

## **Dr Maha Reda Farhat Speech**

First, congratulations, Sharp Summer Diploma graduates of 2024. It's really an honor to speak to you today. As was said before, you inspire me in your choice to deepen your skills towards improving the practice of medicine. Medicine is changing. It's becoming a data and information heavy field. More than ever, it is in need of visionaries and leaders, of knowledge makers and innovators. With skills in both research and clinical care, at least for most of you, you are now poised to do just that as you embark on a potential career as clinician scientists, as dual career and clinician scientists. I know many of you are contemplating your choices, asking if a dual career is even within reach. The reality is fewer MDs now are choosing to conduct research. The proportion has declined by more than the U.S. In the past 20 years. Currently, only 15% of practicing physicians in the U.S. Conduct research. However, clinician scientists on average ask more grounded questions that are more likely to impact care. They have higher funding rates in NIH grant cycles, for example, and medicine cannot stand to lose them from the research workforce. When I was in your shoes, to add not too long ago, graduating from the Harvard Chan Program in Clinical Effectiveness, I had no idea what this diploma just put into my hands. It opened the door, really, for the next stage in my career as a research group leader. I paired it with mentorship from a committed and established physician scientist and followed it with a master's degree in biostatistics with a focus on bioinformatics. As a physician, I learned to code in open-source languages and learned database management languages. I asked questions and I collected data, but I mostly focused on deepening my understanding of publicly available data that enabled me to repurpose it to answer questions that the original data curators couldn't have even imagined. Questions like tracking infectious disease transmission using insurance claims data, for example, and evaluating the impact of past global TB treatment policies on current rates of antibiotic resistance using public genomic data, to name a few. My willingness to deepen my technical skills has now led me to leverage artificial intelligence, including generative artificial intelligence, to develop a severity score for tuberculosis and for novel small molecule antibiotic development. Now I split my time seeing patients, teaching clinical and research trainees, and developing new diagnostic and treatment strategies for TB. I couldn't have imagined when I was in your shoes having now a more fulfilling career. I should also mention that I balanced this career with being a mother to three beautiful children aged 15, 12, and 8. In summary, I'm here to tell you, and hopefully show you, that a dual career is not only possible, but it is desirable and impactful. Medicine needs physicians with deep research skills, as such physicians not only ask the best questions, but can also most reliably and most impactfully answer them.

Alf-Mabrook to all of you.