

Department Culture & Climate

Matthew McDermott
August 23, 2019

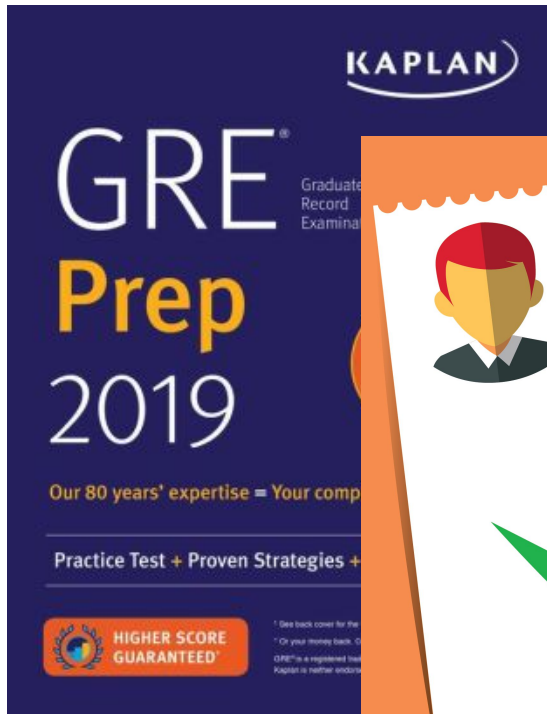


Outline

1. Why we should work towards a healthy community
2. How to develop your relationships with:
 - a. Students
 - b. Faculty
 - c. Staff
3. Helpful resources



It used to be all about getting here...



Materials Science & Engineering University of California, Berkeley

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Graduate

Graduate Admissions

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Master of Engineering

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Graduate Student Manual

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Graduate Admissions

- Overview of Graduate Programs in MSE
- Which Degree Should I Apply For?
- Deadlines
- General Admissions Requirements
- Application Requirements
- Letters of Recommendation
- Transcripts
- GRE
- TOEFL
- Fellowships, GSII/GSRA and Financial Assistance
- Contact
- Frequently Asked Questions (FAQs)

Overview of Graduate Programs in MSE

If you are considering applying to the graduate program in Materials Science and Engineering, please take a few minutes to read the following to help focus your efforts and applications. MSE at UC Berkeley includes the Master of Science (M.S.), the Master of Engineering (M.Eng.), the Doctor of Philosophy (Ph.D.) and, in conjunction with the College of Engineering and the Fu



So... what now?

The transition to graduate school is not easy

Science

How Undergraduate and Graduate School are different

Gwen Pearson on June 12, 2011

Since I got so many questions, I thought I would pontificate longer on the graduate school question, and turn it into a series of posts. Let's start with the decision to go to graduate school and how graduate study is very different from being an undergraduate.

Several jobs ago, I wrote up a chart that laid out how



 **ProfHacker**
Teaching, tech, and productivity.

March 9, 2011 by Prof. Hacker



Dawn of the Grad: Rules for Surviving the Zombie Apocalypse and Your First Year at Grad School



[This is a guest post by Katy Meyers, a graduate student in the department of *anthropology* at *Michigan State University*. She also writes regularly on bioarchaeology and mortuary archaeology news at her site

www.bonesdontlie.com (Twitter: *bonesdonotlie*. -

- @jbj]

THE CHRONICLE OF HIGHER EDUCATION NEWS OPINION **ADVICE** STORE

SECTIONS FEATURED: How to Make Your Teaching More Inclusive The Campus as City The Challenge of Leading Today's Colleges
ADVICE



What I Learned About Surviving Graduate School



Brian Taylor

What's different about graduate school?

