

DEPARTMENT OF

UNIVERSITY OF FLORIDA

Electrical & Computer Engineering

SPRING 2014



SEE PAGE 4

**NEW HEIGHTS
FOR CLOUD
COMPUTING**

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FLORIDA

Electrical & Computer Engineering



UTILIZING THE CLOUD:

Read about ongoing projects using cloud computing, virtualization, and data management in the Advanced Computing and Information Systems (ACIS) laboratory in the Department of Electrical and Computer Engineering.



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CONNECT to the ECE Florida Group, a networking group for students (past, present and future), faculty, supporters and friends of the Department of Electrical and Computer Engineering at UF. Have something to say? Join LinkedIn to participate in the conversation. When you join, you can comment and post your own discussions. Access via the ECE website: www.ece.ufl.edu

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Message from the Department Chair



This issue of the ECE newsletter highlights our efforts in cloud computing. According to an informal survey, we are among the top 5 university programs in the country in this area. I would like to mention three other important initiatives that are ongoing at ECE Florida:

Firstly, we have started a major effort to leverage the web and social media to publicize department news and keep in better touch with alumni and employers. We created a new LinkedIn site called “ECE Florida” for department alumni, students, faculty, staff and friends. Please join the group and let us know what you are doing with your career. If you have trouble finding the group, you can reach it by clicking on the LinkedIn icon at the top right of our new department homepage.

Secondly, this spring our faculty has approved a major revision in our undergraduate EE curriculum. After much discussion with faculty, students, alumni, and employers, we decided to add more flexibility for the students to craft course sequences that better fit their interests and career plans. The field of electrical engineering has grown so broad that it no longer makes sense to require as many courses as we once did. With the added flexibility, the students are required to have breadth within electrical engineering and more depth—in two different areas—than was previously required. We have also added a biology track where students can take courses in bioelectrical systems and neural engineering. Another positive outcome of the change is that students generally do better in courses that they want to take instead of courses they are forced to take.

Finally, as I write this, we are in the midst of filling five new ECE faculty lines due to the university’s pre-eminence initiative. These hires are a part of a strategic investment from the Florida Legislature to boost UF to the top 10 public universities in the nation. The positions are in the following areas: big data, cybersecurity, neuroengineering, power systems and power electronics. These areas match fairly well the areas of growth that were targeted in our department strategic plan last fall.

I continue to be thrilled by the enthusiasm of the ECE faculty, students, and staff. This is a great time for ECE Florida!

Best Regards,
John Harris
Professor and Chair

Cloud Computing and Beyond-ACIS in ECE

The fundamental concept of cloud computing originated in the 1950s when corporations and learning institutes prioritized the efficiency of their large-scale mainframe computers, allowing multiple users both physical access to the computer from multiple terminals as well as shared central processing unit time. The present availability of high-capacity networks and low-cost computers, together with the widespread adoption of virtualization and service-oriented architecture, have led to today's version of cloud computing and a model that is constantly evolving (*TechTarget*, 2012). This type of evolution is taking place at the Advanced Computing and Information Systems (ACIS) laboratory in the Electrical and Computer Engineering Department at the University of Florida.

The Vision of the ACIS Lab

Founded in 2001, ACIS has had a vision for cutting-edge computer and software systems where information, scientific computation and massive data are efficiently integrated to solve important scientific and societal

problems. Since this foundation, the research done by the ACIS lab has resulted in, among other contributions, techniques and systems for cloud computing, virtual computing and networking, peer-to-peer computing, digital government, bioinformatics, computational electronics and materials science, simulation of computer architectures, coastal and ocean modeling, eHealth and brain-machine interfaces.

The ACIS Mission is to conduct research and create systems that fall under the following categories:

- Cloud Computing using virtualization technologies for computing platforms, file systems, applications as services, networks and I/O systems
- Cyberinfrastructure for e-science and e-health for research on brain-machine interfaces, coastal and ocean modeling, genetics and atomic-scale friction
- Autonomic Computing as relevant to virtualized data centers, real-time systems, virtual networking and other topics pursued by the Center for Cloud and Autonomic Computing
- Computer Architecture including architectural support for virtualization, reliable computing and green computing and peer-to-peer Computing and Software Defined Networking
- Including self-organizing virtual networks, and structured and unstructured query systems.



