

Changing Basis Sets: A Computational Chemist's Journey into Start-up World

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Scientific research trains us to value rigor, reproducibility, and depth. Startups demand speed, adaptability, and strategic storytelling. In this presentation, I will share the intellectual and psychological transition from academic quantum chemistry to co-founding and leading TINFE HTS, a fluorescence spectroscopy company. I will discuss how core competencies developed in computational chemistry—modeling, abstraction, systems thinking—became unexpectedly useful in entrepreneurship, while also highlighting the challenges: compressed timelines, investor-facing narratives, pitch competitions, and the reframing of "failure" as iteration. The talk offers an analytical reflection on how scientific identity evolves when theory meets market reality, and how stepping outside academia can become an accelerated learning process in itself. Additionally, I will explore how participation in startup accelerators, bootcamps, and pitch competitions reshapes scientific communication—requiring translation of technical depth into clear value propositions without sacrificing intellectual integrity. The journey reveals that while the domain may change—from wavefunctions to fluorescence spectra—the underlying cognitive toolkit of a scientist remains the foundation on which success can be built. The key transformation lies not in abandoning scientific thinking, but in changing the basis in which problems are expressed.