Undergraduate

- 4 years of coursework
- You are measured by GPA
- More indirect interaction with faculty
- You have to finance your education
- You compete against your peers
- **You learn what is already known**

Graduate

- Only 1-2 years of coursework
- You are measured more by your research contributions
- Direct interaction with faculty
- Financial support is generally provided
- It's in your interest to be supportive (and less competitive) with your peers
- **You learn to create new knowledge**



Adapted from Gwen Pearson, "How Undergraduate and Graduate School are Different" (2011)

What's different about graduate school? (cont.)

Your self-worth should not be defined by your undergraduate definition of “success”



The importance of stupidity in scientific research

Martin A. Schwartz

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Journal of Cell Science 121, 1771 Published by The Company of Biologists 2008
doi:10.1242/jcs.033340

I recently saw an old friend for the first time in many years. We had been Ph.D. students at the same time, both studying science, although in different areas. She later dropped out of graduate school, went to Harvard Law School and is now a senior lawyer for a major

I'd like to suggest that our Ph.D. programs often do students a disservice in two ways. First, I don't think students are made to understand how hard it is to do research. And how many, many hard

“The more comfortable we become with being stupid, the deeper we will wade into the unknown and the more likely we are to make big discoveries”

I had thought of her as one of the brightest people I knew and her subsequent career supports that view. What she said bothered me. I kept thinking about it; sometime the next day, it hit me. Science makes me feel stupid too. It's just that I've gotten used to it. So used to it, in fact, that I actively seek out new opportunities to feel stupid. I wouldn't know what to do without that feeling. I even think it's supposed to be this way. Let me explain.

For almost all of us, one of the reasons that we liked science in high school and college is that we were good at it. That can't be the only reason – fascination with understanding the physical world and an emotional need to discover new things has to enter into it too. But high-school and college science means taking courses, and doing well in courses means getting the right answers on tests. If you know those answers, you do well and get to feel smart.

A Ph.D., in which you have to do a research project, is a whole different thing. For me, it was a daunting task. How could I possibly

do it? Academically, science is made harder by competition for grants and space in top journals. But apart from all of that, doing significant research is intrinsically hard and changing departmental, institutional or national policies will not succeed in lessening its intrinsic difficulty.

Second, we don't do a good enough job of teaching our students how to be productively stupid – that is, if we don't feel stupid it means we're not really trying. I'm not talking about 'relative stupidity', in which the other students in the class actually read the material, think about it and ace the exam, whereas you don't. I'm also not talking about bright people who might be working in areas that don't match their talents. Science involves confronting our 'absolute stupidity'. That kind of stupidity is an existential fact, inherent in our efforts to push our way into the unknown. Preliminary and thesis exams have the right idea when the faculty committee pushes until the student starts getting the answers wrong

Imposter syndrome is very real in graduate school

“Psychological phenomenon where one struggles to internalize and own their successes”

Watch for these thoughts/behaviors:

- Feeling like you need to know every piece of information before starting a project
- Setting extremely high expectations, trying to achieve all 100%
- Things used to come to you easily, but now they don't
- You think asking for help is a sign of weakness; you need to succeed alone
- You believe you have to work harder than others to “prove” yourself



Why each of us needs support

Daily life: reading/writing, experiments, etc. on your own

There is always more work to do

You are your own main source of stress

Grad school can be very isolating



How to develop your support network

- First: realize that most people are having similar struggles as you
- Many times **you** have to make the first effort to reach out



How to develop your support network (cont.)

- 1) Be aware of your resources (friends, family, counselors, etc.)
- 2) Take the first steps early on to get connected, establish healthy routines, and find grounding
- 3) Observe your own thoughts, emotions, behaviors, feelings → seek support from your network when needed and **don't** bottle these internally
- 4) Make a conscious effort to provide support for others in your network when you are capable



Your community of fellow students

MSE Graduate Student Demographics (Spring 2019)

- 120 graduate students
- 32% female, 68% male
- Underrepresented Minority (URM): 12.5%
- International: 51%

UC Berkeley (Spring 2016)

10,279 enrolled graduate students

46% are women

11% are from underrepresented groups*

51% are doctoral students

24% are international/non-domestic



Working towards an inclusive community

We must be aware of how our biases influence the MSE community:

- Gender & sexual identification
- Race/ethnicity
- Social class
- Age
- Religion
- Disability
- Language
- Nationality
- Etc.

