

FROM PHYSICS TO SYNTHETIC BIOLOGY & ENTREPRENEURSHIP

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After nearly 10 years in academic physics departments, the transition into a postdoc in a top synthetic biology lab was a rough landing. Four years later, I left the academic world for a position in industrial biotechnology as a scientist at LS9, a startup focused on engineering bacteria to make biofuels and commodity chemicals. Then, three years ago, I left LS9 to co-found a startup called Industrial Microbes, where we are engineering the central metabolism of microorganisms to enable them to use natural gas as a raw material for chemical production. As the toolkit of synthetic biology has expanded, the skills needed to succeed as a scientist in industrial biotechnology now include more than just molecular biology, analytical chemistry, and microbial physiology; more than ever before, a familiarity with computer programming, statistical methods, robotics, and a wider range of strain engineering techniques, is a critical factor. Most of all, new graduates need to learn how teamwork in an industrial setting is different than in an academic lab. In my talk, I'll discuss what I've learned from my experience in synthetic biology, what it takes to get a startup off the ground and what lessons I've gathered in making these career transitions.