



Chemistry and Business, Working Together

If you ever asked me what I'm going to be when I grow up, I would have said I don't know," said Christina Boville of Aralez Bio. "I just assumed I was going to be in the lab. But I definitely would not have guessed I would be a CEO and founder of a startup company. That was not on my radar."

Tina and her co-founder, David Romney, have been working on Aralez Bio since they finished graduate school. "When you start working on a project like that, it's an academic exercise," Boville said. "You're learning some cool things about the chemistry and the biology, but you're not thinking about it with that type of a commercial mindset."

Nature uses proteins called enzymes to make complex molecules. At Aralez Bio, they take those enzymes, modify them slightly, and then use them to produce complex molecules that might be the foundation for drugs.

What has come of their project? "To see some of the biggest pharma companies in the world coming to talk to our 12-person company because we have some really cool enzymes—that's pretty awesome," Boville said.

You may think that chemistry and business don't go hand-in-hand, but they can tell you otherwise. "We have to do a lot of business planning, strategizing, and marketing—things not in our training," said Romney. "But logically thinking through a challenge, like we learned in science, helps. Even though you're not doing science, you're using that same sort of way of thinking." —*Felicia Chapman*

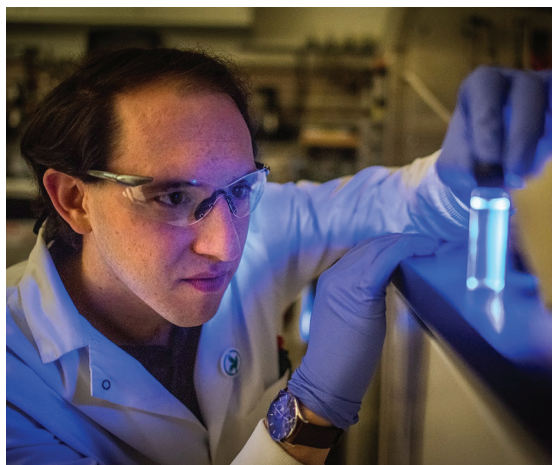


CHRISTINA BOVILLE

B.A.: Molecular, Cellular, and Development Biology, University of Colorado Boulder

PhD: Biochemistry, University of Colorado Boulder

WHAT SHE DOES NOW: Cofounder and CEO, Aralez Bio



DAVID ROMNEY

B.S.: Chemistry, California Institute of Technology

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WHAT HE DOES NOW: Cofounder and CTO, Aralez Bio

This interview was edited for length and clarity.

How did you become interested in chemistry?

David: I became interested in chemistry because it's a good way of understanding how things are behaving at the molecular level. I became interested in synthetic chemistry specifically because I really liked the idea of using reactions to build things at the molecular level, sort of like putting Legos together but for a molecule.

Tina: I was really interested in all of the different things that nature is able to do. It can do a lot of complex chemistry! I got really interested in enzymes and chemical biology and wanted to understand how these biological systems work and how we can tweak them to do other things that nature never asked them to do in the first place.

How can chemistry change medicines and the medical field?

David: Fundamentally, in medicine, the way you

treat a disease comes down to a molecule. Every drug is fundamentally a molecule with certain medicinal properties, and the molecules that we use to treat disease are getting more and more complicated.

That's good because it allows us to do new things. But it also means that chemistry is going to have to be innovative to keep up with that complexity.

Tina: We work with a lot of these big pharmaceutical companies that are developing new drugs or are looking for better ways to manufacture existing drugs. For drug discovery, it's interesting how the rules change over time. We have new technologies that can synthesize types of molecules, allowing us to analyze those molecules in ways that wouldn't have been possible previously.

There's also the focus on green chemistry, and that's something I personally care a lot about. There are a lot of cool new techniques and people thinking a lot about environmentally

benign solvents, reagents, and waste, which I think is going to be more and more prevalent over time.

What advice do you have for high school chemistry students?

David: Don't be discouraged. Chemistry can seem inscrutable or difficult to understand. But you can feel that way and then go on to understand chemistry really well! It's possible for a subject to feel like it's really difficult and you have a lot of trouble understanding it and then go on to understand it quite well.

Tina: A chemistry degree doesn't mean one can only be a professor or work in a lab all day. There are so many different things that you can do with that type of ground knowledge and with those types of skills. Chemistry knowledge gives you the ability to take something that's really hard and then learn it and master it.