Happy Holidays 2017

Dear faculty, staff, students, alumni and friends of the College of Engineering,

The winter holidays are a time for both celebration and reflection. As 2017 draws to a close, we have much to celebrate and a tremendous future to look forward to in the College of Engineering. As always, our progress is only made possible by the tremendous support and dedication that each of you have shown throughout the past year. I am extremely thankful to you for all you do to move us forward.

The past year has been one of transformational growth. We added 30 new tenure-system faculty members for the 2017-18 academic year, bringing our two-year total to nearly 50 new faculty members since 2016. This represents the college’s largest expansion in a generation, building our world-class academic team to 235 tenure-stream faculty members.

A dozen of this year’s new faculty additions were hired as part of MSU’s Global Impact Initiative, a comprehensive investment in new faculty that will develop research endeavors around energy, health, education, the environment, national security, and global development. About one third of the new faculty members have multiple appointments,
working collaboratively in research programs that cross disciplines, departments and colleges. More than a dozen have joined our newest departments, helping to build exceptional academic and research programs in Biomedical Engineering and Computational Mathematics, Science and Engineering.

Our commitment to strategic expansion of the College of Engineering also requires upgrading, expanding, and building new research facilities. We are continuing to pursue much needed space. In October 2016, we celebrated the opening of a new Bio Engineering facility that houses the Institute for Quantitative Health Sciences and Engineering (IQ) and the Department of Biomedical Engineering. This October, a ribbon cutting launched the official opening of MSU’s scale-up facility in the Institute for Advanced Composites Manufacturing Innovation (IACMI) in Detroit’s Corktown. Construction is currently underway for the expansion of the MSU-Fraunhofer Center for Coatings and Diamond Technologies. This $5 million investment by MSU and corporate partner Fraunhofer USA will nearly double the size of the current MSU-Fraunhofer labs.

Our growth has also included new academic offerings. In addition to graduate programs in the new departments, a new master’s degree offering in electrical engineering was launched in this fall. The Midland MS program will focus on building graduate students’ competencies in the growing field of automotive electronics, particularly in the areas of vehicle safety, advanced driver assistance systems, and autonomous driving technologies.

New departmental leadership will help guide the College of Engineering into the next era of growth in our research and educational missions.

In June, Donald Morelli was named chair of the Department of Chemical Engineering and Materials Science (CHEMS), following a national search. His appointment after two years as interim chair continues his strong leadership over the department’s expanding research and instructional programs, and a growing faculty.

Next year, Yunhao Liu, of Tsinghua University in Beijing, will join us as the new chair designee of the Department of Computer Science and Engineering (CSE). Dr. Liu is the Dean of School of Software and holds the Chang Jiang Chair Professorship at Tsinghua University. He earned both his MS and PhD in Computer Science and Engineering from MSU. He is a Fellow of both the Association for Computing Machinery (ACM) and the Institute of Electrical and Electronics Engineers (IEEE). Abdol-Hossein Esfahanian is serving as interim chair after Matt Mutka stepped down in August, having served as chair for more than 10 years.

(A complete listing of new faculty and leadership within the College of Engineering is available online at http://www.egr.msu.edu/newfaculty)

Our strength lies not only in attracting top new talent, but also supporting and retaining faculty with opportunities for growth and recognition of achievement. Among top faculty achievements this past year:

- Shanker Balasubramaniam, professor of electrical and computer engineering, and Venkatesh Kodur, professor and chair of the Department of Civil and Environmental Engineering and director of the Center on Structural Fire Engineering and Diagnostics, were each awarded one of the highest faculty honors at MSU, the title of University Distinguished Professor.
- Kalyanmoy Deb, the Koenig Endowed Chair in the Department of Electrical and Computer Engineering, received the inaugural Lifetime Achievement Award from Clarivate Analytics in New Delhi, India. He was also honored earlier this year with the organization’s Highly-Cited Research Award – for papers ranking in the top 1 percent by citations.
- Anil Jain, University Distinguished Professor of Computer Science and Engineering, received the Distinguished Alumnus Award from the Indian Institute of Technology Kanpur (IITK).
- Tamara Reid Bush, associate professor of mechanical engineering, was named as a Fellow of the American Society of Mechanical Engineers (ASME).
- Craig Gunn, senior academic specialist in the Department of Mechanical Engineering, was named a Fellow of the American Society for Engineering Education.
- Rebecca Anthony, assistant professor of mechanical engineering, received a faculty Early Career Development (CAREER) Award from the National Science Foundation. She is using her five-year, $500,000
grant to research nanostructure manufacturing to make LED lights more efficient and versatile.

