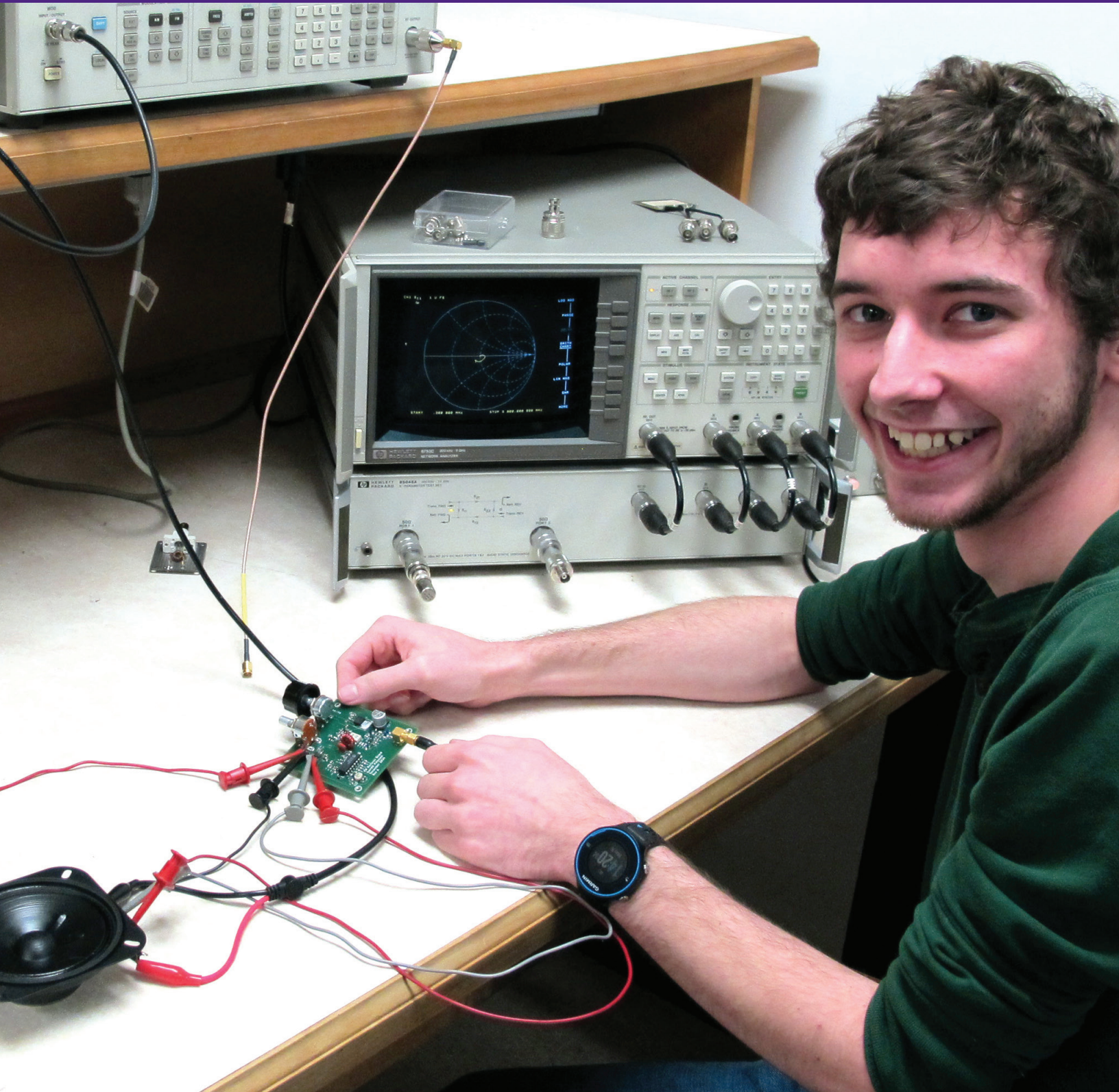




ECE Uplink

Summer 2015

Kansas State University





Garmin co-founder gives students highly needed resources for success

— by Emily Dye, KSU Foundation

Table of contents

Garmin gift 1	HOF and PPA awards 6
ECE honor roll 2	Retirement 7
Student news 3	Faculty spotlight/Alumni news 8
Graduate lists 4	Collaborative research highlight 9
2015 Alumni Fellow, Mitch Snyder 5	ECE naming opportunities 10

Dr. Min Kao, of Garmin International, Inc., is naming four labs in the Phase IV building addition at the Kansas State University College of Engineering.

