Mission Fulfillment Committee

December 2024

December 12, 2024

10:15 a.m.

Boardroom, McNamara Alumni Center

BOARD OF REGENTS
DOCKET ITEM SUMMARY

Mission Fulfillment   **December 12, 2024**

AGENDA ITEM: Board of Regents Policy: *Conflict Resolution Process for Student Academic Complaints*

☒ **Review**   ☐ **Review + Action**   ☐ **Action**   ☐ **Discussion**

☐ *This is a report required by Board policy.*

PRESENTERS: Scott Lanyon, Vice Provost and Dean of Graduate Education

PURPOSE & KEY POINTS

The purpose of this item is to review proposed amendments to Board of Regents Policy: *Conflict Resolution Process for Student Academic Complaints*. The proposed amendments reflect items identified as part of the comprehensive review process and include:

- Realigning the policy structure to Board policy conventions.
- Including new guiding principles that ensure alignment with Administrative Policy: *Addressing Student Academic Complaints*.
- Adding key definitions for clarity.
- Providing additional detail on exclusions to this policy.

Other changes for readability and clarity are also included in the proposed amendments.

BACKGROUND INFORMATION

Board of Regents Policy: *Conflict Resolution Process for Student Academic Complaints* was adopted in in July 2006 and last comprehensively reviewed in 2018.

PRESIDENT'S RECOMMENDATION

The President recommends adoption of the proposed amendments to Board of Regents Policy: *Conflict Resolution Process for Student Academic Complaints*.

BOARD OF REGENTS POLICY:
Conflict Resolution Process for Student Academic Complaints

Subd. 1. Scope.SECTION I. SCOPE.

The University of Minnesota (University) shall have an This policy governs the internal process for the good faith review and resolution of student academic complaints within the University of Minnesota (University). Theis student academic conflict resolution process shall apply to student complaints about the University's provision of academic services and education.

SECTION II. GUIDING PRINCIPLES.

The following principles shall guide the resolution of student academic complaints:

  (a) The University is dedicated to the fair and equitable resolution of conflict at the lowest level possible.
  (b) Those engaging in the academic complaint process will be free from retaliation or other adverse actions as a result of their good faith participation.
  (c) Students are entitled to due process and procedural fairness protections, including the right to an advocate of choice and the right to the resolution of a case within a reasonable period of time.

SECTION III. DEFINITIONS.

Subd. 1. Student Academic Complaint.
Student academic complaint shall mean a formal complaint submitted by a student to the University alleging a demonstrable violation of a University policy, rule, or established practice (e.g., denial of disability accommodations, non-standard examination practices, or untimely dismissal from an academic program) related to the University's provision of academic services and education affecting their role as a student.

Subd. 2. Student.
Student shall mean any:

  (a) individual taking courses at the University or enrolled in a University academic program;
  (b) individual who has taken courses or enrolled in a University academic program within the past three terms (including summer), and who has not withdrawn, transferred, or graduated;

    (c) individual who has registered for classes or has been approved for readmission to the University;

    (d) individual participating as a student in University activities, even if prior to the start of classes;

    (e) individual previously enrolled within the last three terms (including summer), and who has a continuing relationship with the University through active participation in student groups or University-sponsored activities; and

    (f) individual on an official leave of absence with an intent to return.

~~Subd. 2. Exclusions.~~ SECTION IV. EXCLUSIONS.

This policy shall not apply in the following circumstances:

    (a) student complaints regarding University employment, which are covered by Board of Regents Policy: *Conflict Resolution Process for Employees*;

    (b) student complaints regarding disciplinary actions taken by the University, which are covered by Board of Regents Policy: *Student Conduct Code* and other administrative policies and procedures;

    (c) student complaints regarding discrimination, sexual misconduct, nepotism, or related retaliation, which are covered by Board of Regents Policy: *Diversity, Equity, Inclusion, and Equal Opportunity*, Board of Regents Policy: *Sexual Harassment, Sexual Assault, Stalking and Relationship Violence*, and other administrative policies and procedures;

    ~~(c)~~(d) student complaints regarding grades, which are submitted to, and resolved by, the departmental, collegiate, or administrative home of the course in which the grade is being contested; and

    ~~(d)~~(e) student complaints regarding University admission decisions, which are submitted as appeals to, and resolved by, the program directly, or if alleging discrimination, are covered by Board of Regents Policy: *Diversity, Equity, Inclusion, and Equal Opportunity*, and other administrative policies and procedures.

~~Subd. 3. Delegation of Authority.~~ SECTION V. DELEGATION OF AUTHORITY.

The president or delegate shall administer this policy and is authorized to adopt and amend administrative policies and procedures to ensure its implementation.

REVISION HISTORY

Adopted: July 12, 2006
Last Comprehensive Review: 2018
Supersedes: Student Academic Grievance dated January 13, 1995.

Board of Regents Policy: *Conflict Resolution Process for Student Academic Complaints* - Review

Board of Regents | Mission Fulfillment Committee | December 12, 2024

Scott Lanyon
Vice Provost and Dean of Graduate Education

UNIVERSITY OF MINNESOTA
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Recommended Edits to Policy Content

1. Reformatting policy to meet current Board of Regents standards;

2. Added definitions to further clarify scope; and,

3. Minor changes to 'exclusions' section.

Reformatting to Meet Current Standards

Policy updated to include the following sections in this order:

Section I.   Scope

Section II.   Guiding Principles

Section III.   Definitions

Section IV.   Exclusions

Section V.   Delegation of Authority

Added Definitions

Definition of "student" now aligns with student code of conduct policy:

(a)   any person who has taken courses or enrolled in a University academic program;

(b)   any person who has taken courses or enrolled in a University academic program within the past three terms (including summer) and who has not withdrawn, transferred, or graduated;

(c)   any individual who has registered for classes or has been approved for readmission to the University;

(d)   any person participating as a student in University activities, even if prior to the start of classes;

(e)   any person previously enrolled within the last three terms (including summer) and who has a continuing relationship with the University through active participation in student groups or University-sponsored activities; and

(f)   any person on an official leave of absence with an intent to return.

Change to Exclusions

Minor change to exclusions to provide clarification that discrimination, sexual misconduct, nepotism, and retaliation cases fall under other relevant Board policies.

Consultation with relevant groups:

- Office of General Council (OGC)

- Equal Opportunity and Title IX Office (EOT)

- Student Conflict Resolution Center (SCRC)

- Disability Resource Center (DRC)

Questions?

BOARD OF REGENTS
DOCKET ITEM SUMMARY

Mission Fulfillment   **December 12, 2024**

AGENDA ITEM: Annual Report on the State of the University Research Enterprise

| | Review | | Review + Action | | Action | X | Discussion |

X *This is a report required by Board policy.*

PRESENTERS: Shashank Priya, Vice President for Research and Innovation

PURPOSE & KEY POINTS

The purpose of this item is for the committee to receive and discuss the Annual Report on the State of the University Research Enterprise. Included in the report are the research enterprise's progress to achieve the goals defined by the MPact 2025 Systemwide Strategic Plan (MPact 2025), fiscal year and temporal trends in key metrics, comparative rankings and comparisons, illustrative examples of University research projects, and the strategic priorities and concerns of the University's Research and Innovation Office.

Key topics of the report include:

- Research Growth: record startups and research expenditures, and an increased number of high dollar awards, highlight the strong state of the University's research enterprise.
- Innovation Impact: Key areas like the Forever Green Initiative and the Clinical and Translational Science Institute (CTSI), and startups such as Niron Magnetics, demonstrate the University's leadership in sustainability, health, and technology commercialization.
- Global and National Leadership: Maintaining top Higher Education Research and Development (HERD) and Academic Ranking of World Universities (ARWU) public university rankings reflects excellence on the national and world stage.
- Downward trends: The recent downward trends, especially in business and industry awards, indicates a need to invest in new initiatives.

BACKGROUND INFORMATION

The Annual Report on the State of the Research Enterprise is required by Board of Regents Policy: *Commercialization of Intellectual Property Rights* and Board of Regents Policy: *Submitting and Accepting Sponsored Projects*.

2024

Annual Report on
the State of the University Research Enterprise

Shashank Priya
Vice President for Research and Innovation
December 12, 2024

The University of Minnesota's Vice President for Research and Innovation provides the University's Board of Regents an annual report on the state of the University research enterprise. Included is the research enterprise's alignment with the MPact 2025 strategic plan, fiscal year and temporal trends in key metrics, comparative rankings and comparisons, and illustrative examples of University research projects. The Vice President also shares his strategic priorities and concerns.

FY2024 Annual Report Includes:

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Message from the Vice President for Research and Innovation, Shashank Priya

Today the state of the University's research enterprise is strong. We posted record levels of research expenditures in FY2023 and the Twin Cities campus maintained its rank of 12th among US public research universities in the FY2023 HERD survey, the most recent data available. Research expenditures for all campuses totaled $1.35 billion in FY2023 which is a record level and an increase of 10% from the previous year. The University is making headway toward membership in the "**$1.5 billion dollar research club**", which is an elite group of eight public and private research universities.

Our Technology Commercialization team had a record-breaking year in bringing our researchers' inventions to people's everyday lives and brought forward new ideas for taking UMN technology transfer to the next level. We're also continuing to build new partnerships with the private sector through our Corporate Engagement Center, and bringing top research leaders from federal agencies to visit and see the amazing work happening in our labs and across our facilities.

UMTC also set a new record for undergraduate involvement in research. Nearly half of UMTC seniors surveyed reported participating in undergraduate research during their time on campus, a number that has increased significantly over time.

Despite the successes, there are some worrying trends in the 2024 award data with decreases in overall awards (down 6%) in FY2024 compared to FY2023 that was due to decreases in business & industry awards (down 29%) and federal awards (down 7%). Awards in these areas should be accelerating, especially in the business & industry category. Although FY2024 set a new record for the number of high-dollar awards (150), the total amount of high-dollar awards decreased by 16% relative to FY2023. The high-dollar awards are important because they support large teams that can have an outsized impact in solving the most challenging problems. The trends speak to the need to strengthen the research enterprise through strategic initiatives.

The University's scale and its breadth allow us to leverage many different disciplines and to combine them in the pursuit of new knowledge in ways that many of our peer institutions cannot. Knowing that, the University convened a conference last year to envision new areas for research growth. The result was the **Research 2030 framework**, which contained 14 key research directions, and which informs our plans for the future. Three key cross-cutting themes also emerged from that work: sustainable technologies and systems, equitable society and workplaces; and the opportunity to attract research funds from national security-related agencies.

The University is now seeding, creating, and implementing seven research directions: industrial decarbonization strategies (Green Energy-Green Iron), The Future of Advanced Agricultural Research in Minnesota (FAARM), Biomanufacturing and Biotechnology Innovation Center (BBIC), hypersonics, International Institute for Biosensing (IIB), Minnesota MicroElectronics Consortium (MNMEC), and Sustainable GeoCommunities

(SGC). Four of these areas are in the University's biennial budget: Green Energy-Green Iron, Hypersonics, Biomanufacturing, and Advanced Agriculture, soliciting deeper partnership with the state for these important research initiatives.

The Research and Innovation Office (RIO) has also taken several steps to improve our ability to support research. We consolidated what were previously geographically dispersed support units into a [single operational headquarters in McNamara Alumni Center](#) in June 2024 with the aim of boosting staff cohesion and coordination, improving employee's onsite experience, as well as freeing up space for growing units such as Research Computing.

Over the past two years, RIO has invested in key research services and critical research infrastructure to help fill long-term gaps, reduce faculty burden, and to catch up with needs created when University of Minnesota sponsored research award funding jumped 30% between 2019 and 2023. Those investments include MN-GEMS (Minnesota Grants Electronic Management System), which went live in April 2024 to replace a previous technology that dated back to 1998; new staff across nearly all research support units to address increasing needs in grant administration, regulatory requirements, research compliance, and external partnerships; stabilized staffing for animal care and use for pre-clinical researchers; new preclinical research infrastructure and services; and improvements for the heavily utilized University of Minnesota Genomics Center (UMGC). (More details in Infrastructure Investments and Strategic Initiatives.)

These are important steps forward, but overall, the University has under-invested in research facilities, with our last new research building coming on line more than a decade ago. At the highest level this affects our ability to attract and retain top research talent to Minnesota who can continue to lead key areas of inquiry, and, through a complicated formula and through negotiations with the federal government that my colleagues and I explained to the Board of Regents in September, it also means that the federal government reimburses us for indirect costs at lower and lower levels.

The fact is that our peer universities have and are continuing to make investments in buildings and facilities, providing new research capabilities for their researchers. This is a double-edged sword: not only are they creating a more competitive position for their own faculty and scientists to go after external funding, but they are also realizing a higher level of return on that investment, which helps drive up their ranking and also provides them with more operational capability to address many needs on their campuses. As President Cunningham noted at the time, we are going to have to build new buildings and new facilities, not just because we want shiny new objects but because our researchers need cutting-edge facilities to bring in much-needed additional revenues to our institution.

These are exciting times for research at the University of Minnesota, and I trust that this report will underscore that we remain a research powerhouse with a great deal of potential, with new partnerships and emerging ideas that build on our existing strengths and the needs of Minnesotans. I also hope this report will also show that there is a significant need to strengthen the research enterprise through strategic initiatives that will drive the University to new heights.

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⚜️Pact 2025 Progress: Research Powerhouse

As part of the University's MPact 2025 Systemwide Strategic Plan, the Board has adopted the following goals for Commitment 2, Discovery, Innovation, and Impact:

- Increase high-impact discovery and scholarship
- Drive creativity, collaboration, and entrepreneurial spirit
- Engage Minnesota

These goals, along with others included in Commitment 3, MNtersections, provide a framework for the research community, leadership, and external partners to align with the overall vision of MPact 2025. RIO has been tasked to annually assess progress and report on the achievement of these research goals through the measures listed in the MPact 2025 Progress Card. The updates to this year's progress card are below.

| Commitment 2 – Discovery, Innovation, and Impact		
Driver/Outcome	**December 2023**	**December 2024 Update**
Target growth for sponsored awards of 5% per year (stretch 7%) for next five years. Maintain Top 10 Public University expenditure ranking in HERD.	•$1.13B sponsored research awards, FY2023 •#12 among US publics, HERD Survey, FY2022	$1.06B sponsored research awards, FY2024 #12 US publics, HERD Survey, FY2023
Grow to 25 start-ups per year by 2025.	•23 startups, FY2023	25 startups, FY2024
Increase industry sponsored awards each year. ($109M by 2025)	•$131.4M business and industry awards, FY2023	$93.3M business and industry awards, FY2024
Increase the number of multidisciplinary grants each year.	•1,335 grants FY2023	1,324 grants FY2024
Increase state-sponsored research.	•$495.6M, state-sponsored research awards, FY 2019-2023	$558.1M, state-sponsored research awards, FY 2020-2024

Elevate USNWR National Public rankings and Shanghai rankings.	• #26 USNWR • #44 in world, ARWU (Shanghai) ranking, FY2023	#23 USNWR #47 in world, #10 among US Publics ARWU (Shanghai) ranking, FY2024
Commitment 3 - MNtersections		
Increase the number of med-tech/health science disclosures each year.	•210 med-tech/ health-science disclosures, FY2023	231 disclosures, FY2024
Increase the number of food, ag-tech, and natural resource related disclosures each year.	•56 Food, ag-tech, and natural resource-related disclosures, FY2023	40 disclosures, FY2024

In summary, the University research enterprise has achieved or is making progress on achieving the MPact 2025 goals and measures. In addition to these research measures, there are other progress card goals that involve RIO in partnership with the provost and senior vice president for finance and operations. Where appropriate, we have aligned our efforts with them to ensure success.

Research Statistics and Outcomes: Fiscal Year 2024

University of Minnesota faculty and staff competed successfully for $1.06 billion in sponsored research awards in FY2024. That award level was the University's third largest, but was a decrease of 6.0% ($67.3M) from the previous year. This drop was primarily driven by federal (7%) and business & industry (29%) sources of funding.

Figure 1: Awards by Major Source (FY2024)
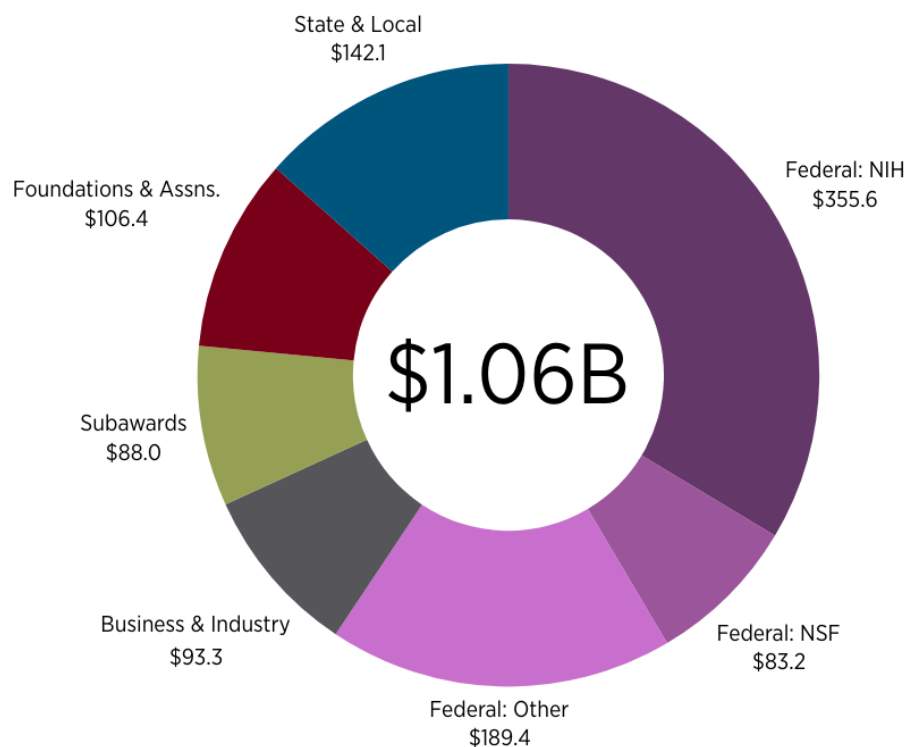
Dollar amounts in millions
Office of Research and Information Systems Data Services

The University received over half of its sponsored research funding (59.4%) directly from federal sources. In FY2024, federal awards totaled $628 million and non-federal awards totaled $420 million (Figure 1).

Of the federal research support, the National Institutes of Health (NIH) continued to be the University's largest single federal funding source, totaling $356 million. This amount represents a decrease (18.2%) compared to the previous year. The National Science Foundation (NSF) is the second largest federal sponsor of University research totaling $83.2 million in FY2024. This total represents a $1.2 million or 1.4% decrease from the previous year.

Funding from the USDA, the EPA, and the USDOE all increased by over $5M. This is primarily due to more funding from high dollar awards in FY2024 than in FY2023.

Business and industry (B&I) funding totalled $93.3 million, down $38.2 million (29.0%)

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over the prior year. This in part due to B&I sponsors funding $40.6M less in high-dollar awards than in FY2023.

The State of Minnesota and Local Government category provided $142.1 million in funding in FY2024, an increase (41.7%) from the year prior. The State of Minnesota comprises the majority of this total ($135.0M). The increase in funding reflects the state's historical pattern of granting more award funding in the first year of its biennial budget cycle (FY2024) than the second (FY2025). That pattern aside, this year's total is the largest funding level ever received from the State of Minnesota.

Figure 2 illustrates how the University's $1.06 billion of sponsored research funding is distributed within the University's colleges and campuses.