The ACIS lab is equipped with state-of-the-art computing, storage and networking facilities.

ACIS Faculty

José Fortes, Professor and AT&T Eminent Scholar holding joint appointments in the Department of Electrical Engineering and the Department of Computer and Information Science and Engineering, is the founding director of the ACIS lab. Together with Professor Renato Figueiredo, they have developed and established extensive software and hardware infrastructure to support ACIS lab activities. Currently, the ACIS lab faculty also includes Assistant Research Professors Andrea Mat-

sunaga, Mauricio Tsugawa and Youna Jung as well as approximately twenty students and visiting researchers. Other associated faculty members include Professors Tao Li and Andy Li, who are also the directors of the IDEAL laboratory and the Scalable Software Systems Laboratory, respectively. The ACIS lab staff includes four IT systems experts and one administrative assistant. To see full faculty biographies and contact information, visit the ACIS website at <https://www.acis.ufl.edu/people>



Faculty, staff, and students of the ACIS lab.

Cloud Collaborations at ACIS

Since its inception in 2001, the ACIS lab has pioneered research and development on the technologies and systems underpinning Infrastructure-as-a-Service clouds – where computing, network, and storage resources are virtualized and provisioned on-demand and elastically. Leading research on fundamental computer systems techniques, grounded on the development of leading-edge systems with thousands of users, has positioned the ACIS lab to collaborate on multi-institution, inter-disci-

plinary cloud computing projects that impact both computer systems and their applications. These synergistic collaborations enable domain scientists to solve problems with leading-edge cloud computing techniques and expose researchers and students to real problems faced by users, which motivate and drive new approaches.

(See pages 6-7 for a description of a few of these collaborations).

ACIS Led Research Projects

In core computer science and engineering research and development, ACIS has trail blazed the use of virtualization technologies in distributed computing “Grids” with the In-VIGO (In Virtual Grid Organizations) project in 2002, and with the ViNe and IPOP virtual networks since 2005. Software-defined overlay virtual networks address a fundamental need of distributed cloud applications – to communicate securely, seamlessly, and efficiently between trusted devices.

IPOP

The IPOP (IP-over-P2P) open-source project led by ACIS has created novel architectures of virtual private networks (VPNs) combining virtualization techniques, self-management, and Online Social Networks (OSNs). The research has made significant contributions in peer-to-peer routing overlays for virtual networks. IPOP provides a foundation for the SocialVPN, a virtual private network connecting users to their friends securely, and which has been used by thousands world-wide since 2008. More information about the project and the software at: <http://ipop-project.org>

ViNe

The ViNe (Virtual Network) project implements communication and network management mechanisms to establish software-defined wide-area IP overlays. ViNe has two main components: the ViNe Infrastructure (consisting of ViNe routers or VRs, with a focus on the establishment of overlay network connectivity with built-in network infrastructure-independent firewall traversal and fast transport of overlay packets) and the ViNe Management (consisting of an overlay management system that is responsible for the operation and reconfiguration of VRs). Both components provide application programming interfaces (APIs) that enable self-management of virtual networks. They also provide software defined IP overlays (e.g., changes in overlay topology can be initiated by end users, cloud middleware, and/or application software by invoking ViNe management APIs). More information about ViNe can be found at <http://vine.acis.ufl.edu>.

FutureGrid

Experimental research on cloud systems requires leading-edge, geographically distributed cyber-infrastructures – computing facilities that support deployment and instrumentation of large-scale virtual computing systems connected over high-performance networks. ACIS hosts one of the distributed clusters of FutureGrid, a test bed that is part of the National Science Foundation (NSF) high-performance cyberinfrastructure for experimental research on next-generation Grid/cloud middleware. FutureGrid enables US scientists to develop and test new approaches to parallel, grid, and cloud computing, and compare and collaborate with international efforts. In addition to hosting a computing cluster, ACIS provides overlay virtual networking software (ViNe, IPOP) made available to FutureGrid users. More information about the project can be found at <http://portal.futuregrid.org>.

