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POCKET GUIDE

Making the University of Florida a Preeminent Institution

ANNOUNCING 13 NEW FACULTY HIRES

UF College of Engineering UNIVERSITY of FLORIDA reetings from the Sunshine State, where the future is looking bright. I'm delighted to share these talented new faculty members with you; they join us from research institutions all around the world.

These professors will strengthen our research in several key areas that offer us the greatest potential to make a significant impact on the challenges facing our world. With a dedication to innovation, leadership and interdisciplinary research, we are powering solutions. We are powering the new engineer.

Cammy K.

CAMMY R. ABERNAT DEAN, UF COLLEGE OF ENGINEER

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AUTONOMOUS SYSTEMS

t UF, the future is hands-free. Autonomous Systems have become second nature to our research - whether we're tracking hurricanes. docking submarines. surveying wildlife, or learning how to drive without driving. We're writing policy for the future of mixed-use commutes. And we're reimagining our hand in the final frontier: Autonomous Systems will lead us forward in space exploration. And our new hire will lead us in building them.



RICCARDO BEVILACQUA

Specialization: Guidance and navigation control systems for small satellites

"All my life, space exploration has meant the Kennedy Space Center, the Space Coast, and Florida. During my years as a graduate student and postdoc, I looked at many of my now-colleagues at UF with great admiration for their work. I chose UF because of its strong research history, because of the resources AUTONOMOUS SYSTEMS

I am given to pursue my professional goals, because of its exciting and diverse environment, and because it is the place where I always wanted to be." – Riccardo Bevilacqua

SPECIFICATIONS

UF Department	Mechanical and Aerospace Engineering
Previous Institution	Rensselaer Polytechnic Institute
Alma Mater -	University of Rome / "La Sapienza,"
Ph.D.	2007
Alma Mater -	University of Rome / "La Sapienza,"
Previous	2002



BIG DATA

percent of the data that exists today was created in the last two years. UF wants data to serve our society, not overwhelm it. With assistance from HiPerGator. Florida's most powerful supercomputer. we're mining data and crunching numbers to engineer breakthroughs in medicine, manufacturing and energy. The UF Informatics Institute is our nexus for multidisciplinary research, and these new Big Data hires will join the team of leaders within it.





RICHARD HENNIG

Specialization: Computational discovery and design of materials' structures

"What excites me the most about my research is the opportunity to discover new and useful materials - with quantum mechanics. Using high-performance computers and advanced algorithms that search the space of possible materials structures, we can predict the structure and composition of materials that are stable, and then characterize their properties. The results let us identify chemical trends and lead us to a deeper understanding of materials science and chemistry. " – Richard Hennig

SPECIFIC ATION S		
UF Department	Materials Science and Engineering	
Previous Institution	Cornell University	
Alma Mater - Ph.D.	Washington University in St. Louis, 2000	
Alma Mater - Previous	Georg-August University, Göttingen, Germany, 1996	







PRESIDENTIAL EARLY CAREER AWARD FOR SCIENTISTS AND ENGINEERS



DANIELA OLIVERA

Specialization: Virtualization-based security solutions for OS kernels

"My research is very interdisciplinary. Right now I am collaborating with UF's Department of Psychology and Institute on Aging, devising a system to protect older adults from webbased social engineering attacks. Older adults are increasingly managing their assets online, and they experience a decline in a wide spectrum of cognitive abilities with age. Our goal is to protect them from being deceived or having their computers used for cybercrime, while increasing their confidence in using the Internet." – Daniela Olivera

SPECIFICATIONS		
UF Department	Electrical and Computer Engineering	
Previous Institutio	n Bowdoin College	
Alma Mater - Ph.D.	University of California Davis, 2010	
Alma Mater - Master's	Federal University of Minas Gerais, Brazil, 2001	
Alma Mater - Undergraduate	Federal University of Minas Gerais, Brazil, 1999	





ALFREDO GARCIA

Specialization: Complex network optimization and systems coordination

"I mostly work in energy and communications. These are fairly dynamic industries. For example, the energy industry is expected to accommodate large-scale adoption of electric vehicles in the next decade. In telecommunication, new technologies for enabling spectrum sharing will likely alter the way the industry operates. This is an exciting time to be an engineer in those fields and it's exciting for me to be joining Industrial & Systems Engineering at UF. It's one of the top departments in my discipline." – Alfredo Garcia

SPECIFICATIONS

UF Department	Industrial and Systems Engineering
Previous Institution	University of Virginia
Alma Mater - Ph.D.	University of Michigan, 1997
Alma Mater - Master's	University of Michigan, 1995
Alma Mater - Undergraduate	Université de Toulouse III, Toulouse, France, 1992



BIOMEDICAL INFORMATICS

ho knows more about your health than your doctor? **Biomedical Informatics. It's** Big Data, with your body in mind, and UF's approach to it is revolutionary. Harnessing the collaborative strength of the university and our teaching hospital, our engineers are able to help accelerate the discovery, development and application of new diagnostic and therapeutic methods, using machine learning and human computer interactions to understand every aspect of human disease.

