



ECE CLASS OF 2021 SHOWCASE



Engineering in the College of Engineering. Produced by Susan Novosel and UA Engineering Marketing and Communcations.

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CONGRATULATORY MESSAGE

Congratulations! You made it.

Today is the day you join an elite group of University of Arizona ECE alumni. You worked hard to get here, and you deserve the recognition. The last 14 months have been very challenging, to say the least. The pandemic has crippled all parts of our community and nation. But we have persevered and are on our way to normalcy.

And you have persevered as well. ECE is one of the toughest majors on campus—long hours poring over homework, working in the labs, studying for exams, designing projects and running computer program after computer program. You pressed on and overcame all the challenges, some like we have never seen before. I am deeply sorry the COVID-19 pandemic has caused



Tamal Bose

such hardship and loss. And I regret that our traditional ECE 2021 convocation ceremonies were canceled. But everyone in ECE is so very proud of you. We are celebrating your achievements and cheering you on.

Now is the time to look forward and discover new opportunities, no matter how difficult things may seem. Keep following your passion, find your line of work, and make people's lives better. The world is counting on you!

You are among graduates pursuing exciting careers not only in engineering but also in medicine, law, business, finance, and even politics. Our alumni are successful scientists, engineers, explorers and entrepreneurs working in government and industry, and for themselves across the entire spectrum of professions.

So, in a sense, this degree is actually the beginning of your journey. You triumphed academically, and no doubt you will do well professionally. After all, you have an ECE degree, and you are a Wildcat! You may even become rich and famous. But ultimately you will be known for how you treat others – for your kindness, humility and service.

Be sure to thank everyone who has been there for you along the way and show your appreciation for their crucial support and guidance.

We look forward to you visiting soon and can't wait to hear all about your endeavors.

Bear Down!

Tamal Bose, Ph.D.

Professor and Department Head Electrical and Computer Engineering

Tamel Bre

Class of 2021 Showcase

ACKNOWLEDGMENTS AND AWARDS

Outstanding ECE Students

Each semester, the College of Engineering honors outstanding students who are nominated by their professors and department heads.

Outstanding Senior Spring 2021

Nicolas Ramos



Outstanding Graduate Student Spring 2021

Kyle Kuan



Outstanding Graduate Teaching Assistant **Dhruv Gajaria**



Outstanding Senior Fall 2020

Tru Thanh Quach



Outstanding Graduate Student Fall 2020

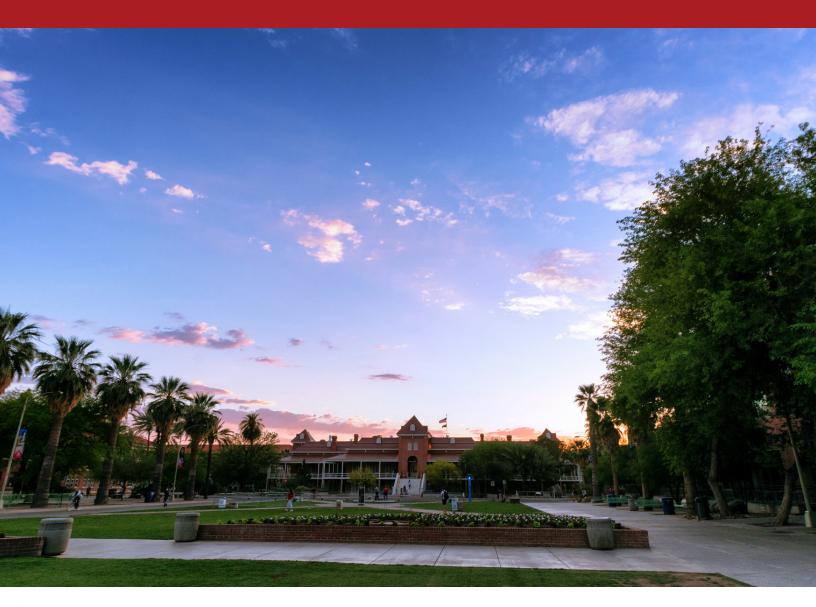
Terrance Pat



Outstanding Graduate Teaching Assistant

Maisha Hafiz





Awards for Excellent Performance at the Student Interface

The annual Student Interface Awards for Excellence honor ECE faculty, staff and teaching assistants who support our students by making them feel they are essential and valued members of the university community.