Figure 2: Research Awards by College & Campus (FY2024)
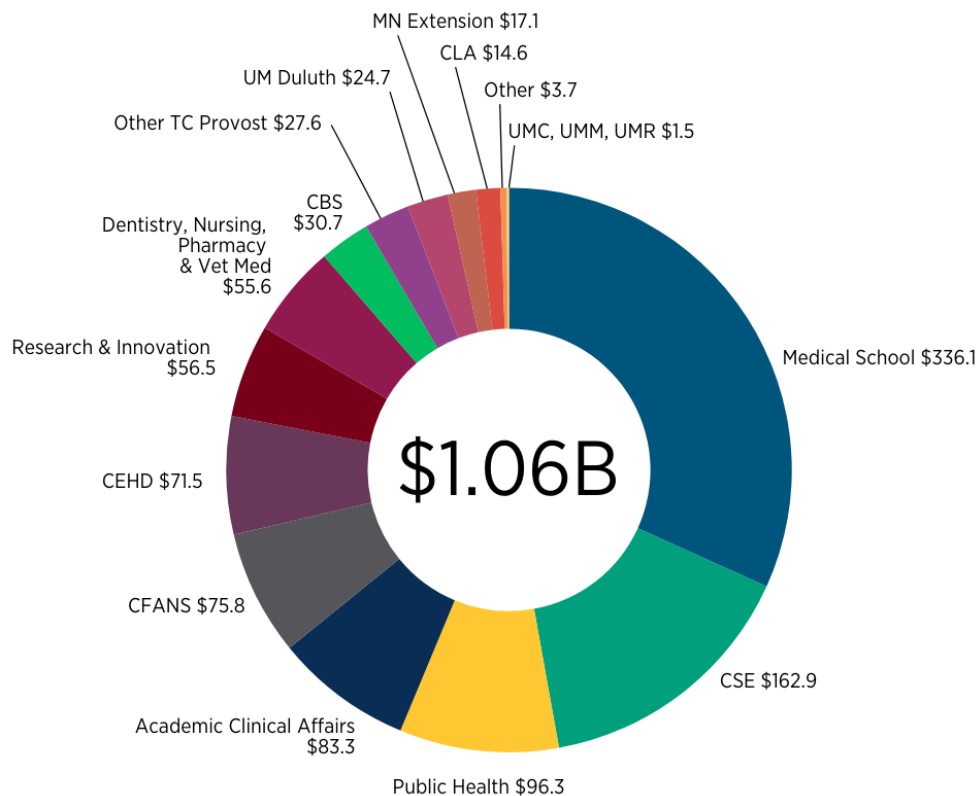
Dollar amounts in millions
Office of Research and Information Systems Data Services

This year, those colleges with the largest annual percentage increases in research funding include:

- College of Education and Human Development, up $21.9 million to $71.5 million (44.0%)
- School of Dentistry, up $2.2 million to $7.9 million (38.7%), part of Dentistry, Nursing, Pharmacy & Vet Med category.
- Office of Academic Clinical Affairs (OACA), up $13.0 million to $82.5 million (18.8%).

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The University's health science schools accounted for $571.3 million, or 54.0% of total FY2024 awards. The Medical School comprised $336 million of that amount, with other health sciences (College of Pharmacy, College of Veterinary Medicine, OACA, School of Dentistry, School of Nursing, and School of Public Health) receiving $235 million or 22.2%. awards.

OACA's 18.8% increase this year is in part due to a $53.9 million NIH CTSA award that will be distributed over the next seven years. The FY2024 award amount is $7,727,233. The overall award is one of the largest federal research grants the University has ever received and the University's third Clinical and Translational Science Award (CTSA) from NIH, underscoring the University's strength in a key area of impactful research.

Year-Over-Year Trends

Table 1 and Figure 3 summarize a 10-year distribution trend of the University's sponsored research awards for the years FY2015 to FY2024. Over this period, the University has experienced an increasing growth trajectory in awards from most categories of research sponsors. These trends in research awards continue to support the research goals set forth in the University's MPact 2025 plan which uses FY2020 as its baseline year (see MPact 2025 progress above).

Table 1: Research Awards by Source Category (FY2015-2024)

	Federal	Business & Industry	Universities & Colleges	Other Private	State & Local	TOTAL
2015	$463.1	$78.0	$60.7	$72.4	$79.3	$753.6
2016	$466.3	$80.8	$72.4	$77.7	$90.9	$788.1
2017	$438.9	$83.9	$73.1	$72.3	$76.4	$744.5
2018	$494.5	$64.1	$72.5	$71.7	$90.3	$793.2
2019	$537.8	$80.4	$78.9	$86.5	$79.4	$863.0
2020	$535.3	$81.6	$68.0	$78.7	$112.4	$875.9
2021	$603.5	$255.5	$74.8	$107.1	$107.5	$1,148.4
2022	$617.9	$92.6	$84.9	$119.4	$135.5	$1,050.2
2023	$678.0	$131.4	$101.2	$114.3	$100.3	$1,125.2
2024	$628.2	$93.3	$88.0	$106.4	$142.1	$1,057.9

Dollar amounts in millions
Office of Research and Information Systems Data Services

Figure 3: Sponsored Awards by Source, FY2015-2024
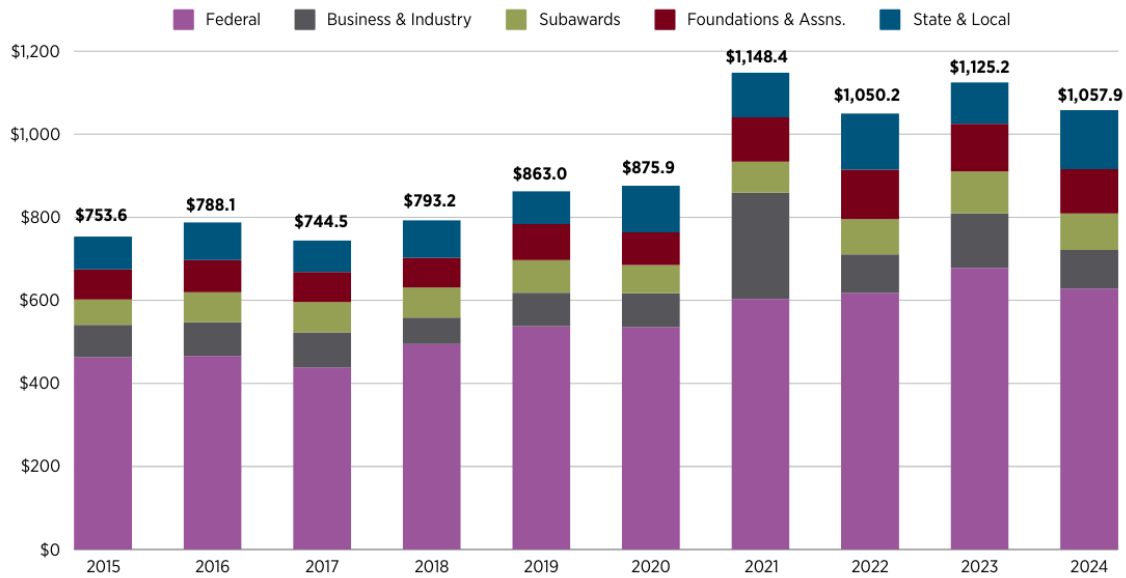
Dollar amounts in millions
Office of Research and Information Systems Data Services

Compared to FY2020, the annual total of award funding has grown by 20.1%. An important component of this overall growth trajectory is the increasing number of high dollar awards (Figure 4). Since FY2020, there has been a 25% growth (120 to 150) in the number of higher dollar awards coming to the University.

Figure 4: High Dollar Awards (>$1M) Trending, FY2009-FY2024
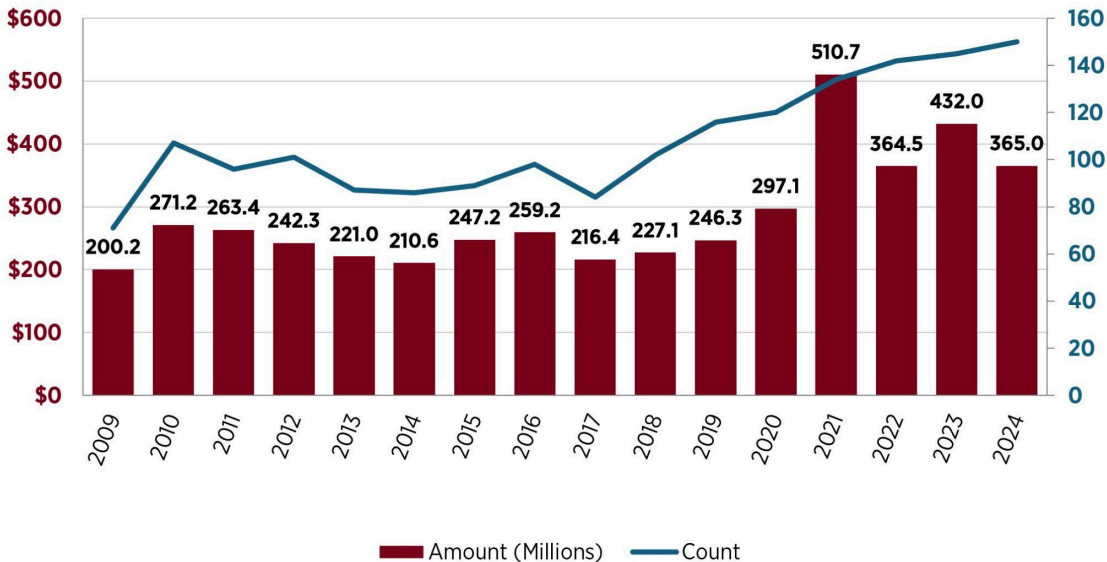
Dollar amounts in millions
Office of Research and Information Systems Data Services

The volatility of overall award levels and the Federal and Business & Industry categories is

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attributable in part to high dollar awards. High dollar awards are an important achievement, because they incentivize interdisciplinary team science that can have a larger impact in developing new solutions and addressing complex challenges.

National and Global Analysis: Peer Comparison

Research and Development (R&D) Expenditures

The Higher Education Research and Development (HERD) Survey is the authoritative source of national comparative information on R&D expenditures in US higher education. The HERD survey is completed annually by over 900 higher education institutions and released by the National Science Foundation. While there is no single indicator or composite number that accurately represents the totality of research impact at an individual institution, the HERD survey data provide a credible, uniform, and nationally-accepted basis for peer comparisons.

In the FY2023 HERD survey data release, the most recent figures available, the University posted over $1.32 billion in R&D expenditures at the Twin Cities campus, a 10% increase over FY2022 (Figure 5). That expenditure level resulted in the University again ranking 12th among US public research universities (Table 2), matching FY2022's ranking.

Figure 5: UMTC HERD R&D Expenditures By Source, FY2015-FY2023
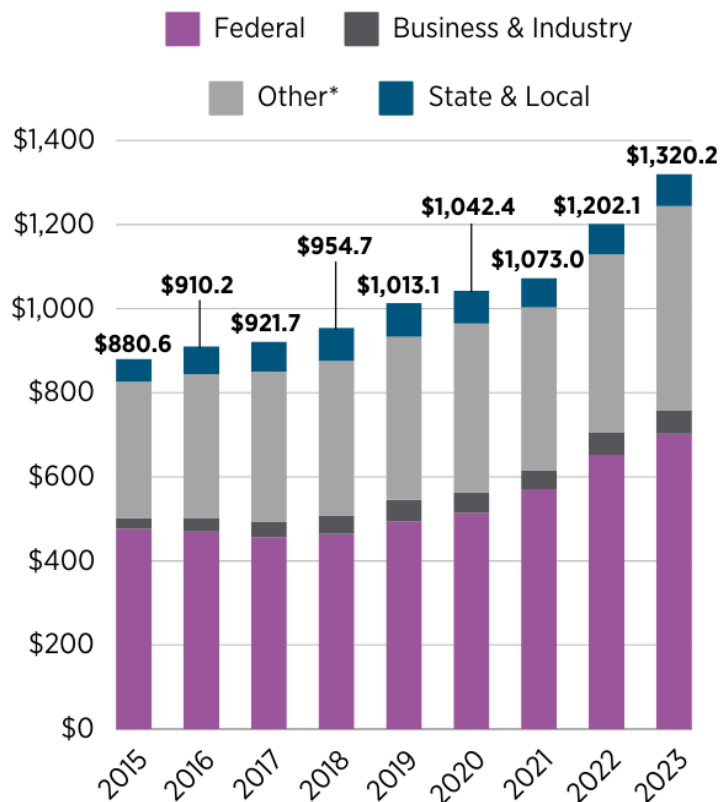
Dollar amounts in millions.
*Other includes Non-Profit sponsors and Institutional funding
Source: NSF HERD Survey. Office of Research and Information Systems Data Services.

Owing to HERD survey reporting requirements imposed by NSF, the University's $1.32 billion represents only research expenditures for the Twin Cities campus. **When all UMN campuses are reported together, total systemwide R&D expenditures are $1.35 billion,** which represents a 9.9% increase over FY2022**.**

Overall, NSF's HERD data places the University among an elite group of US public research universities—in the top 2.5% of the more than 900 colleges, universities, and institutes reporting in the survey. Ranking data plays an important role in attracting talented students, faculty, staff, and others to our University. Ranking and increased research expenditure also helps with retention of in-demand researchers.

Table 2: Top 20 US Public Research Institutions, Two Ranking Systems

	HERD - 2023		ARWU (Shanghai) - 2024		
	Public	Expenditures	World	US	US - Public
UC San Francisco	1	2,046,539	20	16	5
Michigan	2	1,925,875	30	19	6
Washington	3	1,734,091	18	14-15	3-4
Wisconsin	4	1,731,949	36	23	8
UCLA	5	1,721,665	15	12	2
UC San Diego	6	1,705,410	18	14-15	3-4
North Carolina	7	1,549,617	35	22	7
Ohio State	8	1,449,188	82	35	16
Georgia Tech	9	1,405,080	151-200	51-59	24-27
Pittsburgh	10	1,398,078	90	37	18
Maryland	11	1,385,302	58	29	12
Minnesota - Twin Cities*	12	1,320,183	47	26	10
Texas A&M	13	1,277,814	201-300	60-78	28-44
Univ Texas M.D. Anderson Cancer Ctr	14	1,255,190	86	36	17
Florida	15	1,250,201	101-150	39-50	20-23
Penn State	16	1,206,793	101-150	39-50	20-23
UC Berkeley	17	1,076,754	5	4	1
Texas	18	1,035,838	45	25	9
UC Davis	19	962,399	101-150	39-50	20-23
Arizona	20	955,424	151-200	51-59	24-27

Dollar amounts in thousands.
*UC San Francisco and M.D. Anderson are stand-alone medical schools without undergraduate education programs.
Source: NSF HERD Survey. ARWU (Shanghai). Office of Research and Information Systems Data Services.

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Indirect cost recovery plays a role in the University's ranking. For example, the difference in indirect cost recovery by our peers University of Pittsburgh and Georgia Tech and the University of Minnesota in FY 2023 was $78,865 and $92,345, respectively. Had the University realized the same level of indirect cost recovery, it would have ended up ranked ahead, rather than behind, both of those institutions in the HERD ranking (Table 2). Both schools were able to realize higher indirect cost recovery rates from the federal government because of higher levels of investment in their research infrastructure over the long term.

Academic Ranking of World Universities (ARWU)

Table 2 (above) also reports another widely accepted and cited ranking system—the Academic Ranking of World Universities (ARWU)—sometimes called the Shanghai index. This system relies on several indicators that serve as a proxy for accomplishments and strengths relative to the best performing research institutions in the country and the world, respectively. With respect to research, the ARWU relies on the academic impact of peer-reviewed research, number of Nobel laureates, and related research measures. **For 2024, this measure ranks the University as highly competitive — #10 among US public research universities**. However, the university decreased to 47th among all world universities and fell out of the top 25 of US universities.

The organization also produces a Global Ranking of Academic Subjects, focusing on scholarship within 55 specific academic fields. Ten subjects at the U of M were ranked in the top 25 globally, including ecology (ranked No. 2 in the world), psychology (No. 8), medical technology (No. 11), library and information science (No. 11), communication (No. 11), economics (No. 22), management (No. 23), and statistics (No. 23). Out of the 55 subjects ranked, 36 subjects at the U of M were recognized among the top 100 in the world. Table 3 provides the complete list of the top 100.

Table 3: Global ARWU Ranking of the Top 100 Universities by Academic Subject (FY2024)

Global Ranking of Academic Subjects: Top 100		
Ecology (No. 2) Psychology (No. 8) Communication (No. 11) Medical Technology (No. 11) Library & Information Science (No. 14) Veterinary Sciences (No. 14) Education (No. 21) Economics (No. 22) Management (No. 23) Statistics (No. 23)	Dentistry & Oral Sciences (No. 29) Biotechnology (No. 30) Environmental Science & Engineering (No. 30) Earth Sciences (No. 32) Mechanical Engineering (No. 32) Business Administration (No. 36) Public Administration (No. 43) Nursing (No. 46) Agricultural Sciences (No. 48) Geography (No. 50)	Biological Sciences (No. 51-75) Clinical Medicine (No. 51-75) Finance (No. 51-75) Human Biological Sciences (No. 51-75) Law (No. 51-75) Pharmacy/Pharmaceutical Sciences (No. 51-75) Physics (No. 51-75) Remote Sensing (No. 51-75) Sociology (No. 51-75) Transportation Science Technology (No. 51-75) Atmospheric Science (No. 76-100) Biomedical Engineering (No. 76-100) Mathematics (No. 76-100)

		Political Sciences (No. 76-100)
		Public Health (No. 76-100)
		Water Resources (No. 76-100)

Technology Commercialization and Corporate Engagement

As a leading American research university and a land-grant institution, the University of Minnesota is committed to facilitating and accelerating the transfer of knowledge into the world where it can have the most impact and do the most good. UMN Technology Commercialization (Tech Comm), housed within the Research and Innovation Office (RIO), plays a key role in technology transfer (e.g., licensing and patents), startup company creation, and a revitalized corporate engagement effort at the University.

Commercialization Highlights

The University's efforts to commercialize technology continued its strong track record of performance in FY2024. The University continued to innovate in a broad set of technology areas, and Tech Comm played a vital role in bringing those technologies to businesses of all sizes, reflected in the number of licensing deals and a record number of startups.

The University's technology transfer work has been recognized for its excellence in national and global rankings:
- UMN is in the top 20 public universities for five key tech transfer metrics: startups (3rd), deals (7th), disclosures (11th), New Patent Applications (16th), and License Income (17th); AUTM 2022 Survey
- 17th among US public universities granted US Utility Patents; National Academy of Inventors Top 100, 2023
- First for technology transfer within the 20-state heartland region, and fifth among all US public universities; Heartland Forward 2022

Technology Licensing, Inventions, and Patents

Table 4 (below) shows FY2024 technology transfer metrics, including a record breaking number of startups (25), which achieves the MPact 2025 goal of 25 annual startups created by 2025. Gross revenue remained strong, with the University securing licensing revenue of $20.04 million, a major portion of which was reinvested back into UMN research. In addition, 226 new licensing deals were executed, and 448 revenue generating agreements were created or maintained.

