An Era for Bold Scholars
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Good afternoon and welcome to MIT! I’d like to thank Jose for the kind introduction. I want to express my sincerest gratitude to Christopher Jones, the Assistant Dean for Graduate Education and the Director of MSRP; Monica Orta, MSRP Coordinator; Dr. Mandana Sassanfar, of MSRP Biology; and Eboney Smith, Program Director of Diversity Initiatives at the Broad Institute. Christopher, Monica, Mandana, and Eboney are truly the heart and soul of what makes MSRP such a life-changing experience for all of its participants. Their personal dedication, commitment, enthusiasm, care, tireless energy, and vision for the program is at the core of MSRP and we are all greatly indebted to you. I would also like to thank Blanche Staton, Senior Associate Dean for Graduate Education who has been an incredible source of support. She has without hesitation donated her precious time, her wisdom, her friendship and acted as a role model, guide, champion, teacher and counselor, not just for the MSRP students and the staff in our office, but for all 6000+ graduate students at MIT, and I am sure countless faculty as well.

I am absolutely thrilled and honored to have this wonderful opportunity to meet and speak to all of you. As I was walking through the poster session, I was so impressed with the quality, the technical level, and intellectual depth of understanding of your research projects. I feel this indescribable “buzz” in the room of excitement, creativity, and curiosity. Clearly the spark has been lit. My hope for all of you is that this spark grows into a lifetime love for science and engineering, as it has for me.

I want to start by congratulating all of you. You are indeed a very select few. As many of you already know, there are significant challenges in the pursuit of
graduate studies. Today in our nation there is a huge population of highly talented individuals who do not make it through the academic system to pursue graduate education. Furthermore, interest in science and engineering in the United States is declining. To continue along this path, would be no less than a national tragedy. As I look to all of you, I see shining beacons of light that are counteracting these trends. In you, I see the future of my discipline, the future of academia, the future vitality of our country, and the future health of our planet.

It was not very long ago, that I was sitting just where you are. I see myself in every one of you. I clearly remember starting on the journey you are just about to begin. This summer was essentially a “toe-dip” into the pool. Graduate school will be a headlong dive. And I can tell you with the utmost confidence that every one of you has within you the intellectual fortitude and drive to swim to the finish line. Graduate school will undoubtedly be a transformative experience for you. You will be challenged. You will be inspired. You will establish lifelong mentors and colleagues. Your life will take on completely unexpected directions. You will make great discoveries. You will tap into and hone talents you may not even be aware you have. You will develop important skills such as communication, collaboration, tenacity, and critical thinking.

Today is one of the most exhilarating times in human history to embark on graduate studies. There is an ongoing revolution in communication, instrumentation, and computation that make for mind-boggling possibilities. With this exponential growth of technology, there are extraordinary advances to be made in areas such as sustainability, clean water and energy, transportation, infrastructure, healthcare, and countless others. Graduate students are the core backbone of these efforts. It is now possible and in fact highly probable that individual graduate students will have a broad and, potentially, global impact during their studies. Without a doubt, you will have the opportunity to take part in some of the most profound discoveries of our century; potentially a cure for cancer, the elimination of poverty, the development of systems for clean water and energy, reverse engineering the human
brain and many more. It is likely that many of you sitting in this audience will be the critical catalysts that help solve the greatest global challenges of our generation.

So who will be the most successful in the globalized society of the 21st century? First, we can consider that knowledge—its generation, evaluation, trade, and implementation at the individual level—will be critical to economic prosperity. In this new era, I would assert that those who will be most successful will be highly educated and bold scholars. What do I mean by a “bold scholar” and how can you become a “bold scholar”? We have all heard of the saying “thinking out of the box.” I am telling you today that right now you do not have a box. I urge you to resist building up boxes; boxes between disciplines, boxes between Universities, boxes between countries. Go beyond your field, go beyond the experimental tools you know, go beyond the students in your office and in your research group, go beyond your colleagues down the hall, break down barriers of legacy, travel across national boundaries if you need to. In your work, ask the tough questions, challenge the current paradigm, see the broad context, connect the dots, and unlock your imagination. In a word, be fearless.

If you are bold, you will see that science will become limitless. You will experience amazing moments when you have been working on a project tirelessly for months or years and suddenly, seemingly out of nowhere, it will appear to gain wings, to take on a life of its own, and the story will start to write itself. If you are bold, pieces of the puzzle start fitting together in a way that a magnificent painting starts to emerge and becomes clearer and clearer. If you are bold, there will be times when you generate a new piece of knowledge that you know will change your discipline forever and beyond and that, for that brief time, you are the only one in the world that knows it. In graduate school you will experience such moments; if you maintain an exceptional work ethic and continually strive for excellence, if you are tenacious, if you truly believe in your heart that you can do it, and if you are bold.

So in summary, my hope for all of you is that you will continue your journey to and through graduate school and press forward through whatever barriers and
obstacles are thrown in your path, that you will consider MIT as a potential home for your academic future, that you will discover what it is that you are most passionate about and then immerse yourself in it, and that you will all become intellectually fearless in the pursuit of new knowledge. For it is these qualities within all of you that ultimately will transform the world we live in. Thank you.