

# UNIVERSITY OF MICHIGAN

## **Position Specification**

University of Michigan Robert J. Vlasic Dean, College of Engineering



#### University of Michigan College of Engineering

The College of Engineering at the University of Michigan is one of the most powerful forces for engineering and technology innovation in the world - it is a bellwether in a solution-focused, forward-thinking field. The College has pioneered People-First Engineering as both a goal and a practice that re-imagines what engineering can be by closing critical gaps and elevating all people. An influential unit on campus and in the field of engineering, the College has invested in interconnected and collaborative approaches to engineering education and research to pursue more sustainable and holistic solutions and innovations. On a campus with leading business, health, and liberal arts colleges, the College of Engineering shares buildings with social scientists, auto manufacturers, doctors, and artists. People-First Engineering represents the future of the field as it centers around engineering fundamentals, integrated expertise, and equity-centered values that will shape research, collaborations, and culture.

The College is home to <u>12 departments</u> and <u>19 centers</u>. It is distinguished by its breadth of excellence; nearly every degree program in the College ranks among the top ten nationally in the *U.S. News and World Report* for undergraduate and graduate education, with several in the top five: Aerospace Engineering (#8 undergraduate program/#5 graduate program); Biomedical Engineering (#6/#9); Chemical Engineering (#11/#10); Civil Engineering (#10/#5); Computer Engineering (#6/#7); Electrical Engineering (#9/#4); Environmental Engineering (#4/#2); Industrial Engineering (#5/#2); Materials Engineering (#4/#7); Mechanical Engineering (#8/#5); and Nuclear Engineering(--/#1).

The College of Engineering's stellar rankings reflect the active, intentional pursuit of academic excellence. The College is a leader in engineering education and encourages pedagogical innovation, practical experience, and project-based learning for its students. Faculty draw upon the expertise of a unique and invaluable resource, the <u>Center for Research</u>





on Learning and Teaching in Engineering (CRLT-E), which is dedicated to keeping the College at the forefront of STEM education and to improving student outcomes.

The College of Engineering is home to one faculty that includes 442 tenured and tenure track faculty, 259 research faculty and lecturers, 66 other instructional faculty, who together drive a culture of excellence in research and teaching. Additionally, 897 highly skilled staff members support the scientific, educational, and administrative functions of the College. Scholarship at the College spans all fields of engineering, and College culture is notable for the ease of pursuing innovative and interdisciplinary research collaborations. Faculty are actively engaged in a broad set of state, federal, foundation, and industry-funded research programs aimed to advance fundamental knowledge as well as to transfer innovations beyond the laboratory and into the real world to benefit society. Michigan engineers are at the forefront of research in critical domains such as the sustainability of our energy and water supplies, next generation mobility and smart infrastructure, the advancement of clinical care and biomedical science, space systems, and much more.

Undergraduate students come to Michigan from all over the world with an amazing range of interests and goals: they are talented researchers, artists, entrepreneurs, and leaders. The College is among the most selective in the nation and is home to a diverse and talented student body. In 2022, the College received 22,343 applications for first-year students and had an acceptance rate of 16 percent. The median high school GPA of the 2022 entering class was 3.9, and half of matriculating undergraduates are residents of the State of Michigan. Graduate students are equally impressive: the mean quantitative GRE for entering graduate students was 168. The College thrives via a diverse student body, leading the nation through graduating the most underrepresented minority PhDs and the second-highest number of female undergraduate engineers. The College of Engineering enrolls 6,962 undergraduate students and 4,089 graduate students.





Immersed in a rich learning environment and atmosphere focused on student success, students utilize resources like the Wilson Student Team Project Center, a facility in which they can experience hands-on development and fabrication in the context of project teams, such as the UM Solar Car team (9-time winner of the American Solar Car Challenge). Lab-based research opportunities abound and engage students at every level. Students also participate in numerous organizations that provide hands-on design, professional development, and culture and diversity-focused opportunities.

A destination for exploration of what is possible, the College has a robust history of exploring new ideas at the intersection of disciplines, including center-level efforts at scale. The College of Engineering is one of only nine institutions that will receive \$18 million from the NSF for an interdisciplinary Materials Research Science and Engineering Center (MRSEC), which will focus on developing (1) new layered materials with tailored nanoscale structures for quantum information processing, and (2) new recyclable polymeric materials capable of self-healing with potential applications. In 2023, the state of Michigan awarded the University's College of Engineering with \$130 million to launch the Electric Vehicle Center (EV Center), which will support the modernization of the auto industry and support the establishment of a more robust EV ecosystem. An \$11M/four-year DOE Energy Frontier Research Center (EFRC) is probing the chemo-mechanical phenomena underlying the processing and electrochemical dynamics of ceramic ion conductors for clean energy systems.