iDigBio



The US National Science Foundation (NSF) and the UF Florida Museum of Natural History (FLMNH)

envisioned enabling Internet access to images and records of the one billion specimens in all biological collections housed in academic museums in the USA. ACIS and FLMNH researchers created the Integrated Digitized Biocollections (iDigBio) project, now in its third year and already providing access to digitized information and media about more than eleven million specimens, is part of a national 10-year effort to digitize and mobilize the scientific information associated with vouchered specimens held in U.S. neontological and paleontological research collections. iDigBio is building and deploying a cloud computing environment customized to support the digitization workflow and integration of data related to the one billion specimens collected and curated over the last couple hundreds of years. The developing cloud computing environment is flexible to meet the needs of

the community by using machine virtualization and is horizontally scalable to meet future demands to data by using NoSQL technology. It is agile in taking advantage of and integrating proven open-source technologies, resilient to certain types of failures, and based on standards that enable interoperability and reuse of tools, libraries, and services. More information about the project, its cyberinfrastructure, and a biodiversity specimen portal can be found at: <http://idigbio.org>.

ARCHER

ACIS has also led the Archer project, a multi-institution distributed cyberinfrastructure for the computer architecture community. Simulations are essential to computer architecture research. To thoroughly evaluate a new computer architecture idea, researchers and students need access to high-performance computers, simulation tools, benchmarks, and datasets, which are not often readily available to many in the community. Archer facilitates sharing of hardware, software, tools, data, documentation, and educational material by bringing together virtual machines and networks to form virtual private clusters using a “Grid appliance” that packages all the software needed to schedule and run architecture simulation jobs conveniently through the

HTCondor batch job scheduler. More information about the project and the software at: <http://archer-project.org>

PRAGMA

ACIS research on cloud computing and its applications has crossed international borders through funded collaborations with partners in various countries. The Pacific Rim Application and Grid Middleware Assembly (PRAGMA) brings together individuals and institutions from around the Pacific Rim that actively collaborate with and enable research groups to solve their problems with information technology – in particular, cloud computing technologies based on virtual machines and virtual networks. PRAGMA focuses on collaborative, multidisciplinary teams that address scientific questions of high impact through scientific “expeditions.” PRAGMA expeditions currently focus on understanding adaption in extreme environments, predicting impact of eutrophication on lake ecosystem services, and addressing infectious disease through computer aided drug discovery. More information about the project at: <http://www.pragma-grid.net/>

To learn more about other ACIS projects, visit the website:
<https://www.acis.ufl.edu/research>



The ACIS Lab leads PRAGMA efforts on information technology and development of Software-Defined Networks (SDN), with the ViNe and IPOP software providing mechanisms allowing users to establish “trust envelopes” for collaboration among multiple sites and for experiments with IPv6 .

FACULTY NEWS



PROFESSOR MARK LAW was honored by the Semiconductor Industry Association (SIA) with the 2013 University Researcher Award for his exceptional contributions to semiconductor research. Mark was selected for his work in advancing research in integrated circuit devices and reliability. He and his group developed FLOOPS and FLOODS, the Florida Object Oriented Process and Device Simulators, which previously won the Semiconductor Research Corporation (SRC) Technical Excellence Award.



PROFESSOR ANDY LI and his CAC lab students received the best paper award for “Mammoth: Autonomic Data Processing Framework for Scientific State-Transition Applications” by Xin Yang, Ze Yu, Min Li, and Xiaolin Li at the ACM Cloud and Autonomic Computing Conference (CAC 2013).



PROFESSOR JIAN LI was selected for the 2013 best paper award by the IEEE Signal Processing Society. Her paper was published in the IEEE Transactions on Signal Processing and was co-authored with Amir Beck and Petre Stoica. The exact citation is: “Exact and Approximate Solutions of Source Localization Problems” IEEE Transactions on Signal Processing, Volume: 56, No. 5, May 2008



DR. MICHAEL FANG delivered a keynote speech on August 9, 2013, at the 8th International Conference on Wireless Algorithms, Systems, and Applications (WASA'2013), 7-10 August, 2013, Zhangjiajie, China (http://wasa2013.org/keynote_speaker.htm). WASA is an international conference on algorithms, systems, and applications of wireless networks. It is motivated by the recent advances in cutting-edge electronic and computer technologies that

have paved the way for the proliferation of ubiquitous infrastructure and infrastructureless wireless networks.