This latest gift is above and beyond the contributions that Dr. Kao has previously given in support of the K-State College of Engineering through sponsorship of electrical engineering, computer engineering and computer science scholarships, as well as improvements to the engineering facilities on campus.

Dr. Kao is a co-founder and the executive chairman of Garmin Ltd., with U.S. headquarters located in Olathe, Kansas.

“I am appreciative of state and university leaders who have shown their commitment to making Kansas State University a great institution of higher learning for future engineers,” said Dr. Kao. “The university’s bold Phase IV addition to the College of Engineering demonstrates its commitment to the future of engineering, and I am delighted to sponsor the creation of these four engineering labs.”

The Dr. Min H. Kao Intro to Computer Engineering Lab will be used by 140 students each semester. It will give electrical and computer engineering (ECE) freshmen their first exposure to computer engineering fundamentals such as digital architecture and processors, using projects that allow students to discover the technology that enabled the growth in mobile devices in our society.

The Dr. Min H. Kao Micro-processor Lab will be home to the Microcomputer Systems Design course. All computer engineering students will take this class in their senior year as a culminating design experience to work with microprocessors for embedded applications. Students in the lab have the opportunity to work on original project concepts in small teams.

The Dr. Min H. Kao ECE Computer Lab will be for all electrical and computer engineering students. Both undergraduate and graduate students will have access to 20 workstations with specialized software design tools used in many ECE classes. This lab also doubles as a project and study area for small groups.

The Dr. Min H. Kao Communication Circuits Lab will primarily serve seniors and graduate students in electrical engineering. Planned courses for this lab include Design



Kao

of Communications Circuits, Design of Microwave Circuits and Digital Radio Hardware Design. This lab also serves as a focal point for senior design experiences of ECE students in communications.

All four engineering labs will be available for around-the-clock use. The Phase IV addition to the College of Engineering and the creation of these four labs will help students succeed academically and help K-State further its strategic vision.

“When passion and purpose align with the

generosity of partners like Dr. Kao and Garmin, this advances Kansas State University toward its strategic vision to become a top 50 public research university by 2025,” said Kirk Schulz, president of K-State.

How you can help

To learn how you can invest in the people, places and programs of K-State engineering, please contact the development office at engineering@found.ksu.edu or 785-532-7609.



Evan Bennett, left, and Kevin Kleine demonstrate the vibration-monitoring project in the Microcomputer Systems Design Lab.

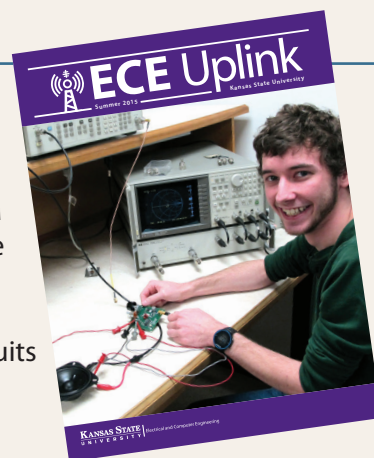
Electrical and Computer Engineering

Kansas State University
3108 Engineering Hall
Manhattan, KS 66506

Phone: 785-532-5600
Fax: 785-532-1188
ece@k-state.edu

On the cover

Garrett Peterson demonstrates the FM broadcast receiver he designed and built in ECE 662 — Design of Communication Circuits — in fall 2014.



Notice of Nondiscrimination
Kansas State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, ancestry, disability, genetic information, military status, or veteran status, in the University's programs and activities as required by applicable laws and regulations. The person designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: the Director of the Office of Institutional Equity, equity@k-state.edu, 103 Edwards Hall, Kansas State University, Manhattan, Kansas 66506-4801, (785) 532-6277. The campus ADA Coordinator is the Director of Employee Relations, charlott@k-state.edu, who may be reached at 103 Edwards Hall, Kansas State University, Manhattan, Kansas 66506-4801, (785) 532-6277.

