RESEARCH PRIORITIES

Produce **excellence**
Be **transformative**, lead not follow
Advance **transdisciplinary** work
Focus on critical **global challenges**
Present real, **measurable results**
STATE OF RESEARCH

**Research Growth:** Research enterprise continues to grow and thrive, despite declining federal support

**Collaborations and Partnerships:** Increasing importance of collaboration, both public-private and academic partnerships, nationally and globally

**Sustainable Funding Model:** New research funding model needed to keep the academic enterprise thriving, generating ideas that make our lives better
RESEARCH STATISTICS
$754M

Dollar amounts represented in millions

AWARDS BY SOURCE

41.3% BUSINESS & INDUSTRY $78.0
22.7% STATE & LOCAL $79.3
16.8% NSF $92.3
2.2% OTHER PRIVATE $133.2
1.8% NIH $219.8
23.5% OTHER DHHS $239
DOD $209
DOE $13.7
DOED $110
22% other federal $57.5
22%
JOHN DEEN
Veterinary Medicine

John Deen in the College of Veterinary Medicine received a five-year award of up to $50 million from USAID for the One Health Workforce project, an international effort that involves multiple U of M colleges, Tufts and 24 other universities across Africa and Asia to ensure nations have skilled health care workers to battle the spread of infectious diseases.
In FY2015, the Center for Sustainable Polymers was awarded a Phase II NSF Center for Chemical Innovation grant totaling $20 million over five years. The award will expand and enhance CSP’s efforts to transform how plastics are made through innovative research, education and partnerships that foster environmental stewardship.
AWARDS BY COLLEGE & CAMPUS

$754M

- DENTISTRY, NURSING, PHARMACY & VET MED $62.3
- OTHER HEALTH SCIENCES $71.2
- PUBLIC HEALTH $65.1
- CFANS $58.6
- OTHER $48.0
- CBS $21.2
- OTHER TC PRVOST $16.6

- UMD $165
- CLA $110
- UMC, UMM, UMR $2.6

- MEDICAL SCHOOL $194.5

- Dollar amounts represented in millions
AWARDS BY MAJOR SOURCE CATEGORY

Dollar amounts represented in millions

RESEARCH STATISTICS

30.8% Actual growth
10.8% Inflation adjusted growth

Dollar amounts represented in millions
“Our big push right now is to diversify our funding sources. We need to increase the share that comes from non-NIH and non-federal sources.”

-Education Advisory Board meeting, 2015
## AWARDS BY MAJOR SOURCE CATEGORY

<table>
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<tr>
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<td>$749.1</td>
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Dollar amounts represented in millions

0.4% Inflation adjusted UMN federal awards

1.5% Inflation adjusted federal R&D (non-defense)
“No [researcher] is an island.”
- John Donne, 1624

“Academic isolation has long been impractical; in today's world, it is impossible...no single institution has the resources in faculty or facilities to go it alone.”
-Herman B. Wells, CIC Founder, 1967
AWARDS BY CIC INSTITUTION

Dollar amounts represented in millions
NATIONAL & GLOBAL ANALYSIS
# TOP 20 INSTITUTIONS

<table>
<thead>
<tr>
<th>Institution</th>
<th>Rank</th>
<th>Expenditures (in thousands)</th>
<th>Public</th>
<th>World Rank</th>
<th>U.S. Rank</th>
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<td>UCLA</td>
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<td>8</td>
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<tr>
<td>PITTSBURGH</td>
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<td>$856,806</td>
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Dollar amounts represented in thousands
*As of 10/13/2015 the 2013 CMUP data is the latest available.
†Total expenditures for all U of M campuses: $901M
UMN R&D EXPENDITURES

Dollar amounts represented in thousands
INSTITUTIONAL FUNDING

FY2014

$256M total

$183M direct funding

$23.8M cost sharing

$49.2M under-recovered F&A costs
Erika Lee, director of the U’s Immigration History Research Center, recently published The Making of Asian America: A History, a book that narrates the deep-rooted history of Asian Americans and their role in American life, from the arrival of the first Asians in the Americas to the present day.
TECHNOLOGY COMMERCIALIZATION
## TECHNOLOGY COMMERCIALIZATION DATA

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<th>2011</th>
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<td>14</td>
<td>15</td>
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</table>

Dollar amounts represented in millions

* New Licenses and Current Revenue Generating Agreements now include Express Licenses with revenue greater than $1,000. This accounts for an increase of 56 agreements over FY2013. Starting in FY2015, New Licenses and Current Revenue Generating Agreements include 94 FAST IBU licenses.
RECORD NUMBER OF STARTUPS

In FY2015, the U of M launched a record 16 startup companies in a diverse number of sectors such as biotechnology, medical devices and education.

