Our Vision for Addressing Global Challenges

While being very proud of its accomplishments as one of the nation’s leading academies for engineering education, research, and service to the technical community and civil society, the Penn State College of Engineering is at the cusp of a new and exciting phase whereby focus is placed on substantially expanding the research enterprise in new and emerging areas, and broadening the educational programs, while also intensifying the individual mentoring and guidance of our students.

Over the next three years we are:

• **Doubling** the size of our biomedical engineering department and breaking ground on a new state-of-the-art biomedical and chemical engineering building
• **Expanding** our mechanical and nuclear engineering department by 25 percent to explore new research horizons and serve better our students
• **Adding** six Frontier Faculty positions to establish cutting-edge research programs at the intersection of sub-disciplines of engineering and science

Through 2017, Penn State Engineering is adding 38 new faculty lines, in addition to replacements, over the next three years, thus increasing the professoriate by 18 percent.

Openings over the next three years are as below:

• **12 Biomedical Engineering positions** to expand the intellectual footprint and the curriculum in biomedical engineering, in association with medicine, science, life sciences, and cyberscience; topics to include imaging and devices, nano and regenerative medicine, tissue engineering, and computational bioengineering
• **10 Mechanical and Nuclear Engineering positions** to place top faculty in cyberphysical systems, biomechanics, energy, advanced manufacturing and other emerging areas
• **6 Frontier Faculty lines** to find exceptional professors working on new and emerging areas, including optimal and secure cyberenvironments, advanced manufacturing for medical and mechanical sciences, resilient infrastructure systems, and sustainable water-energy-food nexus
• **6 Institute for Natural Gas Research positions** to address challenges in natural gas production, transport, distribution, and utilization technology
• **2 School of Engineering Design faculty lines** to strengthen the design and professional practice curriculum content and research
• **1 Computer Science/Engineering and Electrical Engineering position** to place one senior professor who will lead the new school that associates the Departments of Computer Science and Engineering and Electrical Engineering
• **1 Acoustics position** to secure one senior hire who will lead a thriving and expanding acoustics education and research group

There are faculty openings in all other departments: Aerospace Engineering, Agricultural and Biological Engineering, Architectural Engineering, Chemical Engineering, Civil and Environmental Engineering, Engineering Science and Mechanics, Industrial and Manufacturing Engineering, and the School of Engineering Design, Technology, and Professional Programs.