The College of Engineering boasts tremendous research infrastructure and facilities such as the Lurie Nanofabrication Facility (LNF) that was first opened in 1986 to conduct pioneering work in MEMS and integrated systems, and that today houses micro-, nano-, and opto-electronics fabrication capabilities. The MCity facility, managed by the public-private partnership of the Mobility Transformation Center (MTC), contains urban and suburban environments to simulate a broad range of complex situations to test the autonomous vehicles of the future. The Ford Robotics Building houses the new Department of Robotics, including active learning instructional space, flexible dry research labs, office and student services spaces, as well as space for machines that walk, fly, drive, and swim. The \$145 million Leinweber Computer Science and Information Building, a collaboration with the School of Information, leverages the College's expertise in computing and information; it will expand the footprint of the College of Engineering by 163,000 square feet and is scheduled to be completed in summer 2025.



The College of Engineering occupies more than

1.2M square feet and is a critical part of the University's North Campus community—academically, programmatically, and culturally— creating and leveraging deep connections with its neighboring schools and colleges: the Stamps School



of Art and Design, the School of Music, Theatre and Dance, the School of Information, and the Taubman College of Architecture and Urban Planning. North Campus is a stimulating environment that integrates the full spectrum of activities from arts to engineering and contains ample space for physical expansion and expected growth of the College.

The College of Engineering benefits from a variety of constituents such as the <u>Leadership Advisory Board (LAB)</u> who are dedicated to its growth and success. The LAB is composed of leaders of business, industry, government, and the research and engineering education communities who volunteer their time, expertise, and counsel to help chart the future course of the College of Engineering. The members are a source of external advice and guidance for the College of Engineering's instructional and research programs. The College also has over 70,000 living alumni who span the globe. These alumni are a dedicated and powerful group that sustains the College through scholarly engagement with students and faculty, mentoring and job opportunities for graduates, and generous giving. Total fundraising contributions in 2022 were more than \$32 million, half of which came from individual donors. Today, the endowment of the College of Engineering is valued at over \$875 million.

#### The Role of the Robert J. Vlasic Dean of the College of Engineering

The Robert J. Vlasic Dean of the College of Engineering at the University of Michigan is the chief academic and executive officer of the College and a key member of the University's leadership team. The Dean is charged with encouraging a culture of innovation and excellence within the College and collaborating with the other deans at the university level on shared initiatives for the benefit of the University and the state of Michigan. The Dean reports to the Provost and Executive Vice President for Academic Affairs.

In the University's highly decentralized RCM budgeting model, the Dean has considerable autonomy to execute on strategic priorities for the College of Engineering. The Dean has primary responsibility for the allocation, maintenance, and growth of the \$307 million yearly operating budget. Within the College, the Dean is one of seven voting members of the Executive Committee, a rotating elected body of senior faculty that is responsible for hiring and key aspects of the promotion and tenure process. Administratively, the Dean oversees critical functional units of finance, information technology, communications, advancement, and academic and student affairs to ensure that they are best aligned to support the academic mission of the College. The Dean is also responsible for representing the College with the state legislature, the federal government, and other government groups. In addition, the Dean is the chief steward of relationships with the College's alumni base and with industry partners to ensure further support and opportunities for scholars, students, and graduates.

#### **Key Priorities:**

- Design and implement a strategic plan that advances excellence in education and research through crossdisciplinary collaboration and the execution of the <u>People-First Engineering initiative</u>;
- Further advance the College of Engineering's reputation and continue to raise its prominence nationally and internationally;
- Incentivize and energize high-quality research, including enhanced support for PhD students;
- Sustain a climate that rewards excellence and innovation in undergraduate teaching and learning;
- Recruit, develop, retain, and support talented and diverse faculty and staff;
- Collaborate with leaders across the other 18 Colleges and Schools to leverage the broad and deep strengths of the University;
- Manage and enhance the College's footprint, including the space utilization of new and existing buildings on North Campus;



- Partner in the development of an innovation and technology park;
- Advance and expand fundraising efforts by engaging a broader and deeper donor base;
- Maintain commitment and drive outcomes in diversity, equity, and inclusion, which includes executing the next phase of the University strategic plan (<u>DEI 2.0</u>) within the College of Engineering;
- Drive innovation at the College with regard to the future of learning and the future of work;
- Support and guide the development of new initiatives with a focus on large-scale research centers;
- Engage and contribute to the University of Michigan Center for Innovation's efforts to boost economic development, job growth, and community development and engagement in Detroit;
- Incentivize entrepreneurship and support the Center for Entrepreneurship; and
- Establish new partnerships with industry and deepen collaborations in the greater Detroit metropolitan area.

