

Biomedical Careers In Industry Panel Discussion

The Boston University's Broadening Experience in Scientific Training (BU's BEST) program provides opportunities for doctoral and post-doctoral trainees to enable their professional development. On April 24, 2024, BU's BEST presented the "Biomedical careers in industry panel discussion". The panelists were BU Chobanian and Avedisian School of Medicine Graduate Medical Sciences alumni including Dr. Erika Ebbel Angle; CEO, Ixcela, Inc.; Founder & Executive Director, Science from Scientists; Dr. Kathryn Kern Jamison; Associate Medical Director, US Neurology Medical Affairs, Eisai US; Dr. Jeffrey Kuniholm; Scientist, Visterra Inc.; Dr. Kathleen Tumelty; Principal Scientist at Pioneering Medicines, Flagship Pioneering. Dr. Barbara Schreiber; Associate Professor of Biochemistry & Cell Biology, BU Chobanian & Avedisian School of Medicine moderated the panel discussion.

The panelists began by relaying their career journeys to date. Dr. Jamison earned her PhD under the direction of Dr. Karin Schon; researching the effects of aerobic exercise on the medial temporal lobe memory system, she noticed a large gap between the work that she was doing and the impact it had on patients. In an attempt to address this issue, Dr. Jamison completed a Worldwide Medical Fellowship and then began her career as an Associate Medical Director, where she develops medical strategy for a recently approved Alzheimer's drug. In her current position for 10 months, she has helped with the launch of the recently approved drug, which includes meeting with key opinion leaders (physicians) to hear about their use of the drug in clinical practice, as well as developing materials and doing presentations to train other colleagues on the data in the clinical development program. Dr. Tumelty received her PhD in Biochemistry under the direction of Dr. Matthew Layne, where she studied pulmonary fibrosis. Towards the end of her PhD, she helped identify a potential therapeutic target and through the process of pitching this target to pharma companies, learned about the collaborative unit within Pfizer. She joined Pfizer's Centers for Therapeutic Innovation as a postdoc and worked on renal development and fibrosis. After her postdoc, she stayed in that group and worked on developing a therapeutic antibody for the treatment of PAH that is currently being tested in clinical trials. Around the time the clinical trial started, Pfizer decided to eliminate Dr. Tumelty's group, and she was ultimately laid off. Dr. Tumelty spent time reflecting and decided to pursue a career with Flagship Pioneering, a company that creates breakthrough platforms and connects biotech companies with clinics and pharmacology companies. Here she is a Principal Scientist working to evaluate novel targets and find innovative ways to test them. Dr. Ebbel Angle began her educational journey at MIT where she earned a bachelor's degree in chemistry. During this time, she started her non-profit organization Science from Scientists, inspired by the lack of volunteer opportunities at MIT. She then obtained her PhD with Dr. Catherine Costello. Throughout her time at BU, she met individuals who were extremely supportive of her organization Science from Scientists. Today, Science from Scientists has 76 employees, many of whom are students who work to send scientists into classrooms to inspire children to take an interest in science. Following the completion of her PhD, Dr. Ebbel Angle founded Ixcela, a biotechnology company that has developed a pin-prick blood test designed to assess the health of the gut microbiome. Ixcela is currently 11 years old. Dr. Ebbel Angle shared that she loves working with both companies and has learned many valuable lessons from both. Dr. Kuniholm began his education journey at Northeastern University. Here he found mentors that he respected and noticed that they had PhDs. Following graduation from Northeastern, he worked as a research assistant before returning to school to complete his PhD in Dr. Andrew Henderson's lab. He then transitioned back to biotech and currently works as a Senior Scientist at Visterra, where he develops antibodies to treat autoimmune disorders and kidney diseases. He encouraged trainees to seek out opportunities that showcase scientific paths alternative to academia.