DISTINGUISHED EMERITUS PROFESSOR JERRY FOSSUM has published the new textbook, Fundamentals of Ultra-Thin-Body MOSFETs and FinFETs. The book covers the basic physics of the two primary device candidates for future mainstream nanoscale CMOS (i.e., the planar FD/SOI MOSFET and the quasi-planar FinFET), including short-channel effects, quantum-mechanical effects, UTB-CMOS performances, and memory applications of UTB devices. Professor Fossum is an IEEE Fellow; His co-author and former student, Vishal P. Trivedi, is a Senior Member of the IEEE.



PROFESSOR DAPENG “OLIVER” WU was invited to serve as a Member of the Steering Committee of the IEEE Wireless Communications Letters, representing the IEEE Signal Processing Society, for a term from January 1, 2014 to December 31, 2017, and as a Member of the IEEE Signal Processing Society Publications Board, 2014-- 2017.



PROFESSOR HANIPH A. LATCHMAN and his former Ph.D. Student Dr. Srinivas Katar along with two other colleagues from the HomePlug Powerline Alliance have published the book *HomePlug AV and IEEE 1901 – A Handbook for PLC Designers and Users*. This book provides the definitive publication of the current state on the art in the field of broadband Powerline Communications (PLC). The work represents the culmination of more than a decade of collaborative work between the Laboratory for Information Systems and Telecommunications (LIST), in the ECE Department of the University of Florida and Intellon Corporation (now known as Qualcomm-Atheros) in Ocala, Florida. HomePlug AV is the leading specification for high speed PLC Communications operating up to 1.5 Gbps and became the major contribution to the recently released IEEE 1901 Broadband PLC Communication Standard.



PROFESSOR JOHN SHEA received the Ellersick Award from the IEEE Communications Society for the best paper at the 2013 Military Communications Conference (MILCOM) in San Diego. The award is for the paper “Graph Matching-

Based Topology Reconfiguration Algorithm for Systems of Networked Autonomous Vehicles.” The paper is authored by ECE postdoc Dr. Leenapat Navaravong, Prof. Shea, Dr. Eduardo Pasiliao, Jr. of the Air Force Research Laboratory, and Prof. Warren Dixon. Professor Shea also received the MILCOM Technical Achievement Award for 2012 for “outstanding, sustained technical contributions to military communications”. The award was presented at the 2013 conference since MILCOM 2012 was canceled because of impacts from Hurricane Sandy.



Professor Eric Schwartz welcomed UF President Bernie Machen to the Machine Intelligence Laboratory to view the two autonomous robot vehicles: the PropaGator and the SubjuGator. The PropaGator, UF's autonomous boat, won the 2013 AUVSI Foundation and ONR's 6th International RoboBoat Competition in July, 2013. The SubjuGator, UF's autonomous underwater vehicle (i.e., submarine), came in second place in both the 2013 AUVSI Foundation and ONR's 16th International RoboSub Competition. For more details, visit the lab at <http://www.mil.ufl.edu>

Photo Source: Kirsti Camara, Alligator Staff

CHREC Awarded \$2M for Exascale Supercomputing Research

Computers are at the forefront of technologies serving the needs of society, in health, science, commerce, defense, entertainment, and more. In many of these areas, demands for computing are insatiable, with increasingly challenging problems requiring increasingly powerful machines, the pinnacle today being Petascale supercomputers completing quadrillions of complex operations per second. In the coming decade, the next leap forward in supercomputing will be Exascale, a thousand-fold faster than Petascale, but unprecedented difficulties lie ahead with research on new architectures, networks, systems, applications, tools, and services to reach this scale in a reliable and energy-efficient manner. ECE professors Alan George, Herman Lam, and Greg Stitt and their students in the NSF Center for High-Performance Reconfigurable Computing (CHREC, pronounced “shreck”) have developed a new approach for the study of next-generation supercomputers and applications up to Exascale, featuring behavioral emulation on reconfigurable processors, which beginning on October 1 will be funded with \$2M from the US Department of



Back Row: ECE Professors Herman Lam, Alan George and Greg Stitt. Front Row: CHREC students.

