, excluding USDA expenditures. Also excludes the Applied Physics Laboratory at Johns Hopkins University. Annual expenditures are an average of expenditures in the fiscal years of 2006, 2007 and 2008.

# AAU Members: Annual Doctoral Degrees by



IPEDS Completions in 2007, 2008 and 2009. Doctoral professional practice degrees are not included.

# Ratio of Unemployment to Job Openings by Major Industry 2001-2011

Industry	2001 Q1	2011 Q1
Construction	4.11	31.18
Manufacturing	2.19	6.85
Durable	1.87	6.58
Nondurable	2.88	7.41
Trade, Transportation, and Utilities	1.43	5.20
Wholesale Trade	1.47	5.20
Retail Trade	1.47	
Transportation, Warehousing, and Utilities	1.26	5.18
Information	0.59	2.46
Financial Activities	0.72	3.02
Professional and Business Services	0.83	2.60
Education and Health Services	0.54	2.15
Leisure and Hospitality	1.25	5.13
Other Services	0.90	4.07
Government	0.77	3.01

<sup>20</sup> Addit: Economic Activity and the State of the College Labor Market, a presentation by Paul E. Harrington, Center for Labor Markets and Policy, Drexel University

\*Not seasonally adjusted

# University Research Park Overview

- 255 Developed Acres
- 37 Buildings
- 1.8 Million Square Feet
- \$183.3 Million Assessed Value
- \$3.6 Million Local Taxes

- 126 Companies
- 3,500 Employees
- \$220 Million Payroll
- 75% BS Degrees
- 33% Advanced Degrees
- \$64,000 Average Income



## Driving Force in Wisconsin's New Economy

- \$826 Million Economic Impact Annually
- Supports 9,300 Jobs
- \$42 Million in Taxes Annually





### MGE Innovation Center

- Since 1989
- 48 Companies
- 113,000 Square Feet
- 85 Incubator Suites
- 92% Occupied
- "10 Technology Incubators

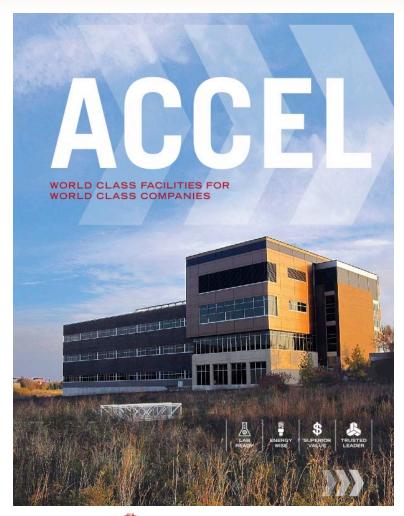
That are Changing the World", Forbes.com May 2010





## 46,000 SF

- ENERGY EFFICIENT
  - 30% Lower Utility Expense Savings Powers 75 Homes
- LAB READY
   CFM, BTU, TONS, MW Capacity
   Precision Environmental Controls

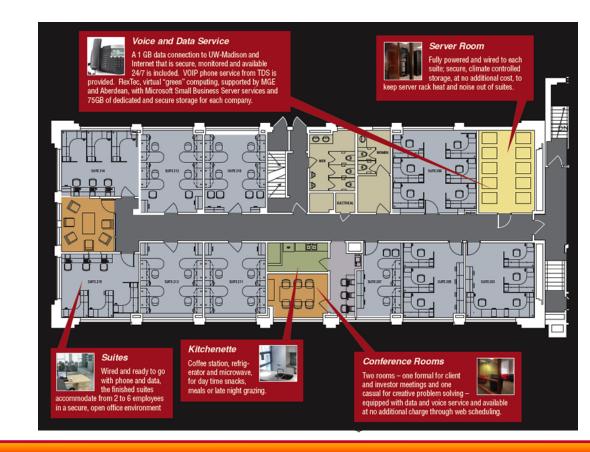






#### Metro Innovation Center

- Downtown @ 1245 East Washington
- 10 Suites 2 Available
- 2 Conference Rooms
- Shared Server Room
- 1 GB Internet



### University Research Park<sup>2</sup>

- 70 Sites on 375 Acres
- 210 Companies
- 6,000 Employees
- Urbanist & Midwest Prairie Design
- 3 Phases Starting in 2012/13