- **Jeffrey Nanzer**, the Dennis P. Nyquist Assistant Professor of Electrical and Computer Engineering, received a prestigious DARPA Young Faculty Award to support his work in creating technologies enabling separate, small wireless systems to collaborate as a single system.

- **Peng Zhang**, assistant professor of electrical and computer engineering, received the prestigious 2018 Young Investigator Program (YIP) Award from the U.S. Air Force Office of Scientific Research (AFOSR).

- **Bradley Marks**, a professor of biosystems engineering, and **Charles Ofria**, a professor of computer science and engineering and co-founder of BEACON, received MSU 2017 William J. Beal Outstanding Faculty Awards; and

- **S. Patrick Walton**, the C. Robert and Kathryn M. Weir Endowed Associate Professor in Chemical Engineering and Materials Science, was honored with the MSU Undergraduate Research Faculty Mentor Award.

A meaningful way to recognize and reward faculty members who are at the forefront in their fields is by conferring endowed titles. This year, the college elevated five faculty members to named endowed positions:

- **Christopher H. Contag**, named the James and Kathleen Cornelius Chair in the Department of Biomedical Engineering;

- **John R. Dorgan**, named the David L. and Denise M. Lamp Endowed Chair in Chemical Engineering;

- **Edward J. Rothwell**, named the Dennis P. Nyquist Endowed Professorship in Electromagnetics;

- **S. Patrick Walton**, named the C. Robert and Kathryn M. Weir Endowed Associate Professor in Chemical Engineering and Materials Science; and

- **Timothy A. Whitehead**, named a Johansen Crosby Endowed Professor in the departments of Chemical Engineering and Materials Science and Biosystems and Agricultural Engineering.

One significant result of the investment we are making in faculty has been the growth of our research output as measured by expenditures. In the most recent fiscal year, we set a new record of success with research expenditures approaching $56.5 million – a more than 15 percent increase over the previous two years’ research expenditures.

Engineering is now the third largest college at MSU, behind only the Colleges of Business and Natural Science. In less than a decade, we have doubled our undergraduate student population and almost tripled our female undergraduate enrollment. This fall, we welcomed 1,430 freshmen, including almost 300 women, more than 100 African Americans, 74 Hispanic students, and 44 multi-cultural freshmen. Since 2008, the college has grown from 2,803 undergraduates to 5,918 in 2017. Our graduate student population has also grown. In 2008, the college had 663 graduate students; in 2017 we have 852 MS and PhD students.

The growth, increasing diversity, and academic strength of our student body, together with our faculty growth and investment in targeted areas of research, are moving us forward as a leader in both student preparation and success, and research impact.

Our steady growth would not be possible without the ongoing generosity of our dedicated alumni and industry partners in support of our college and students. Donor investments in the MSU Empower Extraordinary capital campaign have enabled us to create 10 new endowed faculty positions since 2014.

While our college reached its Empower Extraordinary capital campaign goal in Spring 2017, surpassing $80 million, we continue to work toward funding two key targets: undergraduate scholarships and a total of 20 endowed faculty positions by the end of the campaign. Our success coincided with MSU reaching its record-breaking $1.5 billion Empower Extraordinary campaign goal more than a year early, as well.

Your ongoing support is key as we continue to design and build a transformational future of dynamic growth. Together we are focused on an academic, research, and outreach agenda that spurs innovation, drives our economy forward, and finds solutions to the “grand challenges” of society.

Again, I thank you for all you do to support our progress.
Leo Kempel
Dean, College of Engineering

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