Outstanding Graduate
Teaching Assistant
Stone Wilkes



Outstanding Staff

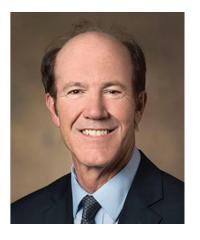
Alexis Vasquez

Undergraduate Academic

Advisor



Outstanding Faculty, Jr. **Dale Hetherington**Professor of Practice



Outstanding Faculty, Sr. **Hal S. Tharp**Associate Department Head and Associate Professor



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BACHELOR OF SCIENCE DEGREE

A

Mohmed Othman Albalbisi

Ahmed Abdulkarim Abdulrahim Mohamed Alraeesi

Mohammed Alyousef

Nushin Anwar

Reeshad Arian

B

Ian Louis Bell

Robert Bradford

Shaun Michael Brown

C

Zepeng Cai

Ezra James Carnes

Miguel Angel Castro Gonzalez

William Carter Conway

Jeremiah Layton Cunningham

D

Jalea Adrienne Dashiell

Weixiang Deng

E

Joseph Christian Emnett

Bennett Bradley Estrada

G

Cole Josef Galloway

Sofia Isabela Gamez

Robert Daniel Gauthier

Tyler Glen Gleesing

Maksim Dmitrievich Gusev

Angel Fernando Gutierrez

Н

Nicholas John Hammond

Ryan William Hammond

Caleb Robert Henry

Tia Skye Hunt

Leslie K. Ibarra Borboa

J

Marco Elias Lacson Jacob

Ryan Lee Jarick

Zichun Jin

Carl Phillip Jones

K

Jack Andrew Kerr

Justin Chadol Kim

Spencer Kittredge

Lewis William Koplon

Marc Adam Kragnes

Parker Riley Lawson

M

Tiffany Tinyee Ma

Alex David Maggio

Celeste Hannah Maher

Susana Jade Mar

Bo Josiah Mcallister

Shannon Marie McCoy

Braden Abel Means

Jacob Simon Merki

Nickolas Andrew Murachanian

N

Jennifer Nadolski

Adam Tucker Newell

Nathan Lam Ngo

James Nguyen

Class of 2021 Showcase

BACHELOR OF SCIENCE DEGREE

P

Jacob Celso Padilla

Rohan Rasiklal Patel

Carlos Perez

Brendan Duy Pham

Austin Tyler Pierson

R

Nicolas Gabriel Ramos

Joshua Zion Reck

Jonathan Edward Rickel

Cooper Joseph Ryan

S

Anthony James Sanchez

Noas Shaalan

Benjamin Paul Stelter

Ryan Patrick Svedberg

Kevin Christopher Thompson

Tu Oanh Tran

Ngan Trung Truong

U

Hector Rosendo Urena

V

Ignacio Vazquez Lam

W

Nicholas Owen Watson

Samson Tiburon Weisbrod

Ethan Edward Winkler

Y

Lu Yu

Z

Shengrui Zhang

Congrats ECE Grads!

CONGRATULATIONS ON YOUR WELL-DESERVED SUCCESS! IT HAS BEEN MY PLEASURE TO WORK WITH ALL OF YOU OVER THESE LAST COUPLE OF YEARS. WISHING YOU ALL THE BEST!!!



BEAR DOWN!

✓ YOUR ECE ADVISOR

ALEXIS VASQUEZ



BACHELOR OF SCIENCE DEGREE

The following Bachelor of Science degree recipients have shared their photos and personal statements!

