



Welcome

New MSE Undergraduate Students
August 24, 2020



Charter Year for UC Berkeley: 1868

Initially Three Technical Colleges:

College of Mining

College of Mechanics

College of Civil Engineering

Charter Year for UC Berkeley: 1868

Initially Three Technical Colleges:

MSE is over 150 years old !



College of Mining

College of Mechanics

College of Civil Engineering

Phoebe Apperson Hearst

1842-1919

- 1862 married George Hearst; one son (William Randolph).
- First woman Regent of UC
- 1891 funded scholarships for women students at Cal
- 1891 funded international competition for “campus architectural plan”



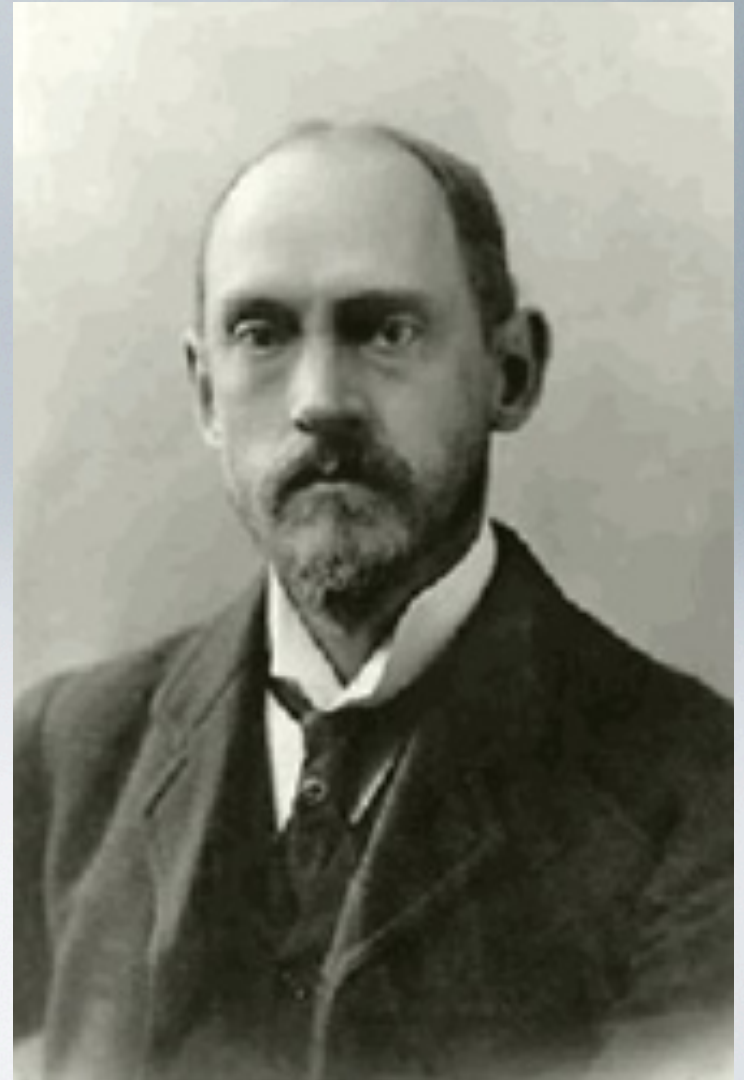
Campus Architectural Plan

At Oxford University, which at the time was strapped for funds, a Latin orator said,

"There is brought a report that in California there is already established a university furnished with so great resources that even to the architects (a lavish kind of men) full permission has been given to spare no expense. Amidst the most pleasant hills on an elevated site, commanding a wide sea view, is to be placed a home of Universal Science and a seat of the muses."

John Galen Howard

- Funded by Phoebe Apperson Hearst at \$900,000 to erect first building under campus architectural plan
- Dedicated in memory of George Hearst “a plain honest man and a good miner...”



