

Profile Building Entrepreneurial Excellence



“I see myself becoming *the* entrepreneurial chemical engineer,” says Christina Borgese, Director of Engineering and Development at PreProcess, Inc., a consulting company that she co-founded. Her company helps entrepreneurs commercialize their novel technologies by applying chemical engineering know-how and recruiting experts from around the world. “Creating new products, harboring new ideas — that excites me,” she says. “You never know who is calling next, or what new project you will be working on that nobody has ever done before.”

Borgese, a California native, has an unfailingly positive attitude and great ambition for her company. Even at such a young age, her career and volunteer work make her a stand-out ChemE; in July 2013, she was named one of *Manufacturing Engineering* magazine’s 30 under 30.

She grew up in Laguna Beach, CA. While in high school, she was interested in pursuing politics. “I served as a congressional page in the House of Representatives,” she says. Delivering messages for a summer in Capitol Hill gave Borgese her first taste of how closely politics, business, and technology are aligned in the real world.

Rather than pursuing a degree in business, she decided on chemical engineering. “What initially got me into chemical engineering is that I love problem-solving,” she says. She figured, “If I studied chemical engineering, and got a strong technical background, I could go into any other area.” Borgese received a full scholarship from the Univ. of California, Santa Barbara, and enrolled as a chemical engineer. She was also accepted into the university’s technology management program, which emphasizes the importance of entrepreneurship in commercializing new technologies — a concept that would later become integral to her career.

After earning her BS in chemical engineering, Borgese landed a process engineering position with Clorox in Pleasanton, CA, in 2005. Marc Privitera, a research fellow at Clorox, recruited her. “My time at Clorox prepared me for understanding customer needs,” she says. Working on consumer products required a quick turnaround to get products on the shelf. Borgese discovered how much she loved the quick pace of Clorox, and decided that she wanted to amplify this in her next career move.

When Privitera left Clorox to pursue an opportunity with a startup called BioFuelBox in 2007, Borgese applied to work there as well. According to Borgese, Privitera initially advised her not to make such a bold jump so early in her career. “He said, ‘Look, it’s risky.’ I said, ‘I know, I don’t care,’” she recalls. More than anything, she wanted to pursue an opportunity in this emerging environment.

At BioFuelBox, Borgese served as Senior Process

Engineer, where she helped develop the world’s first commercial-scale supercritical biodiesel reactor. The cost-effective process converted impure oils and greases — which originated from grease traps found in commercial kitchens — to low-sulfur biodiesel. Borgese says that one of the team’s greatest accomplishments was “taking the technology from a test tube to commercial scale in just 14 months.”

At the startup, she took on many responsibilities that she never would have had the chance to tackle at a larger company. “I was involved in process conception, development, scaling, hiring of the construction crew — everything.”

Despite winning a World Economic Forum Technology Pioneer award in 2010, the startup ultimately ceased operations after it was unable to secure a new round of funding.

But Borgese was not dissuaded from the world of entrepreneurship. Later in 2010, she and Privitera launched a consulting company, PreProcess, Inc. The lessons that she learned from her time at BioFuelBox have fueled her successes with PreProcess.

At PreProcess, Borgese takes the new ideas of entrepreneurs and pushes them toward commercialization. “When pursuing commercialization, there’s a lot of chaos. I learned a process for creating clarity from that chaos and finding a path.” This process involves breaking down complex technologies into traditional chemical engineering unit operations, such as reacting, separating, or drying. “From there, you can identify which steps are the greatest risks from a technological standpoint,” she says. Those steps are where the team focuses its expertise to create new solutions. “You apply the chemical engineering playbook to create something new and sustainable.”

PreProcess has a unique method of assembling project teams. “We bring in best-in-class people. We pull in people from all over the world, with the ability and technical background specifically for that area.” These experts know how to self-motivate, collaborate, and connect from anywhere in the world via virtual tools.

Borgese tackles the challenges of running a consulting company with confidence. “It’s interesting because the challenge of the technology is actually what draws me to engage it,” she says. “We started this company because we wanted to address significant technical hurdles. How can we take this idea and translate it into a great product? I see that challenge as a positive thing.”

Outside of work, Borgese is an active volunteer with student AIChE chapters. She even created an Engineering Bootcamp for new graduates — a three-day course that teaches the basics of the practical application of process engineering.

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