Table 4: Technology Commercialization Statistics (FY 2020-2024)

	2020	2021	2022	2023	2024
Licenses & Revenue					
New Licenses	235	236	211	231	226
Current Revenue Generating Agreements	601	575	467	448	448
Gross Revenue	$16.15	$17.36	$16.14	$16.64	$20.04
Startups					
Startup Companies Formed	19	20	22	23	25
Inventions & Patents					
Invention Disclosures	397	332	315	360	375
New Patent Filings	152	126	156	146	126
New Patent Filing Rate*	38%	38%	50%	41%	34%
Issued Patents (US and Foreign)	182	181	241	234	188

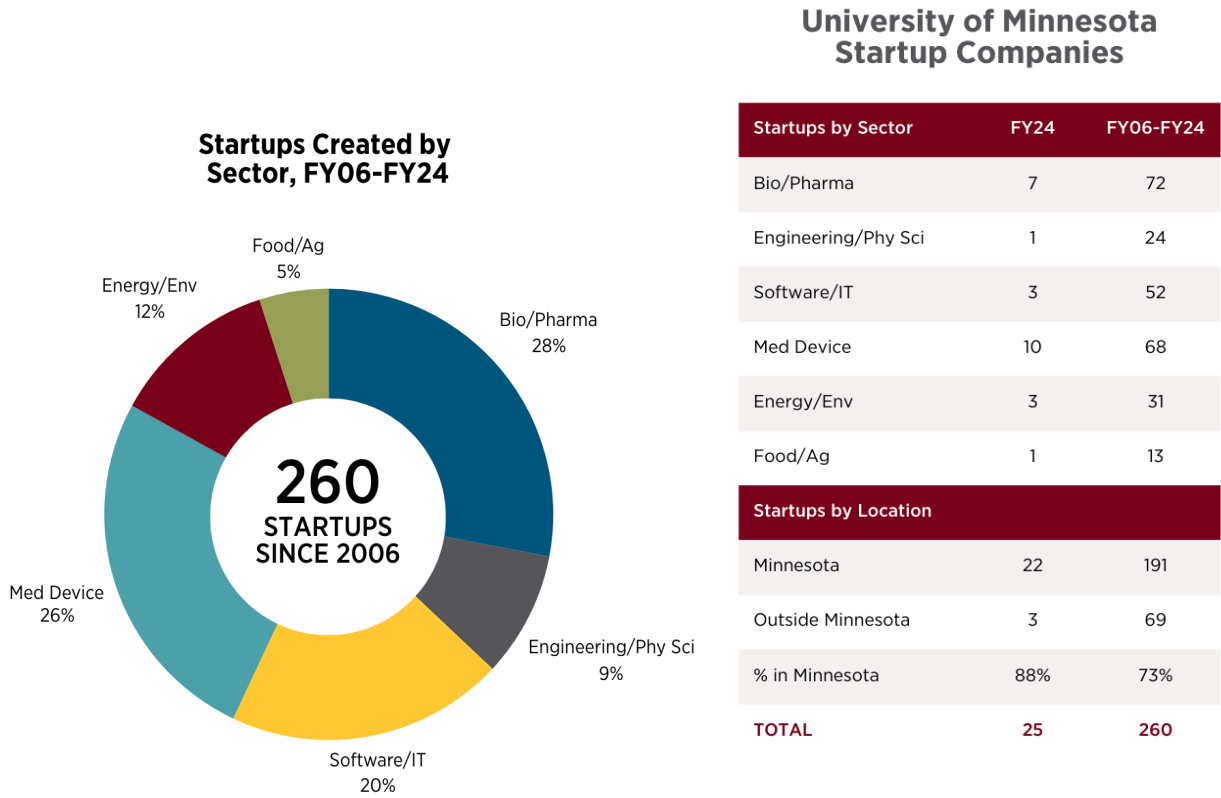Technology Commercialization; Wellspring Sophia.
*New Patent Filing Rate is calculated: New Patent Filings / Disclosures.

Invention disclosures from faculty and other researchers increased to 375 in FY2024 and a subset of these disclosures in medtech/health science and in food, ag-tech, and natural resource areas are reported as part of the MPact 2025 measures for the University (see the MPact 2025 section above). Patent filings and the patent filing rate were both down in FY2024, partly due to a rise in copyrightable disclosures (things that are not patentable but still commercializable).

Venture Center

The University's record 25 startup companies launched in FY2024 surpass its previous record for the fourth year in a row. Since the 2006 founding of the Venture Center, a division of Tech Comm, the University has launched more than 260 startup companies, with a long term success rate of 68%. Additionally, 73% of companies have been located in Minnesota. In fiscal 2024, a record 88% of new University startups—22 out of 25—were located in-state. See Figure 5 below.

Figure 5: Startup Companies by Industry Area, FY 2006-2024

Startups Created by Sector, FY06-FY24

260 STARTUPS SINCE 2006

- Bio/Pharma 28%
- Engineering/Phy Sci 9%
- Software/IT 20%
- Med Device 26%
- Energy/Env 12%
- Food/Ag 5%

University of Minnesota Startup Companies

Startups by Sector	FY24	FY06-FY24
Bio/Pharma	7	72
Engineering/Phy Sci	1	24
Software/IT	3	52
Med Device	10	68
Energy/Env	3	31
Food/Ag	1	13
Startups by Location		
Minnesota	22	191
Outside Minnesota	3	69
% in Minnesota	88%	73%
TOTAL	**25**	**260**

Technology Commercialization, Wellspring Sophia

Corporate Engagement

The University of Minnesota Corporate Engagement Center (CEC) offers a unified and consistent point of contact for corporations interested in partnering with the University, and for faculty looking to engage with the private sector.

UMN's vice president for research and innovation plays a key role in the shared leadership of CEC, helping to connect companies with the University's research enterprise. CEC represents a unique partnership between RIO and the University of Minnesota Foundation, one that works together to support and advance the mission of the University systemwide.

CEC ended FY2024 with a strategic portfolio of 63 top companies, including all 17 of Minnesota's Fortune 500 companies, with an engagement strategy in place for each firm in its portfolio.

With careful planning and execution by CEC staff, University academic leaders hosted or supported nine specialized corporate engagement events, including a Minnesota Corn Growers reception, pre-event receptions for Carlson School 1st Tuesday Speakers for Huntington and Securian, and a 3M Executive Luncheon & Poster Session.
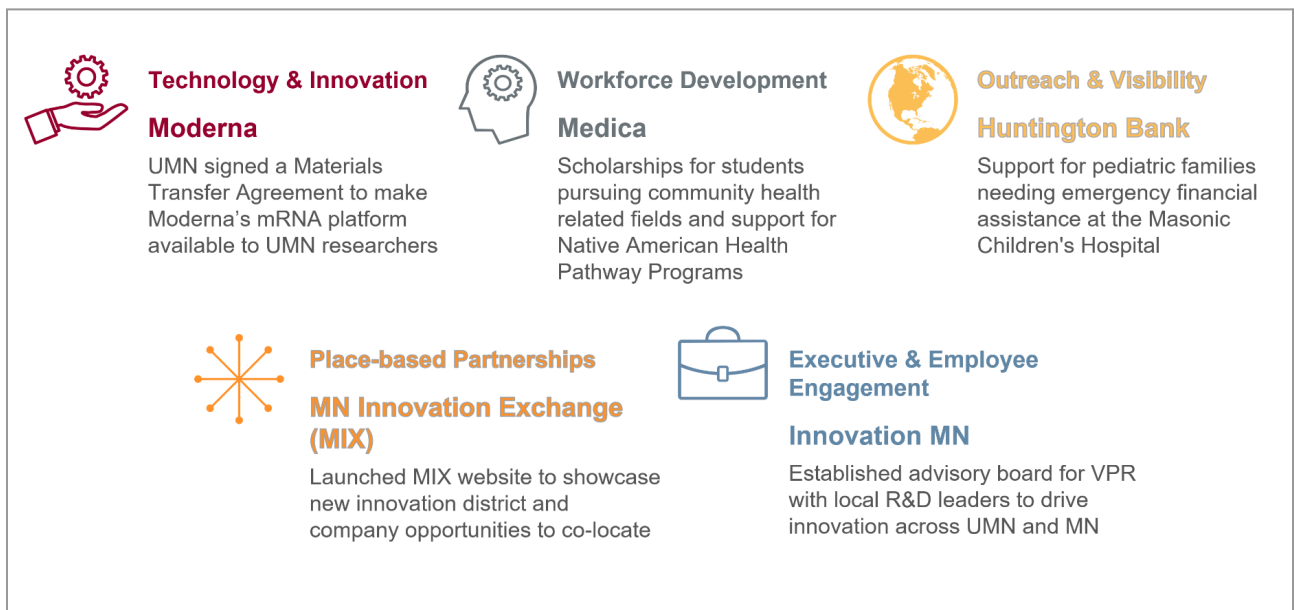
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The 3M event attracted nearly 150 attendees, including graduate and postdoctoral presenters. More than 60 3M employees, including senior leaders from the company's research and development and corporate and social responsibility teams, participated, and seven 3M employees made presentations. The Poster Session featured 40 posters from UMTC and UMD, with topics ranging from decarbonizing the industrial drying process to improving green ammonia production, with practical applications for manufacturing, energy, medicine, and information storage and sharing.

CEC staff also organized 48 coordinated company visits, including senior UMN leader engagement in three-quarters of them, and helped create presidential transition engagement strategies for Interim President Jeff Ettinger and President Rebecca Cunningham.

CEC staff and partners across the University also helped generate $130 million in corporate gifts, grants, and other activities. Of that total, $69.8 million came from CEC strategic portfolio companies. The University of Minnesota also ranked 3rd in the 14-member Big Ten for corporate philanthropy, according to most recent data from FY2023.

In addition, CEC and RIO staff and leadership continued to advance research partnerships with industry partners who participated in the Spring 2023 Research 2030 workshop, through the kickoff for the UMN Sustainable GeoCommunities program in Delhi in late June, and through the creation of Innovation MN, a group that is bringing industry and academia together to craft a strategic roadmap to advance innovation in Minnesota

Figure 7: CEC Partnership Highlights

Technology & Innovation

Moderna

UMN signed a Materials Transfer Agreement to make Moderna's mRNA platform available to UMN researchers

Workforce Development

Medica

Scholarships for students pursuing community health related fields and support for Native American Health Pathway Programs

Outreach & Visibility

Huntington Bank

Support for pediatric families needing emergency financial assistance at the Masonic Children's Hospital

Place-based Partnerships

MN Innovation Exchange (MIX)

Launched MIX website to showcase new innovation district and company opportunities to co-locate

Executive & Employee Engagement

Innovation MN

Established advisory board for VPR with local R&D leaders to drive innovation across UMN and MN

Discover→Advance→Impact™ Model

The University has launched an initiative to amplify its proven process for getting opportunities to innovators and innovations to market called Discover → Advance→Impact ®. The initiative seeks to raise $40 million to add more capital to its proven end-to-end tech transfer model that is currently undersized relative to the innovation pipeline. Discover→ Advance → Impact will help position the State of Minnesota to become a stronger player in attracting private investment. This program is unique because of its self-sustaining model, how it will address funding gaps between research and capital, and because it offers entrepreneurial opportunities for students, faculty and staff to address today's societal challenges.

Research Educates Our Students

American research universities offer unique and essential skills to students of all levels, from undergraduate through doctoral. Student involvement in research benefits the research, faculty researchers, students, and the community. Research prepares students to be the innovators of tomorrow by training them in the practices of research and discovery. Research experience deepens student's understanding, develops critical thinking, and improves communication skills. Over 2,000 U of M students participate in undergraduate research, scholarly, and creative projects every year.

The MPact 2025 plan includes the goal to prioritize research opportunities for undergraduate students and tracks progress using the Student Experience in the Research University (SERU) survey. In the 2024 SERU survey, **47.8% of 2024 undergraduate senior-level students surveyed had participated in undergraduate research at the U of M (Twin Cities). This is a 27.5% increase compared to 2021 when only 37.5% of students participated in research.** The University has a goal of 50% participation by 2025 and is on track to achieve this goal.

UMN programs supporting student research experiences include:
- Undergraduate Research Opportunities Program (UROP)
  - International UROP
  - Grant-In-Aid UROP
- Research Experiences for Undergraduates (REU)
- Pathways to Graduate School: Summer Research Program
- Directed research/directed study

Many of these programs are designed to tightly couple curricular offerings with ongoing research in order to translate results from the field/lab/clinic to the classroom, thereby equipping students with the knowledge and expertise most in demand in the marketplace.

There are many touch points for students through the research enterprise, including training in the world-class laboratories comprising cutting-edge tools, internship opportunities at partner industries and tech comm companies, increased opportunity for gaining competitive fellowships, enhanced job opportunities due to exposure to research information through funded projects, and entrepreneurship opportunities.

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Research Advancement Grant and Award Programs

RIO oversees several internal grant and award programs designed to support and nurture the University's research enterprise. These resources provide a broad range of opportunities, from smaller awards provided to jump-start new innovative ideas to larger awards designed to incentivize collaborations across disciplines that address strategic challenges.

Grant Programs

Artist-in-Residence Program

Now in its second year, the Artist-in-Residence program invites artists to collaborate with scientists to spur creative thinking and innovation and illuminate important questions and big ideas. Artists are selected for a residency to produce science-based artwork and visuals, display their projects, and participate in public talks to explain their work. To date, four projects have been funded.

The first project, *Disembodied/Reembodied*, is a collaboration between UMN artist and professor Jenny Schmid, Wangensteen Historical Library of Biology & Medicine curators Emily Beck and Lois Hendrickson, and Clinical Ethics Assistant Professor Jaime Konerman-Sease. The project, which addresses medical depictions of women's bodies in the library collection, included an October exhibition of Schmid's prints, interactive online content, and opportunities to learn about the collaborators' process. The second project, *Katydid Songs and Silent Crickets: Poems in the Grasses*, will be presented in early 2025 and the two most recently awarded projects will be presented in fall 2025.

Biotechnology and Biomanufacturing Seed Grants

The Biotechnology and Biomanufacturing Seed Grants program is designed to stimulate biotechnology and biomanufacturing research in several priority areas and increase competitiveness for researchers seeking extramural awards. The following are brief descriptions of the projects selected for Biotechnology and Biomanufacturing Seed Grants in 2024:

- Biochar as a Dewatering Agent for the Permanent Impoundment of Minnesota's Coal Combustion Residual (CCR) Program, UMD Natural Resources Research Institute (NRRI)
- Microbial Electrochemical Factories for Green Ammonia Synthesis, College of Biological Sciences (CBS)
- Upcycling Food Waste and Corn Ethanol Coproducts to Produce Novel Feed, College of Food, Agricultural, and Natural Resource Sciences (CFANS)
- A Fungal-Amended Approach to Enhance Long-Term Mineral Carbon Storage, College of Science and Engineering (CSE), College of Food, Agricultural, and Natural Resource Sciences (CFANS)
- Genetic Engineering of Black Soldier Fly for Sustainable Omega-3 Production, College of Biological Sciences (CBS)

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- Wood Waste to Walls: Pioneering a Regional Bioeconomy of Biochar-Based Carbon-Sequestering Building Materials, College of Design, UMD Natural Resources Research Institute, College of Biological Sciences (CBS), College of Science and Engineering (CSE).

Grant-in-Aid

The Grant-in-Aid (GIA) of Research, Artistry, and Scholarship Program provides grants to support scholarly and artistic activities of faculty and their graduate students to foster excellence. GIA projects represent the breadth and depth of University research in all disciplines and fields. While any faculty can apply for GIA funding, it plays an especially important role in providing new professors and emerging researchers with opportunities to pursue research and scholarship that may not yet have received external funding. This program has been very successful in generating new external funding. For every dollar invested, $14 in external funding was generated in fiscal years 2018-2022.

Grant Matching Funds

Some external funders require an institution to match funds to a specific grant activity. As grant processes become more competitive, the demand for such institutional matching funds continue to increase, resulting in higher levels of required institutional investment. RIO works in partnership with colleges throughout the grant proposal process to coordinate the University's total commitment in matching funds.

Research Infrastructure Investment Program

The Research Infrastructure Investment Program provides funding that supports research infrastructure to ensure the viability of critical facilities and research support services. The awards are designed to facilitate interdisciplinary partnerships and strengthen the University's research infrastructure.

In 2024, the program supported 13 projects across 32 departments and centers at 8 colleges. Awards supported research infrastructure, facilities, and support services over a variety of University research areas. The following are representative projects from the 2024 awards:

- Ultra-high-throughput sequencing of microbial diversity and ecology: averting the next pandemic, Medical School
- Replacement of Greenhouse Lighting with Energy Efficient LEDs, 85 shared greenhouse zones in at least 10 college departments representing three University colleges.
- Addressing a University-wide Capability Gap in Profiling and Imaging with Two 3D Laser Scanning Microscopes, College of Science and Engineering (CSE)
- Upgrades for the University of Minnesota Zebrafish Core Facility, College of Biological Sciences (CBS); School of Dentistry; Medical School; College of Science & Engineering (CSE)
- Modernizing data infrastructure of the Minnesota Center for Twin and Family Research, College of Liberal Arts

Social Justice Impact Grants

RIO's Social Justice Impact Grants aim to catalyze rigorous, solution-oriented research on social justice topics, including criminal justice reform, housing segregation/gentrification, systemic racism, achievement gaps, health disparities, and environmental justice. In 2024, RIO awarded three projects:

- **Gail Ferguson**, CEHD, Direct-to-Consumer Marketing of a Transdisciplinary Healthy Eating Intervention for Black Immigrant/Refugee Adolescents
- **Janna Gerwirtz O'Brien**, Medical School, Feasibility and Effectiveness of YouthHealthConnect: A Youth-Driven, Systems Alignment Strategy to Advance Health Equity
- **Sungduck Lee**, College of Design, Aging in Place: Aging Community Design Strategies for Rural Minnesota

Award Programs

Innovation Impact Case Award

The Innovation Impact Case Award recognizes research that has led to significant impact outside of academia and has made a meaningful difference in our communities. Impact is a fundamental aspect of almost all University research programs and is more important than ever. The award celebrates work that solves challenges benefiting individuals, communities, and organizations. Innovation and impact are defined broadly and inclusive of work in all disciplines. Two awards were given in 2024:

- **Michael Pitt**, Pediatrics (Medical School), and John Sartori, Electrical and Computer Engineering (CSE), *Making Access to Hospital Rounds a Right, Not a Privilege with Q-rounds*
- **Tasoulla Hadjiyanni**, Interior Design (College of Design), *Mobilizing Design in the Fight Against Sex Trafficking*

Research Technical Staff Award

Established in spring 2022, the Research Technical Staff Award was created to recognize staff for their distinguished service to the University of Minnesota research community and celebrate exemplary leadership that positively impacted colleagues and advanced the University's research mission. 10 staff members from across the University received awards in this second cycle:

- **Jim Bjork**, research scientist (Researcher 3) in the Department of Biomedical Sciences, University of Minnesota Medical School, Duluth
- **Melissa Blind**, senior research associate for the Memory Keepers Medical Discovery Team (MK-MDT) at the University of Minnesota Medical School, Duluth
- **Juliet Burba**, grants developer for the Institute for Advanced Study, UMN Twin Cities

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- **Michael Corey**, geospatial, technology, and data lead/associate director of Mapping Prejudice, a project of the UMN Libraries
- **Andrea Grant**, ultrahigh-field MRI manager and visual neuroimaging technologist for the Center for Magnetic Resonance Research, UMN Twin Cities
- **Erin Lind**, research project specialist in the Department of Neuroscience, director of the Mouse Behavior Core in the Institute of Translational Neuroscience, and associate director of the MnDRIVE Optogenetics and Neuromodulation Core, UMN Twin Cities
- **Todd Markowski**, senior scientist in the Center for Metabolomics and Proteomics in the College of Biological Sciences, UMN Twin Cities
- **James Marti**, senior scientist at the Minnesota Nano Center in the College of Science and Engineering, UMN Twin Cities
- **Abbey Staugaitis**, project manager of two National Institutes of Health (NIH)-funded clinical trial networks (SIREN and StrokeNet), project manager for the Acute Care Research Coordinator (ACRC) group, and co-director of the UMN Stroke Research Fellowship, UMN Twin Cities
- **Victor Young**, X-Ray Crystallographic Laboratory (XCL) director in the Department of Chemistry, UMN Twin Cities

Infrastructure Investments and Strategic Initiatives

RIO Research Infrastructure and Services Enhancements

In addition to the aforementioned Research Infrastructure Investment Program, over the past two years, RIO has reinvested in key research services and critical research infrastructure to help fill long term gaps, reduce faculty burden and to catch up with needs created when University of Minnesota sponsored research award amounts jumped 30% between FY2019 and FY2023.