#### Qualifications

The next Robert J. Vlasic Dean of Engineering will be a leader with an ambitious vision, a collegial and consultative leadership style, and the energy and integrity to inspire the College of Engineering to heightened levels of excellence. Candidates should demonstrate bold, effective leadership in a large, highly complex enterprise and a record of accomplishment in creating and supporting a climate of community, inclusivity, and respect. While no single candidate will equally posses all qualifications, the committee seeks candidates with the following qualifications and abilities:

- An earned doctorate and distinguished research and teaching achievement commensurate with an appointment as a full professor in the College;
- A genuine belief in People-First Engineering and ability to operationalize the concept;
- Innovative, intellectual, entrepreneurial leadership incorporating a passion for students, research, service, and the public education mission;
- An open and consultative leadership style that generates collaboration and partnerships with other deans and administrators, faculty, staff, students, and alumni;
- A clear and demonstrated record of advancing and achieving specific and significant goals of diversity, equity, and inclusion;
- Capacity to lead and implement strategic planning, including the ability to build consensus and work collaboratively within the College of Engineering and across the University;
- Demonstrated fundraising experience or the personality traits and skills to suggest strong potential to succeed in this area;
- Experience as an administrator who possesses a track record of success and an understanding of organizational leadership;
- An astute understanding of finances, resource allocation, and the relationship between academic priorities and budget;
- A record of responsible stewardship of academic resources, demonstrating prudent and efficient use of resources;
- An understanding of infrastructure issues surrounding the physical plant and experience in growing research infrastructure;
- Recognition of the external factors and constituencies that affect public universities;
- The ability to adapt to a dynamic environment and to lead change in a decentralized environment;
- Excellent judgment: willingness to make difficult decisions and take thoughtful risks to advance the College; and
- A dynamic leader with a national presence who will be an effective spokesperson for the College of Engineering.



#### University of Michigan Robert J. Vlasic Dean, College of Engineering

#### **University of Michigan**

The University of Michigan has a long and distinguished history. It was founded in 1817, 20 years before the territory became a state and 45 years before the Morrill Act of 1862 established the modern, public land-grant university system. It was one of the first public universities in the nation, and throughout its nearly 200-year history, it has maintained the highest levels of education, scholarship, and research.

The University of Michigan is ranked in the top 35 of the 1,500 higher education institutions across 104 locations in the world, according to the QS World University Rankings 2024 edition. Among national universities, *U.S. News and World Report* regularly ranks the University of Michigan as a top 25 institution. The University has also held the title as the third ranked public university every year since 2019 and is the U.S. public university with the second highest National Science Foundation (NSF) research volume.

The University of Michigan has a total budget of \$13.4 billion. The faculty headcount at U-M's three campuses is 7,457, with the Ann Arbor campus alone having a total of 6,752 faculty full-time equivalents (FTEs). Instructional appointments comprise 3,617 FTEs, and another 3,134 FTEs are individuals with clinical, research, and other titles who are primarily involved in health care, research, and related scholarly activities. The University enrolls approximately 52,065 undergraduate, graduate, and professional students. It regularly ranks as first or second in the country among public universities in total research expenditures at over \$1.7 billion annually. Having earned distinction in almost every academic



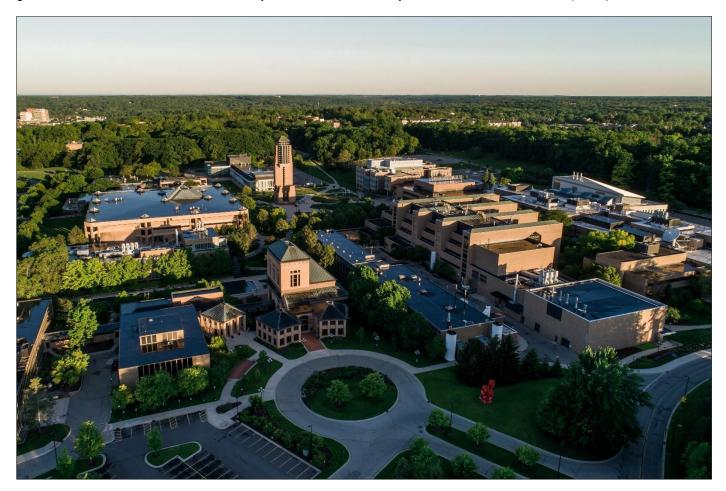
area, the University of Michigan is an exceptional, comprehensive research environment.