ECE Honor Roll

July 1, 2014–June 30, 2015

INDIVIDUALS

\$100,000+

Mary Ruth Bedford
Jeanette Otto
John Tripp

\$50,000 - \$99,999

Merle and Helen Converse
Steve and Mary Jane Kirkwood

\$10,000 - \$49,000

Daniel and Judi Burk
Rich and Marilee Donaldson
Lou and Jenn Von Thaer

\$5,000 - \$9,999

Thomas and Rebecca Hopkins
Jane Ley

\$1,000 - \$4,999

Karl and Kristin Bennett
Lionel and Debra D'Luna
La Verne Englert
Leslie and Justin Gordon
Kay Hummels
Clay and Lynette Jones
Dorothy and Wellington Koepsel
Don Lenhert
Zach Maier
Dave Nall
Terry and Marian Parsons
Keith Pugh
Doug and Becky Reid
Randy Smischny
Mike and Lynn Wieggers
Pat Zrubek

\$500 - \$999

Leland Allen
Lisa Borgmann
Nathaniel Burt
John and Bonnie Devore
Ryan and Carly Dreiling
Steven Hill and Valerie Finkner-Hill
Scott and Laura Lauridsen
Donald Lindsay
Sam and Martha Logan
Gerald Miller
Jonathan and Margaret Olsen
Chris and Davie Reedy
Roger and Sherry Riggert
David and Paula Rome
Don and Martha Ross
Kirk and Kerri Scarbrough
Krishna and Usha Shekar
Tim Sobering
David and Dorothy Soldan
Gordon and Lynnette Thayer
Brick Verser

NEW GRADUATES

\$0 - \$500

Cody Best
Sayak Bose
Manoj Vijayarangan

NON-INDIVIDUAL GIFTS

\$1,000+

Earl F Baker Jr Estate
Hewson Family Trust

CORPORATIONS

\$1000+

AGCO Inc
Burns & McDonnell Foundation
Cadence Design Systems Inc
Chevron Phillips Chemical Company LP
ConocoPhillips

ExxonMobil Foundation
General Electric Company/GE Fund
Google Inc
Kansas City Power & Light Company
Kansas Electric Cooperatives Inc

NovaTech LLC
Omaha Public Power District
Phillips 66 Company
STMicroelectronics Inc
Texas Instruments Foundation

Interested in supporting the K-State electrical and computer engineering program? Learn more at www.found.ksu.edu/give/ece.



We sincerely thank you all for your generosity and support.

Student News

Student news

- Kan Chen received the Robert I-Jen and Sophia Shui-Kan Jung Graduate Scholarship in Engineering for Ph.D. students, awarded by the College of Engineering Office of Research and Graduate Programs.
- Valerie Binns, ECE, and Dillon Fairchild, BAE, both mentored by Punit Prakash, ECE asst. professor, received Undergraduate Cancer Research Awards from the Johnson Cancer Research Center.
- Neelou Hadavandifard received the Outstanding Academic Achievement Award for fall graduates.
- Evan Bennett, William Duren and Joshua Loyd received the Outstanding Academic Achievement Award for spring graduates — all 4.0 students.
- William Duren and Joshua Lloyd were awarded the Institute of Electrical and Electronics Engineers, or IEEE, Power and Energy Scholarship Plus Initiative Award for the 2014 - 2015 academic school year.
- Chang Liu was selected to present a poster titled "Average Achievable Throughput in D2D Underlay Cellular Networks" based on her joint work with her adviser Professor Bala Natarajan, at the Simons Conference on Networks and Stochastic Geometry, May 18 - 21, 2015. She also received a \$1200 travel award to participate in the conference.
- The Wildcat Wind Power Team has been selected to compete in the U.S. Department of Energy 2016 Collegiate Wind Competition.
- David Schall and Jacob Sobering were featured in the Manhattan Mercury on March 1, 2015, for their use of 3-D printing. To read the article in full, visit <http://themercury.com/articles/3-d-printing-turns-into-a-teaching-tool-for-area-students>
- Three ECE students were selected to serve on the Student Alumni Board: Ethan Stueve, Olathe, freshman, son of James and Janise Stueve; Andrew McKittrick, Prairie Village, freshman, son of Bev and Rich McKittrick; and Mark Ronning, Prairie Village, sophomore, son of Margy and Eric Ronning.