Mohmed Albalbisi



"The mountains are calling and I must go and I will work on while I can, studying incessantly." - John Muir

Nushin Anwar



In order to achieve something you always have to lose something.

Ahmed Abdulkarim Alraeesi



His Highness Sheikh Zayed bin Sultan Al Nahyan, gone from our sight but never from our hearts, once said that: "Education is like a lantern which lights your way in a dark alley."

I would like to thank my family, friends, and instructors for all the support! Thank you all!

Miguel Angel Castro Gonzalez

I want to thank my family, the scholarship people, Dr. Muscat, Dr. Akoglu, the RCI group, and all the professors that allowed me to call them teachers.

Accepted a position at Texas Instrument in Dallas.

Mohammed Abdulwahed Alyousef



I dedicate this degree to my father Abdulwahed Alyousef, my mother Abeer Almukahal, my brothers Ali and Hassan, my beloved city Saihat, and to everyone who supported me throughout my journey.

Accepted a postion at the Saudi Railway Company as an electrical engineer.

William Carter Conway



I'd like to thank my friends and family for their unending support for my education and growth as a human. Thank you for believing in me, especially those who are no longer here today.

"If everyone is not special, maybe you can be who you want to be" - One

Accepted a position at VR Development.

Jeremiah Layton Cunningham



"I reserve my right to feel uncomfortable, reserve my right to be afraid. I make mistakes and I am humbled every step of the way. I want to be a better person, I wanna know the master plan. Cast your stones, cast your judgment, you don't make me who I am." - ADTR

Robert Daniel Gauthier



"Success is not final, failure is not fatal, it is the courage to continue that counts." - Winston Churchill

Accepted a position at Northrop Grumman in Utah as an electrical engineer.

Joseph Christian Emnett



Thank you to my family and friends for all of the support that they have given me the past four years.

Pursuing a degree at UArizona in the ECE Accelerated Master's Program.

Angel Fernando Gutierrez



"Do not let making a living prevent you from making a life." - John Wooden

Accepted a position at Wells Fargo in Chandler, AZ as a software engineer.

Sofia Isabela Gamez



You have supported and encouraged me every step of the way throughout my journey. My gratitude to you is infinite and endless. Thank you Mom, Dad, and Mickey. I love you!

Tia Skye Hunt



"Don't let anyone rob you of your imagination, your creativity, or your curiosity. It's your place in the world; it's your life. Go on and do all you can with it, and make it the life you want to live."

 Dr. Mae Jemison, first Black woman in space

Accepted a position at Mitre Corp. in San Diego.

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BACHELOR OF SCIENCE DEGREE

Leslie K. Ibarra Borboa



"Trust, for these new unknowns: you are more prepared than you think." - MHN

Accepted a position at the Large Binocular Telescope Observatory in Tucson.

Tiffany Ma



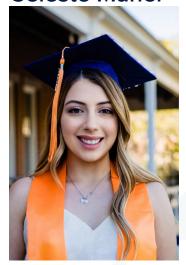
Accepted a position at Taiwan Semiconductor Manufacturing Company in Taiwan.

Zichun Jin



Pursuing a master's degree in electrical engineering.

Celeste Maher



"All your dreams can come true if you have the courage to pursue them" - Walt Disney.

Thank you to my friends and family who supported and helped me on my journey in pursuing my dreams! I am excited to see what the future holds and ready to start my next adventure!

Accepted a position at Ephibian Inc. in Tucson.

Lewis William Koplon

"Intelligence plus character—that is the goal of true education." -Martin Luther King Jr.

Special thanks to my family for their support and encouragement throughout my academic journey at UArizona. I am looking forward to challenges and the adventures to come!

Pursuing a master's degree in electrical and computer engineering at UArizona.

Susana Jade Mar



A special thank you to my family, mentors, and fellow ECE peers for an amazing 4 years at UArizona! I am so excited to see what the future has in store for us. Here's to my fellow ECE graduates of 2021! #Let'sGetThisBread

Accepted a position at Raytheon Missiles and Defense in Tucson.

