



NATIONAL ACADEMY OF ENGINEERING

The National Academies of Sciences, Engineering, and Medicine

C. D. Mote, Jr.
President

September 26, 2017

Dear Colleague:

As we enter the fall, following on the tremendous success of this summer's Global Grand Challenges Summit, the National Academy of Engineering (NAE) is building on that momentum to inspire young engineers and enhance the public's understanding of engineering's role in providing a better future for all. Our leadership in those areas depends on your philanthropy to provide the essential support needed to excite and attract young people to engineering and address major engineering challenges of our time. Please join me in making a gift to the NAE today.

In July the NAE hosted the third and largest Global Grand Challenges Summit (GGCS), a collaborative series with the UK Royal Academy of Engineering and the Chinese Academy of Engineering. Nearly 900 participants, of which *over half were students representing about 150 universities*, engaged with experts and participated in workshops related to the Grand Challenges' topics of Virtual Reality and Artificial Intelligence, Engineering and Health Care, Sustainability, and Reverse Engineering the Brain. The enthusiastic student participation is summed up in this comment from one of the attending students: "Thank you for framing the Grand Challenges in a light that inspires the hundreds of students at the summit to work on long-term solutions. The GGCS is exactly what we need to inspire the current generation of engineering students to solve the problems of the world they will be graduating into."

The summit kicked off with Student Day, which included a student business model competition for startups based on an idea related to the Grand Challenges (GCs), followed by the How to Change the World event that engaged over 150 students in diverse teams to create innovative podcasts exploring socially meaningful engineering solutions to the GCs. Undergraduate Grand Challenges Scholars Program (GCSP) students and a panel on K-12 education featuring a high school, reported that the GCs provide a context and hands-on experience to help students better understand STEM and their potential career goals. A high school student said she had always wanted to be a doctor, but after her involvement in her school's program she decided to become a biomedical engineer. The audience at the summit enthusiastically applauded that decision!

The goals of inspiring the next generation of engineering change makers and of sparking global collaboration that leads to innovative ways of addressing global challenges were prominent throughout the summit. Thanks to private support from enthusiastic corporate sponsors and generous members, the summit was a highlight of the year!

Your support backs the NAE's education program preparing K-12, undergraduate, and graduate students for 21st century engineering. For example, the GCSP is continuing to build momentum. There are now 40 active programs in the United States and another 55 either under review or in the planning stages up from 35 one year ago, and the NAE is expanding the GCSP to community colleges. Additionally, the GCSP is already approaching an exciting milestone: 1,000 graduates, over half of them female and 15% members of underrepresented minority groups. By empowering the next generation's engineers

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and workforce to approach Grand Challenge–like problems from a comprehensive perspective, we are laying the groundwork for the 21st century's age of engineering.

Flexible private funds enable the NAE to implement important programs and initiatives like the GGCS and GCSP. Additionally, the expansion of NAE initiatives like *EngineerGirl* and the Frontiers of Engineering (FOE) symposia depend on private support, for there is no base support for these programs. For example, as part of the NAE's ongoing efforts to increase women in the engineering workforce, *EngineerGirl* is launching an initiative that will engage high school girls to mentor middle school girls in engineering design. At the 2017 USFOE, 83 of the nation's brightest young engineers will gather for a 2½-day event to cover cutting-edge developments in four areas: Mega-Tall Buildings and Other Future Places of Work, Unraveling the Complexity of the Brain, Energy Strategies to Power Our Future, and Machines That Teach Themselves. The USFOE identifies current engineering advances and innovations and builds a strong professional network of promising next generation engineers.

As you can see, we have a lot of exciting programs all supported by thoughtful individuals like you who ensure the NAE will continue to provide its vital programming and initiatives for the nation. Your contributions and participation will make a lasting impact.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "C. D. Mote, Jr.", written in a cursive style.

C. D. Mote, Jr.

P.S. If you are attending this year's annual meeting, please mark your calendar and register for the popular brunch seminar on Financial, Estate, and Gift Planning on Sunday, October 8.