It's the unconscious biases
that we especially need to
watch out for



Working towards an inclusive community (cont.)

- Our department is relatively small
- It's quite possible to meet and get to know almost everyone
- We need to each **make an effort** to include and welcome others in MSE activities
 - Study groups
 - Social events (happy hours, dinners, etc.)
 - Grad student organizations (GSC, etc.)
 - Intramural sports

An inclusive community **benefits everyone**



Shared Spaces

Please respect our spaces and the people who use them!

→ Clean up after yourself, be considerate of noise, etc.



HMMB Lobby



HMMB Grad Student Bay



Your faculty community



Zakaria Y. Al Balushi
Assistant Professor of Materials Science & Engineering



Mark Asta
Professor of Materials Science & Engineering
Arthur C. and Phyllis G. Oppenheimer Professor
Materials Sciences Division Director, LBNL



Gerbrand Ceder
Professor of Materials Science & Engineering
Chancellor's Professor



Daryl C. Chrzan
Professor of Materials Science & Engineering
Department Chair



Thomas M. Devine
Professor of Materials Science & Engineering



Fiona M. Doyle
Professor of Materials Science & Engineering
Donald H. MacLaughlin Professor of Mineral Engineering
Vice Provost for Graduate Students and Dean of the Graduate Division



Oscar D. Dubon
Professor of Materials Science & Engineering
Vice Chancellor for Equity and Inclusion



Kevin E. Healy
Professor of Materials Science & Engineering and Bioengineering
Jan Fandrianto Professor of Engineering



Lane Martin
Professor of Materials Science & Engineering



Phillip Messersmith
Professor of Materials Science & Engineering and Bioengineering
Class of 1941 WWII Memorial Chair



Andrew Minor
Professor of Materials Science and Engineering
Facility Director, National Center for Electron Microscopy, LBNL



Kristin Persson
Associate Professor of Materials Science & Engineering



Ramamoorthy Ramesh
Professor of Materials Science & Engineering and Physics
Purnendu Chatterjee Endowed Chair in Energy Technologies
Associate Lab Director for Energy Technologies, LBNL



Robert O. Ritchie
Professor of Materials Science & Engineering and Mechanical Engineering
H. T. & Jessie Chua Distinguished Professor of Engineering



Mary Scott
Assistant Professor of Materials Science & Engineering



Junqiao Wu
Professor of Materials Science & Engineering



Ting Xu
Professor of Materials Science & Engineering and Chemistry



Jie Yao
Assistant Professor of Materials Science & Engineering



A. Paul Alivisatos
Professor of Chemistry and Materials Science & Engineering
Samsung Chair in Nanoscience and Nanotechnology Research
Executive Vice Chancellor and Provost



Jillian Banfield
Professor of Earth & Planetary Science and Materials Science & Engineering



Robert Birgeneau
Professor of Physics, Materials Science & Engineering, and Public Policy
Arnold and Barbara Silverman Distinguished Professor
Chancellor Emeritus



Frances Hellman
Professor of Physics and Materials Science & Engineering
Dean of Mathematical and Physical Sciences



Peidong Yang
Professor of Chemistry and Materials Science & Engineering
J.K. and Angela Chan Distinguished Professor of Energy