Jennifer Nadolski



I am so grateful for all the great memories I have made at The University of Arizona! Thank you to my family and friends (especially my dad) for supporting me to reach this achievement. Many thanks to Dr. Marcellin, Dr. Kay, and the whole ECE department!

Accepted a summer internship at Microsoft in software engineering. Pursuing a master's degree in ECE at UArizona.

James Nguyen



I had fun at UArizona, I made good memories, I got my degree, and I got gains. Those are the pillars of life.

Plans after graduation: Try to do some sustainable stuff and save the whole planet.

Jonathan Edward Rickel



Thank you to my friends and family for always supporting me through this journey! Love y'all, Bear Down!



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BACHELOR OF SCIENCE DEGREE

Kevin Thompson



Thank you to everyone who has helped me achieve this milestone. All of the teachers, professors, family, and friends. I couldn't have done this without you!

Lu Yu



Pursuing a graduate degree.

Ethan Winkler



Thank you to my friends, family, and professors that helped me succeed!

Pursuing a career as a software or computer engineer.

Shengrui Zhang



It is never too late to get anything started, and don't let others stop what you love to do. In the world of electronics, treating it as my hobby goes a long way. Go beyond class and find something that you're interested in and spend time with it, experiences that are invaluable.

Pursuing a master's degree at Texas A&M University.





MASTER OF SCIENCE DEGREE

Almutasim Billa Abdullah Alanazi Heriberto De La Cruz **Sulaiman Ashraf Amanda Lenn Denton** Sulaiman Ashraf James Felderhoff Michael Thomas Bahns Michael Patrick Feldt Christian Adolfo Becerra G Paul A. Biho Mbog Dema Nua Govalla Jacob Bourgogne Srishti Gupta **Greg Brandelli** \mathbb{H} **Zhaoyang Bu** Milan Christiana Higgs K **David Chong Chan** Robert Cole Kirk Manuelito Tahlowah Chief **Wesley Preston Krafft** James A. Cole **David Alexander Colpo**

Henry Lee

M

Joel F. Marquez

Jared Marrs

Maclain Andrew Marsh

John Morgan

N

Jacob Henry Niccum

Paul Niman

P

Dillon Jay Pena

R

Andrew Mark Rathbun

Tierny Jaqueline Rubenow

S

Rory Hewitt Scobie

Rachael Trucel Seedenburg

Daniyal Uzair Siddiqui

Kaden Jacob Skow

Abdikadir Abdirahman Tasir

Robert Patrick Tellander

David Allen Tondre

W

Christine Elisabeth Wiltbank

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MASTER OF SCIENCE DEGREE

The following Master of Science degree recipients have shared their photos and personal statements!

Almutasim Billa Abdullah Alanazi



On this special day I am grateful to Allah for my success! Then I express my gratitude to my family! Wonderful father and mother, lovely wife, two supportive brothers, and an awesome sister. And thanks to my government for the scholarship, and thanks to UA for best education experience.

Pursuing a Ph.D. degree in ECE at UArizona.

David Chong Chan



Thinking back to that time my project included making a communication system to send anime pictures through the air. It's probably the highlight of my engineering career.

Accepted a position at Rincon Research Corp. as an engineer.

Sulaiman Ashraf



Enrolled in 2018, when I realized the importance of academics in professional life. I found the program really up to the mark with great faculty and flexible schedule which accommodates students who are trying to pursue further education while working full time jobs.

Pursuing employment as a network engineer.

Manuelito Tahlowah Chief



"My grandchildren, education is the ladder. Tell our people to take it" - Hastinn Ch'il Haajiin (Chief Manuelito, 1893)

M.S. Thesis Advisor: Kelly Simmons-Potter

Pursuing a career within electric utilities, with the goal of giving back to the community he grew up in.