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LIN YANG

Specialization: Biomedical image analysis and computer-aided diagnosis

"We are living in a revolutionary age, witnessing the next-generation of medical images and information emerging in astounding volume and rich formats. This rapidly grown, efficiently delivered, densely connected and incrementally well-defined multimedia information has fundamentally reshaped the ways researchers can express their thoughts, interact with their colleagues and patients, analyze their data, and lead to ultimately deeper understandings of the nature of disease. Biomedical engineers have unprecedented opportunities and challenges in terms of computational analysis. I am so excited to be working in this frontier." – Lin Yang

SPECIFICATIONS

UF Department	Biomedical Engineering
Previous Institution	University of Kentucky
Alma Mater - Ph.D.	Rutgers University, 2009
Alma Mater - Master's	Xian Jiaotong University, China, 2002
Alma Mater - Undergraduate	Xian Jiaotong University, China, 1999



CYBERSECURITY

ybersecurityisacriticalconcernfor citizens, industry and government. Intrusions and attacks compromise everything from our personal identities to our national security, from our ATMs to our financial markets. UF is committed to anticipating cyber threats, and to reducing vulnerabilities. We're a resource for responsive action, if/when a threat occurs. We help build sound cyber infrastructure. and effectively educate the public. Our new hires are tremendous resources, the greatest leaders in their field.





PATRICK TRAYNOR

Specialization: Security of cellular telephony networks and mobile systems

"Nothing makes me happier than addressing problems that cause measurable hardships for the general public. The opportunity to build an information security center at a top public university has long been my dream, and the combination of fantastic students and statewide support for innovation in information security has made UF the perfect place to make this happen. Working in engineering education allows me to challenge others to change the world for the better. Few disciplines are so empowering." – Patrick Traynor

S P E C I F I C A T I O N S		
UF Department	Computer and Information Science and Engineering	
Previous Institution	Georgia Institute of Technology	
Alma Mater - Ph.D.	Pennsylvania State University, 2008	
Alma Mater - Master's	Pennsylvania State University, 2004	
Alma Mater - Undergraduate	University of Richmond, 2002	







KEVIN BUTLER

Specialization: Security of computer systems, storage and networks

"I tell my students that learning about computer security is like taking a "Defense Against the Dark Arts" course at Hogwarts. When you gain expertise in security, you start to look at the world in a different way, seeing weaknesses and vulnerabilities where you never thought they were before. With this knowledge and understanding comes a tremendous ethical and moral responsibility: to use your skills for good, to help protect people and the systems that they use" – Kevin Butler

SPECIFICATIONS		
UF Department	Computer and Information Science and Engineering	
Previous Institution	University of Oregon	
Alma Mater - Ph.D.	Pennsylvania State University, 2010	
Alma Mater - Master's	Columbia University, 2003	
Alma Mater - Undergraduate	Queen's University, Canada, 1999	



HUMAN CENTERED COMPUTING

billion people on this planet and no two are the same. Yet technology is tasked to compile them into one user. The achievements of our new Human Centered Computing team are paragons for our core values at the college: diversity and inclusion.

They are sonifying data for the visually impaired, designing voting systems for every user ability, and developing learning environments that integrate a STEM education with existing social interests.



JUAN GILBERT

Specialization: Accessible computing, voting, and learning technologies

"Engineering education is important to me both as a researcher and a citizen of the United States. As a researcher, I need strong students in my lab to address the problems that effect our society. As a citizen, engineering education is important to me because I believe our country needs to have a leadership role in the global economy. Engineering is what innovates economies. We need to stay on top of educating engineers." – Juan Gilbert

SPECIFICATIONS

UF Department	Computer and Information Science and Engineering
Previous Institution	Clemson University
Alma Mater - Ph.D. / Master's	University of Cincinnati, 2000, 1995
Alma Mater - Undergraduate	Miami University, 1991





CHRISTINA GARDNER-MCCUNE

Specialization: Learning technologies and environments that support STEM

"As computing continues to grow into every area of our workforce, it is imperative for us to prepare all students to become computational thinkers. Through my work in middle schools, I grapple with significant challenges that arise when teaching all students - not just those who self-select into specialty classes. Student **1UMAN CENTERED COMPUTIN**

HUMAN CENTERED COMPUTING

interest, motivation, and attitudes about computing are central to these challenges as well as the diverse learning needs that arise within a single classroom. I look forward to working with UF's College of Education to better prepare teachers to address these needs and challenges." – Christina Gardner McCune

SPECIFICATIONS		
UF Department	Computer and Information Science and Engineering	
Previous Institution	Clemson University	
Alma Mater - Ph.D.	Georgia Institute of Technology, 2011	
Alma Mater - Master's	Georgia Institute of Technology, 2011	
Alma Mater - Undergraduate	Syracuse University, 2002	