MN-GEMS

Implemented by our Sponsored Projects Administration, the MN-GEMS (Minnesota Grants Electronic Management System) went live in April 2024 to replace a previous system that dated back to 1998. MN-GEMS offers better transparency, faster award setup, and enhanced reporting and interconnectivity with other research systems.

Research Services Staffing

RIO added new staff across nearly all research support units to address increasing needs in grant administration, regulatory requirements, research compliance, and external partnerships. RIO also stabilized staffing in Research Animal Resources (RAR), the department that provides animal care and use support for pre-clinical researchers, back to pre-pandemic levels. RIO provided RAR staff salary increases and other improvements based on feedback from RAR employees and the research community.

Preclinical Research Infrastructure

One of RIO's highest priorities has been to upgrade and maintain the University's infrastructure and services related to preclinical research. RIO is investing in a new electronic management system for research with animals, a cage wash system to replace an antiquated predecessor, and other improvements to the East Bank vivarium.

University of Minnesota Genomics Center (UMGC) Investments

RIO has prioritized genomics research at the UMN by stabilizing the UMGC's finances with a three-year funding commitment, positioning the UMGC to emerge as one of the country's most powerful technological genomics hubs. Initiatives already underway include the acquisition of new large-scale and cutting-edge sequencers, purchased in part with support from the Medical School and a matching RIO Research Infrastructure grant, and the build-out of the UMGC "CoLab," a user-accessible facility for training and services in single-cell and spatial genomics. Already, support from RIO has resulted in two rounds of dramatic reductions in the cost of sequencing for investigators.

RIO Research Strategic Initiatives

Biotechnology and Biomanufacturing Innovation Center (BBIC)

BBIC seeks to build a biomanufacturing ecosystem in Minnesota that fosters cross-disciplinary research, innovation, entrepreneurship and education, training, outreach, engagement, and partnership—an ecosystem that is well aligned with anticipated federal investments (e.g., the National Biotechnology and Biomanufacturing Initiative). As outlined previously in this report, six related Biotechnology and Biomanufacturing seed projects have been awarded funding over the next two years, with representation of five colleges/units and two UMN campuses. This program is one of the four research priorities in the UMN biennial budget.

Data Science Initiative

Minnesota has historic roots in supercomputing, and the Minnesota Supercomputing Institute at UMN is at the cutting edge of big data fields such Artificial Intelligence and Machine Learning (AI/ML) and genomics/proteomics. The UMN Data Science Initiative (DSI) aims to make a mark in data science research, nationally and internationally, by charting new research directions and enabling the development of new methods, data sets, and software that are used to address grand challenges facing our state, nation, and the world. For 2023/24, DSI's seed funding focus areas are foundational data science, digital health and personalized healthcare delivery, and agriculture and the environment.

International Institute for Biosensing

Biosensing is a fundamental global technology for the 21st century with tremendous applications for humans and the environment. Biosensors serve as critical monitors in a broad spectrum of applications, including food safety, agriculture, the environment, healthcare, animal health, national security and water quality. The International Institute for Biosensing (IIB) aims to build a coordinated and collaborative national and

international initiative that leverages and binds together experts from academia, nonprofits, industry, and government agencies to create a collective global effort to identify barriers to advancing biosensing research. IIB has developed partnerships with five international research institutes and universities well-known in the field of biosensing to improve collaboration, increase access and lower barriers to physical and intellectual resources needed to accelerate biosensing innovation. The IIB has started a mobility exchange program with Seoul National University through which two teams will be hosted by the other university with the aim of advancing collaboration. IIB is also supporting a cohort of five UMN graduate students working on interdisciplinary biosensing projects over three years. The IIB is helping these students and their advisers to build a network of national and international peers and partners through IIB connections. This growing network of biosensing resources will give UMN graduate students a jumpstart in their careers by linking them to global resources by the time they graduate.

National Security Research Initiative

National security agencies support research into nearly all fields of interest to UMN scholars, and increased collaboration with defense and security-related agencies has long been identified as an area of potential growth for the U's research enterprise. A National Security Research and Innovation Day planned for February 2025 will initially bring together UMN researchers who will explore problems that agencies and companies are seeking to solve across six high interest topics and where that work might overlap with existing UMN research directions. Attendees will explore how collaborations could be built around hypersonics, medical solutions for service members, microelectronics, geospatial imaging, materials in extreme environments, and artificial intelligence.

North Carolina Agricultural and Technical State University (NC A&T) and UMN Research Partnership

This partnership pairs the University with North Carolina Agricultural and Technical State University (N.C. A&T), the largest of the nation's Historically Black Colleges and Universities (HBCUs), located in Greensboro, NC. In the partnership's first phase, RIO will award five proposals annually to initiate collaboration with N.C. A&T peer researchers. The second phase is planned to start in year three, when additional funding will be allocated to initiate at least three research programs per year between the two institutions that build on phase one projects, with the potential for undergraduate research opportunities, and the development of 3 + 2 programs in disciplines that are available at only N.C. A&T or UMN.

Sustainable GeoCommunities

Sustainable GeoCommunities (SGC) is a community-based program that will leverage the power of research to help local communities become more healthy, equitable, and prosperous guided by the UN Sustainable Development Goals. The University of Minnesota (UMN), the University at Buffalo (UB), and the Indian Institute of Technology Kanpur (IITK) sponsored a workshop with IIT Bombay (IITB), IIT Delhi (IITD), IIT Goa (IITG), Amrita Vishwa Vidyapeetham (a multicampus Indian university), and others on

June 24-25, 2024, at the Outreach Center of IIT Kanpur in Noida, India, just outside of Delhi. The workshop brought together over 60 representatives from more than 50 partner organizations including academia, industry, NGOs, community-based organizations, and government to strategize on the evolution and implementation of the SGC program. The workshop aimed to set the stage for the SGC concept and objectives and define the most unique and impactful aspects of the SGC program approach. SGC has a long-term vision to build a global center that will solve global problems with local solutions. The UMN is providing significant seed grant funds to start the initiative and will achieve a broad base of funding through philanthropy, state, industry, and federal agencies. The seed grant competition is currently underway with awards due to be announced early in 2025.

Annual Report on the State of the University Research Enterprise

Board of Regents | Mission Fulfillment Committee | December 12, 2024

Shashank Priya
Vice President for Research and Innovation

The Bottom Line

- The good news is...

  - **Record number of startups (25)** created in FY24

  - Maintained rank in HERD Survey, with a **10% increase in expenditures** FY23 ($1.32 B) over FY22 ($1.20B)

- $1.06 billion in sponsored research awards received in FY24

- High-dollar awards reached an **all-time high of 150** in FY24, but funding amounts **decreased by 16%** compared to FY23

- Business & industry awards **decreased by 29%** in FY24 relative to FY23

Commitment 2 – Discovery, Innovation, and Impact

- Maintained rank of 12th among US Public Universities in HERD survey, increased research expenditures year-over-year

UMTC Research Expenditures
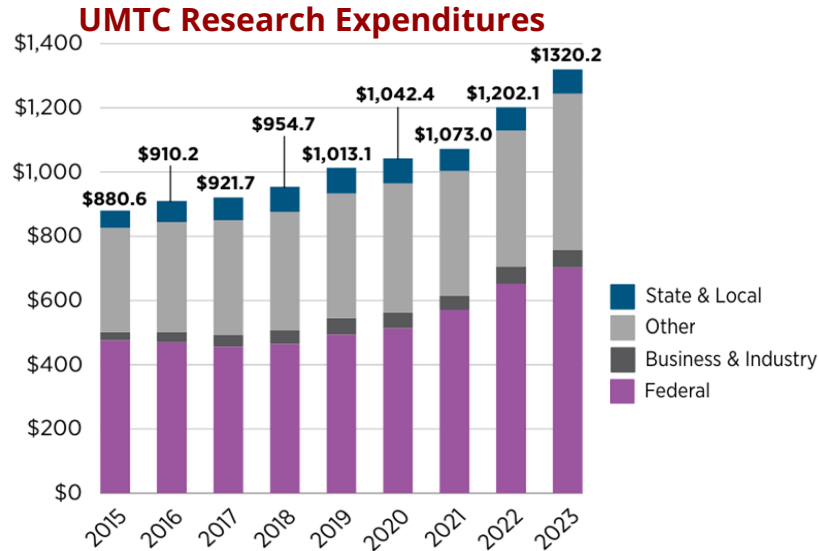
- Maintained rank of 10th among US Public Universities in ARWU/Shanghai rankings

- Reached goal of 25 startup companies spun out annually

- Med-tech/health-science disclosures up; food, ag-tech, & natural resource-related disclosures down, year-over-year

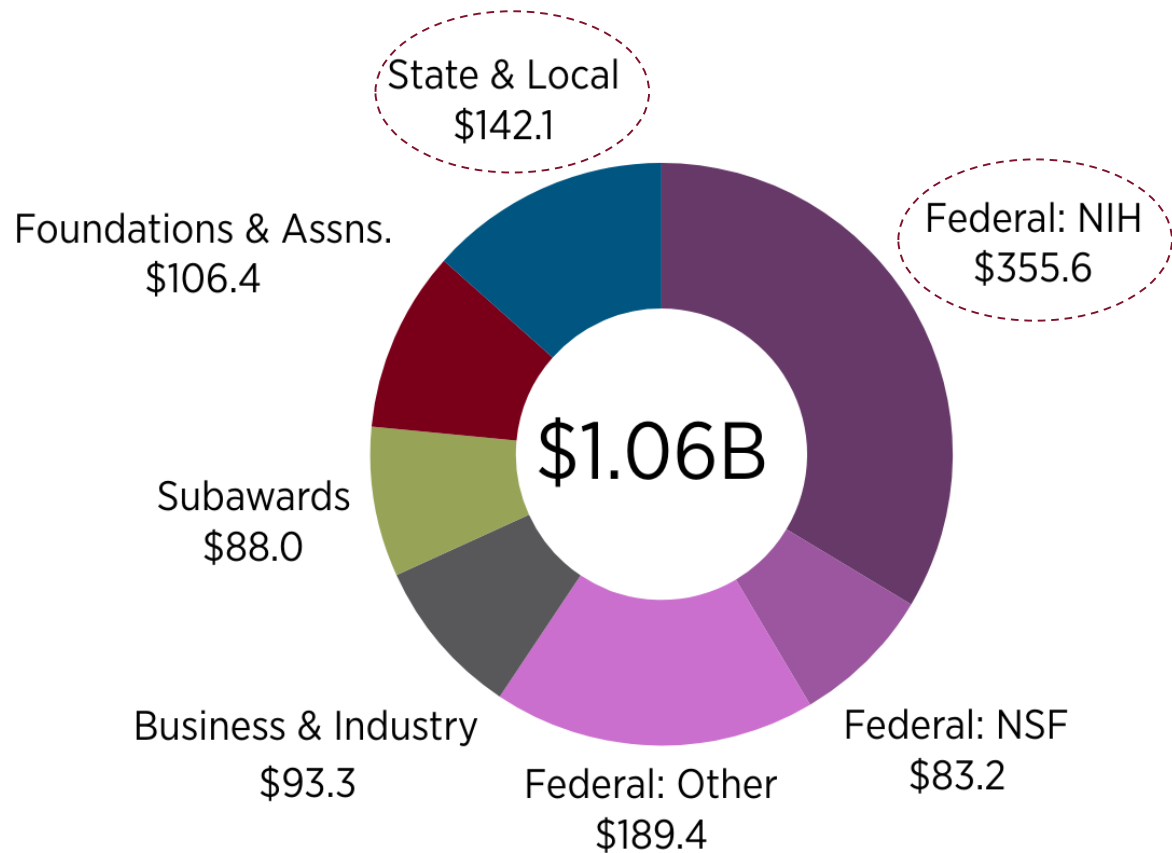# State of the Research Enterprise
FY 2024 Research Funding Levels

Awards by Source

FY24, $ in millions

59.4% of awards from direct federal sources

National Institutes of Health (NIH) remains the largest single funder with $355.6M

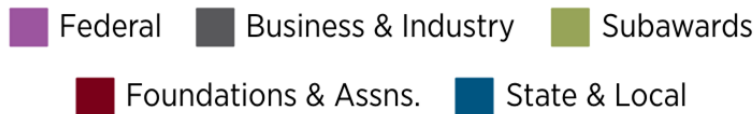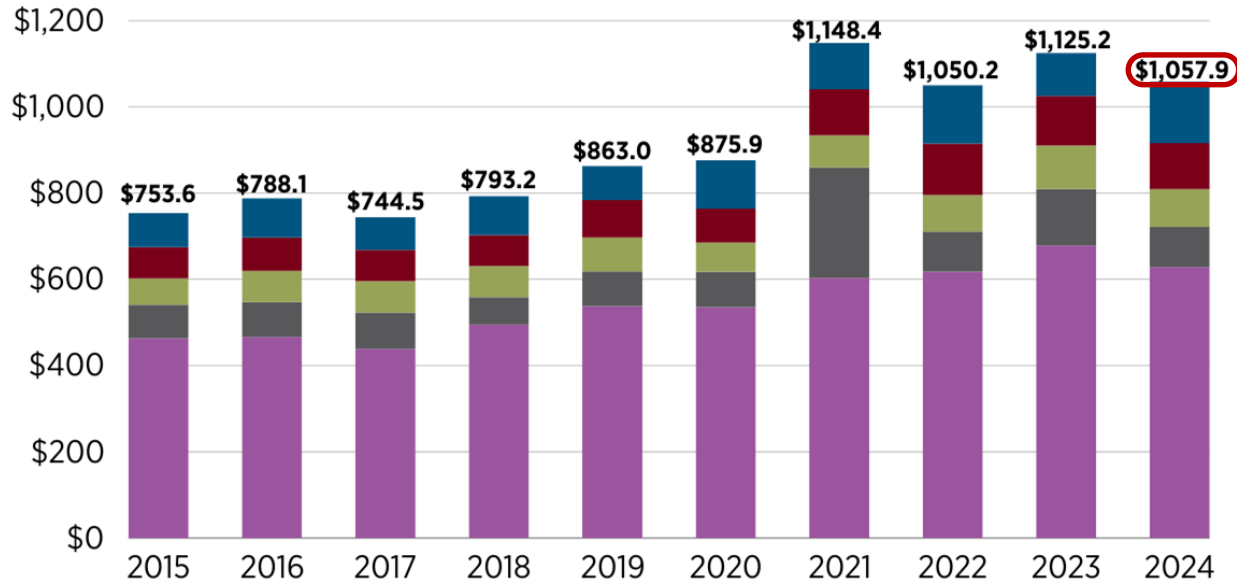**Largest state funding total** in history ($135M of the State & Local Category)

State & Local
$142.1

Foundations & Assns.
$106.4

Federal: NIH
$355.6

$1.06B

Subawards
$88.0

Business & Industry
$93.3

Federal: Other
$189.4

Federal: NSF
$83.2

Dollar amounts in millions

Year-Over-Year Awards
FY24, $ in **millions**
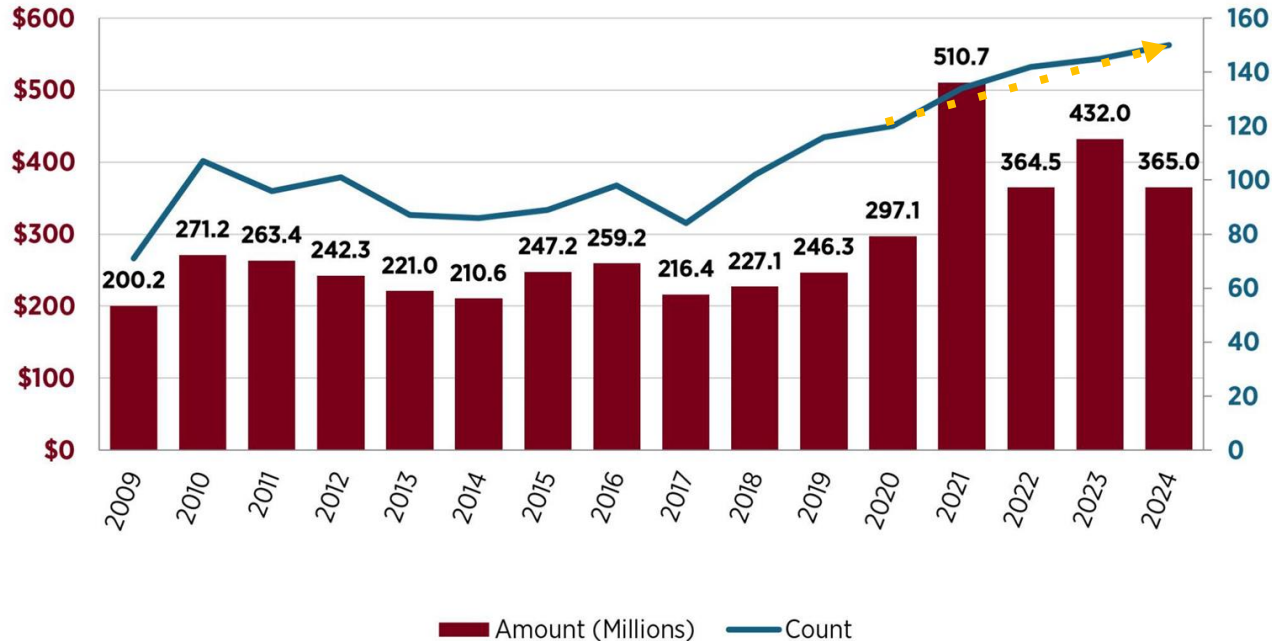
20% growth since FY2020

However...