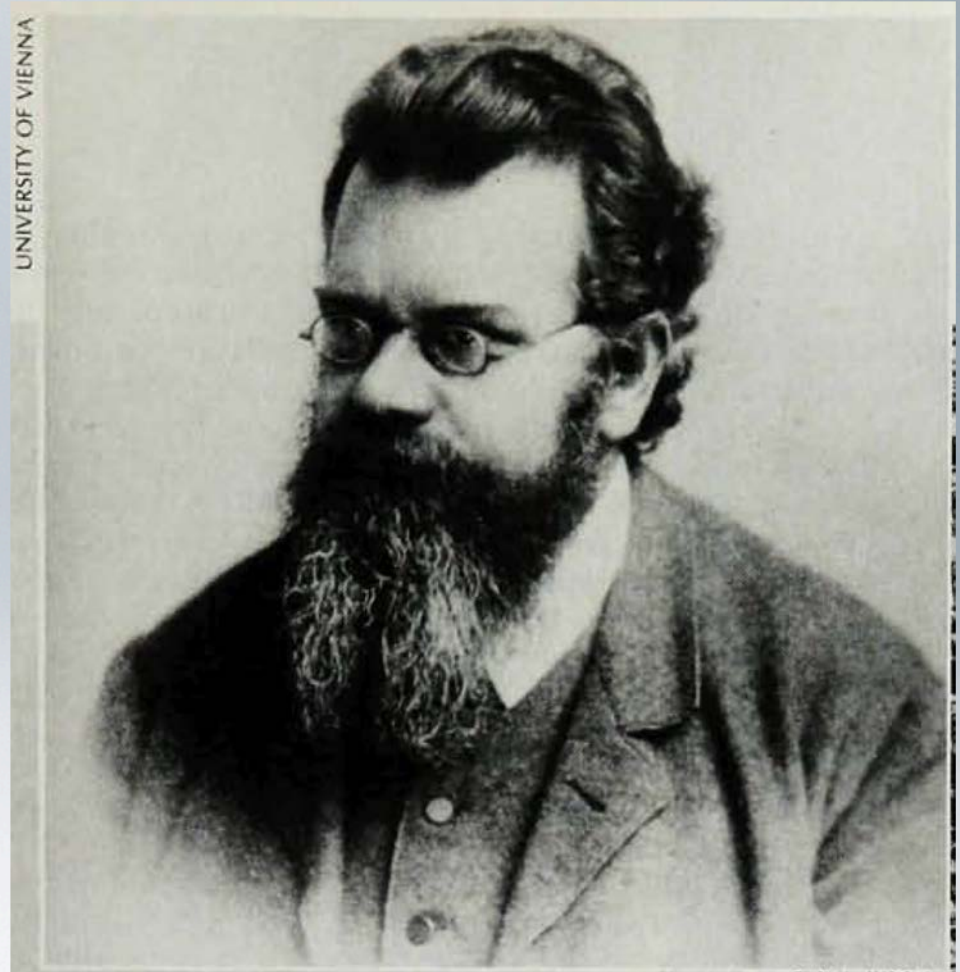
Hearst Memorial Mining Building, 1920



rich history...

Boltzmann visited and taught
during the summer of 1905:

“the loveliest place one can
imagine”



*from “A German Professor’s Trip to el Dorado” – Boltzmann
Published in Physics Today*