Open House

ECE department co-chairs

Rachael Kolb
Jacob Sobering

ECE Department Award

"Sword-Fighting Robots" by Jacob Sobering

Freshman/Sophomore Display

"Long-Board Lights" by James Lightner

Limited Class Display

3rd place — "Pip-Boy 3000" by Logan Whitmore

Knights of St. Patrick

Katlyn Aschenbrenner
Evan Bennett
William Duren
Brandon La Mar
Josh Loyd
Sean Meier
Derek Stuchlik

Other Open House projects recognized by ECE

Light Painting by Rachel Kolb
Balance Bot by Garrett Peterson
Proximity Sign by Jacob Sobering
Long-Board Lights by James Lightner



ECE GRADUATES

M.S. and Ph.D. graduates

December 2014

Nayef Saleh Aldobayan
Faleh Abdullah Alskran
Amy Elizabeth Bartak
Xiongjie Dong
Liran Jiao
Randy Johanning
Dingyi Li
Fatou Diop Mbengue
Robert Mulla
Tin Nguyen
Brian Nicholas
Louise Nutter
Saheed Abdul Oseni
Shuo Ouyang
Joshua R. Reid
Steven James Rubenthaler
Ian Sobering
Chenyu Zheng

Faryad Darabi Sahneh –
Scoglio (Ph.D.)
*Spreading Processes over
Multilayer and Interconnected
Networks*



May 2015

Ali Mofleh Alshogheathri
Charles W Carlson
Andrew D. Fund
Hassan Hayat
Tai-Wen Ko
Phillip Anthony Kuehl
Stephanie Schmidt
Eric Jan Swanger
Monica Teresa Taba
Chenchen Wang

Ola Ali Al-Ta'Ani – Das (Ph.D.)
*Quantum Circuit Synthesis Using
Solovay-Kitaev Approximation and
Optimization Techniques*

Chen Jia – Warren (Ph.D.)
*Higher Level Learning Research for
Linear System Class in Electrical
Engineering*

Mohammed Taj-Eldin – Kuhn,
Natarajan (Ph.D.)
*Wireless Body Area Networks for
IntraSpace Suit Communications:
Modeling, Measurements and
Wearable Antennas*

CONGRATULATIONS!

B.S. graduates

December 2014

Omar J.M.A. Alhouli, Manhattan
Braden Eric Anderson, Salina
Taylor Shyloh Barber, Indianapolis, IN
Hengzhao Bian, Zhengzhou, China
Adam Bradley Casada, Manhattan
Matthew Thomas Clark, Manhattan
Mark Arthur Coup, Manhattan
Tyler Joseph Dill, Overland Park
Ashton Lynn Draper, Norton
Travis L. Glenn, Wetmore
Neelow Hadavandifard, Tehran, Iran
Jeffrey Scott Hubbell, Spearville
Joseph Alexander Hund, Shawnee
Jace Michael Larson, Garden City
Kyle McGahee, Shawnee
Matthew Olson, Junction City
Cameron George Robles, Leawood
Kyle Dean Rogge, Olathe
Jacob D. Ryan, Lawrence
Jeses Eduardo Sanchez Holguin, Kansas City
Michael Edward Speirs, Manhattan
Andrew Ryan Staats, Garden City
Heath Allen Vincent, Norton
Te Xu, Nanchang, China

May 2015

Katlyn Marie Aschenbrenner, Topeka
Abdulkhaliq S. Alshaikhali, Saudia Arabia
Joshua Beau Befort, Arkansas City
Evan Butler Bennett, Garnett
David Alan Bosomworth, White City
David Wayne Cooper, Chanute
Chris Andrew Delpire, Nashville, TN
William Lee Duren, Arkansas City
Thomas G. Ehlmann, St. Charles, Mo
Andrew Robert Fangman, Ottawa
Ankush Gakhar, New Delhi, India
Hans D. Guthrie, Kansas City, MO
Christopher Andrew Hund, Wichita
Cody Wayne Kaufman, Wichita
Kevin Patrick Kleine, Prairie Village
Brandon William La Mar, Overland Park
Benjamin David Leuthold, Bern
Timothy Eric Lindsted, Sedgwick
Wenda Liu, Changchun, China
Joshua Shawn Loyd, Newcastle, Australia
Gregory Martin, Overland Park

Sean Logan Meier, Olathe
Garrett Sidney Peterson, Manhattan
Matthew P. Poteet, Westmoreland
James Patrick Remley, Concordia
Todd William Rider, Wichita
Anthony R. Ross, Independence, MO
Jacob D. Ryan, Lawrence
Timothy Vincent Sell, Topeka
Paul R. Shackelford, Lee's Summit, MO
Brian James Shea, Manhattan
Amanpreet Singh, Manhattan
Kyle Raymond Strande, Junction City
Derek Michael Sutchlik, Marion
Tyler Dean Vanover, Salina
Yi Wang, Shanghai, China



Mitch Snyder

named 2015 Alumni Fellow

Mitch Snyder, EE '83, executive vice president, military business, Bell Helicopter, is one of 12 accomplished K-State alumni selected as 2015 Alumni Fellows.