Zhaoyang Bu



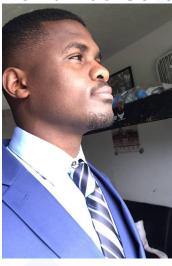
When you can't find the light that guides you through a cloudy day. When the stars ain't shining bright and you feel like you've lost your way. When the candle light of home burns so very far away. Well, you got to let your soul shine, shine till the break of day.

Amanda Lenn Denton



Accepted a position at Raytheon Technologies in Tucson.

Dema Nua Govalla



"A problem shared is a problem halved."

M.S. Thesis Advisor: Jerzy Rozenblit

Pursuing a Ph.D. degree in ECE at UArizona.

Rachael Seedenburg



Accepted a position at American Express in Phoenix.

Srishti Gupta



Always counting my blessings! Proud graduate of UArizona.

M.S. Thesis Advisor: Gregory Ditzler

Planning to enter industry with the skill-set earned at UArizona ECE.

Daniyal Uzair Siddiqui



Still hungry. Still foolish.

Rory Hewitt Scobie



I would like to sincerely thank my professors in the ECE department for their dedication and support over the past year. You all went above and beyond.

Continuing to work at Steward Observatory in Tucson as an R&D Electrical Engineer.

Kaden Skow

The reasons I made it here: Michael, Edgar, Isabella, Cole, Andrew, and Tripp.

David Allen Tondre



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DOCTOR OF PHILOSOPHY DEGREE

Zhiyang Fu Aakarsh Rao G Nithin Raveendran Xin Gao Islam Samy Mohamed Shaban Adnan Kantemur Sicong Shao Mingshun Sun Teh Lai X **Heng Liu** Xin Xiao Nathan M. Madsen Jiakai Yu Jean de Dieu Mutangana Z JianBo Zhao Yanjun Pan Tianchi Zhao **Ture Peken** Ahmed Mahmoud Salama Ziane

Class of 2021

Congratulations on earning your ECE degree! What a proud day.
I am so happy for all of you!







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DOCTOR OF PHILOSOPHY DEGREE

The following Doctor of Philosophy degree recipients have shared their photos and personal statements!

Nathan M. Madsen



I came, I learned, I graduated.

Continuing employment at Rincon Research Corp. in Tucson.





Peace and love to all my family and friends who supported me!

Accepted a postdoctoral associate position at Virginia Tech.

Dissertation Title: "Finite Difference Algorithm for Polynomial Phase Estimation"

Dissertation Director: Siyang Cao

Dissertation Title: "Enhance Network Performance and Security with Reconfigurable Antennas"

Dissertation Director: Ming Li

Jean de Dieu Mutangana



It takes a village to raise a Ph.D. student! For that reason and more, I thank my faculty advisors (especially Dr. Ravi Tandon) and staff (especially Ms. Tami Whelan) for their support during my time in ECE here at UArizona. Also, my family. It has been a great research journey.

Pursuing employment in the wireless communications industry.

Dissertation Title: "Robust Physical Layer Security with Channel Knowledge Uncertainty"

Dissertation Director: Ravi Tandon

Ture Peken



Accepted a position at Keysight Technologies in Santa Rosa, CA.

Dissertation Title: "Machine Learning for Channel Estimation and Hybrid Beamforming in Millimeter-Wave Wireless Networks"

Dissertation Directors: Tamal Bose and Ravi Tandon

Nithin Raveendran



You are never too old, too wise, or too smart to learn something new.

Postdoctoral plan with Dr. Bane Vasić at the University of Arizona.

Dissertation Title: "Fault-Tolerant Iterative Decoding and Analysis of Classical and Quantum LDPC Codes"

Dissertation Director: Bane Vasić

Xin Xiao



Veni, Vidi, Vici!

Accepted a position at Facebook Inc. in Seattle.

Dissertation Title: "Neural network-based Iterative Decoding, Code design, and Erasure Correction of Low-Density Parity-Check Codes"

Dissertation Director: Bane Vasić

Islam Samy Mohamed Shaban



Accepted a position at Qualcomm in Boulder.