Joel Ager
Adjunct Professor of Materials Science & Engineering



Elke Arenholz
Adjunct Associate Professor of Materials Science & Engineering



Miquel Salmeron
Adjunct Professor of Materials Science & Engineering



Wieslaw Walukiewicz
Adjunct Professor of Materials Science & Engineering



Haimel Zheng
Adjunct Associate Professor of Materials Science & Engineering

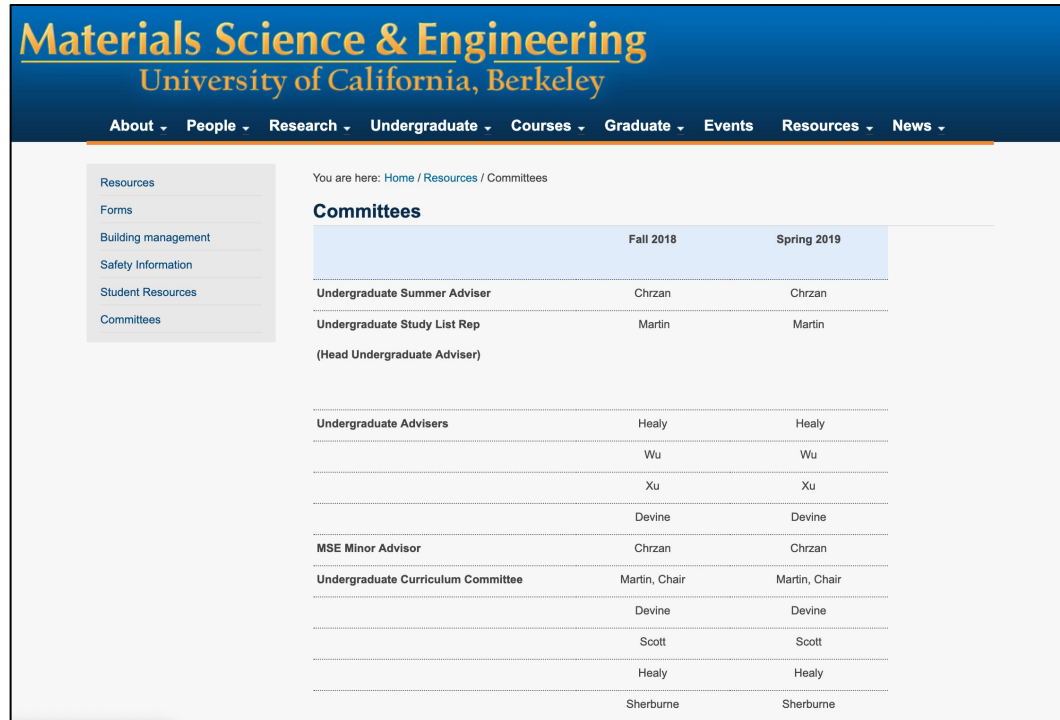


Matthew P. Sherburne
Lecturer of Materials Science & Engineering



MSE Faculty Committees

<https://www.mse.berkeley.edu/resources/committees>



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University of California, Berkeley

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Committees

	Fall 2018	Spring 2019
Undergraduate Summer Adviser	Chrzan	Chrzan
Undergraduate Study List Rep (Head Undergraduate Adviser)	Martin	Martin
Undergraduate Advisers	Healy Wu Xu Devine	Healy Wu Xu Devine
MSE Minor Adviser	Chrzan	Chrzan
Undergraduate Curriculum Committee	Martin, Chair Devine Scott Healy	Martin, Chair Devine Scott Healy
	Sherburne	Sherburne



MSE Faculty Committees (cont.)

Department Chair: Daryl Chrzan

Head Graduate Advisor: Jie Yao

Graduate Major Field Advisor: Zakaria Al Balushi

Graduate Academic Affairs/Curriculum Chair: Rob Ritchie

Graduate Admissions/Fellowship Chair: ?

Equity Advisor: Kristin Persson

(Will be updated
for Fall 2019)



Communicating with your advisor(s)



WWW.PHDCOMICS.COM



Communicating with your advisor(s) (cont.)

- Remember, the student-advisor relationship should be **symbiotic**
- Each advisor has a different degree of involvement and method of interaction
- Keeping them updated helps both of you!



What if your advisor is a bad fit?

