



Electrical & Computer Engineering 4+1 Bachelor's to Master's Pathways

Dr. Nobby Kobayashi

ECE Graduate Director

nkobayas@ucsc.edu

Shelby Wilson

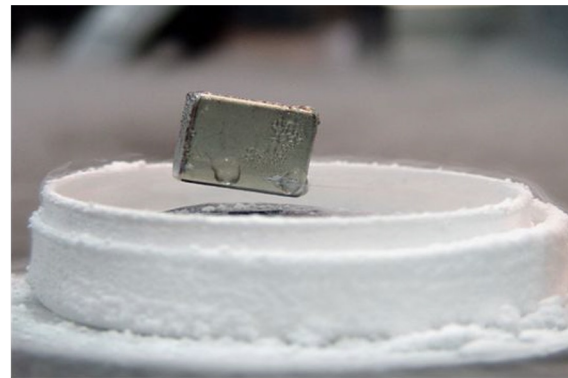
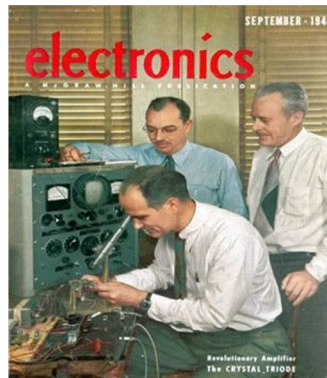
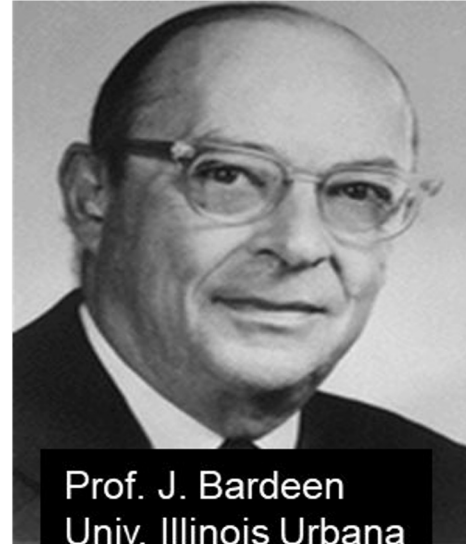
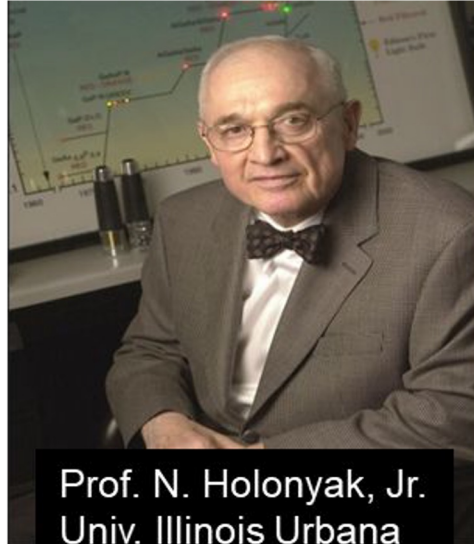
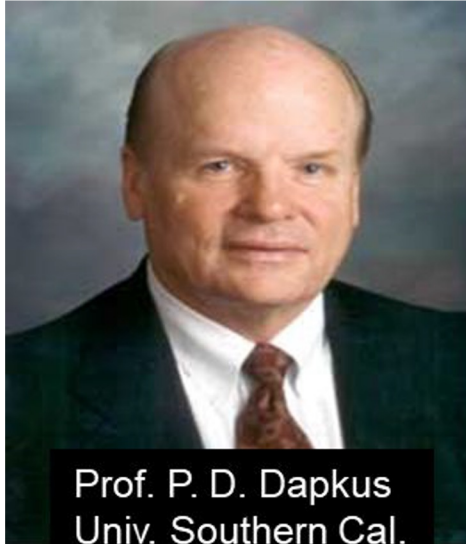
ECE Graduate Student Advisor