Dissertation Title: "On the Security of Spectrum Sharing and the Privacy of Data Retrieval"

Dissertation Director: Loukas Lazos

Jianbo Zhao



A great thanks to my advisor Dr. Kostuk, without whose help I can never make this true. Also, thanks to the ECE department for providing me the chance to be reforged. The end of one journey is the start of another journey. Always keep moving!

Accepted a position at Facebook Reality Lab in Redmond, WA.

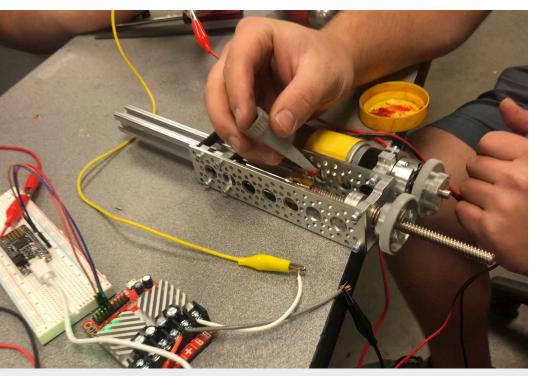
Dissertation Title: "Design and Application of Wavequide Holographic Optical Elements"

Dissertation Director: Raymond Kostuk

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ECE MEMORIES

Some of the Class of 2021 graduates' favorite ECE memories.



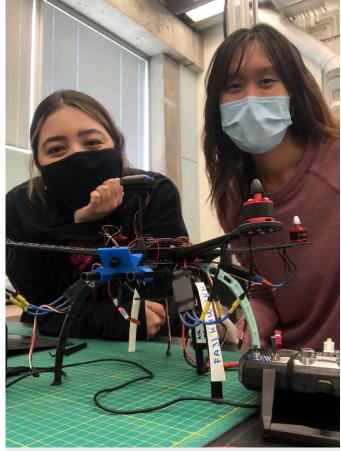
This linear actuator kit can vary the gear ratio of our ECVT and is an important aspect of our senior capstone project.



Tour of ARO 12m Radio Telescope's Receiver Cabin.



Arizona Autonomous Vehicles Club: Dr. Marcellin (the faculty advisor) and Jennifer Nadolski (the president) working on the autonomous plane (picture taken before COVID).



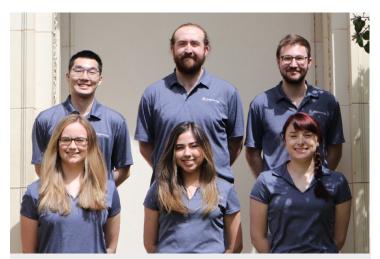
BE 385 - Precision Observation with Drones.



Final week survival party at school.



ECE RCL group at Mount Lemmon.



My awesome Capstone team, I will never forget them.



Mask up!



A sunset dinner with my dear friends.

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FACULTY REMARKS



Congratulations, ECE Class of 2021! You've worked hard to achieve your goals and I hope you will continue to apply yourselves, dream new dreams, seek new experiences, embrace life with passion, and keep reaching for new heights. I am proud of you and wish you all the best on your next adventure.

- Tosi Adegbija, Assistant Professor



I would like to congratulate the Graduate Class of 2021 for persevering over the many challenges that presented during your studies. You have shown

remarkable resilience, progress, and promise. We look forward to your future endeavors and we are confident about your success.

- Loukas Lazos, Professor



Congratulations on your graduation and best wishes for your next adventure!

- Siyang Cao, Assistant Professor





Congratulations, Class of 2021, on not just surviving but excelling in this very difficult year!

Boulat Bash,
 Assistant Professor



Free your minds, and the rest will follow. You all will accomplish wonderful things in your new, exciting phase of life.

Jerzy W. Rozenblit,
 University Distinguished
 Professor



Congratulations ECE Wildcats. A hard-earned degree, you deserve a little rest. We are proud of you and your work and are excited to hear about the next chapter in your journey. One of our greatest joys is when former Wildcat grads check in with us 1, 5, 10, or more years down the line. We can't wait to hear from you.