Awards **decreased by 6%** compared to FY2023

Business and industry awards **decreased by 29%**

Federal awards **decreased by 7%**

Continued Growth of High-Dollar Awards

High-Dollar Awards Trending


Legend: Amount (Millions) — Count

High-dollar awards have been increasing since FY2020 and reached an **all-time high of 150** in FY2024

High-dollar funding amount **decreased by 16%** compared to FY2023

$59.2 Million NIH Grant to Advance Health Research

- **Clinical and Translational Science Institute** (CTSI) accelerates discoveries toward better health
- CTSI enhances the way research is conducted to make a **meaningful impact on people's lives**
- The seven-year $59.2 million award is among the **largest federal research grants the UMN has ever received**
- Healthy Minnesota
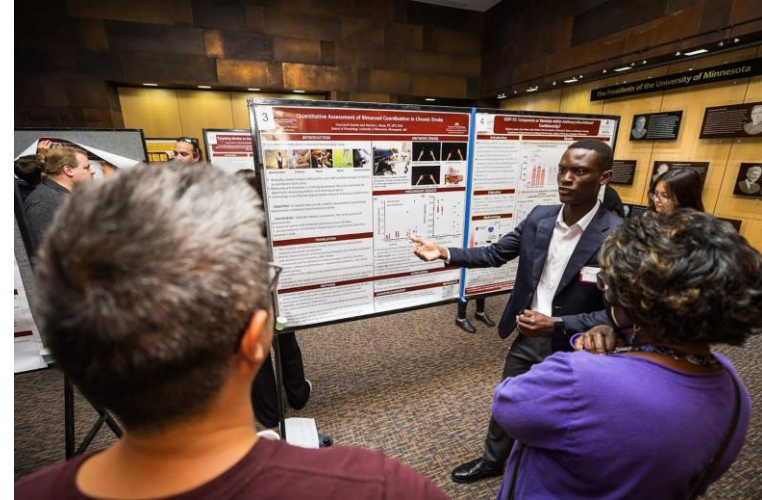
CTSI's Advanced Pathways to Research Program helps advance the research careers of faculty, staff, postdocs, fellows, and students

Forever Green Develops New Sustainable Crops

- **Forever Green Initiative**: Sustainable agriculture and low-carbon solutions
- Supported by:
    - MN Department of Agriculture ($5M)
    - Cargill ($2.5M)
- Housed in **College of Food, Agricultural, and Natural Resource Sciences (CFANS)**
- **Innovative Crops**: Winter camelina and domesticated winter pennycress can produce seed-based oil for low-carbon transportation fuels
- **Impact on Emissions**: Fuel made from these crops could reduce emissions by more than 60% compared to petroleum jet fuel or diesel

Growing and harvesting camelina, an oilseed cover crop

Expanding Computer Science Pathways in Rural & Tribal Communities

- **Northern Lights Collaborative for Computing Education** is a College of Education and Human Development center that collaborates with educators and partners to support inclusive computer science education
- The four-year project is supported by a **major NSF grant**
- **Focus on Equity and Inclusion:** Supporting Native American students and students with disabilities in partner districts
- Upcoming **state CS policy luncheon**, Feb. 17

State of the Research Enterprise
Peer and Global Comparisons

National Ranking: HERD Research Expenditures

HERD - 2023	Public	Expenditures
UC San Francisco	1	$ 2,046,539
Michigan	2	$ 1,925,875
Washington	3	$ 1,734,091
Wisconsin	4	$ 1,731,949
UCLA	5	$ 1,721,665
UC San Diego	6	$ 1,705,410
North Carolina	7	$ 1,549,617
Ohio State	8	$ 1,449,188
Georgia Tech	9	$ 1,405,080
Pittsburgh	10	$ 1,398,078

HERD - 2023	Public	Expenditures
Maryland	11	$ 1,385,302
Minnesota - Twin Cities	**12**	**$ 1,320,183**
Texas A&M	13	$ 1,277,814
Univ Texas M.D. Anderson Cancer Ctr	14	$ 1,255,190
Florida	15	$ 1,250,201
Penn State	16	$ 1,206,793
UC Berkeley	17	$ 1,076,754
Texas	18	$ 1,035,838
UC Davis	19	$ 962,399
Arizona	20	$ 955,424

Maintained previous year HERD ranking of 12th

Indirect cost rate impacts:

Georgia Tech: +$92,345
Pittsburgh: +78,865

*All UMN campuses: $1.35B

Dollar amounts in thousands

National and Global Rankings: ARWU (Shanghai) Index

ARWU (Shanghai) - 2024			
	World	US	US Public
UC San Francisco	20	16	5
Michigan	30	19	6
Washington	18	14-15	3-4
Wisconsin	36	23	8
UCLA	15	12	2
UC San Diego	18	14-15	3-4
North Carolina	35	22	7
Ohio State	82	35	16
Georgia Tech	151-200	51-59	24-27
Pittsburgh	90	37	18

ARWU (Shanghai) - 2024			
	World	US	US Public
Maryland	58	29	12
Minnesota - Twin Cities	**47**	**26**	**10**
Texas A&M	201-300	60-78	28-44
Univ Texas M.D. Anderson Cancer Ctr	86	36	17
Florida	101-150	39-50	20-23
Penn State	101-150	39-50	20-23
UC Berkeley	5	4	1
Texas	45	25	9
UC Davis	101-150	39-50	20-23
Arizona	151-200	39-51	24-27

Maintained ranking of #10 US Public

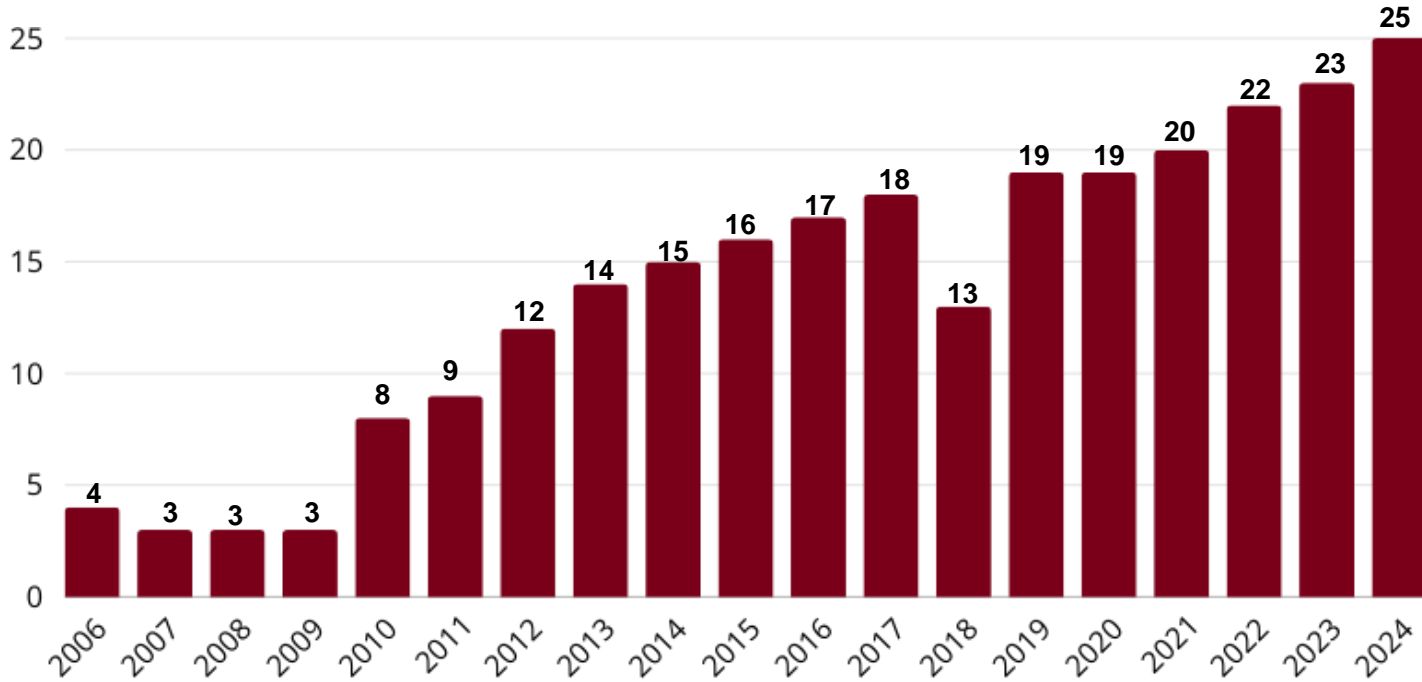Dropped out of top 25 for all US universities

World ranking decreased

Ordered according to HERD survey ranking

State of the Research Enterprise
Technology Commercialization & Corporate Engagement
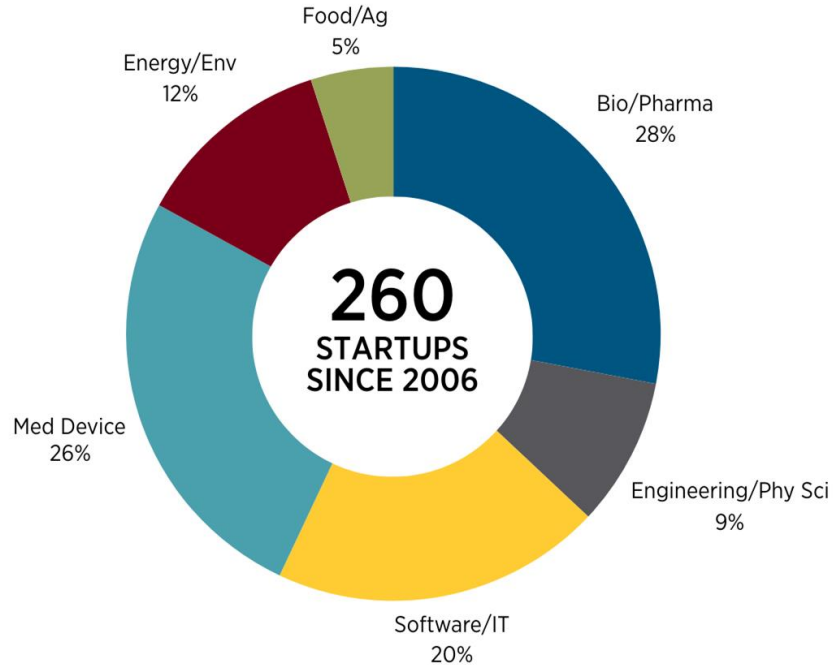
UMN Startup Companies Launched

Record startups (25), FY2024

Largest single source of startups in MN

Technology Commercialization: Startups

Startups Created by Sector FY06-24

- Food/Ag 5%
- Energy/Env 12%
- Bio/Pharma 28%
- Engineering/Phy Sci 9%
- Software/IT 20%
- Med Device 26%

260 STARTUPS SINCE 2006

Startups by Sector	FY24	FY06-FY24
Bio/Pharma	7	72
Engineering/Phy Sci	1	24
Software/IT	3	52
Med Device	10	68
Energy/Env	3	31
Food/Ag	1	13
Startups by Location		
Minnesota	22	191
Outside Minnesota	3	69
% in Minnesota	88%	73%
TOTAL	**25**	**260**

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UMN Startup Scales Up Sustainable Magnet Solutions

- **Niron Magnetics**: Rare earth-free permanent magnets for electric vehicles, wind turbines, and electronics
- **Clean Earth Magnet® technology**: UMN innovation by Professor Jian-Ping Wang
- **Recognition**: Named a top GreenTech Company (Time and Statista, 2024)
- **Milestones**: Pilot plant launched (Northeast Minneapolis, October 2024); full-scale facility (near St. Cloud, MN, 2025, 175 jobs)
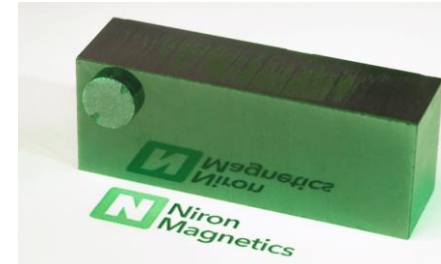
Conclusions

- **Research Growth Areas**: Record startups, increased research expenditures, highlights the robust state of UMN's research enterprise.

- **Innovation Impact**: Key areas like Forever Green and CTSI, and startups such as Niron Magnetics demonstrate UMN's leadership in sustainability, health, and technology commercialization.

- **Global and National Leadership**: Maintaining top HERD and ARWU public university rankings reflects UMN's excellence on the national and world stage.

- **Downward trends**: However, the recent downward trends, especially in business & industry awards indicates the need to invest in new initiatives.

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BOARD OF REGENTS
DOCKET ITEM SUMMARY

Mission Fulfillment   **December 12, 2024**

AGENDA ITEM: Developing New Areas of Research Funding

☐ **Review**   ☐ **Review + Action**   ☐ **Action**   ☒ **Discussion**

☐ *This is a report required by Board policy.*

PRESENTERS: Shashank Priya, Vice President for Research and Innovation

PURPOSE & KEY POINTS

The purpose of this item is for the committee to engage in a discussion of research funding strategies. The discussion will build on the Annual Report on the State of the Research Enterprise and highlight new areas for research funding and promoting enhanced research expenditures.

The University is driving innovative interdisciplinary research aligned with state and national priorities and leveraging Minnesota's unique resources and strategic partnerships with industry, government, and global institutions. The focus of these efforts will be new areas of research that hold great potential for the University, its researchers, and its partners across Minnesota. Potential areas include green energy-green iron, advanced agriculture, biomanufacturing, sustainable communities, microelectronics, and hypersonics. The strategies will enhance support for University researchers by aligning their research with increased funding opportunities and expanding their impact across the state.

Key topics of discussion will include:

- Research Priorities and Areas for Investment
  - Sustainable Technologies and Systems
  - National Security
- Action Plan

Developing New Areas of Research Funding

Board of Regents | Mission Fulfillment Committee
December 12, 2024

Shashank Priya
Vice President for Research & Innovation

UNIVERSITY OF MINNESOTA
Driven to Discover℠

Bottom Line Up Front

- **Healthy Minnesota**: Addressing variables that influence quality of life.

- **Key Priorities**
  - Theme 1: **Sustainable Technologies and Systems** - 4 examples
  - Theme 2: **National Security** - 2 examples

- **Research Expenditures**: Prioritize research themes with high potential for enhancing our expenditures.

- **Action Plan**: Engage with government, industry, foundation, and international partners to establish programs, build interdisciplinary teams, mobilize resources to support cutting-edge research initiatives.
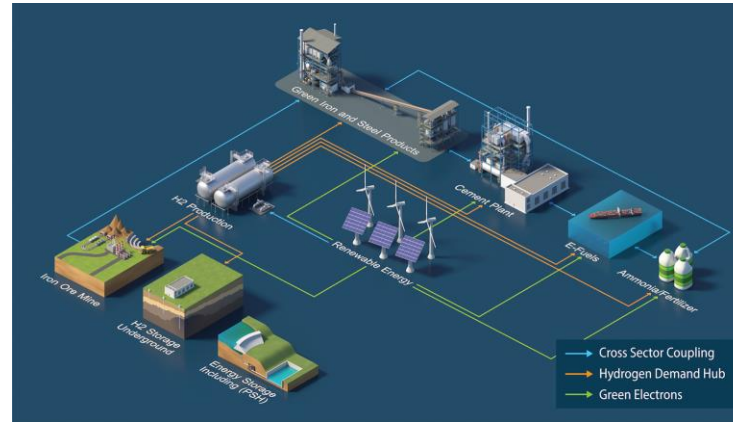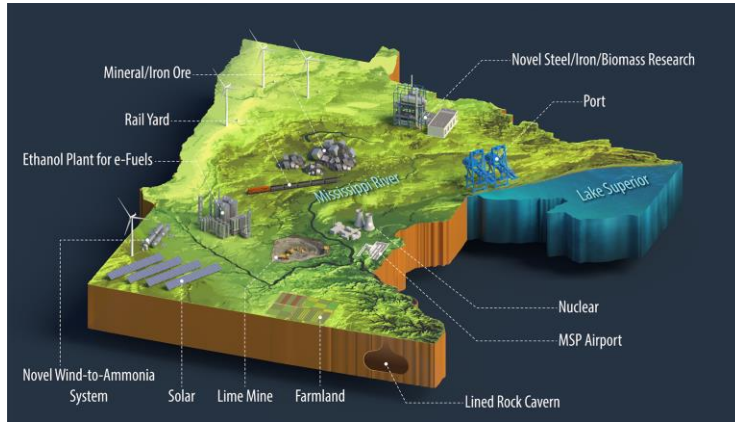
Theme 1: Sustainable Technologies and Systems

Green Energy - Green Iron: Natural Resources Research Institute

VISION: Deliver innovative research solutions to accelerate industrial decarbonization specific to the hydrogen demand economy


Capitalize on the unique combination of resources in Minnesota

Pilot Plant Opportunity to accelerate industrial decarbonization specific to hydrogen demand economy
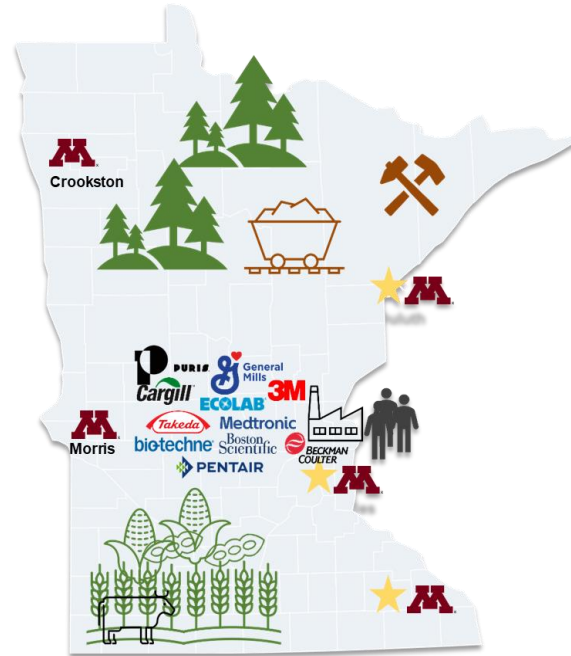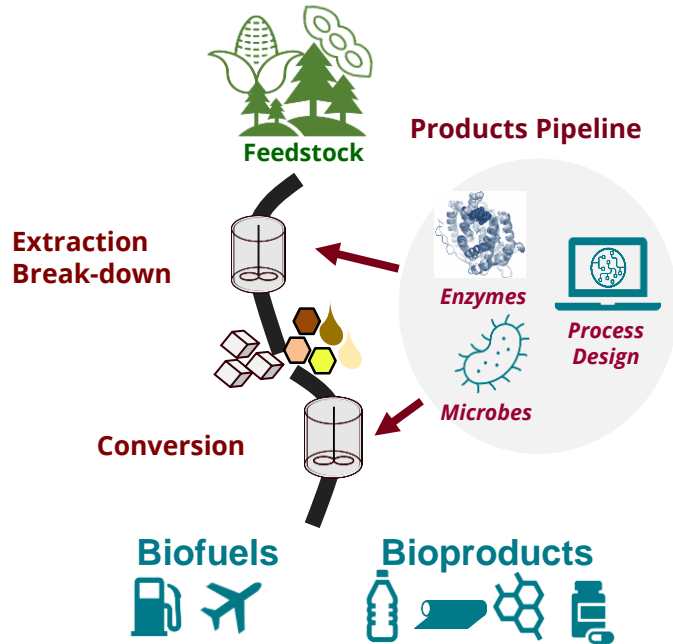
Future of Advanced Agriculture Research in Minnesota (FAARM)

VISION: "One-health" approach to study the intersection of human and animal health with agriculture's impact on the environment and climate
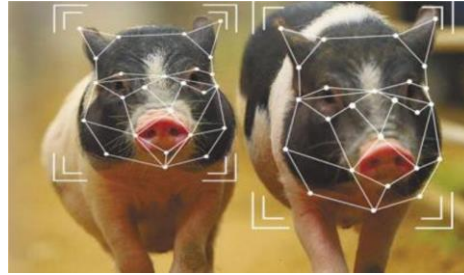
Minnesota Engine for Biomanufacturing

VISION: Leverage the UMN and Minnesota's unique resources and talents to transform Minnesota into a national bioeconomy innovation hub

Feedstock

Products Pipeline

Extraction Break-down

Enzymes

Process Design

Microbes

Conversion

Biofuels

Bioproducts

Crookston

Morris

Minnesota's unique resources and talents

- Feedstocks, minerals
- Education systems
- Human capital
- Globally-dominant industrial ecosystem

Sustainable GeoCommunities (SGC)

VISION: Leverage local knowledge and the power of academic research to discover novel solutions that can be scaled for global impact
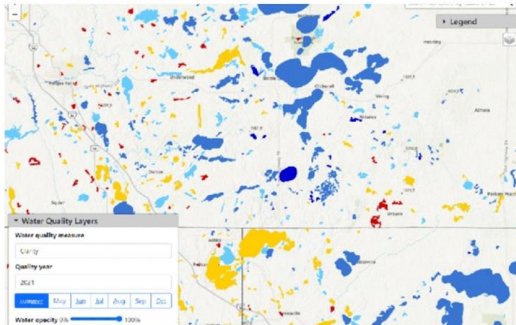
Mapping tools to assess lake clarity as an index of water quality

Empowering youth to design and plan sustainable ecosystems

Partners: Multi-lateral coalition

Local Problems, Local Solutions, Global Impact: Targeting community goals which are critical to local communities from Minnesota to Kerala, India

Theme 2: National Security

Minnesota MicroElectronics Consortium (MNMEC)

VISION: Catalyze innovation, energize economy in growth areas, and bolster national security

Build upon the unique infrastructure available in MN

Position MInnesota as a key hub for CHIPS Act initiatives and workforce excellence

CATALYZE INNOVATION	ENERGIZE ECONOMY IN GROWTH AREAS	BOLSTER NATIONAL SECURITY
AI HARDWARE EMERGING SEMICONDUCTORS	EV TECH	RADARS RAD-HARD
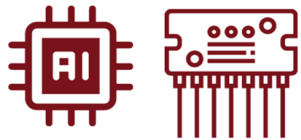
Workforce Development

Hypersonics

VISION: Establish Minnesota as the epicenter of hypersonics innovation, combining the University's world-leading simulation expertise, partnerships with industrial cutting-edge testing facilities.

