

The Sky is the Limit! The World is Yours!

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Penn State College of Engineering Commencement

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Dear Dean Elnashai, Distinguished Faculty of Penn State College of Engineering, and particularly the Graduating Class and your family and friends. It is a great honor and pleasure for me to speak at the marvelous occasion of the Commencement Ceremony of this outstanding School founded 120 years ago.

First, I would like to express my warmest congratulations to the graduates. Your strong passion, dedicated learning, creative thinking, and hard work have earned you the richly deserved recognition as a graduate from Penn State College of Engineering, a leading engineering school in the nation and the world. I also wish to congratulate the family, especially the parents, and also the grandparents, siblings, spouses and loved ones; and in some cases, your children. You have worked together in the education process as a team by providing all kinds of support: financial, logistic, moral, and every other way. You are important elements of the teams that are gathering today to celebrate this magnificent occasion.

For me, coming to Penn State College of Engineering is like homecoming. Associate Dean Peter Butler, Biomedical Engineering Head Cheng Dong, and Past Department Head Herb Lipowsky are superb engineering scientists with whom I had the pleasure to work previously in my laboratory. Penn State College of Engineering knows how to take the best, both in faculty and in students. I have no doubt that you are the best!

The graduation ceremony is called a commencement, because while this marks the completion of your college education, it is also the exciting time to embark on a new phase of your life, either starting a professional career in industry or other sectors, or pursuing further studies in a graduate or professional school. Whatever paths you take, what you have learned in the Engineering School here will provide an excellent foundation for your career development, not only based on the classes you took, but also because you have learned valuable knowledge in the lab, including the Capstone projects and the Learning factory. You have learned how to design, build, analyze and test. You have learned to work as teams. The team experience you have gained and the ability to work with people are extremely valuable in both industry and academia. In working with people, it is essential that we have the spirit and capability to cooperate and to communicate. My principle in working with others is that I am willing to contribute 60% of the work and take only 40% of the credit. This 60-40 principle has worked very well; I have benefitted greatly from these collaborations.

Penn State has a remarkable variety of engineering disciplines: Aerospace Engineering, Architectural Engineering, Biological Engineering, Biomedical Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Electrical Engineering, Engineering Science, Industrial Engineering, Mechanical Engineering, and Nuclear Engineering.

Although your diploma is conferred in a specific discipline, the interdisciplinary nature of today's engineering is such that you will be interacting with other disciplines, not only in engineering, but also other aspects of sciences, medicine, or even arts, humanities and social sciences. We need to have depth in a field, but we also need breadth. Our knowledge should be like a pyramid, i.e., being broad as well as tall.

Penn State has given you an excellent education, but what you have learned in the classroom, in the lab and in teamwork here is only a start. Most importantly, you have learned how to learn, so that you can have the pleasure to continue to learn new things, to synthesize your knowledge and generate new ideas, develop new products, becoming creative and innovative, which is what Penn State Engineering has emphasized. I would like to share with you two simple sayings:

The pleasure of life is learning. The meaning of life is creating

An example of the importance of learning after college is my own education. I do not have a formal engineering degree. I learned my engineering by working with outstanding colleagues and by self-learning. By receiving your engineering diploma today, you are already one big step ahead of me, and I am sure that you will do greater and better things.

When I was young, I did not know my capability and it was only after taking challenging situations that I was pleasantly surprised to discover that I could do much more than I had thought. I believe all of us have potentials that have not yet been fully realized. So, do not hesitate to take challenging positions or opportunities. You can do better than you think. When making a choice between alternatives, always take the more challenging one, especially if it can generate more rewarding outcome. Helen Keller said: "Life is either a daring adventure or nothing". Albert Einstein said: "In the middle of difficulty lies opportunity."

Therefore, I would like to ask you to set your goal high: The sky is the limit. Our globe has many problems, and it is ready for the next generation to solve and conquer. It is your opportunity and responsibility to do that. So the world is yours.

Now that I have gone to the topic of my speech, I would like to make some changes. From modern view of astronomy, the sky is no longer a limit. When I said the world is Yours, that is from my perspective, but I would like this to come from you, i.e., for you to say the World is Ours. In closing, I wish to send each and every one of you my warmest congratulations and my sincere wishes that you would feel "The Sky is Not the Limit!" and "The World is Ours!"