 Kathleen Melde, Associate Dean of Faculty Affairs and Inclusion, College of Engineering and Professor



Congratulations on your graduation and best wishes for your next adventure!

Jonathan Sprinkle,
 Litton Industries John
 M. Leonis Distinguished
 Associate Professor



Congratulations Spring 2021 graduates! Enjoy your journey through life.

- Hal S. Tharp, Associate Department Head and Associate Professor



Congratulations
Class of 2021! I
believe that your
hard work over
the last few years
will provide a
strong foundation
on which to build
your future.
I sincerely hope
that you have

enjoyed your time at the UA and I wish you the very best in the future.

- Steve Dvorak, Professor



Adnan, Congrats on completing your Ph.D.!

Hao Xin,
 Professor

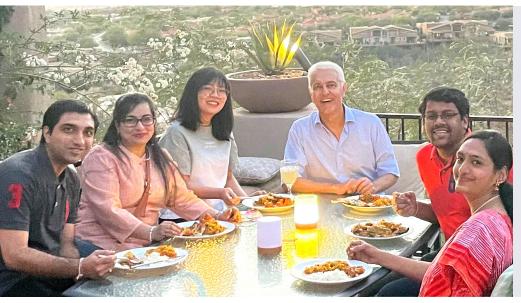
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FACULTY REMARKS



Eleanor Roosevelt once said, "The future belongs to those who believe in the beauty of their dreams." ECE Graduates, the future belongs to you... Dream Big! Congratulations!

Kelly Simmons-Potter,
 Director of Graduate Studies
 and Professor



Congratulations to the most resilient graduates in ECE history!

- Bane Vasić, Professor



Congratulations on a job well done! Throughout your career stay optimistic, keep an open mind, and be a role model for others.

- Raymond Kostuk, Professor



You have overcome many challenges and have persevered.
Congratulations on your accomplishments and good luck in your future endeavors!

- Michael W. Marcellin, Regents Professor



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CORE FACULTY



Tosiron Adegbija Assistant Professor

high-performance embedded computing • low-power embedded systems design



Ali Akoglu Associate Professor

high-performance computing • reconfigurable computing • adaptive hardware systems



Boulat Bash Assistant Professor

applying information theory to practical problems of reliability and security



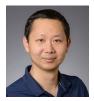
Ali Bilgin Associate Professor

signal and image processing • data compression • magnetic resonance imaging



Tamal BoseDepartment Head and Professor

adaptive filtering • spectrum sensing • cognitive radios • channel equalization



Siyang Cao Assistant Professor

radar signal processing • adaptive radar systems • innovative sensing systems



Gregory DitzlerAssistant Professor

scalable feature selection • applied machine learning to comparative metagenomics



Ivan B. Djordjevic

Professor

optical communications and networks \bullet quantum information processing



Steven L. Dvorak

Professor

geophysical applications of electromagnetics • optics • applied mathematics



Wolfgang Fink

Edward & Maria Keonjian Endowed Chair and Associate Professor

artificial vision • autonomous robotic space exploration • biomedical sensors



Liesl Folks

Senior Vice President for Academic Affairs and Provost and Professor

magnetic materials and devices • nanoscale metrology • spin-electronic devices



Salim Hariri

Professor

autonomic cybersecurity • big data analytics • resilient cloud services



Gregory Heileman

Vice Provost for Undergraduate Education and Professor

data science • machine learning



Dale Hetherington

Professor of Practice

electronic circuits • embedded microcontrollers • semiconductor processing



Raymond Kostuk

Professor

optics • photonics



Marwan Krunz

Regents' Professor and Kenneth Von Behren Endowed Professor

wireless networks • cognitive and softwaredefined radios • MIMO communications



Loukas Lazos

Professor

network security • algorithms • network optimization • wireless communications



Ming Li

Associate Professor

information security and privacy • wireless networking • cybersecurity



Roman Lysecky Professor data adaptable systems • embedded systems •



Ravi Tandon Associate Professor

information and coding theory • wireless communications • machine learning



Michael W. Marcellin Regents' Professor and International Foundation for Telemetering Professor

digital communication and data storage systems • data compression • signal processing



