

## Electrical Engineering Newsletter

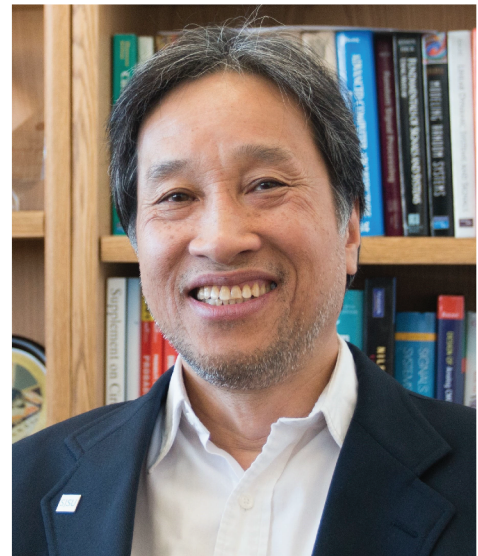
Fall 2021

### Welcome to Fall 2021

#### Dear Students, Alumni, Faculty, Staff, and Friends:

Back in March of 2020, I don't think any of us dreamed that COVID-19 was going to drag into a second year. As such, the pandemic has dictated how we deliver education to our students. After multiple semesters of online learning, we enter the fall semester with a combination of online, in-person, and hybrid courses. While the faculty did an outstanding job of teaching online and continue to do so, I, for one, must say that I'm excited to be back on campus, seeing students and colleagues in person.

Along with some of our courses, we see a return to campus for this semester's student events. The Electrical Engineering Comprehensive Exam, although being phased out, will take place on campus this semester on November 12th. We are excited to have our student chapter of IEEE



back on campus in room E376. Follow IEEE on [Facebook](#) and [Instagram](#) for information on club events. Oral presentations for EE 198A and EE 198B are currently scheduled on campus on December 3rd. And the always-popular Student Project Symposium will take place in the Student Union on December 7th, 2021, with more than 40 presentations from our undergraduate and graduate students. Mark your calendars!

In addition to our regular events, we share some exciting news about our program. San Jose State University is currently developing a doctorate program in Engineering in conjunction with UC Merced. In addition, the Department is participating in the Spartan Accelerated Graduate Education (SAGE) program. The SAGE program is a BSEE/MSEE fast-track program where nine units can be used towards both degrees. The program already has University approval and currently awaits approval by the CSU system. We were even able to collaborate with Advantest Corporation to develop a new EE course in chip testing, using their company's facility and laboratory equipment, despite numerous COVID-19 pandemic restrictions.

The pandemic had little effect on our faculty's ability to find grant money. We received more than \$2M in grants for research, equipment acquisition, and curriculum development this year. You can find more details about these awards in this newsletter. Lastly, 2021 marks the 75th anniversary of the School of Engineering. Please check out the 75-year timeline on the College of Engineering's website if you get a chance.

Welcome back to campus, everyone!

Thuy T. Le, Ph.D.  
Professor & Department Chair  
Electrical Engineering Department

# Department Updates

## **Welcome, Dr. Shrikant Jadhav!**



For the fall 2021 semester, we welcome Shrikant Jadhav to our faculty. Dr. Jadhav is joining the Electrical Engineering Department as an Assistant Professor. He received his Ph.D. from North Carolina A&T State University, and his previous teaching experience was at Fort Lewis College in Durango, Colorado.

Dr. Jadhav is teaching EE 178, Digital Design with FPGAs, and EE 277A, Embedded SoC Design, this Fall 2021 semester. His research includes developing a methodology for accelerating computationally intensive applications like image processing, bioinformatics, machine learning, etc. During his Ph.D. and Postdoc period, he enjoyed mentoring several high-school, undergraduate, and graduate students.

## **Welcome, Dr. Fei Gu!**



The Department would also like to welcome a new lecturer. Fei Gu is joining our part-time faculty for Fall 2021. Dr. Gu earned his Ph.D. in Electrical Engineering from UC Irvine. He researched emerging microgrid technologies and their role in the future power grid and taught UCI's Power Systems Laboratory course. Dr. Gu also works full-time as a senior associate at Exponent, a leading scientific consulting firm. He is teaching EE 134, Power Systems.