New Discovery Capital program provides seed investments with a $5:$1 ROI.

Since 2006, U startups have raised in aggregate over $205 million in investments.
STRATEGIC & PROGRAM ACCOMPLISHMENTS
FIVE YEARS FORWARD
THROUGH COLLECTIVE INSPIRATION AND DISCOVERY

Enhance research excellence
Advance transdisciplinary partnerships
Accelerate transfer of knowledge for the public good
Promote culture of serendipity
ADVANCING HUMAN RESEARCH PROTECTIONS

Support an ethical culture

Provide more education and training for investigators and staff

Improve IRB processes and policies

Develop new approaches to managing conflicts of interest

Increase community participation and oversight
MNDRI VE

629 researchers
210 projects funded
103 departments
21 colleges
3 campuses
$57M external funding
144+ external partners
41 invention disclosures
With funding from the MnDRIVE Transdisciplinary Research Program, a multi-disciplinary team of researchers is developing uninhabited aerial vehicles (UAVs) and computer monitoring technology to help farmers better detect and manage the threat of pests and decrease the environmental impact of pesticide use.
INTERNATIONAL RESEARCH

University researchers collaborate in 152 countries across the globe. We are supporting efforts to further advance international research in high-potential geographic regions.
In the past five years, OVPR has invested $108 million in research funding across the U of M campuses.

**Grant-in-Aid:** $15M, 528 projects, 5 campuses, 29 colleges/units  
ROI $5.50:$1

**Research Infrastructure:** $33M, 46 projects, 2 campuses, 29 colleges/units, 2,027 infrastructure users

**Minnesota Futures:** $2M, 8 projects, 1 campus, 3 colleges/units  
ROI $7.50:$1
ECONOMIC DEVELOPMENT

- Front Door and More
- Corporate Engagement Workgroup
- Economic development meetings around the state

What we heard:

Meet workforce needs
Drive innovation and entrepreneurship
Access to University resources
CONVERGENCE COLLOQUIA

• **5 colloquia in 2015:** smart cities and infrastructure, aging, health equity, renewable energy, sustainable food systems (4 in 2016)

• **340 participants** from: 14 Twin Cities colleges, UMM and UMD 40 nonprofits, Met Council, state agencies and 25 private companies

• **29 proposals** submitted for **Serendipity Grants** up to $30K each
  - “Smart-Food-Flows” database to track/map food supply chains in the Minneapolis area to improve sustainability of local food production
  - Family caregiver study with Wilder Foundation and Blue Cross Blue Shield to explore new interventions, services and policies for working family caregivers and their employers
**Research Growth:** Research enterprise continues to grow and thrive, despite declining federal support. **Opportunities:** Continue diversification, more efficient grants systems.

**Collaborations and Partnerships:** Increasing importance of collaboration, both public-private and academic partnerships, nationally and globally. **Opportunities:** Deepen and seed culture of collaboration, remove barriers to collaboration.

**Sustainable Funding Model:** New research funding model needed to keep the academic enterprise thriving, generating ideas that make our lives better. **Opportunities:** Institutional direct funding strategy, balance internal and external R&D investments.
DATA SOURCES

AWARDS BY SOURCE

AWARDS BY COLLEGE & CAMPUS

AWARDS BY MAJOR SOURCE CATEGORY

OVPR Data Services

TECHNOLOGY COMMERCIALIZATION

OTC InfoEd System; UMN Enterprise Financial System

AWARDS BY CIC INSTITUTION

Committee on Institutional Cooperation (researchadmin.iu.edu/cic.html)

ARTICLES AND QUOTES


TOP 20 INSTITUTIONS

UMN R&D EXPENDITURES

Association of American Universities Data Exchange (aaude.org)

University of California, San Francisco

University of Texas M.D. Anderson Cancer Center

National Science Foundation (nsf.gov/statistics/srvyherd/)

Center for Measuring University Performance (mup.asu.edu)

Note: Rankings are based on nine measures: Total Research, Federal Research, Endowment Assets, Annual Giving, National Academy Members, Faculty Awards, Doctorates Granted, Postdoctoral Appointees and SAT/ACT range.

Academic Ranking of World Universities (shanghairanking.com)

Note: Rankings are determined by several indicators, including alumni and staff winning Nobel Prizes and Fields Medals, highly cited researchers, papers published in Nature and Science, papers indexed in major citation indices, and the per capita academic performance of an institution.