Ratchaneekorn "Kay" Thamvichai Professor of Practice

digital signal processing • communications



Michael M. Marefat Associate Professor

runtime optimization

intelligent systems • computer vision and robotics • machine learning



Hal S. Tharp Associate Department Head and Associate Professor

control theory • engineering education



Kathleen Melde

Associate Dean of Faculty Affairs and Inclusion, College of Engineering and Professor

antennas for computing • wildlife tracking • microwave circuit design



Bane Vasić Professor

coding theory • information theory • digital communications • memory and storage systems



Kelly Simmons-Potter Professor

response of optical materials and devices to ionizing and non-ionizing radiation



Hao Xin Professor

microwave • millimeter-wave and THz devices • circuits • antennas



Jeffrey J. Rodriguez

Associate Professor

signal-image-video processing and analysis • automated image analysis



Quntao Zhuang Assistant Professor

quantum information processing • quantum optics



Janet Meiling Roveda

Professor

smart grid and smart home • VLSI systems for biomedical applications • multicore design



Faculty Video Playlists







University Distinguished Professor

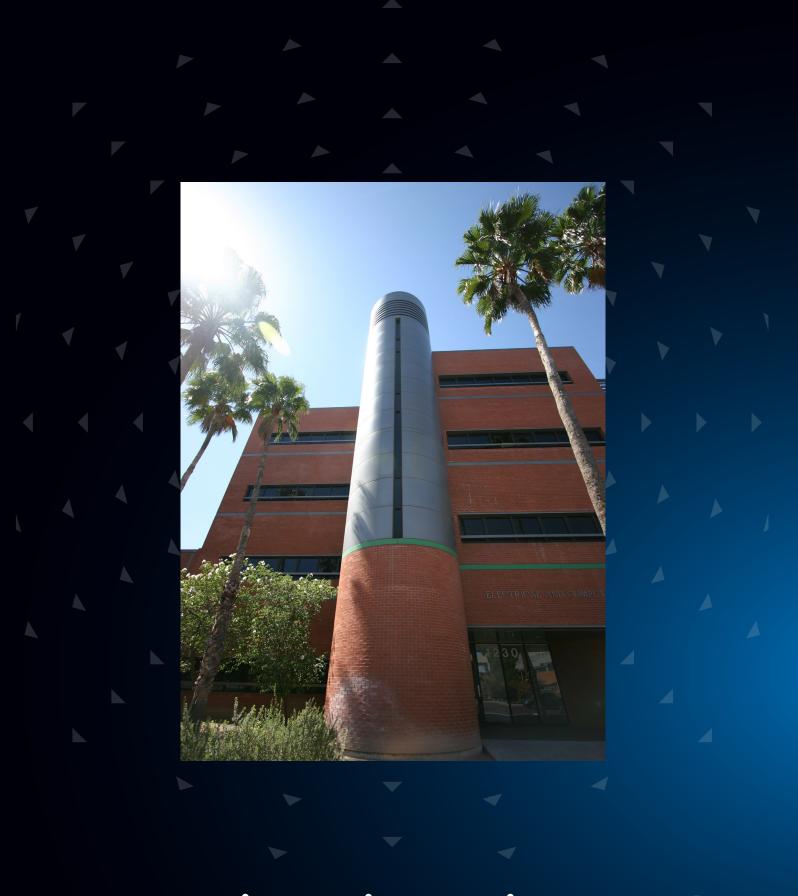
design and analysis of complex systems • modeling and computer simulation



Jonathan Sprinkle Litton Industries John M. Leonis Distinguished Associate Professor

autonomous vehicle technology • modeling • cyber-physical systems

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