A member of Bell Helicopter's executive leadership team, Snyder was named executive vice president, military business, in April 2011. In his current role, he is responsible for providing strategic direction, overall management and performance for all government programs.

He also has served as vice president and program director for Bell Helicopter's V-22 program, where he was responsible for the company's commitments for the design, development, production and sustainment of the V-22. He also previously served as vice president, component operations and support, where he was responsible for leading the company's Fort Worth, Texas, manufacturing centers, which produce transmissions, advanced composite structures, rotor blades and subassemblies for both military and commercial aircraft.

Prior to joining Bell Helicopter in 2004, Snyder held several leadership positions during his 21 years with Lockheed Martin, in engineering, business development, manufacturing and the F-16 program office. He also has more than 11 years of international experience with customers in Europe, Asia and the Middle East, including management of aircraft co-production efforts to achieve direct offset credits.

In addition to his B.S. in EE, he has also completed the Defense Institute for Security Assistance Management executive course. He and his wife, Molly, live in Fort Worth. They have three children: Jeremy, Cory and Elle.



Snyder

Alumni news

- **Marcus Borhani**, '73 EE, '76 MSEE, has been named to the Academy of the Department of Electrical and Computer Engineering in the College of Engineering at Texas Tech.
- Electrical engineering alumni **Don Ludlum** recently passed away. He started and maintained one of the larger radiation detection instruments companies in the world, devices known for their ruggedness and reliability. For more on him, see ludlums.com/company/don-ludlum-founder as well as ludlums.com/images/stories/news_letters/Don%20Ludlum%20Story.pdf

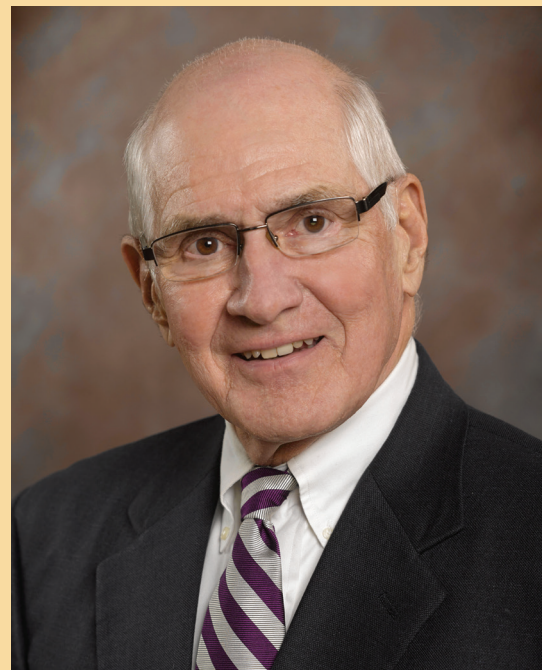
What have you been up to?

We would like to feature alumni news in future issues of ECE Uplink. Please send an email to alumninews@ece.ksu.edu with your latest news and accomplishments.

Awardees inducted at Seaton Society

Schroeder Hall of Fame inductee

Jim Schroeder, Leavenworth, Kansas, graduated from Kansas State University in 1963 with a degree in electrical engineering. Upon graduation, he joined Westinghouse Electric Corporation as a development engineer in the large power transformer division, later co-authoring the Great Western Manufacturing Company, Inc. in Leavenworth, the oldest continuous manufacturing company in the city. He retired in 2012, but remains with the company in an advisory position. Under his leadership, Great Western grew from a supplier of sifting equipment for the flour milling and cereal grain industry into one of the country's leading manufacturers of quality control sifting equipment for the food processing industry. A longtime member of the International Association of Operative Millers, he is the recipient of its Allied Trades Award. In 1996, he was named Alumni Fellow of the College of Engineering and has served on the College of Engineering Advisory Council. Active in community affairs, Schroeder has served on numerous local boards including the Country Club Bank & Trust Co. and as president of the Cushing Hospital Board. He has two children and six grandchildren. His son, David, and late wife, Linda, are also K-State graduates.



