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### TENURED AND TENURE-TRACK FACULTY

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Location</th>
<th>Phone</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bagci, Ulas</td>
<td>HEC 221</td>
<td>(407) 823-1047</td>
<td><a href="mailto:bagci@ucf.edu">bagci@ucf.edu</a></td>
</tr>
<tr>
<td>Bassiouni, Mostafa</td>
<td>HEC 307</td>
<td>(407) 823-2837</td>
<td><a href="mailto:bassi@cs.ucf.edu">bassi@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Boloni, Ladislau</td>
<td>HEC 319</td>
<td>(407) 823-2320</td>
<td><a href="mailto:lboloni@cs.ucf.edu">lboloni@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Borji, Ali</td>
<td>HEC 258</td>
<td>(407) 823-0667</td>
<td><a href="mailto:Ali.Borji@ucf.edu">Ali.Borji@ucf.edu</a></td>
</tr>
<tr>
<td>Chatterjee, Mainak</td>
<td>HEC 305</td>
<td>(407) 823-5793</td>
<td><a href="mailto:mainak@cs.ucf.edu">mainak@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Da Vitoria Lobo, Niels</td>
<td>HEC 252</td>
<td>(407) 823-2873</td>
<td><a href="mailto:niels@cs.ucf.edu">niels@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Dechev, Damian</td>
<td>HEC 211</td>
<td>(407) 823-2549</td>
<td><a href="mailto:dechev@cs.ucf.edu">dechev@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Deo, Narsingh</td>
<td>HEC 361</td>
<td>(407) 823-6336</td>
<td><a href="mailto:deo@cs.ucf.edu">deo@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Foroosh, Hassan</td>
<td>HEC 212</td>
<td>(407) 823-5299</td>
<td><a href="mailto:foroosh@cs.ucf.edu">foroosh@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Gong, Boqing</td>
<td>HEC 214</td>
<td>(407) 823-3181</td>
<td><a href="mailto:bgong@ucf.edu">bgong@ucf.edu</a></td>
</tr>
<tr>
<td>Gonzalez, Avelino J.</td>
<td>HEC 329</td>
<td>(407) 823-5027</td>
<td><a href="mailto:gonzalez@cs.ucf.edu">gonzalez@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Guha, Ratan</td>
<td>HEC 244</td>
<td>(407) 823-2956</td>
<td><a href="mailto:guha@cs.ucf.edu">guha@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Heinrich, Mark</td>
<td>HEC 433</td>
<td>(407) 882-0138</td>
<td><a href="mailto:heinrich@cs.ucf.edu">heinrich@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Hu, Haiyan (Nancy)</td>
<td>HEC 233</td>
<td>(407) 882-0134</td>
<td><a href="mailto:haihu@cs.ucf.edu">haihu@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Hua, Kien A.</td>
<td>HEC 229</td>
<td>(407) 823-5342</td>
<td><a href="mailto:kienhua@cs.ucf.edu">kienhua@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Hughes, Charles E.</td>
<td>HEC 247C</td>
<td>(407) 823-2762</td>
<td><a href="mailto:ceh@cs.ucf.edu">ceh@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Jha, Sumit</td>
<td>HEC 253</td>
<td>(407) 882-2215</td>
<td><a href="mailto:jha@cs.ucf.edu">jha@cs.ucf.edu</a></td>
</tr>
<tr>
<td>LaViola, Joseph</td>
<td>HEC 321</td>
<td>(407) 882-2285</td>