Over the years, the University has carefully planned for reductions in state and federal resources to sustain its impressive trajectory. In the 1990s, in a prescient and enormously successful strategic change, the University adopted a Responsibility Centered Management (RCM) approach to budgeting, which delegates revenue and cost authority to the deans of its individual schools and colleges, giving units incentives to manage their budgets in ways that best meet their needs and benefit the overall financial outlook of the University. Today, the University is stronger than ever, with reduced overhead, more faculty, lower costs, and greater distinction.

The University of Michigan is a national leader in advancing diversity, equity, and inclusion across its campus. In the fall of 2015, the University of Michigan embarked upon a renewed commitment to diversity, equity and inclusion and engaged in a yearlong period of intense planning. The process culminated in Fall 2016 with the creation of a five-year diversity, equity, and inclusion strategic plan; the appointment of the University's inaugural Chief Diversity Officer; and the development of the Office of Diversity, Equity, and Inclusion, which oversees the campuswide implementation of the unit plans. Today, the University has made earnest and notable strides, and each of the 50 schools, colleges, and units provided <u>comprehensive summaries</u> highlighting their unique efforts over DEI 1.0 – the first five years of U-M's DEI Strategic Planning and Implementation Process. In Fall 2023, the University will launch the next phase of its strategic planning effort, DEI 2.0.



The University of Michigan has also been a leader among public universities in developing a strong alumni support network, and it has achieved tremendous success in philanthropy to enhance its mission. In 2018, the University successfully concluded "Victors for Michigan," which was a seven-year capital campaign that surpassed its \$4 billion goal to raise \$5.28 billion for the University. The current University endowment is \$17.9 billion (FY22).



#### **University of Michigan Leadership**

#### President, Santa J. Ono

Santa J. Ono, Ph.D., is the 15th president of the University of Michigan. He began a five-year term on Oct. 14, 2022.

A recognized leader in higher education in the United States and Canada, President Ono is an experienced vision researcher whose pioneering work in experimental medicine focuses on the immune system and eye disease. At U-M he is professor of ophthalmology and visual sciences, and microbiology and immunology in the Medical School, and molecular, cellular, and developmental biology in the College of Literature, Sciences and the Arts.

He joined U-M from the University of British Columbia, where he served as president and vice chancellor since 2016. While at UBC, he chaired the U15 Group of Canadian Research Universities and the Research Universities of British Columbia, and served on the board of Universities Canada. He also served on the steering committee of the Association



of Pacific Rim Universities; Government of Canada's Industry Advisory Ad Hoc Roundtable on COVID-19 Testing; and the boards of Fulbright Canada and Mitacs.

Prior to his appointment at UBC, he was president of the University of Cincinnati, where he also served as professor of pediatrics at Cincinnati Children's Hospital Medical Center. While at the University of Cincinnati, he was appointed by Ohio Governor John Kasich to lead the state's Biopharmaceutical Task Force and to the Board of the Ohio Third Frontier, the state's technology-based economic development program.

Dr. Ono has served as senior vice provost and deputy to the provost at Emory University. He also has taught at Johns Hopkins University, Harvard University, and University College London.

He is a fellow of the American Association for the Advancement of Science, the Canadian Academy of Health Sciences, the National Academy of Inventors, USA and the Johns Hopkins Society of Scholars. In 2022, he was elected to the American Academy of Arts & Sciences.

He holds honorary doctorates from Chiba University and the Vancouver School of Theology and is a recipient of the Reginald Wilson Diversity Leadership Award from the American Council on Education, the Professional Achievement Award from University of Chicago, a Grand Challenges Hero Award from UCLA, and the NAAAP 100 Award from the National Association of Asian American Professionals.

He earned his B.A. in biological sciences from the University of Chicago in 1984, and a Ph.D. in experimental medicine from McGill University in 1991.

#### Provost, Laurie McCauley

Dr. Laurie McCauley is provost and executive vice president for academic affairs at the University of Michigan, overseeing the university's academic and budgetary affairs. The deans of the 19 schools and colleges report to her, as do the nine vice provosts with portfolios covering academic and budgetary affairs; academic and faculty affairs; academic affairs-graduate studies; academic innovation; biosciences initiative; diversity, equity, & inclusion; engaged learning; and enrollment management.

Prior to her appointment as provost, she served as the dean of the School of Dentistry. Dr. McCauley is the William K. and Mary Anne Najjar Professor of Periodontics in the School of Dentistry and professor of pathology in the Medical School.