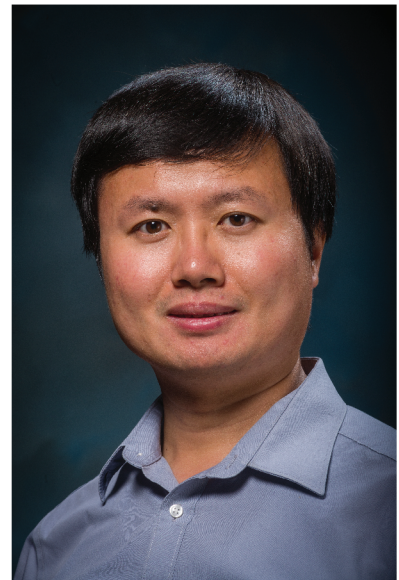
# Awards & Rankings

## **Hiu-Yung Wong Wins Multiple Research Grants and Awards**

Congratulations to Electrical Engineering's Hiu-Yung Wong! Hiu-Yung is a recipient of the \$500K National Science Foundation (NSF) CAREER award, the most prestigious award in long-term support of early-career faculty who can serve as academic role models in research and education and lead advances in their department's mission.

Hiu-Yung is also a co-PI of 2 other NSF grants: A \$500K NSF research grant in "Cyber-manufacturing of Wide-Bandgap Semiconductor Devices Enabled by Simulation Augmented Machine Learning" and a \$739K NSF grant in "A Program for Training a Quantum Workforce." Dr. Wong is also the 2021 winner of the prestigious Newnan Brothers Award for Faculty Excellence. Brothers Don and Dean Newnan were both SJSU alumni and Engineering faculty members. Their family's \$1M gift in 2008 allowed the University to establish the Newnan Brothers Excellence in Teaching Endowment.

Hiu-Yung joined the SJSU faculty in 2018 after 12 years in the semiconductor industry. He has published more than 70 peer-reviewed papers and holds 9 US patents. Hiu-Yung is passionate about helping his students excel. Currently, he is leading the creation of a Quantum Computing and Information specialization for the MSEE program.







## David Parent Awarded DOD Grants

Congratulations to EE Faculty member David Parent, as he and his team were awarded a \$600K grant by the Department of Defense. A multidisciplinary team of EE (David Parent as the principal investigator), ME, CME, and BME faculty won this grant from the Department of Defense to upgrade our Microscale Processing Engineering Lab (MPEL).

The equipment upgrade includes a three-stack diffusion/oxidation furnace and reactive ion etcher (RIE). The equipment will be used to study the reliability of silicon carbide (SiC) MOSFETs, a Department of Defense priority. Professor David Parent also works with local high schools to increase Hispanic Student Success in STEM at San Jose State University, San Jose City College, and Gavilan College.



## Scholarship Opportunities for EE Graduate Students

The Electrical Engineering Department is excited to hear the news that Broadcom Incorporated has recently made a \$20,000 donation to the Tower Foundation to be used for scholarships for URM graduate students in the Electrical Engineering and Computer Science departments.

Award distribution is yet to be determined but is earmarked for fall 2022. We are very grateful for their generous donation! Broadcom Corporation is an American fabless semiconductor company that makes products for the wireless and broadband communications industry. They are headquartered in North San Jose.

# Student Clubs



## IEEE Back on Campus

The Institute of Electrical and Electronics Engineers (IEEE) is a worldwide professional society for engineers. It is also a student-led club on campus dedicated to helping Electrical Engineering students transition from students to professional engineers. (In fact, San Jose State has the most active student IEEE branch in the bay area.)

The SJSU chapter wants you to know that they are back on campus in room ENG376. Their new officers include Marielle Deguzman, Andrew Wang, Geoffrey Fierro, Umama Muntaha Kamal Oishi, and Ryan Wicklund. The IEEE has a large room where students can study, work on projects and socialize. They host events with the industry and help members with personal, professional, and technical development. They have many activities going on, making it a great way to network and make friends.

Follow IEEE on [Facebook](#) and [Instagram](#) for information on club events . For more info, contact the club at [ieee@sjsu.edu](mailto:ieee@sjsu.edu).

# Curriculum & Programs

## **New Curriculum in Electrical Engineering**

The Electrical Engineering Department continues to expand its curriculum. We are excited to announce that the following new courses will be offered this coming Spring and Fall 2022:

- EE 171 - Introduction to Machine Learning for Electrical Engineers
- EE 182 - Analog and Mixed-Signal IC Test Development
- EE 226 - Cryogenic Nanoelectronics
- EE 282A - Reinforcement Learning for Multi-Robot Networks

In addition, we have restructured our graduate curriculum such that we now have nine areas of application specialization, which include:

1. Communications, Signal Processing, and Remote Sensing
2. Network, Network Security, Mobile Network, and IoT
3. Microprocessors, Computer, Embedded Systems, and Digital Systems
4. Device Physics, Micro Electronics, and Nano Electronics
5. Analog Electronics and Integrated Circuits
6. Power Electronics and Energy Systems
7. Artificial Intelligence, Machine Learning, and Deep Learning
8. Control, Robotic, and Autonomous Systems
9. Quantum Information and Quantum Computing

## EE Faculty and Staff

**Mohamed Badawy,**

Assistant Professor  
Ph.D., University of Akron

**Tri Caohuu,**

Professor  
Ph.D., Texas A & M University

**Chang Choo,**

Professor  
Ph.D., Rensselaer  
Polytechnic Institute

**Sotoudeh Hamed-Hagh,**

Professor  
Ph.D., University of Toronto

**Lili He,**

Professor  
Ph.D., State University of New  
York

**Ping Hsu,**

Professor  
Ph.D., University of California,  
Berkeley

**Shrikant Jadhav,**

Assistant Professor  
Ph.D., North Carolina AT&T  
State University

**Binh Q. Le,**

Assistant Professor  
Ph.D., Stanford University

**Thuy T. Le,**

Professor & Department Chair  
Ph.D., University of  
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**Essam Marouf,**

Professor  
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**Nader F. Mir,**

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Ph.D., Washington University

**Robert H. Morelos-Zaragoza,**

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Ph.D., University of Hawaii

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Professor  
Ph.D., University of Connecticut  
Ph.D., University of Illinois at Urbana- Champaign

**Jonathan Ponniah,**

Assistant Professor  
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Illinois at Urbana- Champaign

**Jalel Rejeb,**

Associate Professor  
Ph.D., Syracuse University

**Birsen Sirkeci,**

Professor  
Ph.D., Cornell University

**Belle Wei,**

Professor  
Ph.D., University of  
California, Berkeley

**Hiu-Yung Wong,**

Assistant Professor  
Ph.D., University of  
California, Berkeley

**Juzi Zhao,**

Assistant Professor  
Ph.D., George Washington  
University

**Eveline Bellegarda,**

Lecturer  
Ph.D., University of Rochester

**Anindita Bhattacharya,**

Lecturer  
Ph.D., Northeastern University

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Lecturer  
MSEE, Stanford University

**Ibrahim Delibalta,**

Lecturer  
Ph.D., Koc University

**Khosrow Ghadiri,**

Lecturer  
Ph.D., International  
Technological University

**Navid Ghazisaidi,**

Lecturer  
Ph.D., University of Quebec

**Fei Gu,**

Lecturer  
Ph.D., University of  
California, Irvine

**Bhawandeep Singh Harsh,**

Lecturer  
MSEE, San Jose State  
University

**Morris Jones,**  
Lecturer  
MSEE, Brigham Young  
University

**Ray Kwok,**  
Lecturer  
Ph.D., University of  
California, Los Angeles

**Nhat Nguyen,**  
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Ph.D., University of  
California, Berkeley

**Ahmad Shahsiah,**  
Lecturer  
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Polytechnic Institute

**Igor Tyukhov,**  
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Engineering Institute

**Bradley Carrell,**  
Department Analyst

**Jalil Kamali,**  
Lecturer  
Ph.D., Stanford University

**Sang-Soo Lee,**  
Lecturer  
Ph.D., Carnegie Mellon  
University

**Tan V. Nguyen,**  
Lecturer  
Dr. Eng., Santa Clara University

**Chao-Li Tarng,**  
Lecturer  
Ph.D., University of Washington

**Tom Wrappe,**  
Lecturer  
MBA, University of Chicago

**Roopa Gadham,**  
Department Coordinator

**JeongHee Kim,**  
Lecturer  
Ph.D., New Mexico State  
University

**Bhaskar Mantha,**  
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Ph.D., University of Cincinnati

**Christopher Pham,**  
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University

**Simon Tian,**  
Lecturer  
Ph.D., Virginia Tech

**Manizeh Zand,**  
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MSEE, San Jose State  
University

**Audrey Leong,**  
Systems Analyst



## Industry Advisory Council

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Senior Utilities Engineer  
Calif. Pub. Utilities Commission

**Utku Diril,**

Infrastructure Technologist  
Facebook

**Howard Ho,**

Research Manager  
IBM Almaden Research Center

**Jamil Kawa,**

Synopsys Fellow  
Synopsys

**Jason Ma,**

Director of Partner Engineering  
Google

**Yilka Masada,**

President and CEO  
Kelmendi Engineering Inc.

**Gokhan Mergen,**

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**Kristoff Richter,**

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**Meeta Roy,**

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Bose Corporation

**Ericson Wen,**

Engineering Manager  
Tesla, Inc.