<td><a href="mailto:jjl@cs.ucf.edu">jjl@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Leavens, Gary T.</td>
<td>HEC 437D</td>
<td>(407) 823-4758</td>
<td><a href="mailto:leavens@cs.ucf.edu">leavens@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Liu, Fei</td>
<td>HEC 217</td>
<td>(407) 823-3183</td>
<td><a href="mailto:Fei.Liu@ucf.edu">Fei.Liu@ucf.edu</a></td>
</tr>
<tr>
<td>Marinescu, Dan C.</td>
<td>HEC 304</td>
<td>(407) 823-4860</td>
<td><a href="mailto:dcm@cs.ucf.edu">dcm@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Orooji, Ali</td>
<td>HEC 345D</td>
<td>(407) 823-5660</td>
<td><a href="mailto:orooji@cs.ucf.edu">orooji@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Pattanaik, Sumanta</td>
<td>HEC 218</td>
<td>(407) 823-2638</td>
<td><a href="mailto:sumant@cs.ucf.edu">sumant@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Qi, Guo-Jun</td>
<td>HEC 318</td>
<td>(407) 823-2764</td>
<td><a href="mailto:guojun.qi@ucf.edu">guojun.qi@ucf.edu</a></td>
</tr>
<tr>
<td>Shah, Mubarak</td>
<td>HEC 245D</td>
<td>(407) 823-5077</td>
<td><a href="mailto:shah@cs.ucf.edu">shah@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Stanley, Kenneth</td>
<td>HEC 332</td>
<td>(407) 823-4289</td>
<td><a href="mailto:kstanley@cs.ucf.edu">kstanley@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Sukthankar, Gita</td>
<td>HEC 232</td>
<td>(407) 823-4305</td>
<td><a href="mailto:gitars@cs.ucf.edu">gitars@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Thankachan, Sharma</td>
<td>HEC 207</td>
<td></td>
<td><a href="mailto:sharma.thankachan@ucf.edu">sharma.thankachan@ucf.edu</a></td>
</tr>
<tr>
<td>Turgut, Damla</td>
<td>HEC 316</td>
<td>(407) 823-6171</td>
<td><a href="mailto:turgut@cs.ucf.edu">turgut@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Wang, Liqiang</td>
<td>HEC 239</td>
<td>(407) 823-3187</td>
<td><a href="mailto:lwang@cs.ucf.edu">lwang@cs.ucf.edu</a></td>
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<tr>
<td>Wisniewski, Pamela</td>
<td>HEC 217A</td>
<td>(407) 823-3189</td>
<td><a href="mailto:pamwis@ucf.edu">pamwis@ucf.edu</a></td>
</tr>
<tr>
<td>Wocjan, Pawel</td>
<td>HEC 339</td>
<td>(407) 823-2844</td>
<td><a href="mailto:wocjan@cs.ucf.edu">wocjan@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Wu, Annie</td>
<td>HEC 314</td>
<td>(407) 823-5922</td>
<td><a href="mailto:aswu@cs.ucf.edu">aswu@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Yooseph, Shibu</td>
<td>HEC 239A</td>
<td>(407) 823-5307</td>
<td><a href="mailto:shibu.yooseph@ucf.edu">shibu.yooseph@ucf.edu</a></td>
</tr>
<tr>
<td>Zhang, Shaojie</td>
<td>HEC 311</td>
<td>(407) 823-6095</td>
<td><a href="mailto:shzhang@cs.ucf.edu">shzhang@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Zou, Cliff</td>
<td>HEC 243</td>
<td>(407) 823-5015</td>
<td><a href="mailto:czou@cs.ucf.edu">czou@cs.ucf.edu</a></td>
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## CONTACT INFORMATION