KYLA MCMULLEN

Specialization: Sonifying data and developing virtual auditory environments

"America desperately needs to produce more engineers and scientists to remain competitive and to maintain our place as leading innovators. Engineering education is essential to understand and to create this new generation of STEM professionals. As a computer scientist who studies an emerging UMAN CENTERED COMPUTIN

field (virtual spatial audio), I am excited to know that I get to create technology that has never existed before today. Additionally, I feel my work will help to improve the everyday lives of many people." – Kyla McMullen

SPECIFICATIONS	
UF Department	Computer and Information Science and Engineering
Previous Institution	Clemson University
Alma Mater - Ph.D.	University of Michigan, 2012
Alma Mater - Master's	University of Michigan, 2007
Alma Mater - Undergraduate	University of Maryland, Baltimore County, 2005





DAMON WOODARD

Specialization: Biometric identification, computer vision and pattern recognition

"There are two main reasons I chose the University of Florida. Firstly, UF's reputation as a leading teaching and research institution. Secondly, UF is one of the few universities in the nation that has schools of engineering, medicine, liberal arts and sciences, business, and law on one campus. My research area in

HUMAN CENTERED COMPUTIN

biometrics draws upon knowledge from many disciplines. Having each represented on a single campus could lead to many research collaboration opportunities." – Damon Woodard

SPECIFICATIONS	
UF Department	Computer and Information Science and Engineering
Previous Institution	Clemson University
Alma Mater - Ph.D.	University of Notre Dame, 2005
Alma Mater - Master's	Penn State University, 1999
Alma Mater - Undergraduate	Tulane University, 1997



NEUROSCIENCE & THE BRAIN

third of all human disease is related to the nervous system. Understanding the structure and function of the brain will lead to breakthrough therapies for many debilitating conditions. UF plans to be a major player in President Obama's decade-long brain research initiative. and our College of Engineering will have an active role. Both our new hires have tremendous experience developing neural technologies that promise to restore the quality of many lives.





KEVIN OTTO

Specialization: Neuroprostheses, systems neuroscience and neurotechnologies

"I chose the University of Florida because of the outstanding people, facilities, and resources here in Gainesville. Specifically, I am eager to collaborate with colleagues to imagine, develop, and translate treatments for people with neurological injuries or disease. Through the dedicated efforts of the College of Engineering, the Clinical and Translational Science Institute, and UF Health, UF truly has all of the necessary components to enable 'benchto-bedside' successes in research." – Kevin Otto

SPECIFICATIONS		
UF Department	Biomedical Engineering	
Previous Institution	Purdue University	
Alma Mater - Ph.D.	Arizona State University, 2003	
Alma Mater - Master's	Arizona State University, 2000	
Alma Mater - Undergraduate	Colorado State University, 1997	



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KARIM OWEISS

Specialization: Integrating brain machine interference technology with systems biology

"Technology is triggering quantum leaps in our understanding of social and information sciences, notably in brain science. Neurotechnology – which aims to sense and regulate brain signals during function and dysfunction – has been advancing at a striking pace. My life's work is devoted to connecting the dots between the disparate pieces of information that this technology has provided about our nervous system, so that I can improve the lives of people with severe neurological disorders." – Karim Oweiss

SPECIFICATIONS

UF Department	Electrical and Computer Engineering
Previous Institution	Michigan State University
Alma Mater - Ph.D.	University of Michigan, 2002
Alma Mater - Master's	University of Alexandria, Egypt, 1996
Alma Mater - Undergraduate	University of Alexandria, Egypt, 1993



NEUROSCIENC

RENEWABLE ENERGY & STORAGE

ur need for energy independence is urgent. Florida is renowned for having an unlimited renewable fuel supply - the sun. But we've not done enough to use and store it.

Our university has invested in leadingedge facilities at the Energy Research and Education Park. Here our new hire will join a team of engineers to help ratchet up our efforts to bottle sunlight – by revolutionizing ways to concentrate it into hydrogen fuel cells.



JONATHAN SCHEFFE

Specialization: Solar thermochemical fuel production and reactor design

"Right now, we can enable the societies of today and tomorrow to harness cheap and clean solar energy. UF has the unique ability to offer collaboration with world class faculty and students and access to state-of-the-art infrastructure and facilities. Specifically, with only a few of its kind in the entire country, UF's high flux solar simulator will enable our group to conduct innovative research that is simply not possible elsewhere." – Jonathan Scheffe

SPECIFICATIONS

UF Department	Mechanical and Aerospace Engineering
Previous Institution	University of Colorado at Boulder
Alma Mater -	University of Colorado at Boulder,
Ph.D.	2010
Alma Mater -	North Carolina State University,
Undergraduate	2005



At Gator Engineering, we are creating a rich and diverse environment with a renaissance approach to engineering education.

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