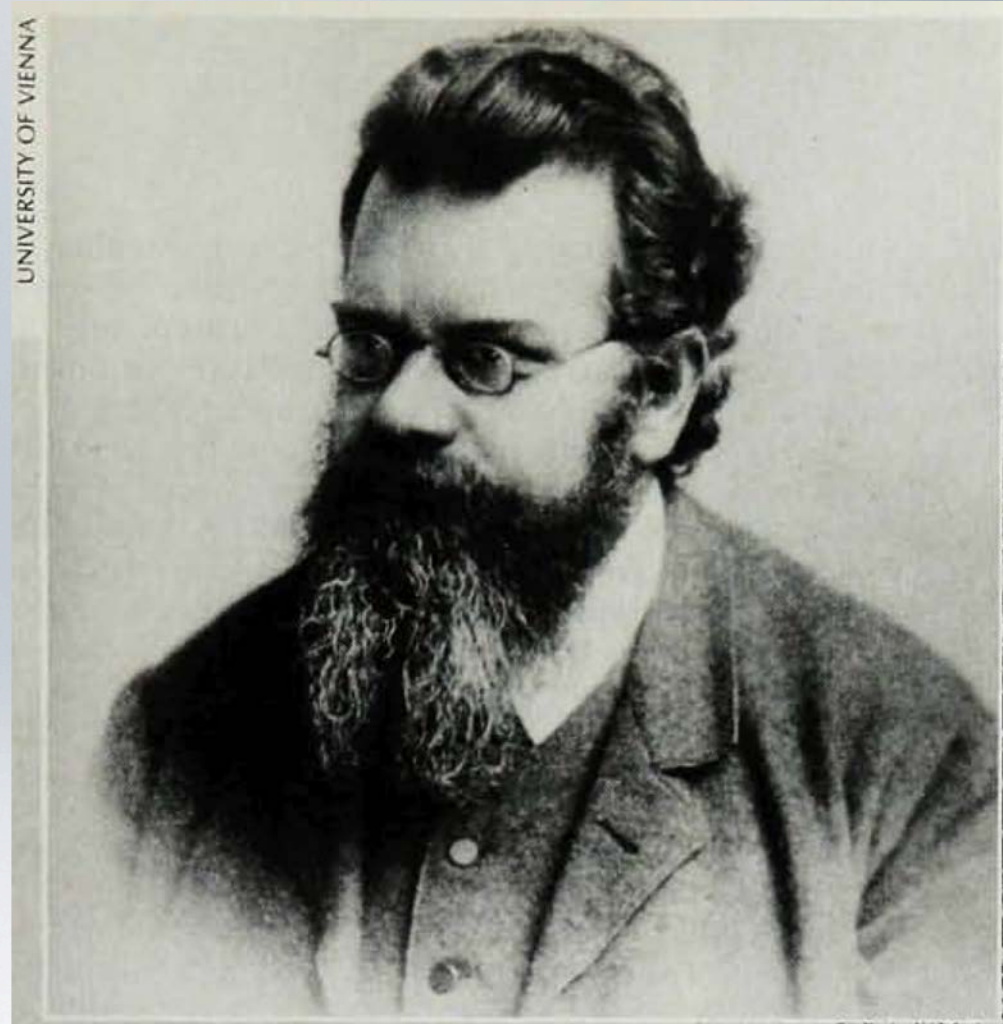
rich history...

Boltzmann visited and taught
during the summer of 1905:

“the loveliest place one can
imagine”

In contrast:

“Unlike Berkeley, Stanford
University is laid out in a unified,
architecturally attractive scheme
that seems to me quite
unsuitable for educational
purposes.”



*from “A German Professor’s Trip to el Dorado” – Boltzmann
Published in Physics Today*

the 'Rona years...

- an unusual time in our country's history
 - much uncertainty, stress
 - significant changes to how we live our lives
- good time to go to college?
 - Yes!!! The world needs you.
 - better yourself, and help us solve these problems.

things will be different...

- for the beginning of the Fall semester, course content delivered via zoom and such
- courses are being redesigned to be compatible with the new format
 - including assessment (i.e. grades)
- communicate with your Professors!
 - don't merely complain – be constructive

our promise to you

- we will work with you to make you the best possible Materials Scientists and Engineers that you can be
 - we will work within the constraints we now face while we look forward to the relaxation of those same constraints
- in the end, we will look back on the 'rona years and know that they brought out the best in all of us





Lawrence Berkeley National Lab



2019-2020 Programs and Number of Enrolled Students

- Bachelor of Science in MSE: **133**
 - Joint BS Majors (ME, ChemE, EECS, BioE, NE): **~20**
- BS/MS Program: **9**
- Master of Engineering: **14**
- PhD in MSE: **135**

All undergrad programs WASC accredited

Undergrad MSE Major ABET accredited

Your class....

- 35 new freshman
- 9 transfer students

Recent Rankings 2018, 2019,2020

- Academic Ranking of World Universities: **2,2**
- QS World University Rankings: **4,4**
- USN&WR Undergraduate Ranking: **2,7,4**
- USN&WR Graduate Ranking: **3,6,2**



MSE Core Faculty



Zakaria
al Balushi



Mark Asta



Daryl Chrzan



Tom Devine



Gerd Ceder



Oscar Dubon



Kevin Healy



Andrew Minor



Lane Martin



Phil
Messersmith



Kristin Persson



R. Ramesh



Robert Ritchie



Mary Scott



Junqiao Wu



Ting Xu



Jie Yao

Joint Faculty



A. Paul
Alivisatos



Jillian
Banfield



Robert
Birgeneau



Frances
Hellman



Peidong
Yang

Adjunct Faculty



Miguel
Salmeron



Joel
Ager



Haimei
Zheng

Lecturer



Matthew
Sherburne

Department Staff



- Catalina Estrada: Department Manager, Academic Personnel, Finances



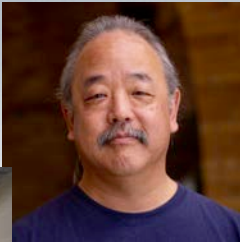
- Ariana Castro: Student Services Advisor (grads)