ece-gradadvising@ucsc.edu

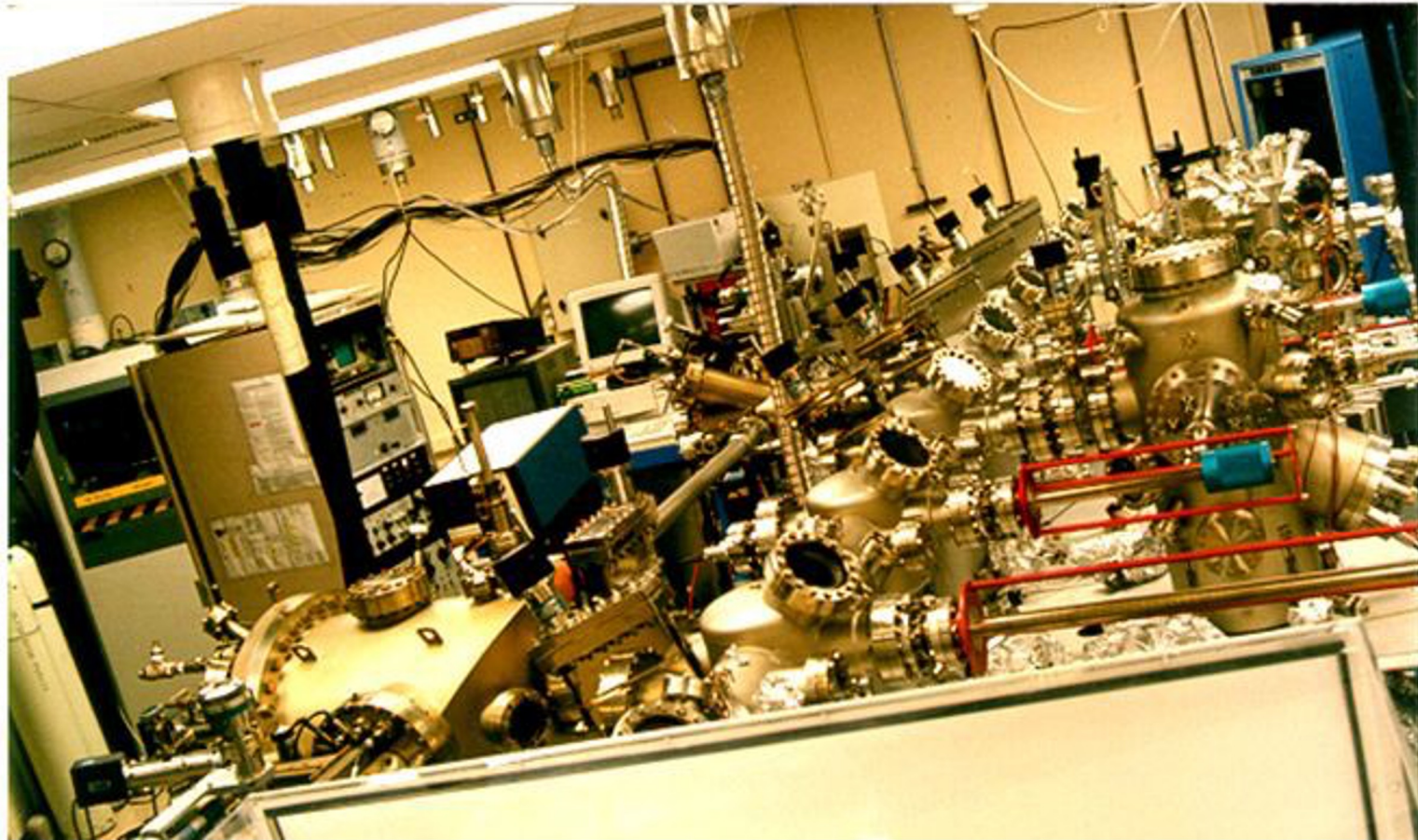
Why Not Going to Graduate School? Become a Leader & Define Your Work



Why Not Going to Graduate School? Build Your Academic Family Tree



Why Not Going to Graduate School? Play with \$M Toys



Why Not Going to Graduate School? Go Places You Would Never Go

Goettingen October 2006

Dear Dr. Kobayashi,
it is a great pleasure to kindly ask you to participate at the **international workshop**

LASERION[®] 2007

“Microfabrication, nanostructured materials and biotechnology”

July 1-6, 2007

Schloss Ringberg/Tegernsee



located south of Munich (D) on a mountain overlooking the lake of Tegernsee,
and present an **INVITED** Talk on a topic of your choice related to your expertise

“nanoscale materials and applications“



Why Not Going to Graduate School?

Make More \$

(All figures in USD. Figures from 2016-2017 PayScale College Salary Report.)