Advancing Statewide Impact: Driving interdisciplinary research to advance national security, space exploration, and transformative technologies, creating high-paying jobs and boosting Minnesota's leadership in the global innovation economy
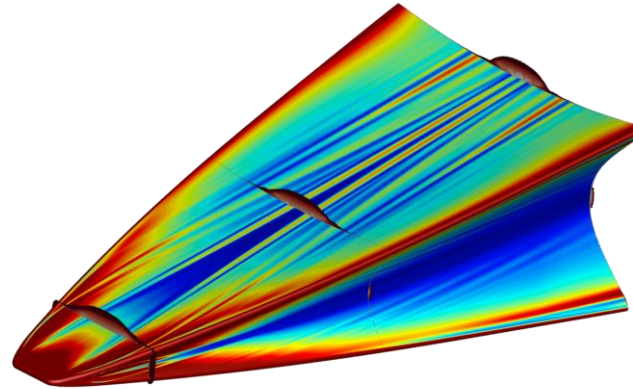
Key Takeaways

- **Healthy Minnesota**: Address a range of topics that will have tremendous impact on improving quality of life.

- **Aligned with State Request**: Green Energy-Green Iron, Hypersonics, Biomanufacturing, and Advanced Agriculture.

- **Partnerships Matter**: Build collaborations with industry, government, foundations, and international partners as a critical step to scale research programs and secure resources.

- **Diversity & Inclusivity**: Emphasize equitable growth in research ecosystems to provide sustainable social impact.

Questions

BOARD OF REGENTS
DOCKET ITEM SUMMARY

Mission Fulfillment   **December 12, 2024**

AGENDA ITEM: Strategic Enrollment Management Update: Twin Cities

☐ **Review**   ☐ **Review + Action**   ☐ **Action**   ☒ **Discussion**

☐ *This is a report required by Board policy.*

PRESENTERS: Rachel Croson, Executive Vice President and Provost
Greg Sneed, Vice Provost for Enrollment Management

PURPOSE & KEY POINTS

The purpose of this item is for the committee to engage in a discussion highlighting enrollment strategies for the Twin Cities campus. This is the first in a series of topics that will focus on strategic enrollment management for each campus, including current status, progress made since the last update to the Board, and anticipated challenges. Key points include the following:

- an update on enrollment;
- an update on the incoming freshman class;
- equity and retention efforts; and
- new pathways and other potential directions.

BACKGROUND INFORMATION

This topic was previously discussed at the following meetings:

- June 2024: *Systemwide Undergraduate Enrollment Management Update,* Mission Fulfillment
- May 2024: *Enrollment Strategy Plans and Financial Impacts: Crookston, Duluth, Morris, Rochester*, Board of Regents
- December 2023: *Marketing Efforts: Recruitment and Enrollment*, Special Committee on University Relations

Strategic Enrollment Management Update: Twin Cities
Background Materials

Recent Media

[North Star Promise recipients on going to college for free in new Minnesota program | MPR News](#)

Additional Data

College-Specific Undergraduate Enrollment

College	2022	2023	2024
Biological Sci	2,328	2,264	2,372
Design	1,397	1,439	1,469
Edu & Hum Dev	2,308	2,315	2,455
Food, Ag, & NR Sci	1,765	1,737	1,767
Liberal Arts	12,631	12,319	12,665
Management	3,173	3,206	3,316
Science & Eng	5,617	5,819	6,195
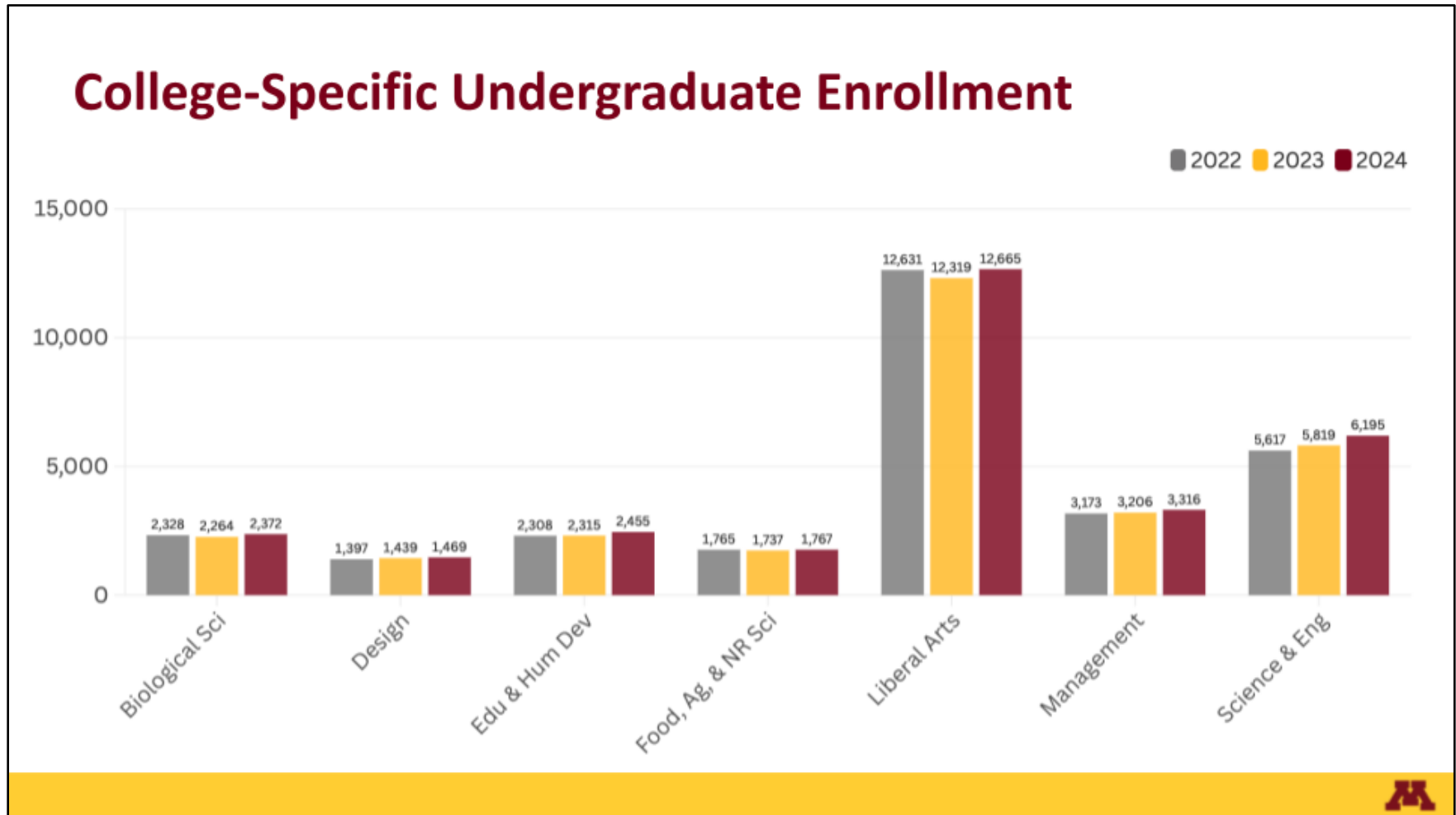
UMTC New Freshman Enrollment Is At Record Highs
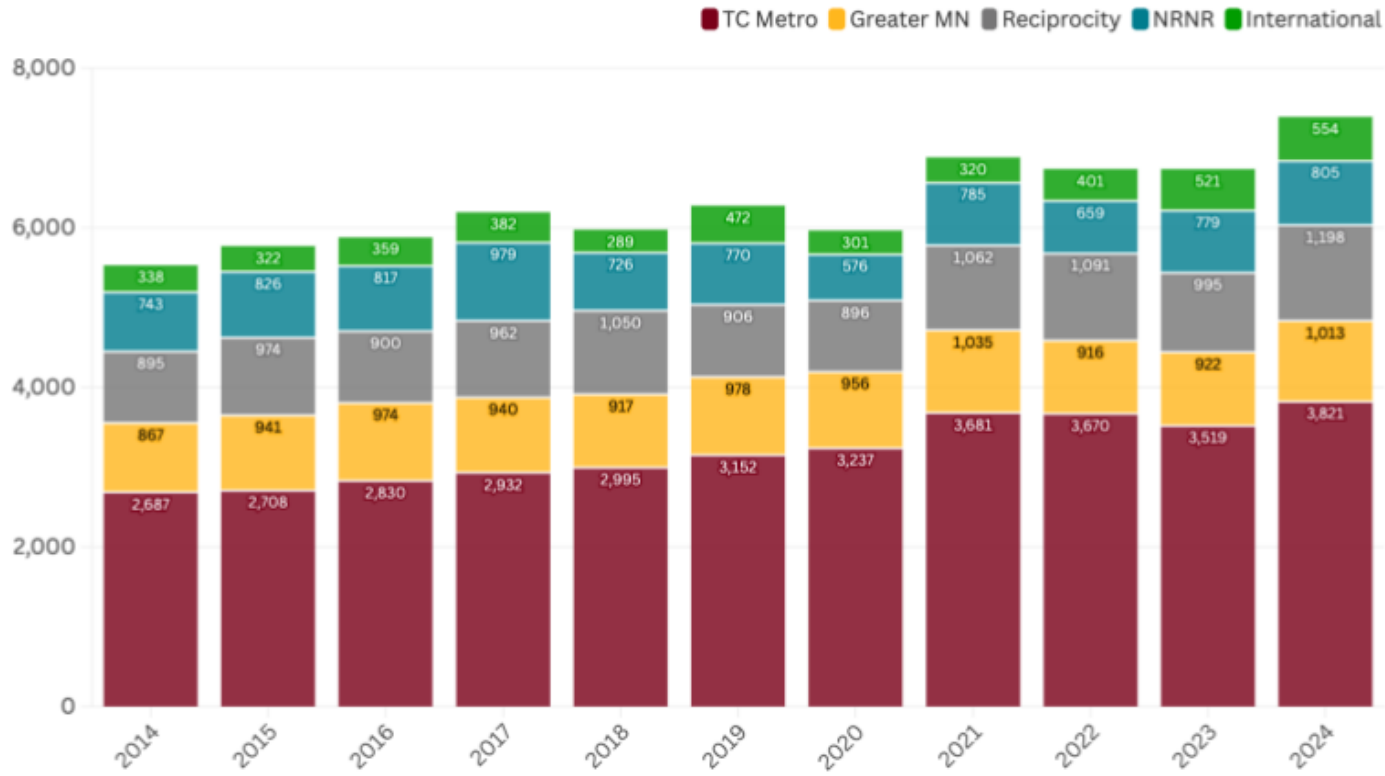
Strategic Enrollment Management Update: Twin Cities

Board of Regents | Mission Fulfillment Committee | December 12, 2024

Rachel Croson
Executive Vice President and Provost

Greg Sneed
Vice Provost for Enrollment Management

UNIVERSITY OF MINNESOTA
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Goals of this Presentation

- Part of a requested series of enrollment goals, progress along them, and plans for the future for each campus

- Similar presentations to Mission Fulfillment in 2022-23 academic year for all five campuses, and in May 2024 for four campuses, excluding UMTC

- State of UMTC enrollment

- New Directions

UMTC Undergraduate Enrollment Has Been Growing

Bar chart showing UMTC undergraduate enrollment from 2014 to 2024 with a dashed line at 33,000 (MPact 2025 Goal):

- 2014: 30,135
- 2015: 30,511
- 2016: 30,975
- 2017: 31,535
- 2018: 31,455
- 2019: 31,367
- 2020: 30,907
- 2021: 30,734
- 2022: 30,560
- 2023: 30,469
- 2024: 31,855
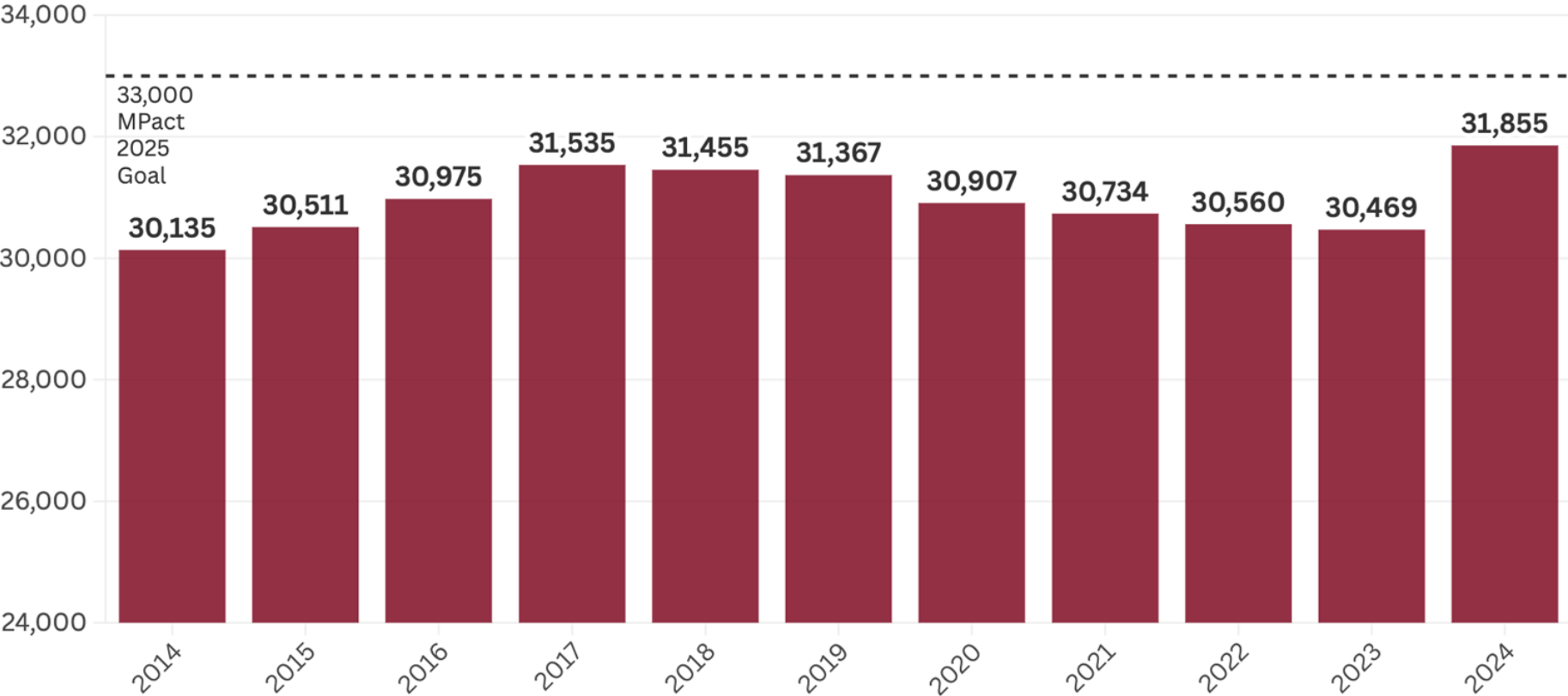
UMTC New Freshmen At Record Highs

Legend: Minnesota, Out-of-State

Year	Total
2014	5,530
2015	5,771
2016	5,880
2017	6,195
2018	5,977
2019	6,278
2020	5,966
2021	6,883
2022	6,737
2023	6,736
2024	7,391
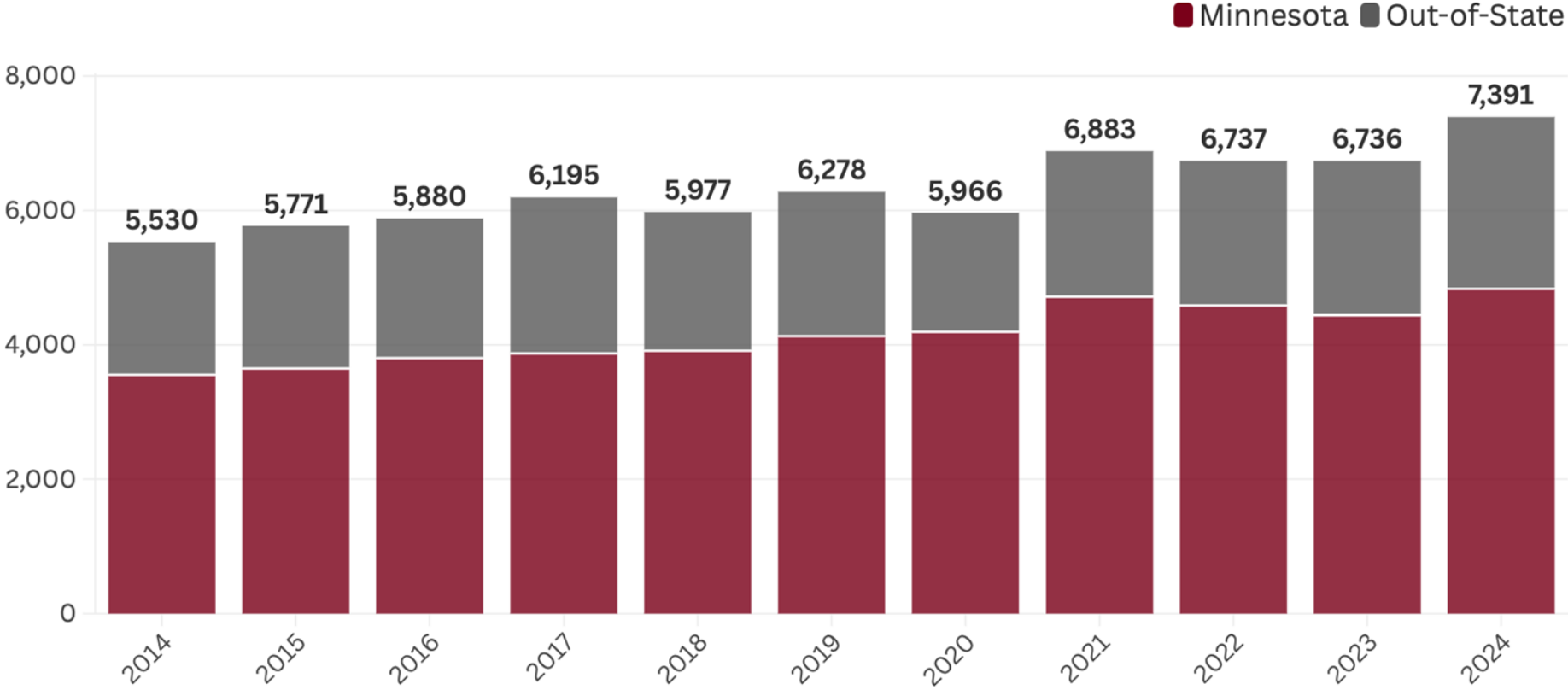
UMTC Freshman Retention is Strong & Coming Back