Schroeder

Hernandez and Taluja Professional Progress awardees

Gabriel Hernandez, Overland Park, Kansas, graduated from Kansas State University in 1995 with a degree in electrical engineering. He is a vice president in the transmission and distribution group at Burns & McDonnell, acting as its director of substation projects. Hernandez has more than 18 years of experience in the electrical transmission, distribution and substation industry in design, project management and business development. Hernandez will receive his EMBA from the University of Missouri - Kansas City in 2015 and is a current member of the department of electrical engineering advisory council at K-State.



Hernandez

Nick Taluja, Southlake, Texas, graduated from Kansas State University in 1994 with dual degrees in computer engineering and mathematics. He also holds an M.S. in electrical engineering from Kansas State. Taluja is currently vice president of sales for SK Hynix, a global leader in semiconductor memory solutions, managing a team responsible for generating more than \$3.5 billion in annual sales in the Americas. He has been with SK Hynix since mid-2013 prior to which he was vice president and general manager for the Americas for ST-Ericsson. Taluja holds three patents in the field of near-field communications for radio interference, security and power management used in mobile devices, and credit cards for payment applications. For the past 18 years, he has held various positions ranging from sales, business development, product management and general management with Texas Instruments, TranSwitch and ST-Ericsson in Dallas-Fort Worth, Boston, San Diego, San Francisco and Nice, France.



Taluja

Soldan retires

The College of Engineering recognizes Professor David L. Soldan for 29 years of dedicated service at Kansas State University in the areas of electrical engineering and computer engineering. He was the head of electrical and computer engineering from 1989 to 2004. Soldan received a BSEE in 1969, MSEE in 1976, and Ph.D in engineering in 1980, all from Kansas State University.

Soldan has been a truly outstanding educator and one of the key leaders of both undergraduate programs in electrical and computer engineering. Areas of his excellent contributions have been in teaching, leadership in undergraduate program development, and development and supervision of assessment practices in the department. As department head, he helped lead the effort to develop the computer engineering curriculum in the late 1980s. Soldan has consistently taught the introductory course in computer engineering, of late with approximately 300 students each year. Soldan receives top student evaluations for both this course and the second course in digital design he teaches to juniors in computer engineering. Soldan also chaired the IEEE Computer Society Taskforce that developed the first computer engineering model program. In addition to curriculum development, he has been an expert on best practices in assessment for both departmental programs and programs throughout the College of Engineering. His vast experience in multiple positions with ABET has made him invaluable to ECE programs in terms of best practices for accreditation. Soldan has also played an active role in new initiatives in educational programs, including spearheading successful grants from the National Science Foundation to introduce the practice of learning communities for all of ECE students, as well as finding efficient and supportive pathways for military veterans to obtain a degree in electrical or computer engineering.



Soldan

Soldan's accomplishments and leadership both at K-State as well as in professional engineering organizations are distinctive. He is a Life Fellow of IEEE, a former president of ECEDHA, a previous member of the ABET Engineering Accreditation Commission Executive Committee, chair of the IEEE Committee on Engineering Accreditation Activities and a member of the Board of Governors for Eta Kappa Nu. Soldan has been widely recognized with multiple awards, including the ECEDHA Outstanding Leadership and Service Award, the ASEE ECE Meritorious Service Award, the IEEE Education Society Distinguished Member Award and the Snell Distinguished Career Award for Excellence in Undergraduate Teaching in the College of Engineering.

Know a potential electrical and computer engineering student? Send his or her contact information to us at undergraduate@ece.ksu.edu. Please include the student's first and last name, home address, phone number and name of high school.

Keep up to date throughout the year on ECE happenings through —
Facebook > www.facebook.com/KSUECE
Twitter > www.twitter/KSUECE

ECE UPLink Blog
<http://blogs.k-state.edu/ece/>

You are cordially invited to the **ECE Annual Banquet**
Friday, Sept. 25, 2015 • K-State Alumni Center
For more details or to RSVP, send e-mail to rsvp@ece.ksu.edu

Faculty spotlight



Mirafzal

■ **Behrooz Mirafzal**, ECE, has been promoted to associate professor.



Natarajan

■ **Bala Natarajan**, ECE, presented an invited lecture on the Internet and the power grid at the Queensland Chapter of the IEEE Power and Energy Society in Australia. He also presented an invited workshop at the 2015 Research Week at Gujarat Technological University in India, as well as a lecture for graduate students at the A.D. Patel Institute of Technology in India.



Pahwa

■ **Anil Pahwa**, ECE, has been recognized by Distributech for 25 years of dedicated service as a founding member of its advisory committee.