Major	Degree Type	Early Career Pay	Mid-Career Pay
Aerospace Engineering	Master's	76,300	118,000
	Bachelor's	65,400	106,000
Biomedical Engineering	Master's	70,500	122,000
	Bachelor's	65,400	106,000
Chemical Engineering	Master's	73,100	125,000
	Bachelor's	69,800	119,000
Civil Engineering	Master's	60,900	103,000
	Bachelor's	57,200	96,300
Computer Engineering	Master's	86,700	125,000
	Bachelor's	69,600	113,000
Electrical Engineering	Master's	79,900	127,000
	Bachelor's	67,000	110,000

One-Minute Reflection

On a piece of paper, in your phone, or on your computer, please answer at least one of the following questions:

1. What is a question that I need this information session to answer for me?
2. What are my top three motivations for going to graduate school?
3. Where do I see myself in **ten years** as a professional? What steps do I need to take to reach this goal?

If your question is not answered before the end of this presentation, please email ece-gradadvising@ucsc.edu

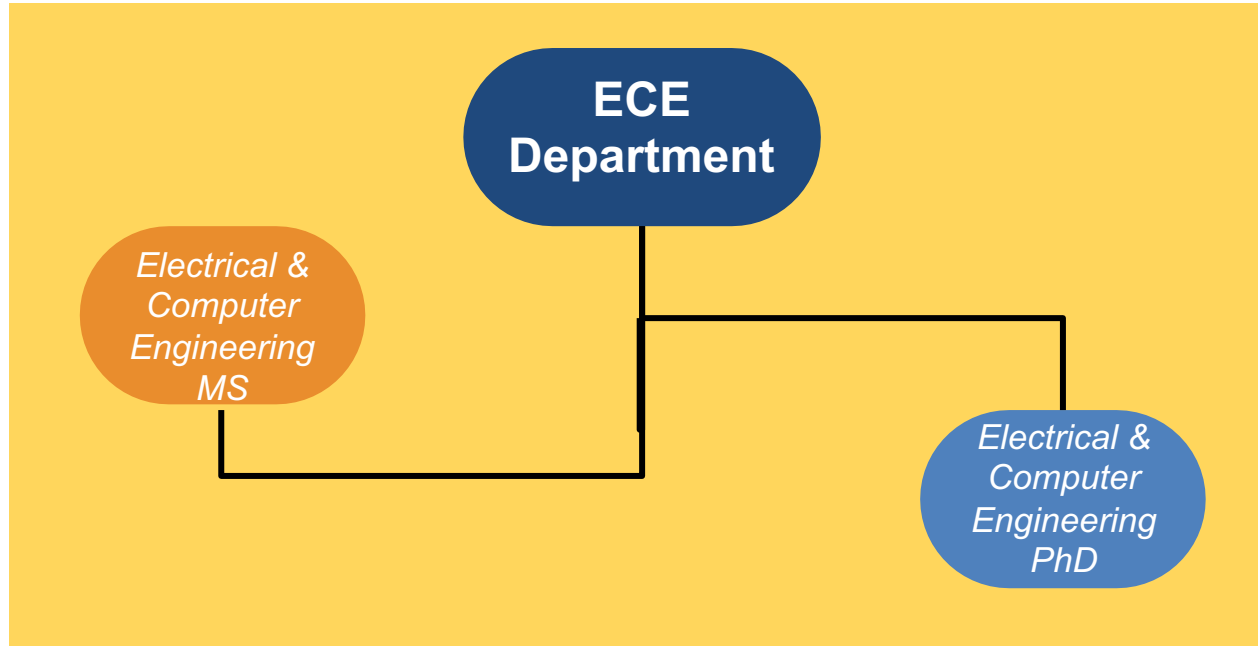


Agenda



- Introduction to the ECE Pathway
- Where are our Master's Alumni Now?
- ECE BS/MS Pathway
- What to Consider Before Applying
- How to Apply
- Application Timeline & Requirements
- Questions?

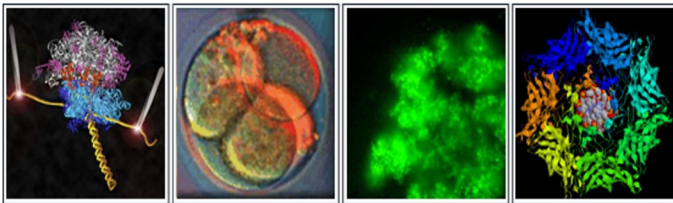
Who We



UC Solar



W. M. KECK CENTER FOR NANOSCALE OPTOFLUIDICS



 Cyber-Physical Systems
Research Center

The Center for Sustainable Energy and Power Systems
CENSEPS



A complete list of research areas in the ECE Department is available [here](#).