Energy. This research will support co-design and predictive science in the Center for Compressible Multiphase Turbulence and will leverage Novo-G, the world's most powerful reconfigurable computer, which was developed by CHREC over the past several years.

NEW FACES



SANJEEV KOPPAL, ASSISTANT PROFESSOR

Sanjeev Koppal joins UF from Texas Instruments where he was a researcher at the Imaging R&D lab. Sanjeev obtained his Masters and Ph.D. degrees from the Robotics Institute at Carnegie Mellon

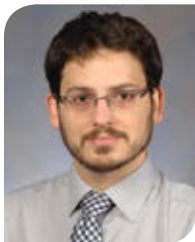
University, where his adviser was Prof. Srinivasa Narasimhan. After CMU, he was a post-doctoral research associate in the School of Engineering and Applied Sciences at Harvard University, with Prof. Todd Zickler. He received his B.S. degree from the University of Southern California in 2003. His interests span computer vision, computational photography and optics and include novel cameras and sensors, 3D reconstruction, physics-based vision and active illumination.



LISA JOHNSON, ECE PAYROLL & PERSONNEL OFFICE

Lisa comes to ECE from the UF Human Resources Services where she worked in areas such as Office of the Vice President, Employment, Equal Employment Opportunity

Compliance (Institutional Equity & Diversity) and the Benefits Administration. Lisa has a degree in Psychology. Lisa's philosophy is one of "dedication, commitment and hard work." She believes that having a vision is essential to completing personal goals along with teamwork, honesty, and helping others. Lisa is "excited to be a part of the ECE team!"



JAYE MADDEN, SR. FISCAL ASSISTANT

Jaye works in the ECE fiscal office handling expenses for the department. Jaye comes to the department as a UF alumnus with a degree in mathematics. Previously, he worked as a contractor on a US consulate in Kurdistan. Jaye

is "excited to be working in ECE."



PATTI MOORE, TRAVEL OFFICE

Patti Moore recently joined the College of Engineering as the supervisor of the electrical and computer engineering travel office. A native of Michigan, Patti held positions in the fiscal and

administrative support field prior to coming to the University of Florida in March 2004. Before joining the College of Engineering, she was a fiscal assistant in the College of Pharmacy with responsibilities for processing travel requests and reimbursements, P-Card reconciliations, processing invoices, and reconciling grant accounts. Patti earned an AS degree in Business Administration and Management and received both the Certified Administrative Professional (CAP) and Certified Professional Secretary (CPS) from the International Association of Administrative Professions.



NICOLE YOUNG, UNDERGRADUATE ADVISER

Nicole joined ECE in October 2013. Nicole's academic advising career began with the UF College of Agriculture and Life Sciences in 2005. Nicole began her career at the

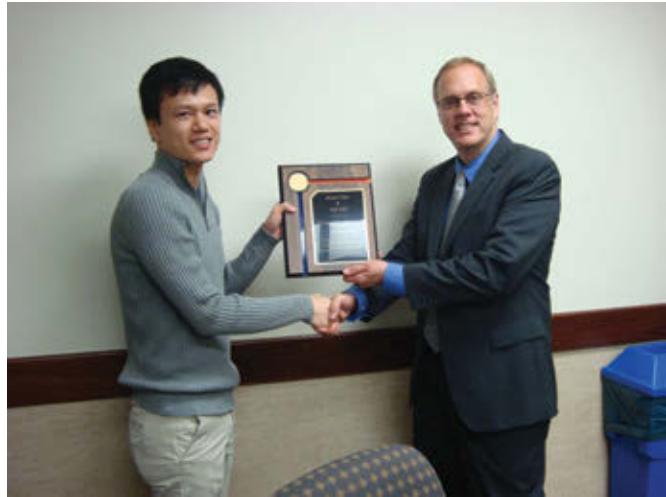
University of Florida working in Student Financial Aid in 1999 as a coordinator in verification department. In 2000, Nicole worked as an international admissions officer. Nicole hails from the Garden State, but considers herself a southerner more than a northerner since she attended college at East Carolina University where she earned a Bachelor of Science in Political Sciences. Nicole is "excited about the new challenges of working with the undergraduate students of the ECE department."