Thompson

■ **David Thompson**, ECE, was honored at the recent All-University Awards Celebration with the K-State Mentoring Fellowship.

■ **Sergio Curto**, ECE postdoctoral research associate, received a Young Investigator Award from the Society for Thermal Medicine for his work on a wearable microwave hyperthermia system.

■ **Stephen Dyer**, ECE, has been ratified as vice president-publications for the IEEE Systems Council, whose membership includes 11 IEEE technical societies.

■ **Caterina Scoglio**, ECE, was an invited speaker at the School of Science and Engineering of Tulane University in April.



Burg

ECE WELCOMES PROFESSOR TIM BURG

Timothy Burg has extensive experience in industrial applications of robotics and nonlinear control design techniques, and the academic investigation of the basis and future directions of these techniques. He moved to Kansas State University in August 2014, having formerly been on the faculty at Clemson University.

See the latest construction update on the Phase IV building at engg.ksu.edu/phaseiv



Bachura

ECE awardee announced

Yvonne Bachura, received the 2014 College of Engineering University Support Staff Employee of the Year Award for her outstanding performance for and dedication to the department of electrical and computer engineering.

COLLABORATIVE RESEARCH HIGHLIGHT EBOLA, ZOOONOTIC DISEASE RESEARCH FOCUS

While simple networks have been thoroughly studied, few results exist for interconnected networks, which abound in nature and in man-made infrastructures. Interconnected networks are an abstract representation where two or more simple networks, possibly with different and separate dynamics, are coupled to each other. As part of Professor Caterina Scoglio's research with interconnected networks, she utilizes services provide by other K-State centers and units, as well as external groups.



Scoglio

One of the main research areas of the Network Science and Engineering, or NetSE, group in the electrical and computer department, is the study of fundamental theoretical properties of interconnected networks and their multiple applications. The NetSE group has well-established collaborations with interdisciplinary units and resources at K-State such as the Institute of Computational Comparative Medicine, Nanotechnology Innovation Center and Excellence for Emerg-

ing and Zoonotic Animal Diseases, and with international partners at TU Delft-the Netherlands and University of Girona-Spain. Other core faculty in the NetSE group include Don Gruenbacher, ECE department head and Faryad Darabi Sahneh, research assistant professor in the ECE department.

Less than a year ago in July 2014, Scoglio and Sahneh received an award of \$499,542 from the National Science Foundation for a Communication and Information Foundations, or CIF, project, "CIF: Small: Spreading Processes over Multilayer and Intercon-

ected Networks." The goal of this project advances the boundaries of network theory by analyzing spreading processes over multilayer and interconnected networks, about which many interesting questions remain unanswered.

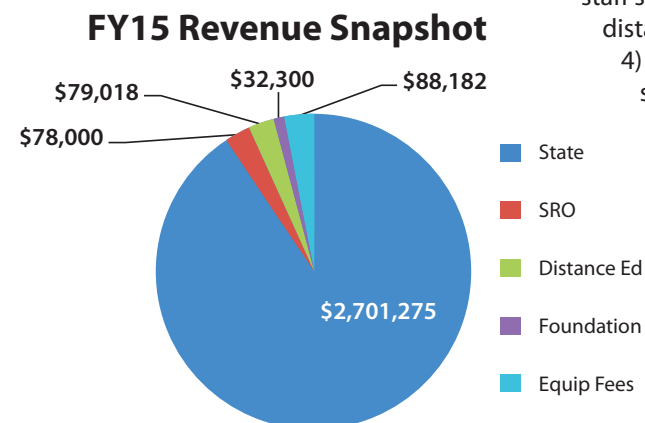
Within a few months, Scoglio and Sahneh received an NSF Rapid Response Research, or RAPID award of \$137,209, for "RAPID: Effectiveness of contact tracing for detection of Ebola risk during early introduction of the virus within the USA." The NetSE group research closely coincided with the NSF call requesting non-medical, non-clinical Ebola studies. As the name implies, NSF uses the RAPID program to fund projects that are of severe urgency as with the outbreak of the Ebola virus. The goal of the project is to evaluate risk-detection capabilities of contact tracing efforts for Ebola before the epidemic phase, and estimating the associated cost in potential scenarios.