- Because of scientific reasons?
- Because of work-life balance reasons?
- Because of personal reasons?
- Because an incident happened?

It is entirely possible to change advisors

Talk to your major field advisor!



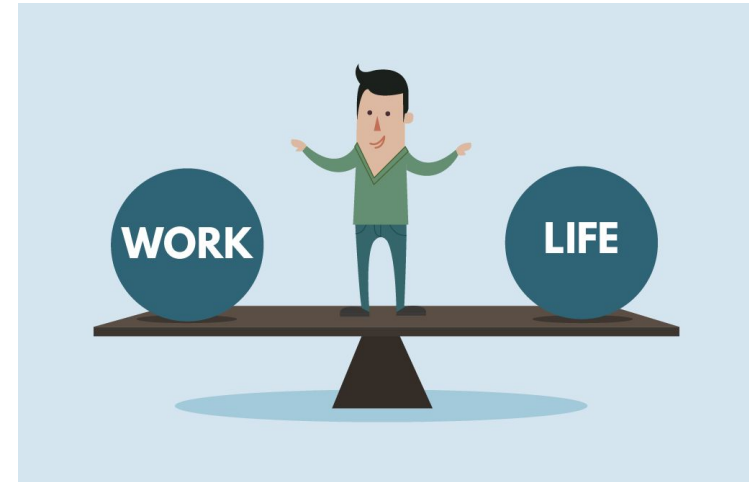
Work-life balance: what does the first semester typically look like?

- Meeting the members of your group
- Learning about your group's research
- Acclimating to Berkeley
- Two (or three) classes
- Completing safety trainings, tutorials, workshops
- Studying for the preliminary exam
- Getting involved in clubs, hobbies, etc.
- First exploration of your research topic(s)



Work-life balance: after preliminary exam

- During the semester: 50% time on research, 50% on classes/other work
 - Summer: 100% time on research
- You should **not** be expected to work more than 40 hours per week (nor every weekend) as a PhD student
- You should **advocate for** a healthy 2 weeks of vacation + federal holidays



DO take time off. “Grad school is a marathon, not a sprint”



Your staff community

Catalina Estrada: Department Manager: Administrative Management, Financial Oversight, Academic Personnel – faculty appointments

Ariana Castro: Student Services Advisor (MSE and AS&T): Advisor for Graduate Students, Admissions, Fellowships, Course Scheduling, and ABET Accreditation

Mayra De La Cruz: Undergraduate Student Services Advisor: Advisor for Undergraduate Students, Course Scheduling, and Finances

Daisy Hernandez: External Relations Specialist: Chair's Assistant, Development, Seminar, Events Coordinator and Website Updates

Chris Kumai: Principal Development Engineer, Lecturer, Instructional labs, Department Safety Coordinator

Jennifer Teverbaugh: HMMB Building Manager, Keys



Your staff community (cont.)

The MSE staff are an amazing group of people (**210 HMMB:**
open door policy!)

They are here to answer your questions and help you. In
general:

Academic needs: Ariana Castro

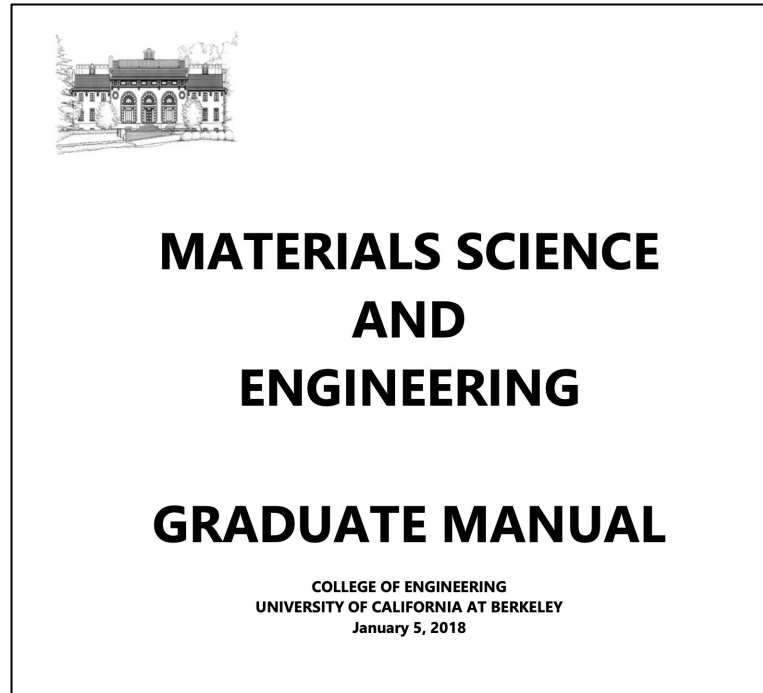
Building needs: Jennifer Teverbaugh

Safety needs: Chris Kumai

Beyond these: Catalina Estrada, Daryl Chrzan



MSE Graduate Student Manual



<https://www.mse.berkeley.edu/wp-content/uploads/MSE-Grad-Manual-2018-1-5-18.pdf>



Ombuds Office

*Unbiased, confidential
feedback for nearly any
academic/administrative
issue*



search this site

Division of Student Affairs

ACCESS - SERVICE - ENGAGEMENT

Ombuds Menu

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Ombuds Office for Students & Postdoctoral Appointees

The Ombuds Office can be your first step, your last resort, or anything in between. If you wish assistance sorting through a campus-related conflict or concern, please contact us. The Ombudsperson will listen to your concerns, serve as a sounding board, discuss your options with you, and help you get a new perspective and determine the next steps to take. The office is strictly confidential and no one will know you have spoken with us unless you wish them to. The only exception to this confidentiality is where there appears to be imminent risk of serious harm or danger.

How the Ombudsperson Helps

You may contact the Ombuds Office at any time during a conflict if you want assistance sorting through the situation. The Ombudsperson will listen, help you come up with next steps, and discuss other resources that might be helpful.

The Ombudsperson **DOES**:

- Listen impartially and provide unbiased feedback
- Provide a confidential place to discuss complaints and consider options
- Refer students and postdocs to appropriate campus services and resources
- Assist with problem-solving to minimize the escalation of conflict
- Assist people in conflict to develop mutually acceptable outcomes
- Encourage and empower students and postdocs to find their own solutions to problems and concerns
- Coach individuals on how to communicate their concerns non-defensively

A photograph of a large, multi-story building with a prominent tower, likely a university building, set against a blue sky with clouds. The building is surrounded by greenery and a paved walkway.