COVID-19 Pandemic

Year	Retention
2014	92.6%
2015	92.7%
2016	93.2%
2017	93.4%
2018	92.9%
2019	93.4%
2020	93.5%
2021	91.7%
2022	90.4%
2023	91.1%
2024	91.4%
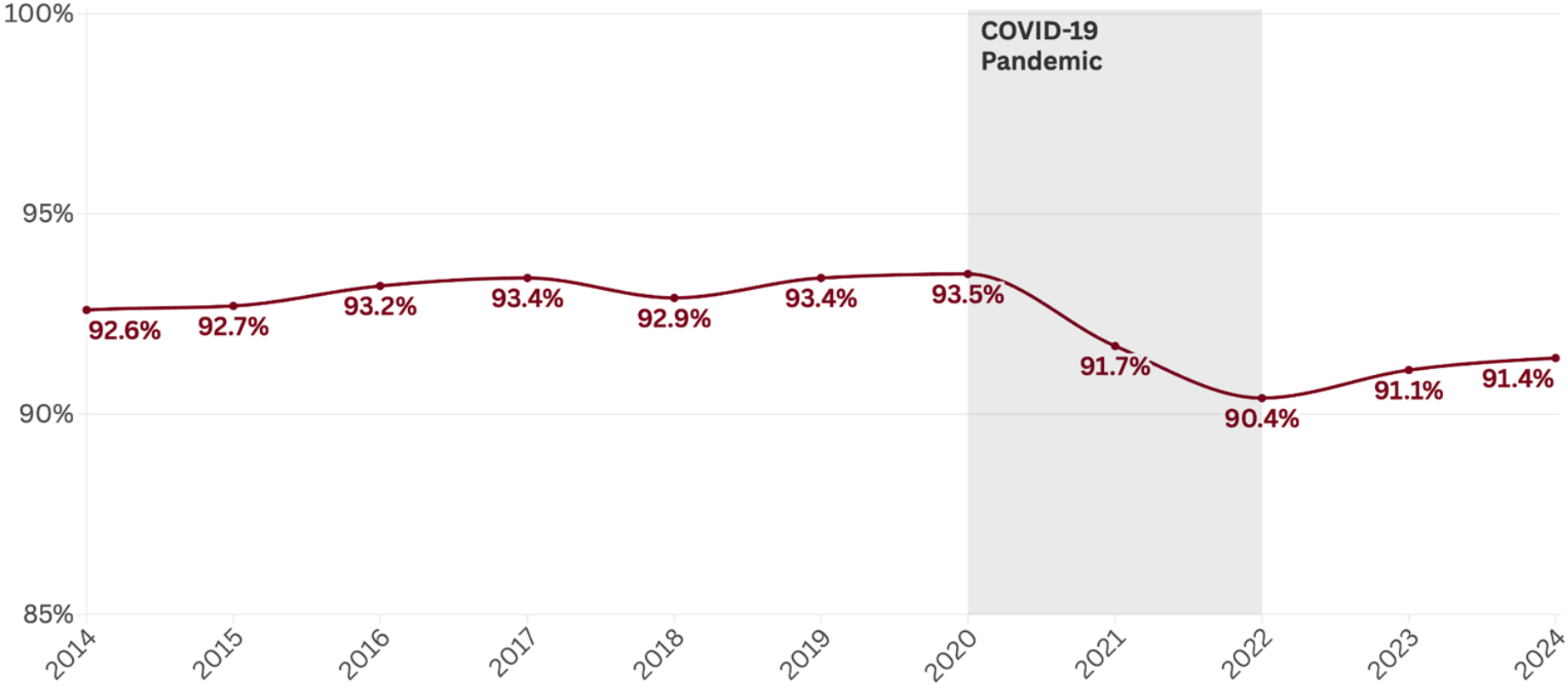
College of Liberal Arts is the Largest

Legend: 2022, 2023, 2024

College	2022	2023	2024
Biological Sci	2,328		2,372
Design	1,397		1,469
Edu & Hum Dev	2,308		2,455
Food, Ag, & NR Sci	1,765		1,767
Liberal Arts	12,631		12,665
Management	3,173		3,316
Science & Eng	5,617		6,195
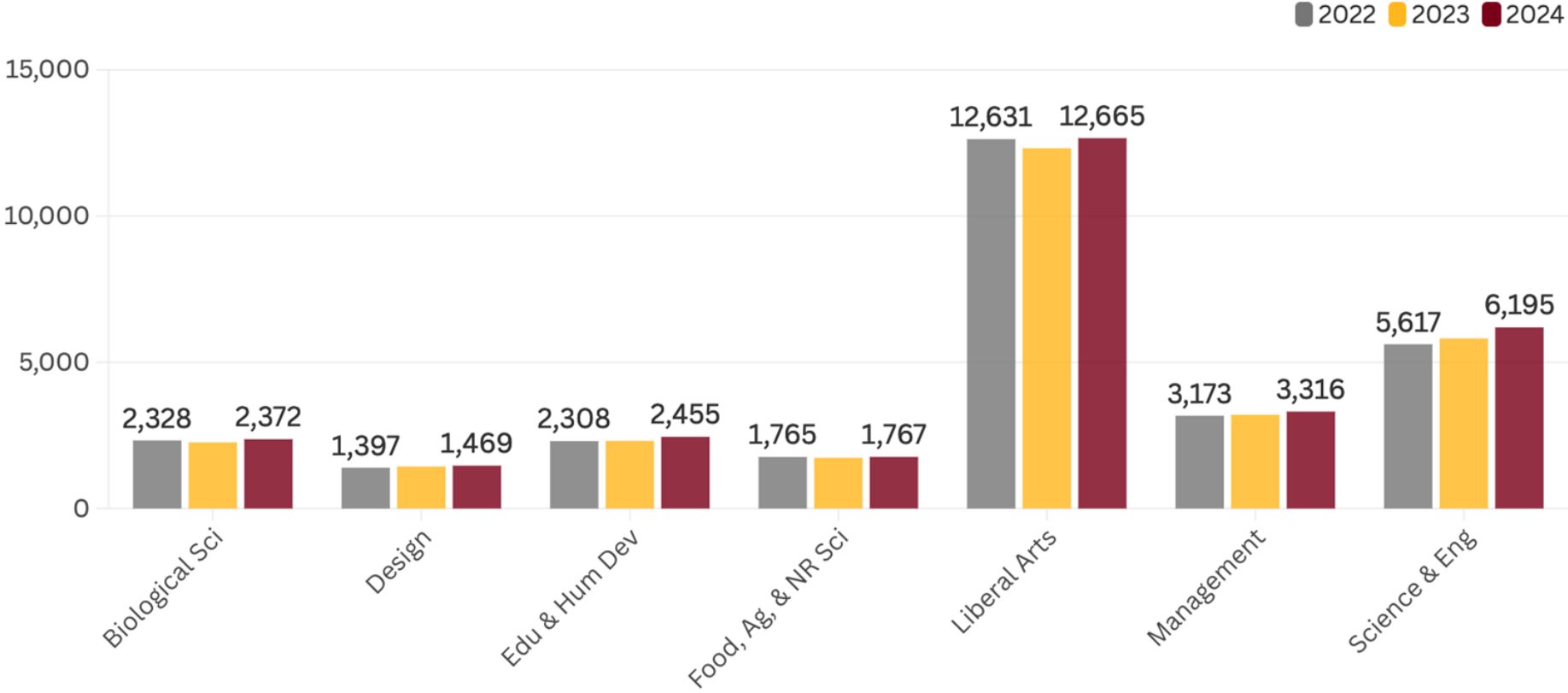
Science & Engineering is Growing, Others Maintain
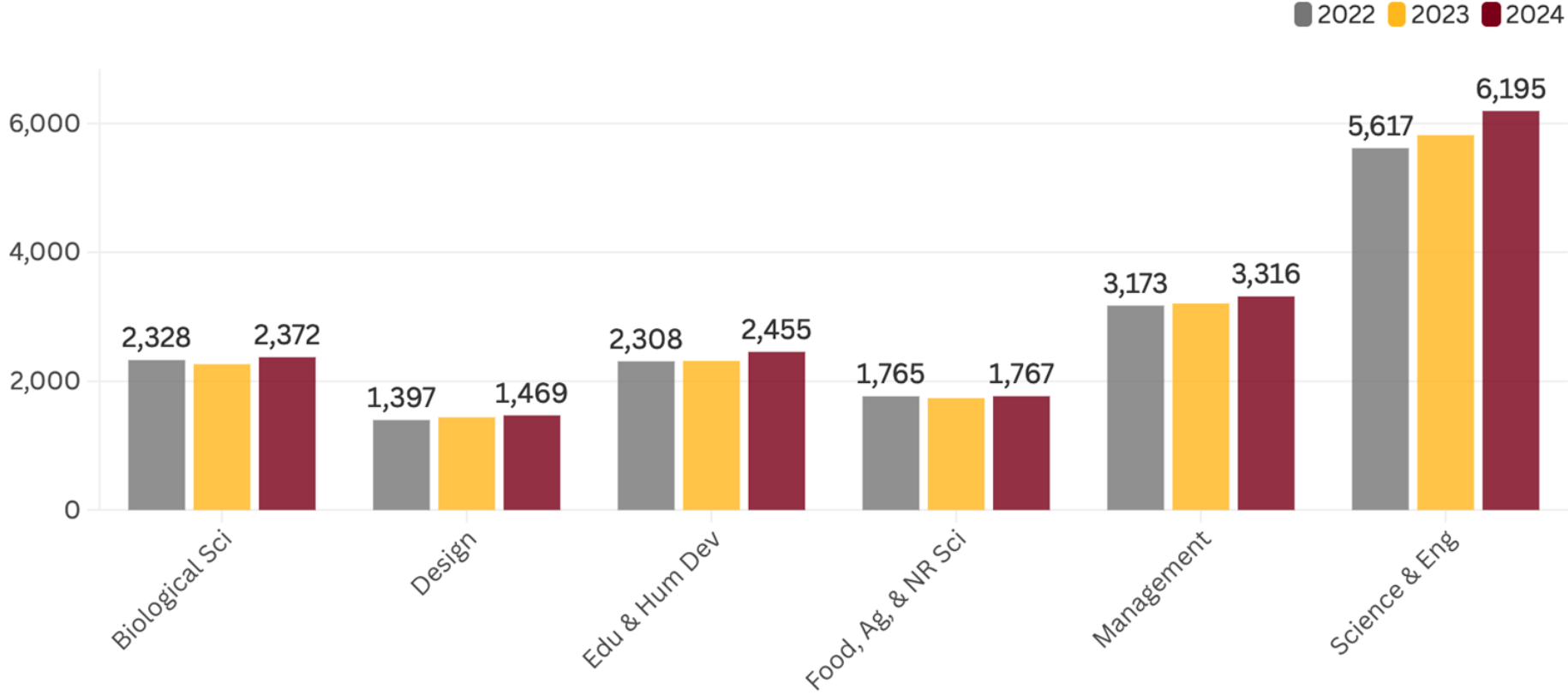
Admission Efforts Have Been Successful

Competitors Mostly Big 10 Public Flagships

Institution	Loss (Fall 2023)	Test Optional
Wisconsin	2749	Yes
Illinois	894	Yes
Purdue	492	Complicated
St. Thomas	475	Yes
Ohio State	407	Yes
Iowa State	362	Yes
Washington	331	Yes
Iowa	321	Yes
Indiana	303	Yes
Michigan	302	Yes

Real Stories from Fall 2024

Kayla J.
Champlin, MN
Psychology

Varsha B.
Sammamish, WA
Aerospace Engineering

Grant A.
Libertyville, IL
Economics

Equity and Retention Efforts Are Thriving

President's Emerging Scholars Program

F1rst Gen Proud #UMNFIRST

New Directions for Enrollment at UMTC

Crookston Golden Eagles

Duluth Bulldogs

Morris Cougars

Twin Cities Gophers

Rochester Raptors

Conclusion and Questions

- Snapshot of our current status, a little about our process, and some new initiatives we're considering

- How do we best make the case for the value of the education we provide?

- How do we balance service to the State with a national university profile?

BOARD OF REGENTS
DOCKET ITEM SUMMARY

Mission Fulfillment   **December 12, 2024**

AGENDA ITEM: Consent Report

☐ **Review**   ☒ **Review + Action**   ☐ **Action**   ☐ **Discussion**

☐ *This is a report required by Board policy.*

PRESENTERS: Rachel Croson, Executive Vice President and Provost

PURPOSE & KEY POINTS

The purpose of this item is to seek approval of new academic programs and program additions, program deletions and discontinuations, and/or program changes; and conferral of tenure for new hires, as outlined below.

I.   Request for Approval of New Academic Programs

- Morris campus—requests approval to create a new undergraduate minor in Addiction Studies, effective fall 2025.
- Morris campus—requests approval to create a new undergraduate minor in Social Justice, effective fall 2025.
- College of Design, Twin Cities campus—requests approval to create a new Design Thinking Undergraduate Certificate, effective fall 2025.
- College of Science and Engineering, Twin Cities campus—requests approval to create a new Water, Energy, and Materials Circularity Post-Baccalaureate Certificate, effective fall 2025.

II. Request for Approval of Changed Academic Plans

- Morris campus—requests approval to discontinue the Social Justice subplan in the Bachelor of Arts in Human Services, effective fall 2025.
- Rochester Campus and the School of Nursing, Twin Cities campus—request approval to add an integrated degree program (IDP) subplan option in the Bachelor of Science in Health Sciences and Master of Arts in Integrative Health and Wellbeing Coaching degree programs, effective fall 2025.
- College of Continuing and Professional Studies, Twin Cities campus—requests approval to change the program delivery modality options in three Master of Professional Studies programs: Integrated Behavioral Health, Addictions Counseling, and Civic Engagement, effective fall 2025.
- College of Food, Agricultural and Natural Resource Sciences, Twin Cities campus—requests approval to discontinue all subplans from the Bachelor of Science in Agricultural Communication and Marketing, effective fall 2025.

- College of Science and Engineering, Twin Cities campus—requests approval to change the program delivery modality options in the Electrification Engineering Post-Baccalaureate Certificate, effective summer 2025.
- School of Public Affairs Twin Cities campus—requests approval to add two new integrated degree program (IDP) subplans in the Bachelor of Arts/Bachelor of Science in Urban Studies and Master of Urban and Regional Planning degree programs, effective fall 2025.

III.   Request for Approval of Discontinued Academic Plans

- Morris campus—requests approval to discontinue the undergraduate minor in Jazz Studies, effective fall 2025.
- College of Liberal Arts, Twin Cities campus—requests approval to discontinue the Literal and Rhetorical Studies graduate minor, effective fall 2025.

IV.   Request for Conferral of Tenure for New Hires

- GerShun Avilez, professor with tenure, Department of English, College of Liberal Arts, Twin Cities campus
- Llana Barber, associate professor with tenure, Department of History, College of Liberal Arts, Twin Cities campus
- Susan Hafenstein, professor with tenure, Department of Biochemistry, Molecular Biology and Biophysics, College of Biological Sciences, Twin Cities campus
- Danielle Ignace, associate professor with tenure, Department of Forest Resources, College of Food, Agricultural and Natural Resources Sciences, Twin Cities campus
- Ken Resnicow, professor with tenure, Division of Epidemiology and Community Health, School of Public Health, Twin Cities campus

V.   Reports to the State of Minnesota: Human Fetal Tissue Research Report

- The purpose of this item is to seek approval of the Human Fetal Tissue Research Report to the Minnesota Legislature. The complete report is provided in the docket materials.

VI.   Request for Conferral of Emeritus Title

- James Boyd Brent, faculty emeritus, Department of Design Innovation, College of Design, Twin Cities campus
- Brad Hokanson, faculty emeritus, Department of Design Innovation, College of Design, Twin Cities campus

BACKGROUND INFORMATION

Approvals are sought in compliance with Board of Regents Policy: *Reservation and Delegation of Authority* as follows:

- Academic program changes: Article I, Section V, Subd. 2.
- Tenure and/or promotion recommendations: Article I, Section V, Subd. 1.
- Approval of any report to the State of Minnesota that impacts the University's autonomy or addresses the performance of the University and/or its major initiatives: Article I, Section I, Subd. 7.

Approvals are sought in compliance with Board of Regents Policy: *Faculty Emeriti* as follows:

- Special Circumstances: Section III, Subd. 2.

RECOMMENDATIONS

The President recommends approval of the Consent Report with the exception of the request for conferral of tenure for new hires for Ken Resnicow, professor with tenure, Division of Epidemiology and Community Health, School of Public Health, Twin Cities campus.

The Executive Vice President and Provost recommends approval of the request for conferral of tenure for new hires for Ken Resnicow, professor with tenure, Division of Epidemiology and Community Health, School of Public Health, Twin Cities campus.

University of Minnesota Board of Regents
Mission Fulfillment Committee
December 12, 2024
Consent Report: Academic Program Changes

I. Request for Approval of New Academic Programs

College of Design (Twin Cities campus)—requests approval to create a new Design Thinking Undergraduate Certificate, effective fall 2025. The Design Thinking Certificate offers widely applicable, problem-solving strategies ideal for the modern workplace, such as empathy-driven user research, creative idea generation, and low-fidelity prototyping. Students will use research-informed and iterative process-based coursework to tackle complex challenges and propose meaningful and sustainable solutions. The program will be offered in a completely online delivery modality and makes use of existing courses and resources.

College of Science and Engineering (Twin Cities campus)—requests approval to create a new Water, Energy, and Materials Circularity Post-Baccalaureate Certificate, effective fall 2025. This graduate certificate provides students the fundamental knowledge and perspectives to develop and critique sustainable solutions for water, energy, and materials use, re-use, and upcycling from the technological, scientific, policy, and cultural viewpoints. Graduates with this certificate will be able to address a rising need across industries and governments to identify and implement solutions that decrease waste, energy input, water use, and material inputs in a way that is economically viable, environmentally sustainable, and equitable. The program will be offered in an in-person/classroom delivery modality and makes use of existing courses and resources.

Morris campus—requests approval to create a new undergraduate minor in Addiction Studies, effective fall 2025. The Addiction Studies minor provides students with an understanding of substance use and addiction through a bio-psycho-sociocultural framework. Students in any major will find this minor applicable to a wide range of careers and interests, including human services, psychology, medicine, nursing, policy, legal studies, education, advocacy, criminal justice, neuroscience, public health, and many others. The program will be offered in an in-person/classroom delivery modality and makes use of existing courses and resources.

