

# Acknowledgements

The number of people that I need to acknowledge for helping me reach a point where I could write an acknowledgements section for a Ph.D thesis is almost overwhelming. Of course, most of those people probably weren't expecting this day to ever actually arrive, so if I miss someone by the end of this, I suspect no one will be the wiser.

First, I need to thank my committee. I can say with certainty that without their signatures, these past five years would not have had quite the same purpose. So to Harry, Bruce, and Mitchio: thank you for your support over the past five years. I know you are all busy people, and I truly appreciate you taking the time to help me progress through my graduate career. Harry, you have been a great committee chair, and you have always supported me and my career plans wonderfully. I appreciate all the advice you have given me as well all the times you let me tag along with your group for a drink or dinner in the BI or at the Ath. Bruce, that you have attained the success that you have in science and life, yet still manage to find time to fix the water chiller as well as explain charge transfer at metal-electrolyte interfaces and Auger spectroscopy to errant graduate students, is a real inspiration and I hope someday I can be half as valuable to a community as you are to ours.

The number of great mentors I've had during my time at Caltech has been extraordinary. I picked up a habit early in my career of latching on to postdocs, and in particular, I stole a significant amount of time from Drs. Nick Strandwitz, Shane Ardo, Ron Grimm, and Rob Coridan that they certainly could have put to better use than talking

to me. Nick, thank you for answering all my materials science questions when I didn't know the first thing about materials science. And thanks for getting me starting with Cold Fusion softball and preventing me from getting into the first fight of my life on the softball field. Shane, I'm not sure anyone has put more effort into wearing out the white boards in the halls of Noyes than us. Thanks for listening to me when I needed to work through ideas and showing me why I was wrong so many times. Ron, I'll always aspire to be as good at building things as you are. You really have a gift, and I appreciate you sharing as much as you could with someone with hands like mine. Rob, your critical thinking ability is second to none. I attribute this to your studies in a real scientific field (physics), but I appreciate you coming down to imbue your knowledge on the chemists of the world. I still wake up in the middle of the night with the fear that someone is going to ask for one more round of corrections on that paper. I also had a wonderful amount of help from Drs. Leslie O'Leary, Liz Santori, James McKone, and Emily Warren. To each of you: thank you for making me feel like a welcome member of the group when I joined and for being my role models as to how a graduate student should act. I'll never forget the overwhelming feeling when you all graduated that the group had basically fallen apart. I hope I am lucky enough to stay in touch with all of you as our careers progress. Mita, thanks for all your advice on how to keep my career moving forward and for being a real role model in terms of how to act as a real scientist. Matt Bierman and Nick Petrone, thank you for your help and advice on how to work with graphene. Finally, I would be remiss if I didn't mention my advisor and my graduate student mentor from UVa, Dean Harman and Dan Harrison. I wouldn't have made it here without your support and advice.

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As an undergraduate, I never understood why the graduate students seemed to be so frustrated all the time. Now I do. That a Ph.D is an extended lesson in psychology is truer than I could have possibly imagined, and I certainly would not have earned mine without the help of each of you and many others. You will forever have my gratitude.

-Adam