Baskin
Engineering

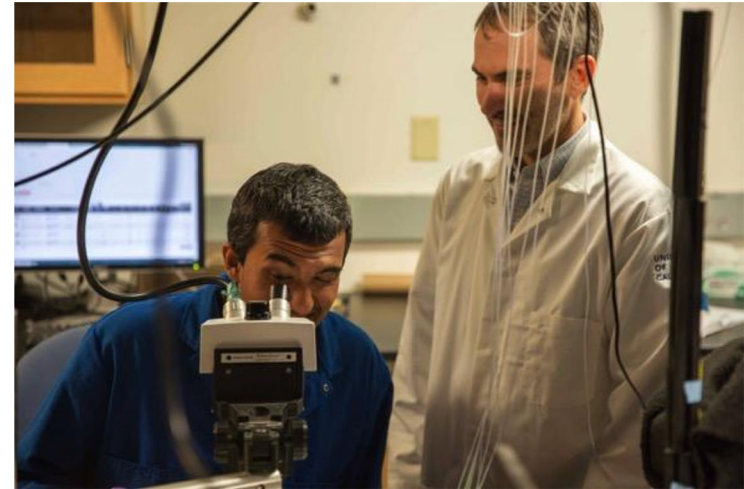


UC SANTA CRUZ

The Electrical & Computer Engineering Pathway

ECE Pathway...

- is a 4+1 program that enables UCSC undergraduate students to earn bachelor's **AND** master's degrees in as little as **5 years with appropriate planning**
- count qualified UCSC credits taken as an undergrad toward a master's degree
- provide students with opportunities to advance prior research or explore a new research area
- help students gain a competitive edge as industry leaders and researchers
- enable students to apply experience gained as a UCSC undergrad toward advancing career plans without “having to go back” later for a master's or PhD.
- simplified application process



Where are our Master's Alumni?



ECE BS/MS Pathway: Eligibility

1

A UCSC student enrolled in a bachelor's program when formally applying with plans to enroll in the MS program the fall quarter immediately after completing undergrad requirements.

2

For the core area the student is applying to, must pass 2 undergrad courses from the [list](#) with a grade of B+ or higher before starting the M.S. year of the B.S./M.S. contiguous pathway program:.