<https://sa.berkeley.edu/ombuds>

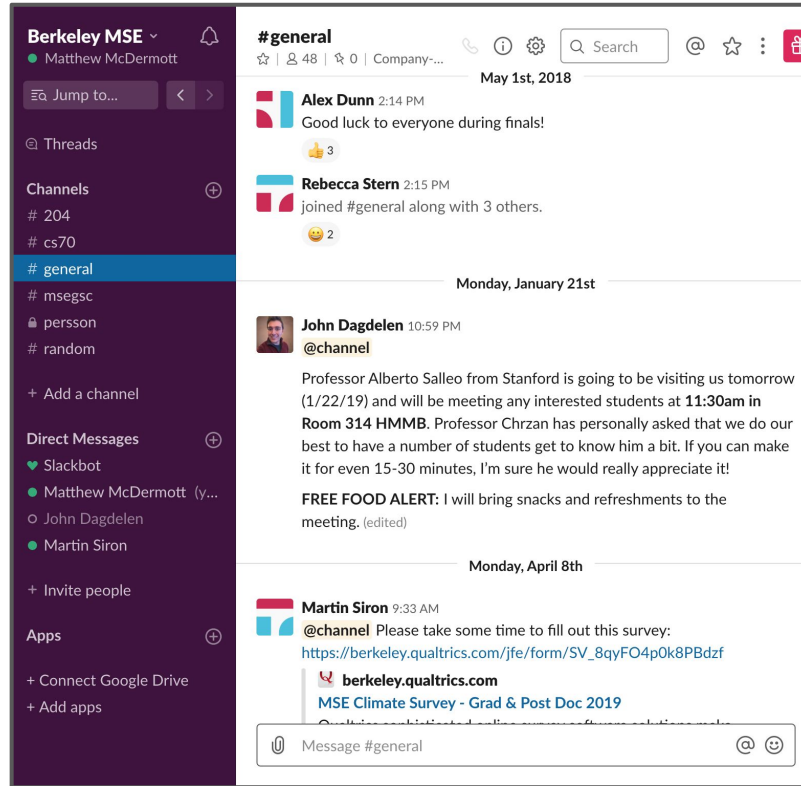
Social Media Resources

Facebook: Berkeley MSE Grad Students Group

The screenshot shows the Facebook interface for the 'Berkeley MSE Grad Students' group. The page header includes the group name, a search bar, and navigation options like 'Home' and 'Create'. The main content area features a large photo of a white building with a red roof reflected in a pond. Below the photo are options to 'Join', 'Notify', 'Share', and 'More'. The left sidebar contains navigation links such as 'About', 'Discussion', 'Chats', 'Members', 'Events', 'Photos', 'Files', 'Moderate Group', and 'Group Quality'. A search bar for the group is also present. The right sidebar includes options to 'Categorize Posts', 'Invite Members', and 'Members' (40 Members). The main feed shows a post by 'John Dags' dated January 21, with the text: 'Hi everyone! Professor Alberto Salleo from Stanford is going to be visiting the department tomorrow (1/22/19) at 11:30am in Room 314. The department would like us students to get to know him a bit and have an opportunity to discuss any research related questions. We encourage you to attend and I will bring snacks and refreshments as well.'



Social Media Resources (cont.)



Berkeley MSE | Matthew McDermott

#general | 48 | 0 | Company-...

May 1st, 2018

Alex Dunn 2:14 PM
Good luck to everyone during finals!
👍 3

Rebecca Stern 2:15 PM
joined #general along with 3 others.
😊 2

Monday, January 21st

John Dagdelen 10:59 PM
@channel
Professor Alberto Salleo from Stanford is going to be visiting us tomorrow (1/22/19) and will be meeting any interested students at **11:30am in Room 314 HMMB**. Professor Chrzan has personally asked that we do our best to have a number of students get to know him a bit. If you can make it for even 15-30 minutes, I'm sure he would really appreciate it!
FREE FOOD ALERT: I will bring snacks and refreshments to the meeting. (edited)

Monday, April 8th

Martin Siron 9:33 AM
@channel Please take some time to fill out this survey:
https://berkeley.qualtrics.com/jfe/form/SV_8qyFO4p0k8PBdzf
berkeley.qualtrics.com
MSE Climate Survey - Grad & Post Doc 2019

Message #general

Slack Berkeley MSE

berkeleymse.slack.com



Social Media Resources (cont.)

Make a group with
your cohort :)



MSE Graduate Student Email List

msegrads06@lists.berkeley.edu

****Emails go to all current MSE graduate students (PhD, MS, MEng)****



Helpful articles for getting through your PhD

1. “Survival Guide to PhD” (Andrej Karpathy):
<http://karpathy.github.io/2016/09/07/phd/>
2. “How Undergraduate and Graduate School are Different”:
<https://membracid.wordpress.com/2011/06/12/how-undergraduate-and-graduate-school-are-different/>
3. “So long, and thanks for the Ph.D!”
<https://www.cs.unc.edu/~azuma/hitch4.html>
4. “PhD Survival Guide”
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3323140/>