Morris campus—requests approval to create a new undergraduate minor in Social Justice, effective fall 2025. The social justice minor, as a replacement for the discontinued subplan from the Human Services major (see below), provides students with an understanding of how to create societies or institutions based on the principles of equity and solidarity, the value of human rights, and the importance of recognizing that every human being deserves dignity. Social justice is the view that everyone deserves equal economic, political, and social rights and opportunities. This minor will prepare students for jobs related to community activism, human rights advocacy, or

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non-profit administration. The program will be offered in an in-person/classroom delivery modality and makes use of existing courses and resources.

II.   Request for Approval of Changed Academic Plans

College of Continuing and Professional Studies (Twin Cities campus)—requests approval to change the program delivery modality options in three Master of Professional Studies programs: Integrated Behavioral Health, Addictions Counseling, and Civic Engagement, effective fall 2025. Each of these three programs would change from in-person/classroom to hybrid delivery modality.

College of Food, Agricultural and Natural Resource Sciences (Twin Cities campus)—requests approval to discontinue all subplans from the Bachelor of Science in Agricultural Communication and Marketing, effective fall 2025. The department has sought feedback on course offerings and structure of the major from students, alumni, employers and other stakeholders in recent years. The three current subplans deterred students from choosing this major, particularly those interested in communicating about animal agriculture and those interested in environmental/natural resource communication. Restructuring the program will allow students greater flexibility within the major.

College of Science and Engineering (Twin Cities campus)—requests approval to change the program delivery modality options in the Electrification Engineering Post-Baccalaureate Certificate, effective summer 2025. The program would change from in-person/classroom and hybrid options to in-person/classroom and completely online delivery modality options.

School of Public Affairs (Twin Cities campus)—requests approval to add two new integrated degree program (IDP) subplans in the Bachelor of Arts/Bachelor of Science in Urban Studies and Master of Urban and Regional Planning degree programs, effective fall 2025. The Urban Studies Program, within the Department of Geography, Environment, and Society, and the Master of Urban and Regional Planning Program within the Humphrey School of Public Affairs will offer two Integrated Degree Programs (IDPs), the Integrated Bachelor of Arts or Bachelor of Science in Urban Studies/Master of Urban and Regional Planning (BA-BS URBS/MURP). These IDPs offer students the opportunity to earn a bachelor's degree and a master's degree in five years. These IDPs emphasize education in urban studies and planning and provide preparation for students wishing to pursue a career in urban planning and other planning-adjacent fields.

Rochester Campus and the School of Nursing (Twin Cities campus)—request approval to add an integrated degree program (IDP) subplan option in the Bachelor of Science in Health Sciences and Master of Arts in Integrative Health and Wellbeing Coaching degree programs, effective fall 2025. This new Integrated Degree Program (IDP), Bachelor of Science in Health Sciences and Master of Arts in Integrative Health and Wellbeing Coaching (BSHS/MA-IHWC), between the Rochester campus and the Center for Spirituality and Healing in the School of Nursing offers students the opportunity to earn a bachelor's degree and a master's degree in five years. This

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IDP prepares graduates to approach health and wellbeing from a holistic perspective, considering physical, mental, and spiritual aspects. In addition, graduates of this program will be well equipped to engage with communities, applying their knowledge to improve health and wellbeing. This aligns with the Center's mission to deliver innovative community engagement programs that promote whole health.

Morris campus—requests approval to discontinue the Social Justice subplan in the Bachelor of Arts in Human Services, effective fall 2025. This subplan is being discontinued simultaneously with the proposal of a standalone Social Justice minor (see above) to attract more students to social justice course offerings. There are currently, and have typically been, fewer than five students enrolled in this subplan. The Social Justice minor will mirror much of the core content of the sub-plan being eliminated. The transition for students will be seamless as the Human Services discipline coordinator currently oversees this sub-plan and will oversee the new minor.

III.   Request for Approval of Discontinued Academic Plans

College of Liberal Arts (Twin Cities campus)—requests approval to discontinue the Literal and Rhetorical Studies graduate minor, effective fall 2025. This graduate minor is being discontinued due to ongoing low enrollments in the context of evolving programs that offer students different choices. The last active student in this minor graduated in July 2024, so no transition plan is needed.

Morris campus—requests approval to discontinue the undergraduate minor in Jazz Studies, effective fall 2025. The Jazz minor has always been a small program, and has decreased substantially due to lower campus enrollment, the pandemic, turnover in Jazz faculty, and decline in jazz ensembles in secondary education. The general music minor is being revised to address the interests of jazz students, so students who were interested in studying jazz as a minor will still have a viable option. There are currently no students enrolled in the Jazz Studies minor.

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University of Minnesota Board of Regents
Mission Fulfillment Committee
December 12, 2024

Consent Report: Recommendation to Grant Tenure to New Hires

The Executive Vice President and Provost recommends five external hires for tenure and faculty rank as outlined below. The decision of the Board of Regents to confer tenure and rank for any individual faculty hire with tenure becomes effective on the first day of that faculty member's academic appointment at the University.

GerShun Avilez, professor with tenure, Department of English
Dr. Avilez is a leading scholar in cultural affairs, and specializes in contemporary African American and Black Diaspora literature and visual culture. He earned his Ph.D. in 2009 from the University of Pennsylvania. Dr. Avilez is currently a professor with tenure and the associate dean for faculty affairs at the University of Maryland. Dr. Avilez is the incoming dean of the College of Liberal Arts.

Llana Barber, associate professor with tenure, Department of History
Professor Barber's research examines immigration, urban, and Latinx history, focusing specifically on the Caribbean diaspora in the late twentieth century. Professor Barber earned her Ph.D. in 2010 from Boston College. Dr. Barber comes to the University of Minnesota from the State University of New York, Old Westbury, where she served as an associate professor with tenure.

Susan Hafenstein, professor with tenure, Department of Biochemistry, Molecular Biology and Biophysics
Professor Hafenstein's research has significantly contributed to the understanding of viruses and their interactions with hosts through the use of cryogenic electron microscopy. Dr. Hafenstein earned her Ph.D. from the University of Arizona in 2003. Prior to joining the University of Minnesota, Dr. Hafenstein was a professor with tenure at Pennsylvania State University.

Danielle Ignace, associate professor with tenure, Department of Forest Resources
Dr. Ignace's research explores how global climate change affects regional ecosystem health within North American deserts and forests. Professor Ignace earned her Ph.D. from the University of Arizona in 2006. Prior to joining the University of Minnesota, Professor Ignace served as an assistant professor at the University of British Columbia, Vancouver.

Ken Resnicow, professor with tenure, Division of Epidemiology and Community Health
Dr. Resnicow's scholarly work focuses on the design and evaluation of programs to change health-related behaviors, especially in underserved populations. He earned his Ph.D. in 1985 from the Albert Einstein College of Medicine and the Ferkauk Graduate School. Dr. Resnicow is currently a tenured professor at the University of Michigan.

University of Minnesota

Human Fetal Tissue Research

Report to the Minnesota Legislature Calendar Year 2024

January 15, 2025

University of Minnesota Human Fetal Tissue Research

Report of the Minnesota Legislature

As required by Minnesota Statute 137.47 which went into effect on July 1, 2017.

Submitted by:

Board of Regents

Prepared by:

The report was prepared by staff from the Office of Academic Clinical Affairs and the Research & Innovation Office at the University of Minnesota.

Report Preparation Costs:

Per the requirements set forth in Minnesota Statue 3.197, the cost to prepare this report was $300.

Purpose:

During the 2017 Minnesota legislative session, a law was passed requiring the Board of Regents of the University of Minnesota to submit an annual report to the chairs and ranking minority members of the higher education policy and finance, health and human services, and human services policy and finance committees. The following report is required to disclose specific information regarding university projects that access donated human fetal tissue for the purposes of research or education. The coverage period for information provided below is January 1, 2024 to November 1, 2024. Any subsequent FTR or IRB submissions received in 2024 will be included in the University's calendar year 2025 report to the Legislature.

Background:

In February 2016, the University of Minnesota instituted new requirements for researchers accessing donated human fetal tissue. The oversight of human fetal tissue research became administered jointly by the Office of the Vice President of Research (since renamed the 'Research & Innovation Office') and the Vice President of the Academic Health Center (since renamed the 'Office of Academic Clinical Affairs').

Per these new requirements, researchers requesting to access human fetal tissue were required to apply for permission to conduct research using human fetal tissue from the Fetal Tissue Research Committee (FTR) prior to commencing their studies. Approval from the Institutional Review Board (IRB) continued to be required, if the research project met the criteria established under federal law.

The Anatomy Bequest Program, a university anatomical donation program, became responsible for the acquisition, tracking and final disposition of the tissue.

In January 2018, the University of Minnesota updated its fetal tissue policies to reflect the new requirements associated with the enactment of Minnesota Statute 137.47. The revisions also broadened the scope of the policies to include educational uses, clarified the responsibilities of researchers, delineated newly required duties among the administrative units, and provided an opportunity to make housekeeping changes.

Additionally, the January 2018 revisions specifically exempt "the use of cell lines derived from human fetal tissue that historically have been available and are widely used and distributed on a national basis" from review. In 2018, the Office of the Legislative Auditor performed a comprehensive review of the University's fetal tissue research policies in place at the time.

Report Requirements:

Per the requirements of Minnesota Statute 137.47, the following information must be included in the legislative report: all fetal tissue research proposals submitted to the FTR or IRB, including any written narrative required under 137.47, subd.2; whether the research proposal involved

aborted fetal tissue; action by the FTR or IRB on all fetal tissue research proposals, including whether the proposal was approved by the FTR or IRB; and a list of all new or ongoing fetal tissue research projects at the university. The list must also include the date the project was approved by the FTR or IRB, the source of funding for the project, the goal or purpose of the project, whether the fetal tissue used is aborted fetal tissue or non-aborted fetal tissue, the source of the fetal tissue used, references to any publicly available information about the project, and references to any publications resulting from the project.

New Fetal Tissue Research Proposals Submitted to the Fetal Tissue Research Committee and/or the Institutional Review Board:

There were no new fetal tissue related research proposals submitted to the FTR or IRB during the reporting period.

Previously Reported Research Update:

The FTR received one amendment during the reporting period relating to a previously reported, uninitiated proposal titled *Understanding Developmental Origins of Human Skull Base Tumors* (FTR Application Number 2002-37902B). A decision was made not to move forward with this research at this time.

All other previously reported research projects were either never initiated or were discontinued.

University of Minnesota Board of Regents
Mission Fulfillment Committee
December 12, 2024

Consent Report: Conferral of Faculty Emeritus Title

The President recommends approval of the conferral of faculty emeritus status to two retired contract professors as outlined below. The decision of the Board of Regents to confer faculty emeritus status becomes effective upon the faculty member's retirement from the University.

James Boyd Brent, faculty emeritus, Department of Design Innovation
Professor Boyd Brent's internationally recognized scholarship and creative production focus on printmaking and capturing experiences of everyday life in natural environments. His work is currently displayed in over a dozen museum collections. He is also highly successful in teaching, advising, and course development. Professor Boyd Brent earned his MFA in 1994 from the University of Minnesota. He joined the University of Minnesota faculty in 1997, and was promoted to professor in 2018. Dr. Boyd Brent has expressed interest in continuing his scholarship and creative practice after his retirement.

Brad Hokanson, faculty emeritus, Department of Design Innovation
A prolific scholar, Dr. Hokanson's research focuses on understanding the creativity of children and how it can shape future leaders and problem-solvers. He is also a well regarded instructor and has developed several wide-reaching courses. Professor Hokanson earned his Ph.D. from the University of Minnesota in 2000. He began his work at the University of Minnesota in 1993, and was promoted to professor in 2010. He served as the College of Design's Associate Dean for Research and Outreach and Director of Graduate Studies. Dr. Hokanson plans to continue to engage in advising and outreach activities post-retirement.

BOARD OF REGENTS
DOCKET ITEM SUMMARY

Mission Fulfillment   **December 12, 2024**

AGENDA ITEM: Information Items

☐ **Review**	☐ **Review + Action**	☐ **Action**	☒ **Discussion**

☐ *This is a report required by Board policy.*

PRESENTERS: Rachel Croson, Executive Vice President and Provost

PURPOSE & KEY POINTS

University, Student, Faculty, and Staff Activities and Awards

A report of select activities among faculty, staff, and students at the local, regional, national, and global level in the areas of teaching, research, outreach, and other academic achievements at the University is included in the docket materials.

University of Minnesota Board of Regents
Mission Fulfillment Committee
December 12, 2024

Information Report: Report of University Faculty, Staff, and
Student Activities and Awards

University Highlights

[The University of Minnesota has retained its strong position in the 2025 U.S. News & World Report Best Colleges rankings](.).
- The Crookston campus was ranked No. 3 in Top Public Schools - Regional Colleges (Midwest).
- The Duluth campus moved up one spot to No. 20 in the Regional Universities (Midwest).
- The Morris campus advanced one place to No. 7 in the Top Public Schools - National Liberal Arts Colleges category.
- The Twin Cities campus maintained its overall ranking of No. 23 in Top Public National Universities. The Rochester campus information is included in the Twin Cities ranking.

[The School of Nursing has received the Health Professions Higher Education Excellence in Diversity Award for the 9th consecutive year.]() The school was one of only 19 nursing schools to receive the HEED Award honoring U.S. health colleges and universities that demonstrate an outstanding commitment to diversity and inclusion, citing expanding funding opportunities for underrepresented and diverse students as well as support for the students within the programs among its diversity and inclusion efforts.

[The School of Public Health's new research hub, the Biostatistics Research Center, has been granted $13.6M by the National Institute of Diabetes and Digestive and Kidney Diseases to investigate type 1 diabetes' impact on childhood brain development.]()

[The Center for Infectious Disease Research and Policy, a part of the Research and Innovation Office, will receive $3.2 million from the Coalition for Epidemic Preparedness Innovations to advance its open-access Coronavirus Vaccines Research and Development Roadmap.]() This is an expansion of an important tool created to guide the development of vaccines against multiple potentially deadly Coronaviruses. Researchers will monitor and evaluate R&D progress and catalyze efforts to develop broadly protective and longer lasting vaccines against Coronaviruses.

[The College of Education and Human Developments's Multiple Pathways to Teaching Office has received a $500,000 Collaborative Urban and Greater Minnesota Educators of Color Grant.]() Provided by the Professional Educator Licensing and Standards Board, the grant supports teacher candidates of color and American Indian teacher candidates who are enrolled in a PELSB-approved teacher preparation program. Funding will be used for $4,000 scholarships for eligible teacher candidates.

[Biology Teaching and Learning researchers received a nearly $1M National Science Foundation Innovations of Graduate Education grant to research Graduate program outcomes for graduate students.](#) The five-year program will explore answers to foundational questions about the practices embedded in the vast majority of graduate programs.

[A three-year U of M Extension partnership in Kenya has been granted $616,720 from the U.S. Department of Agriculture Foreign Agricultural Service to engage farmers in school meal programs.](#) Extension will focus on aiding women farmers through farmer participation in the school meals value chain, contributing to the 2026 International Year of Woman Farmer initiative on.

[University of Minnesota Technology Commercialization has set a new record for the number of startups in a fiscal year, launching 25 companies for the 2024 fiscal year.](#) The announcement coincides with the launch of a new initiative to scale up the University's commercialization work called Discover, Advance, Impact. This is the fourth year in a row that this record has been surpassed.

Faculty and Staff Awards and Activities

[Nisha Botchwey, Dean of the Humphrey School, has been selected as a 2024 Fellow of the National Academy of Public Administration.](#) She is one of 42 new fellows chosen this year, representing federal, state, and local governments; academia; and the private sector. Fellows are selected based on their contributions to the field of public administration and policy.

[Jessica Horvath-Williams, College of Liberal Arts, has won a Regional Emmy for her work on the film "Art + Medicine: Disability, Culture and Creativity" in collaboration with Twin Cities PBS](#). The film challenges conventional perceptions of disability by sharing diverse stories of individuals with disabilities, spanning various artistic disciplines and cultural backgrounds.

[Branden Moriarity, PhD, and Beau Webber, PhD, both associate professors at the U of M Medical School have been awarded an $11.6 million grant to advance transformative treatments for chronic inflammatory diseases.](#) The award is part of a $42.8 million grant from the Advanced Research Projects Agency for Health that involves a collaborative team of researchers from several institutions.

[Bic Ngo, from the College of Education and Human Development, was awarded $3.25 million across five years from the U.S. Department of Education's Augustus F. Hawkins Centers of Excellence Program for Project EngagED.](#) The project is designed to increase well-prepared teachers from underrepresented backgrounds.

[Xiaoran Sun, assistant professor at the College of Education and Human Development, has been awarded a four-year $2.75M grant funded by the National Institute of Mental Health](#) to research adolescents' social media management strategies as well as the links between social media use and

mental health outcomes. Six University of Minnesota faculty members from four departments will collaborate on the research project.

[Genevieve Melton-Meauxhas, senior associate dean at the Medical School and director of Center for Learning Health System Sciences has been named to the National Academy of Medicine.](#) Election to the academy is considered one of the highest honors in the medical fields, recognizing individuals who have demonstrated outstanding professional achievement and commitment to service. Her work has significantly advanced biomedical informatics, clinical practice, and policy by exploring the integration of AI into the medical field.

[Molly McCue, Sian Durward-Akhurst, along with postdoctoral fellow Jonah Cullen from the College of Veterinary Medicine have been funded in part by a $765,000 grant from the USDA National Institute of Food and Agriculture to contributing to a ground breaking project that aims to map the genetic blueprints of 13 horse breeds and their relatives.](#) This 3-year project is a collaborative effort among several prominent equine research programs and will enable genetic insights that could enhance health, performance, and disease prevention in horses.

[Alok Gupta, the Curtis L. Carlson Chair in Information Management at the Carlson School of Management, has been named to the 2024 class of INFORMS Fellows, one of the highest honors in the field of operations research and analytics.](#) Renowned for his work in artificial intelligence, the future of work, and smart cities, Gupta was inducted for his contributions to and dedicated service and leadership in the management information systems community.

[Dmitriy Bilyk and collaborators from the College of Science and Engineeringwere recently honored with the 2024 Alexanderson Award from the American Institute of Mathematics.](#) Bilyk and his co-authors – Alexey Glazyrin, Ryan Matzke, Josiah Park, and Oleksandr Vlasiuk – received the award for their paper "Energy on spheres and discreteness of minimizing measures" published in the Journal of Functional Analysis in 2021.

[Svitlana Mayborodahas, a McKnight Presidential Professor at the College of Science and Engineering has been elected as a Fellow of the Mathematics Division of the European Academy of Sciences](#), a nonprofit independent organization of the most distinguished scholars and engineers performing forefront research and the development of advanced technologies.

[Tianzhong Yang, from the School of Public Health will lead a new research grant from the St. Baldrick's Foundation alongside colleagues from the UMN Medical School Division of Pediatric Epidemiology and Clinical Research to continue her research aimed at understanding the genetic mechanism for childhood cancers.](#) This grant is a part of a $9.4M round of awards provided by the St. Baldrick's Foundation, the largest charity funder of childhood cancer research grants.

[Pita Adam, from the Medical School, has become the first holder of the newly created endowed chair position, the Minnesota Chair in Family Medicine at the Medical School's Department of](#)

[Family Medicine and Community Health.](#) The decision to create an endowed chair specific to clinical care in family medicine arose out of a steadfast dedication to caring for patients across the lifespan.

[Michael Goh, professor at the College of Education and Human Development, has been elected Fellow of the American Psychological Association.](#) Fellow status is an honor bestowed upon APA members who have shown evidence of unusual and outstanding contributions or performance in the field of psychology and who have advanced psychology as a science and profession, especially in interdisciplinary ways. Fellow status requires that a person's work has had a national and international impact on the field of psychology beyond a local, state, or regional level.