An active researcher supported by the National Institutes of Health for more than 25 years, Dr. McCauley focuses her research on parathyroid hormone anabolic actions in bone, immune cell functions in bone, and prostate cancer skeletal metastasis. This mechanistic and translational research contributes to regenerative medicine and the development of treatments for inflammatory mediated bone loss.

Dr. McCauley has held visiting appointments at the Institut de Génétique et de Biologie Moléculaire et Cellulaire, the École Normale Supérieure de Lyon, and the Center for Experimental Therapeutics and Reperfusion Injury, Brigham and Women's Hospital, Harvard Medical School. Among her many recognitions, she has been awarded a distinguished scientist award (International Association for Dental Research), a distinguished alumna award (The Ohio State University), and the Norton M. Ross Award for Excellence in Clinical Research (American Dental Association). She is



a fellow of the American Association for the Advancement of Science and a member of the National Academy of Medicine, where she served as Section Chair.

At U-M, Dr. McCauley chaired the Department of Periodontics and Oral Medicine, and led several campus efforts in campaign planning, professional standards, and pandemic planning. She has been a champion for diversity, equity, and inclusion, receiving the Ida Gray award for her outstanding efforts in promoting multicultural ideals. As dean, she actively worked to reduce student debt, and oversaw a \$142 million expansion and renovation of the dental school's clinical and educational facilities.

Dr. McCauley joined U-M as an assistant professor of dentistry in 1992. She holds four degrees from The Ohio State University: Bachelor of Science in education, Doctor of Dental Surgery, Master of Science in dentistry, and PhD in veterinary pathology.

#### The City of Ann Arbor

Ann Arbor, located 40 miles west of Detroit, is a very attractive area in which to live and work: it is a small, friendly town with big city sophistication. It is home to a world-class educational and high-tech research center nestled in a close-knit community of peaceful, charming neighborhoods with a rich mix of cultures. Ann Arbor is known as an urban oasis replete with renowned galleries and museums, scenic trails, rich food scene, and one-of-a-kind retailers.

It is one of America's top college towns and has been regularly ranked as one of the happiest cities in the nation, with a vibrant arts community and festivals throughout the year that draw 130,000 visitors annually. Its total population, including the student population of the University of Michigan, is 121,000, and the University employs more than 30,000 residents of Washtenaw County.

#### **Nomination and Application Procedure**

The University of Michigan invites inquiries, nominations, and applications for the position of Dean of the College of Engineering. Interested candidates should confidentially submit a curriculum vitae and letter of interest (Adobe PDF files preferred) to <u>Michigan.Engineering@russellreynolds.com</u>.

For fullest consideration, materials should be received as soon as possible and preferably by November 6.



#### Contact

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The University of Michigan, as an equal opportunity/affirmative action employer, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University of Michigan is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, religion, height, weight, or veteran status in employment, educational programs and activities, and admissions. Inquiries or complaints may be addressed to the Equity, Civil Rights and Title IX Office (ECRT) at 734-763-0235 and <u>ecrtoffice@umich.edu</u>, and as follows:

**Sex/Gender Identity/Gender Expression/Sexual Orientation, including sexual misconduct**: ECRT Sexual and Gender-Based Misconduct Director and Title IX Coordinator

Disability: ECRT Disability Director and ADA Coordinator

#### Race/Color/National Origin/Age/Marital Status/Religion/Height/Weight/Veteran Status: ECRT Civil Rights Director

Land Acknowledgement: The University of Michigan occupies the ancestral, traditional, and current lands of the Anishinaabe or People of the Three Fires, namely the Ojibwe, Odawa, and Bodewadmi Nations. These nations were forced to cede their lands in 1817 through the coercive Treaty at the Foot of the Rapids. The Treaty earmarked half of the lands for 'a college at Detroit,' where Indigenous students would be able to receive an education. Despite this commitment, U-M did not enroll an Indigenous student until 130 years later. Additionally, it is the sale of this land that established U-M's endowment and helped create and sustain U-M as a premier research university.

As U-M continues to occupy this land, we recognize that this acknowledgment does not substitute for the creation of an authentic and sustained relationship with the indigenous communities and their lands that we occupy. Further, this acknowledgment will not erase the harm and violence that have been done to indigenous people through the actions and inactions of the institution. However, through a land acknowledgment U-M is taking an important small step towards the creation of an equitable, sustainable, and self-determined future. In offering this land acknowledgment, we recognize and affirm indigenous people and communities who live in Michigan now and those who were forcibly removed from their homelands. We also affirm Indigenous histories and experiences, and the historic and ongoing struggles for Indigenous sovereignty.

