



# STARTMIT'S INNOVATION NIGHT

Women entrepreneurs from a range of fields discuss their pioneering work and what they learned along the way.

By Terri Park | MIT Innovation Initiative

Photos: Rose Lincoln

As part of StartMIT, six distinguished women discussed their experiences with innovation — and shared their advice with next-generation entrepreneurs.

**I**nnovators in materials chemistry, online care, natural language processing, social robotics, and venture capital shared their founders' journeys in a lively panel discussion during StartMIT.

Led by moderator Kym McNicholas, an Emmy Award-winning anchor/reporter/producer and entrepreneur, the cast included MIT faculty members Regina Barzilay, the Delta Electronics Professor of Electrical Engineering and Computer Science (EECS); Angela Belcher, the James Mason Crafts Professor in the Department of Materials Science and Engineering and the Department of Biological Engineering; and Cynthia Breazeal, associate professor of media arts and sciences. Also participating were Donna Levin, co-founder of Care.com, entrepreneur-in-residence at the Martin Trust Center for Entrepreneurship, and lecturer at MIT Sloan School of Management; and Katie Rae, then founder and general partner at Project 11 Ventures (later named president and CEO of The Engine, MIT's new startup accelerator).

Common themes of passion and timing emerged throughout the conversation as McNicholas asked the panel about topics related to risk, research, inspiration, and failure.

For Belcher, risk wasn't a factor when she decided to direct her career into the idea of genetically programming organisms to grow into electronics and batteries — a proposal that was met with much skepticism when she was a young professor getting her start. "I didn't think of it as risky at the time.

I thought 'this is the only thing that I want to do,'" she recalled. Since then, she's applied her accomplishments to other fields she's never explored before, such as cancer. "You're going to run into obstacles along the way, but you learn these aren't failures; these are learning experiences," she said. "Not everyone's going to agree with you. If more people don't agree, it's probably a better idea. You keep going."

Like Belcher, Barzilay followed her passion by taking her core research focus of natural learning processing in a new direction after undergoing treatment for breast cancer, when as a patient, she was surprised to learn that data science and machine learning weren't used in cancer care in the United States. "The technology used on Amazon to recommend products was much more sophisticated than what we have today in cancer care," she said. Barzilay set about on a new journey: in collaboration with researchers at Massachusetts General Hospital, Barzilay and her team built a system that takes breast pathology and automates the data analysis in a new way with a high level of accuracy. The team is using deep learning to analyze mammogram readings with the goal of using this data to make predictions which humans currently cannot do.

Shifting the focus to timing, McNicholas turned to Breazeal, a pioneer in social robotics and the founder and chief scientist of Jibo, which recently introduced the world's first social robot for the home. When asked about the moment the research went from the lab to commercialized product, Breazeal said:

"I didn't know when I was starting this work that I would be an entrepreneur. But over time, watching technology, watching the cloud-computing revolution, watching the mobile-computing revolution, [I started] thinking the elements are coming together. All of these really hard subfields were starting to get to the level that you could start building on to create this new kind of medium. When you think about a social robot, it's a new kind of medium for social communication and interaction." Bottom line: "Now was the time to jump in," she said. "Timing is everything."

McNicholas asked Levin, the cofounder of Care.com, how to know when the time is right. "You don't want to be too early," Levin replied. "For us, the technology existed to find people online and make matches, but it was a highly fragmented market and therefore an opportunity." Care.com is now the world's leading online site for helping people find and manage family care, but when Levin and her partners started pitching the idea, many people questioned its viability. "Who would ever go online to find care for their loved one?" Levin asked rhetorically. "We decided to do something about that. Every member of the team believes he or she is going to change the world. It's hard for others to compete with you if you believe you're going to change the world."

Sharing the perspective from the venture capital side, Rae spoke about taking the leap again and again. One early leap involved the decision to leave her job at Microsoft to start her own company and pursue investing in early-stage technology and software companies, where she worked side-by-side with founders to increase their rate of success. "I always thought of myself as in service to the idea of the entrepreneurial team, and that has led me all along the way," she said. "Being an early-stage investor, my role is often to say to the founders, 'You're onto something amazing. Do you see the progress you made? Have you met this awesome person?' My role is to keep that inspiration alive. I'm there to suggest, to present opportunities and collisions."

On the topic of failure, Levin said: "It's not 'if' you fail; of course you are going to fail. It always feels like failure until it's a success. The important thing is to keep going." To which Breazeal added: "I think resiliency to failure is important. I don't view failures as failures. I really do view them as something that helps make me smarter. You also have to learn to distinguish thoughtful critique, which is so valuable, from just 'squashing.' You have to trust your gut. It's okay not to know how. You'll figure it out."

McNicholas asked the panelists about the greatest lessons they've learned. "The process I am privileged to observe is taking things that are impossible to do and translating them into the real product that impacts people's lives," Barzilay replied. "It's important to find problems which impact the bigger world, and at MIT, we're really privileged to have this capacity."

In closing, McNicholas advised the audience of aspiring entrepreneurs to "never let what you don't know or have never done before get in the way of achieving your dreams."

Innovation Night was the capstone event of StartMIT, an intensive Independent Activities Period (IAP) workshop that

exposed students to the basics of entrepreneurship. During the two-week program, undergraduates, graduate students, and postdocs heard about entrepreneurship from a variety of viewpoints.

Before the discussion, guests mingled with alumni entrepreneurs and innovators during a Startup Showcase and learned about early-stage ventures from MIT. In addition, EECS department head Anantha Chandrakasan, the Vannevar Bush Professor of Electrical Engineering and Computer Science, welcomed the audience and introduced The Engine, which focuses on providing support for the biggest and most transformative technology-based ideas that require more time to commercialize.

Joi Ito, director of the MIT Media Lab, described the innovative "antidisciplinary" research happening at the lab. A longtime entrepreneur and venture capitalist, Ito spoke of the lab's four-pronged approach to learning: projects, peers, passion, play. "This is a lot of the spirit of MIT, and it's the spirit of entrepreneurship," he said. "The best startups have all four of these, and a lot of what we're doing at the Media Lab is instilling the values that we need in entrepreneurship so that we will hopefully spin out many entrepreneurs."

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Front row, left to right: Angela Belcher, Kym McNicholas, Katie Rae  
Back row, left to right: Joi Ito, Regina Barzilay, Anantha Chandrakasan, Cynthia Breazeal, Donna Levin