- Daisy Hernandez: External Relations Specialist, Events, GSI/Reader Hiring



- Medina Kohzad: MSE Student Services Advisor (undergrads)



- Chris Kumai: Principal Development Engineer (and sometimes Lecturer)

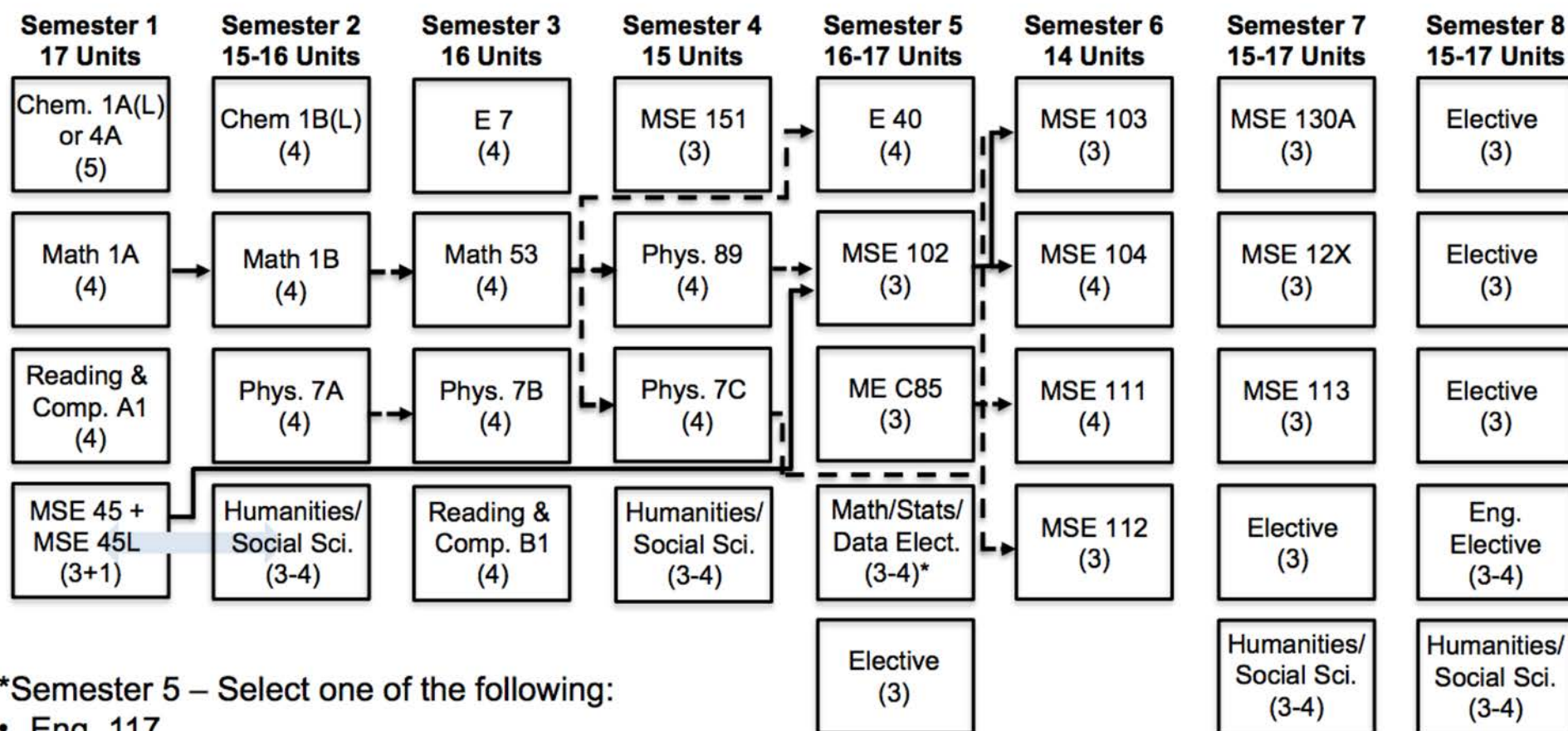


- Chad M. Southard: Principal Lab Mechanician



- Jennifer Teverbaugh: HMMB Building Manager

MSE Major – Path



*Semester 5 – Select one of the following:

- Eng. 117
- Any upper division Math course (excluding 151, 152, 153, 160, and anything 190 and higher) or
- Any upper division Stats course (excluding 157 or anything 190 and higher) or
- IEOR 172 or
- Data Science 100
- Minimum 123 units, maximum 129
- Meets various ABET credit requirements
- Will allow transfer students to replace Physics 89 with Math 54 or equivalent

faculty advising

- mandatory faculty advising once per year
 - Freshman and Juniors in Fall semester
 - Sophomores and Seniors in Spring Semester
- faculty advisors will set time aside
 - make appointment (will meet via zoom)

Staff and Faculty Advisors

MSE Student Services Advisor



Ms. Medina Kohzad
210 HMMB
medinakohzad@berkeley.edu

Faculty Advisors



Prof. Thomas Devine
224 HMMB
devine@berkeley.edu



Prof. Kevin Healy
370 HMMB
kehealy@berkeley.edu



Prof. Junqiao Wu
322 HMMB
wuj@berkeley.edu

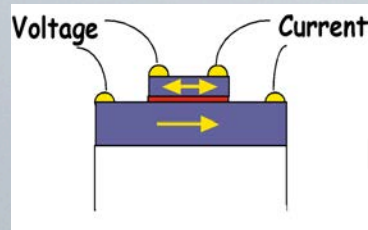


Prof. Ting Xu
381 HMMB
tingxu@berkeley.edu

undergraduate research

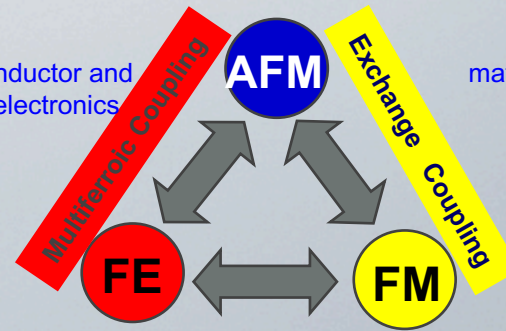
- “How do I get involved in research?”
- when you are ready:
 - research: spend some time learning about faculty research
 - Talk with grad students (GSIs), faculty,
 - Visit web sites, read papers
 - decide which group(s) you want to join
 - might be in another department...
- *ASK the faculty lead for an appointment to discuss your prospects*

Materials Research @ Berkeley

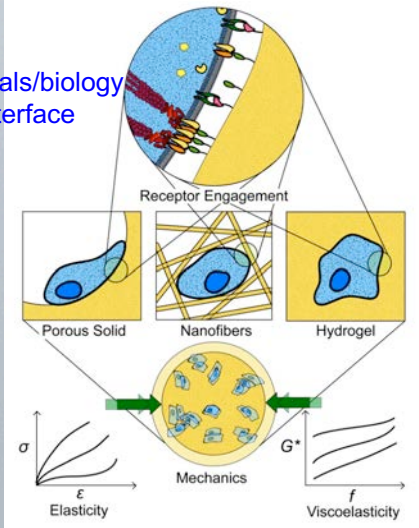


energy-related materials

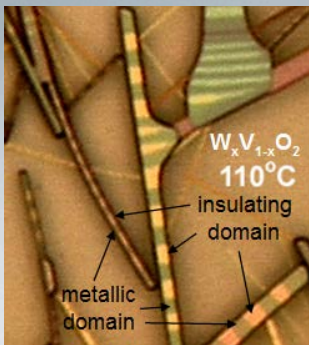
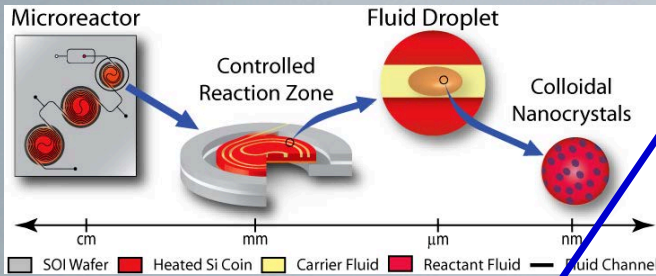
semiconductor and oxide electronics



