

Dan Eichelsdoerfer
Reed College
2008 Winner



Born and raised outside of a small town in western Washington, Dan attended Reed College for his undergraduate studies. He graduated Phi Beta Kappa in 2009 with a B.A. in Chemistry-Physics. While at Reed, he wrote his senior thesis on the effect that inorganic shell growth has on exciton recombination rates in semiconductor nanocrystals (or “quantum dots”). This highly interdisciplinary thesis involved collaborating with three professors across two institutions: Professor Essick (Reed, Physics), Prof. Geselbracht (Reed, Chemistry), and Prof. Gamelin (University of Washington, Chemistry).

Dan’s interest in collaborative nanotechnology research fueled a decision to attend Northwestern University, where he received his Ph.D. in 2014. At Northwestern, Dan worked in Chad Mirkin’s lab and wrote a thesis on dip-pen nanolithography (DPN), polymer-pen lithography (PPL), and related techniques. These techniques use an atomic force microscope (AFM) to pattern molecular “inks” on a substrate. Dan’s research explored several fundamental aspects of this lithographic process, such as the mechanism of nanoparticle formation in tip-deposited “nanoreactors,” the role of capillarity in nanoscale polymer fluid flows, and chemical methods for tuning the spring constant in large-area cantilever-free tip arrays. This research was funded by a National Defense Science and Engineering (NDSEG) fellowship and culminated in 15 publications in journals such as *Nature Communications*, *Proceedings of the National Academy of Sciences*, *Advanced Materials* and *Nature Protocols*.

After obtaining his Ph.D., Dan went to work for ExxonMobil Research & Engineering (EMRE). His work as a researcher at EMRE focused on developing next-generation lubricant products and building a compositional understanding of future ExxonMobil base stock products. Ultimately, this analytical work culminated in 4 US patent applications. Dan’s work at EMRE extended beyond research and he worked on several teams that were focused on business, rather than technical, issues. Two examples of this include (1) formulating an intellectual property strategy for ExxonMobil base stock products, and (2) working on a team tasked with developing a strategy to change the culture of EMRE.

This cultural work sparked a broader interest in business-related topics, leading Dan to work for the Boston Consulting Group (BCG). He currently works as a Consultant at BCG, where he has advised clients on a range of issues including procurement, digital transformation, and artificial intelligence.

When he is not working, Dan enjoys traveling with his beautiful wife, cooking, lifting weights, and reading. Dan also loves volunteering. For example, while at ExxonMobil he served as the activity director for a STEM outreach program that reached 650+ girls (ages 12-18) every year.