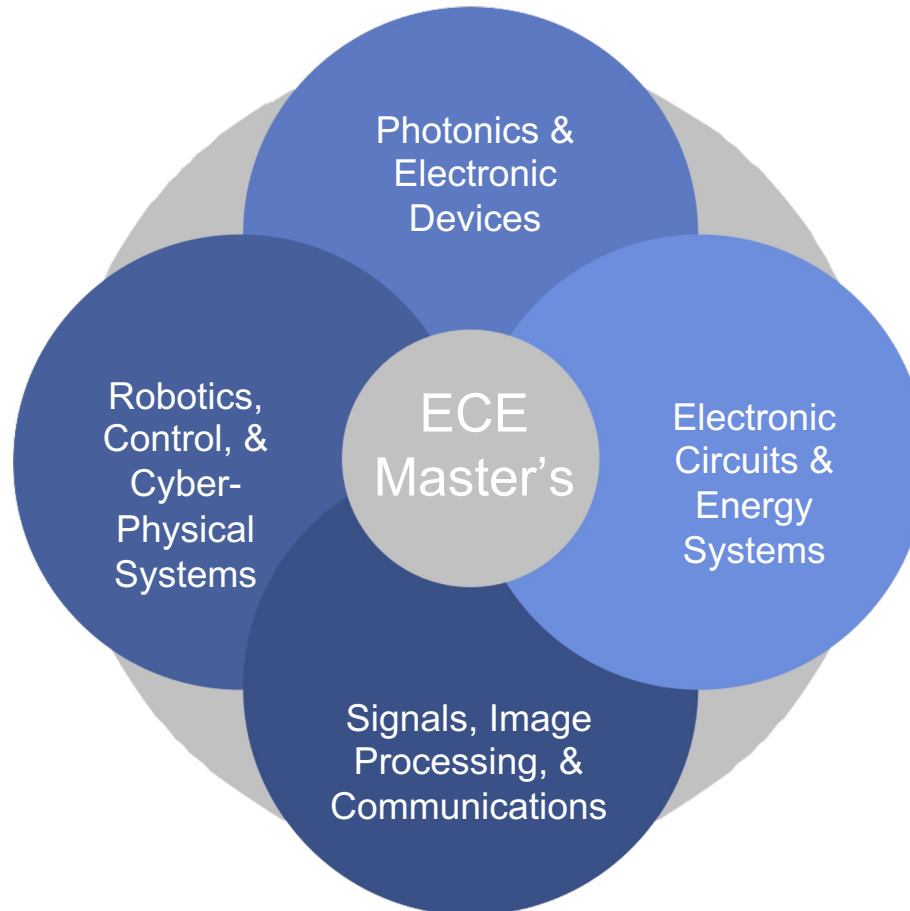
3

Must maintain a **3.0 GPA or higher** until the completion of undergraduate requirements.

4

Must complete **BOTH** the [ECE BS/MS Pathway eligibility survey](#) **AND** the formal [ECE MS application](#).

ECE Contiguous Pathway: Depth Areas



[Learn more about depth areas here.](#)

ECE Depth Areas: Course Requirements for 4+1

Pass 2 courses in your chosen depth area with B+ or higher

- **Photonics & Electronic Devices**
 - ECE 102, ECE 130, ECE 135
- **Electronic Circuits and Energy Systems**
 - ECE 157, ECE 171, ECE 172, ECE 173, ECE 177 (Circuits)
 - or
 - ECE 171, ECE 175, ECE 176, ECE 177 (Energy Systems)
- **Robotics, Controls, and Cyber-Physical Systems**
 - ECE 141 (required), ECE 118, ECE 121, ECE 167
- **Signals, Image Processing, and Communications**
 - ECE 151, ECE 153

ECE BS/MS Pathway: Degree Requirements

ECE MS Degree Requirements (45 units)

- Complete 15 Units (3 classes) in One of Four Depth Areas
 - Photonics and Electronic Devices
 - Signals, Image Processing, and Communications
 - Electronic Circuits and Energy Systems
 - Robotics, Control, and Cyber-Physical Systems
- Seminar Requirement (5 units)
 - All students must complete 5 units of seminar (ECE 290/291)
- Electives (25 units)
 - All other courses must be 5-unit grad-level BSOE courses
 - At least 25 of the 45 required units must be in [Electrical & Computer Engineering](#)

MS Degree Tracks

Exam Track

Default track for students entering the MS program.

Fastest to complete.

Must pass 3 comprehensive exams in your chosen depth area.

Comprehensive exams are offered at the end of the quarter for ECE grad classes.

Students register to take the exams in advance.

Project Track

Hybrid (coursework & research focus).

Can count a maximum of 5 independent study credits toward the 45 required for MS degree.

Thesis Track

For students interested in academia or continuing on to a PhD program.
Most exposure to research.

Can count a maximum of 10 credits of independent study credits toward the 45 required credits for MS degree.

Questions?

Tips for Applying

- Complete the [Pathway eligibility survey](#) at any time **before the formal application deadline**. Please notify ECE Advisor every academic year if you want us to continue tracking your eligibility.
- Apply formally to the ECE MS program the Fall Quarter **before** you plan to graduate from a bachelor's program. **Cannot take a year off between programs.**
- Get a head start on the 1 required letter of recommendation and prioritize letters from ECE faculty.
- Engage in undergraduate research and build rapport with ECE faculty.
- Utilize campus resources like the Career Center and writing support services to polish your resume and Statement of Purpose.

How to Apply for the ECE Pathway

Step One:

- Complete the eligibility form online for a Pathway:
 - [ECE Contiguous Pathway eligibility survey](#)
- If you are eligible, you will be added to the pathway internal tracking database.
- You can complete this step at any time prior to the formal application deadline.

Step Two:

- During your final year, complete the [formal application](#) for the ECE MS
- **Note:** Eligibility for pathway program does not guarantee admission.

Application Timeline

- Fall 2025 applications open on October 1st, 2024.
- The application deadline for the ECE MS program will be in early February 2025
- Two out of three letters of recommendation and personal history statement waived for 4+1 candidates this application period.
- The formal application is online at: applygrad.ucsc.edu/apply/



Application Requirements

- 1 Letter of Recommendation
- Statement of Purpose - typically a description of your short-term and long-term goals or career plan, and how a master's degree at UCSC would help you reach these goals.
- Unofficial Transcripts
- See the BSOE Graduate Admissions FAQ for more detailed information: gradadmissions.ucsc.edu/

QUESTIONS?

More Information
at BSOE Graduate Advising
grad.soe.ucsc.edu