materials/biology interface

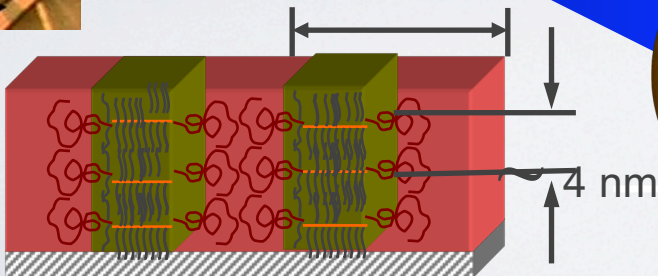


In situ mechanical behavior



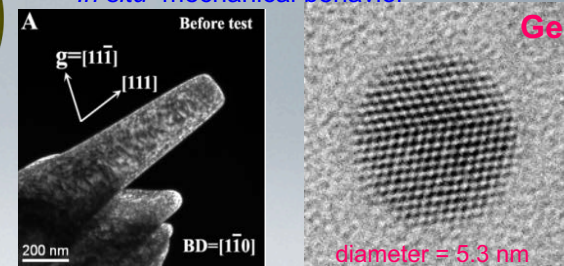
Processing

functional nanostructures

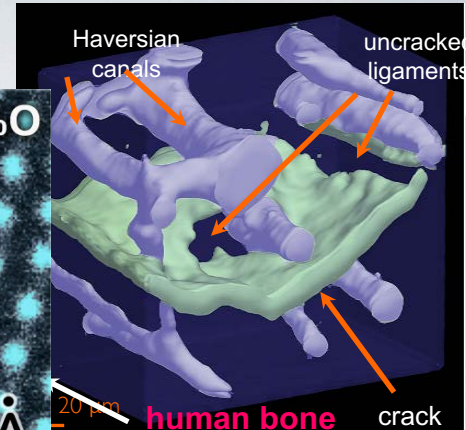
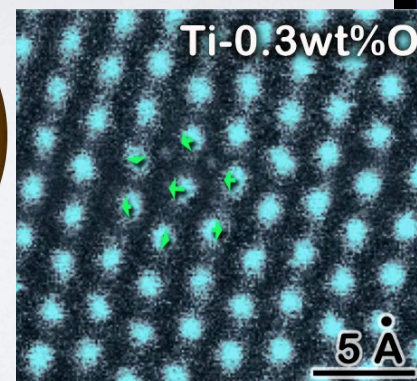


Theory

Properties



synchrotron x-ray and atomic-scale characterization



Structure

a bit of serious business...

- Cheating is becoming far too common on campus
- Want to call your attention to resources that describe what you can and cannot do:

<https://sa.berkeley.edu/conduct/integrity>

Conduct Menu

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The Center for Student Conduct

University of California, Berkeley



Academic Integrity

The high academic standard at the University of California, Berkeley, is reflected in each degree that is awarded. As a result, every student is expected to maintain this high standard by ensuring that all academic work reflects unique ideas or properly attributes the ideas to the original sources. Individual departments often have their own ways of citing and attributing work, so it is the responsibility of each student to seek that information out if it is not otherwise provided through a syllabus, course website, or other means.

These are some basic expectations of students with regards to academic integrity:

- Any work submitted should be your own individual thoughts, and should not have been submitted for credit in another course unless you have prior written permission to re-use it in this course from this instructor.
- All assignments must use "proper attribution," meaning that you have identified the original source and extent of words or ideas that you reproduce or use in your assignment. This includes drafts and homework assignments!
- If you are unclear about expectations, ask your instructor or GSI.
- Do not collaborate or work with other students on assignments or projects unless you have been given permission or instruction to do so.

Other resource: [Statements on Course Policies](#)

Integrity and Ethics

- an Engineer's reputation is *everything*
 - people *must* be able to trust your motives, what you say and what you do
- don't abuse this trust
 - cheating, plagiarism violates this trust



Thank You for Your Attention!

Any Questions?

Welcome!