ECE warmly welcomes its new faculty and staff members.

STUDENT NEWS

CONGRATULATIONS TO MARC FELDMAN AND YONG XIUWANG, the Fall 2013 Electric-E Award recipients. The Electric-E Award is the most prestigious award granted by the department. To receive this award, an undergraduate

student must have a minimum undergraduate upper division grade point average of 3.90 as well as a 3.90 or higher grade point average in all undergraduate electrical engineering courses.



Department Chair John Harris presents Marc Feldman (left) and Yong Xiu Wang (right) with the Electric-E plaque

DANIEL FRANK, an ECE student working with the PropaGator (robot boat) and CongreGators (swarm of ground and air robots) teams for the Machine Intelligence Lab visited a sick child at Shands Hospital. Dan brought one of the MIL robot ground vehicles, a dune buggy, to brighten the child's day. After Dan's

visit, he said, "The Shands visit went really well. He loved the dune buggy. He asked questions about it for about an hour. Then he left his room (which was a huge deal for him) and went around the floor showing off the car to the staff and other patients."

Audio Engineering Society Records Holiday Album

As a way for both engineering and non-engineering majors to gain hands-on recording experience, the Audio Engineering Society recorded a holiday album for charity. You can purchase the album for \$5 at <http://agatorholiday.bandcamp.com/> where all net proceeds are donated to the VH1 Save the Music Foundation.

The Audio Engineering Society is the only professional society devoted exclusively to audio technology. Founded in the United States in 1948, the AES has grown to become an international organization that unites audio engineers, creative artists, scientists and students worldwide by promoting advances in audio and disseminating

new knowledge and research. The AES also serves the educational needs of its members and the audio industry at large through international technical meetings, equipment exhibitions, and a wide range of publications. Conventions, which include scientific presentations, student activities, workshops, and exhibitions, are held annually both in the US and Europe. Additional conferences and regional summits are held periodically throughout Latin America, Asia, Europe, and North America. You can find out more information about the society at: <http://www.ufaes.ece.ufl.edu>.

ECE Grad Amir Rubin, Chief Parakeet

Amir Rubin is the CEO of Paracosm, but he would much rather be called “chief parakeet” or “parakeet cosmonaut,” a title he shares with his team of computer engineers, programmers and 3-D artists. The startup’s large stuffed space parakeet mascot sits on a couch downstairs in the unmarked two-story office downtown.

Paracosm may have a whimsical company culture, but the startup has experienced serious success and growth since Rubin, 32, co-founded it in January. The business has grown from five employees to 15 full-time staffers in Gainesville, with three who work remotely in Silicon Valley, Calif.



Photo: Erica Brough / Gainesville Sun Staff Photographer

The startup has contracts with NASA and ESRI, an international supplier of geodatabase software and other software. But the startup’s biggest contract is with Google, Rubin said. He called these companies “early business and development partners,” as the technology is still in its infancy.

Paracosm processes data from 3-D scanners, such as the PrimeSense camera and Xbox Kinect, to create 3-D models that can be viewed on next-generation technology devices ranging from mobile phones to augmented reality glasses.

Jim Lilkendey, the owner of Apogee Coaching, who worked with Rubin at Prioria Robotics, said Paracosm is

working with leading-edge technologies.

Originally from Boca Raton, Rubin has made an impact on the local tech community since he graduated from the University of Florida.

“(Rubin) is passionate about effective innovation,” said Bill Dorman, entrepreneur in residence at the Santa Fe College Center for Innovation and Economic Development. He met Rubin at an event for startups.

In 2003, during Rubin’s senior year at UF, he co-founded Prioria Robotics, an unmanned aircraft engineering company. He left the business in 2009.

Rubin was also the first employee of Gainesville’s Shadow Health, an educational software developer.