Next, everyone discussed any plans to move to the next stage of their careers. Dr. Ebbel Angle said that she plans to remain at both of her companies for the foreseeable future. She stated that there is infinite potential and growth that can occur within both companies. Dr. Kuniholm explained that he had recently moved into a managerial role, which is a natural career progression for individuals in this field. He shared that he is planning to stay at his company and continue to grow and develop new skill sets. Dr. Jamison stated that she is still relatively new to her role as an associate medical director and isn't planning to look for anything new soon. She hopes to move up within her current company and wants to move into a more strategic role where she can have greater influence on the medical activities that are executed, including future data generation initiatives (new studies) with the same drug. Dr. Tumelty stated that she hopes to move back into a project leader position within her company. She plans to focus her efforts on refining her skill set to fit the needs of her new company.

The panelists shared their recommendations for trainees who would want to pursue a similar career path. Dr. Tumelty shared that her biggest piece of advice was to say yes to as many things as possible within your training. Her first job following the completion of her PhD happened because she was given the opportunity to propose an idea to a potential industry partner. She also emphasized the importance of good communication, especially with conveying a scientific story. Dr. Kuniholm echoed these sentiments and added that communication is paramount within any scientific career. Being able to effectively

communicate conceptually challenging information translates into almost all scientific fields. Dr. Jamison added that young trainees should take advantage of teaching opportunities within their training. Dr. Ebbel Angle suggested that young trainees talk to people in positions that they aspire to be in to determine what it all entails. Many positions are cross-disciplinary and require a multitude of different skills. She also recommended that trainees focus on identifying and improving their weaknesses.

The panelists then described the qualities they look for in filling a job opening. Dr. Ebbel Angle began by sharing that she is interested in the applicant's personality. She hopes that the individual truly wants to learn, take initiative, work in a team, and grow. Dr. Tumelty shared that hiring managers are more likely to pull a candidate's resume when it is tailored to that specific position. Dr. Jamison stated that she has been involved in the recruiting process for Worldwide Medical Fellowship programs and suggested that anyone interested in her line of work should reach out to people currently working in medical affairs to truly understand what the job entails.

The panelists next shared if they had any regrets regarding their careers and academic journeys. Dr. Tumelty started this conversation by stating that she had no regrets, given she has gotten to work with incredible individuals. She does not regret making the career jump to Pioneering Medicines and is currently focused on navigating this new role and growing within this position. Dr. Jamison added that she truly loved her PhD experience. She suggested that people still in their PhD journey should prioritize carving out time for the parts of the experience that are energizing. She shared that this can be a good guide to understanding what careers would be "good fits" long-term. She also advised trainees to take a very close look at who their managers/advisors are. It is critical to have people that can serve as role models. Dr. Ebbel Angle shared her ideology that regret is a mindset. Rather than looking back on experiences with regret, she chooses to view them as lessons to facilitate change.

Finally, the panelists discussed how they balance their careers with the rest of their lives. Dr. Tumelty began by sharing that she has been able to manage relatively well. Within industry, there are certain guidelines set in place that allow for boundaries to be implemented, such as vacation time and a Christmas to New Year's shutdown. She also stated that she has been relatively lucky in terms of her managers and their expectations. Dr. Ebbel Angle shared her perspective that there is no such thing as work-life balance. She stated there is simply not enough time in the day to accomplish everything. She added that no matter how many hours a day you devote to work there will always be more to do. Finally, she said that there is a difference between others' expectations and your own choice; recognizing this has helped to guide her decisions. Dr. Jamison echoed the sentiments shared by Drs. Tumelty and Ebbel Angle, adding that her values have been her guiding force. She frequently considers the person she would like to be in 5-10 years and prioritizes choices that will help her become that person.

The session provided the audience with great insights into careers in the industry sector and generated lots of food for thought as the trainees decide on career paths. We want to thank all the panelists!

Summary by PhD students, Bahar Bakhshi, Jillian Grassia and Madeline Labott