Another application field where interconnected networks are powerful tools is modeling of zoonotic diseases. In this field, not only is the NetSE group continuing its modeling efforts of Rift Valley fever transmission for the DHS Center of Excellence for Emerging and Zoonotic Animal Diseases, but Scoglio and her team have also been awarded \$151,048 for the project, "Modeling Japanese Encephalitis in U.S using Interconnected Networks." This project is in conjunction with collaborators at USDA-ABADRU and supported by the U.S. Department of Agriculture, Agriculture Research Service. Japanese encephalitis (JE) is an infectious disease caused by a virus transmitted by mosquitoes. Domestic and feral pigs, some species of birds and humans are all involved in the transmission cycle of this very serious zoonosis. The adoption of an interconnected network approach to modeling JE allows the study of one portion of the system, taking into account the influence of other interconnected components, thus reducing the complexity of the model and the number of parameters considered at each step.

To see more about Scoglio's research, view her website at ece.k-state.edu/people/faculty/scoglio.html.

Funding Fundamentals

At a recent ECE advisory council meeting, it became apparent that most alumni did not understand the funding allocation for the ECE department. The chart at left illustrates a one-year snapshot of resources the department received in the past fiscal year. The vast majority of the budget is set by faculty and staff salaries, most of which are covered by funding from the state. We currently have approximately \$70K in additional faculty and staff salaries not covered by state funds. Other primary sources of funding are 1) distance education, 2) research overhead (SRO), 3) student equipment fees, and 4) gifts from alumni and corporations (Foundation). These sources are used to support the cost of running our academic enterprise including 1) student teams and organizations; 2) undergraduate mentors, graders and laboratory assistants; 3) support for new faculty; 4) equipment and technology for laboratories and offices; 5) professional development and travel for faculty and students; and 6) general operating expenses such as phones, paper and supplies. Besides student equipment fees, the revenue stream into ECE does not change with enrollment.



As can be seen, there is little to no flexibility in the annual budget. As we try to increase recruitment and retention activities in the department, support of alumni and friends truly makes a huge difference. The department is most grateful for having such a dedicated alumni base.

NAMING OPPORTUNITIES FOR PHASE IV

Over the last decade, K-State's engineering programs have experienced tremendous growth. To better accommodate this growth and prepare students for the future, we are constructing the final phase of the Durland/Rathbone/Fiedler complex — an additional 108,000 square feet of space. This urgent fundraising priority will keep us moving forward with world-class facilities that give our students a place to learn, our researchers a place to develop cutting-edge breakthroughs and our industry partners an innovative environment in which to flourish. We invite your investment to not only help complete a structure, but to help create opportunity, innovation and, most importantly, tomorrow's global leaders.

The following list highlights the generosity and dedication of donors who have contributed to the Phase IV project of the College of Engineering:

- Bartak Family Assistant Dean of Recruitment Office
- Sidney M. Bedford Jr. Aerospace Electronics Research Laboratory
- Coen Family Collaboration Teaming Room
- James Michael Duncan, MD Meeting Room
- Exxon Mobil Computer Lab – invested by K-State Engineering alumni
- Donald Gemaehlich ECE Advisors Office
- Gabriel Hernandez Teaming Room
- Carl and Mary Ice Reception Center
- Min H. Kao Computer Engineering Lab
- Min H. Kao Communications Circuit Lab
- Min H. Kao ECE Computer Lab

- Min H. Kao Microprocessor Lab
- Thayne and Leona Kraus Teaming Room I and II
- Hummels Lenhart Innovation Lab
- Alan and Jan Levin Student Design Team Suite
- Edmond R. and Janice D. Murray Family Interactive Gallery
- Thomas and Connie Paulson Conference Room
- Cathy and Tom Ritter Collaborative Teaming Room
- Jesse and Sabrina Schriener Electrical and Computer Engineering Department Head Office
- G. Rhea and Pat Serpan Teaming Room
- Doug and Connie Sterbenz Collaboration Teaming Room
- James P. and Deborah A. Stonehocker Distance Learning Control Center
- The Sunderland Foundation Electrical and Computer Engineering Reception Area
- Leland O. and Duane O. Townley Graduate Research Area
- Ed and Eunice Wambsganss Collaboration Teaming Room
- John H. and Jill Weidman Wireless Communications Research Lab
- Jerry and Robin Westhoff Collaboration Teaming Room

Contact the engineering development team at engineering@found.ksu.edu or call 785-532-7609 to learn more about the naming opportunities in Phase IV.

Visit engg.ksu.edu/phaseiv