“There’s no typical day in a startup,” Rubin said of his current position. “It could be traveling to San Francisco or writing a proposal or meeting a potential development partner.”

Paracosm recently won the Gainesville Area Innovation Network’s third “ShootOut,” with 16 local startups competing for \$2,500 cash, \$2,000 in legal services, money for other items and services, prizes, and a “rare Stetson hat.”

Though the money was “an awesome bonus,” Rubin said he entered for the black Stetson hat, which he placed on the stuffed space parakeet’s head.

Regarding his future plans, Rubin said, “We’re on year one of a 10-year roadmap. So we’re just (going to) keep trucking.”

In the meantime, Rubin also helps other startups and mentors young people in the field.

“(Rubin’s) just so valuable to the community because of his passion for the practical application of knowledge,” and not knowledge for knowledge’s sake, Dorman said. “It’s knowledge you can use.”

Adapted from a story by Jennifer Waters, The Gainesville Sun, published November 24, 2013.

The Proctors: an ECE Family

Family patriarch Jim Proctor (BSEE '63) came to the University of Florida with the desire to become an electrical engineer. Jim's father, a tool and die maker, encouraged Jim at an early age to become an engineer by introducing him to the field of machine tools for product manufacturing and to the mathematical concepts used in tool design. During high school, Jim swam competitively, but it was his physics teacher who inspired him to enter the then rising field of electronics. Jim carried his swimming and engineering aspirations over to UF where he was a 3-time letter winner on the UF SEC championship swimming and diving team.

Jim's memories of his time at ECE were enhanced by inspirational professors such as Dr. Hoag, who Jim says was "an energetic and enthusiastic person who gave wonderful lectures and interacted with students in a friendly and helpful way." Professor Fagan introduced Jim to concepts that would ultimately lead to his early career as a digital design engineer for Harris Corporation in Melbourne, Florida. While working for Harris, Jim earned an MSEE from FIT. Jim spent 40 years at Harris as an engineer and programs manager working in high technology digital systems development for many government agencies. Jim ended his Harris career as the Vice President and General Manager of the Integrated Information and Communications segment where he helped achieve over \$4 billion of business.

Jim Proctor, Jr. (BSEE '91) followed his father's path at ECE. Jim has had a successful career after earning his MSEE from Georgia Tech. Jim co-founded WiDeFi Corporation, which successfully led multiple rounds of venture funding (\$14 M) and developed consumer level home networking products. Jim, Jr. currently operates a consultancy focused on strategic services working with both venture backed startups and some of the largest intellectual property firms and funds in the industry. Jim's wife Heidi is a Gator alumna with a degree in special education. Jim, Jr. has 3 children in middle or high school who may be future ECE candidates.



L to R: Jim Proctor, Jr., ECE Chair John Harris, Eric Proctor, & Jim Proctor before the UF – Tennessee football game, September 2013

Jim's brother John Proctor (BSEE '80) spent time in the U. S. Army and working for Western Electric as an electrical switching systems installer. From 1980 until 1983, John worked for Rockwell International on the Space Shuttle Program as a Shuttle Launch Team member. Afterward, he worked for various defense contractors until 1990 when he joined Harris Corporation as a systems engineer on communication systems. John's son Greg, is in the "family" business having earned a BSEE from FSU and is currently pursuing a degree in patent law from Indiana University.

Eric Proctor, son of John Proctor, is currently pursuing his BSEE degree at Florida, where he is a second semester senior.

In 2013, The Proctor Family established the Proctor Family Fund for Innovation Research in Communications Theory. Its purpose is to support research in the ECE department in the field of communications, including wireless communications and digital signal processing. Anyone interested in this fund should contact the Department of Electrical and Computer Engineering.

The department of electrical and computer engineering values and supports future generations of ECE graduates like the Proctors.

2013 Gator Engineering Innovation Summit

The Engineering Innovation Institute at the University of Florida hosted its biennial Gator Engineering Innovation Summit. The theme was “Transforming Engineering Education & Research to Unleash the Creative Spirit.”



ECE Alum Chris Malachowsky at the Gator Engineering Innovation Summit.

Several prominent ECE Alumni served as speakers and panelists: Chris Malachowsky (BSEE '80) – Co-founder of NVIDIA, Randy Glein (BSEE '88) – Managing Director of Draper Fisher Jurvetson, Augi Lye (BSEE '05, BSCEN '03) – Founder of Trendy Entertainment, and Amir Rubin (BSEE '03) – Co-founder of Prioria Robotics & CEO of Paracosm.



Left: ECE Alum Augi Lye and Right: ECE Alum Amir Rubin serve as panelists at the Gator Engineering Innovation Summit

Augi Lye and Amir Rubin joined in a panel discussion of “Building the Student Innovator Ecosystem” and Chris Malachowsky led a discussion of “The Creative



ECE alum and chairman of the ECE external Advisory Board Gator Handley at the Gator Engineering Innovation Summit.

Engineer – Changing the World.” Randy Glein, the Gator Engineering Innovation Award recipient, inspired the crowd with his discussion of “Changing the World through Disruptive Innovation” where he spread his message to “think big, change the world.”

During the summit, pre-eminent leaders in engineering and related fields engaged the audience in discussions on the role of creativity, design and entrepreneurship in enhancing innovation and driving the economy.

Alumni, faculty and students gained exposure to new ways to add value to engineering education, technology development and commercialization the Gator Engineering way, also known as “Powering the New Engineer.”

After the summit, a reception was held at the Harn Museum of Art, featuring Gator Engineering start-ups, student entrepreneurs and innovators. Local startups Fracture, Feathr and Altavian, along with other dynamic companies, were on hand to explain how they got their start through Gator Engineering.

On Saturday, a fun and festive orange-and-blue tailgate party was held prior to the UF-Tennessee football game (which UF won!) was enjoyed by Gator Engineering alumni, friends and faculty. Engineering student organizations displayed their latest projects and initiatives.

Sources: UF Engineering Innovation Institute, UF College of Engineering. All photos by the UF News Bureau

ECE ALUMNUS Randy Glein receives Gator Engineering Innovation Award

Randy Glein (BSEE '88), managing director of Draper Fisher Jurvetson (DFJ), a venture capital firm headquartered in Silicon Valley that oversees innovative, high growth technology companies such as Box, SpaceX, Tesla Motors, Tumblr, Twitter and Yammer is this year's recipient of the UF College of Engineering's Gator Engineering Innovation Award.

"Randy has applied his engineering education, his creativity and his entrepreneurial approach to drive and lead the transfer of innovation to society," said Cammy Abernathy, dean of UF's College of Engineering. "The college is proud to have him as an alum, and even more so to honor him with the Gator Engineering Innovation Award."

This award is given to engineering graduates who have demonstrated outstanding achievement in innovation and marked contributions to society. Previous recipients include esteemed entrepreneur-business leaders, Don McKinney, Chris Malachowsky and Augi Lye, all ECE alumni.

Glein's message to current students is to "think big. Change the world. There are not limits to what you can accomplish. Life is short, so don't dwell on things you can't control. Spend your time on things you love and are passionate about. You will feel better and accomplish more, and the world will be better as a result." Source: Jen Ambrose



College of Engineering Dean Cammy Abernathy presents Randy Glein with the Gator Engineering Innovation Award.

IN MEMORIAM



Dr. C. Vernon Shaffer passed away on January 17, 2014. He was 91. Senior faculty and alumni will remember him warmly, and the college and university are grateful for his contributions.

Before retiring and becoming a professor emeritus in 1985, Dr. Shaffer spent 39 years as a professor of electrical engineering. He served as assistant dean of the UF Graduate School and also as the first director of the Northeast Regional Data Center. He was also a graduate of UF – he earned his BSEE in 1944 and his MSEE in the mid 1950s. In the interim he served as an officer in the U.S. Naval Reserve in Hawaii and the Philippines. Dr. Shaffer earned his PhD from Stanford University in 1965.

Dr. Shaffer was registered as a professional engineer and was a member of Phi Kappa Phi, Tau Beta Pi, Eta Kappa Nu, and IEEE. He was one of eight UF Alumni to be honored at the UF 2001 fall Commencement, as "A Tribute to Veterans."



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