### LECTURERS AND INSTRUCTORS AND VISITING LECTURERS AND INSTRUCTORS

<table>
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<th>Location</th>
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<tr>
<td>Abdallah, Nazih</td>
<td>HEC 220</td>
<td>(407) 823-0424</td>
<td><a href="mailto:abdallah@cs.ucf.edu">abdallah@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Angell, Sarah</td>
<td>HEC 230</td>
<td>(407) 823-1061</td>
<td><a href="mailto:sangell@cs.ucf.edu">sangell@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Elva, Rochelle</td>
<td>HEC 357</td>
<td>(407) 823-5441</td>
<td><a href="mailto:rochelle.elva@ucf.edu">rochelle.elva@ucf.edu</a></td>
</tr>
<tr>
<td>Fontaine, Matthew</td>
<td>HEC 330</td>
<td>(407) 823-2763</td>
<td><a href="mailto:matthew.fontaine@ucf.edu">matthew.fontaine@ucf.edu</a></td>
</tr>
<tr>
<td>Glinos, Demetrios</td>
<td>HEC 257</td>
<td>(407) 823-0682</td>
<td><a href="mailto:glinos@cs.ucf.edu">glinos@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Guha, Arup</td>
<td>HEC 240</td>
<td>(407) 823-1062</td>
<td><a href="mailto:dmarino@cs.ucf.edu">dmarino@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Leinecker, Richard</td>
<td>HEC 219</td>
<td>(407) 823-2438</td>
<td><a href="mailto:richard.leinecker@ucf.edu">richard.leinecker@ucf.edu</a></td>
</tr>
<tr>
<td>Llewellyn, Mark</td>
<td>HEC 236</td>
<td>(407) 823-2790</td>
<td><a href="mailto:markl@cs.ucf.edu">markl@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Montagne, Euripides</td>
<td>HEC 217</td>
<td>(407) 823-2684</td>
<td><a href="mailto:eurip@cs.ucf.edu">eurip@cs.ucf.edu</a></td>
</tr>
<tr>
<td>Nedorost, Thomas</td>
<td>HEC 317</td>
<td>(407) 823-0408</td>
<td><a href="mailto:thomas.nedorost@ucf.edu">thomas.nedorost@ucf.edu</a></td>
</tr>
<tr>
<td>Whiting, Karin</td>
<td>HEC 412</td>
<td>(407) 823-4757</td>
<td><a href="mailto:karin.whiting@ucf.edu">karin.whiting@ucf.edu</a></td>
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### AFILIATED FACULTY, VISITORS, AND JOINT APPOINTMENTS

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<tr>
<td>Batarseh, Issa</td>
<td>HEC 204</td>
<td>(407) 823-0185</td>
<td><a href="mailto:batarseh@ece.ucf.edu">batarseh@ece.ucf.edu</a></td>
</tr>
<tr>
<td>DeMara, Ronald F.</td>
<td>HEC 310</td>
<td>(407) 823-5916</td>
<td><a href="mailto:demara@ece.ucf.edu">demara@ece.ucf.edu</a></td>
</tr>
<tr>
<td>Fan, Deliang</td>
<td>HEC 343</td>
<td>(407) 823-4476</td>
<td><a href="mailto:dfan@ucf.edu">dfan@ucf.edu</a></td>
</tr>
<tr>
<td>Li, Xiaoman</td>
<td>HEC 210</td>
<td>(407) 823-4811</td>
<td><a href="mailto:xiaoman@ucf.edu">xiaoman@ucf.edu</a></td>
</tr>
<tr>
<td>Rahnavard, Nazanin</td>
<td>HEC 335</td>
<td>(407) 823-1762</td>
<td><a href="mailto:nazanin@ece.ucf.edu">nazanin@ece.ucf.edu</a></td>
</tr>
<tr>
<td>Shumaker, Randall</td>
<td>P2 314</td>
<td>(407) 882-1301</td>
<td><a href="mailto:shumaker@ist.ucf.edu">shumaker@ist.ucf.edu</a></td>
</tr>
<tr>
<td>Wang, Jun</td>
<td>HEC 320</td>
<td>(407) 883-0449</td>
<td><a href="mailto:juwang@ece.ucf.edu">juwang@ece.ucf.edu</a></td>
</tr>
<tr>
<td>Welch, Gregory</td>
<td>P3 110</td>
<td>(407)-796-2823</td>
<td><a href="mailto:welch@ece.ucf.edu">welch@ece.ucf.edu</a></td>
</tr>
<tr>
<td>Wiegand, Paul</td>
<td>P3 209</td>
<td>(407) 882-0313</td>
<td><a href="mailto:wiegand@ist.ucf.edu">wiegand@ist.ucf.edu</a></td>
</tr>
<tr>
<td>Yuan, Jiann S.</td>
<td>HEC 423</td>
<td>(407) 823-5719</td>
<td><a href="mailto:yuanj@ece.ucf.edu">yuanj@ece.ucf.edu</a></td>
</tr>
</tbody>
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### PROFESSOR EMERITUS

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Location</th>
<th>Phone</th>
<th>E-mail</th>
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<tbody>
<tr>
<td>Dutton, Ronald</td>
<td>HEC 204</td>
<td>(407) 883-2920</td>
<td><a href="mailto:dutton@cs.ucf.edu">dutton@cs.ucf.edu</a></td>
</tr>
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OVERVIEW OF RESEARCH IN COMPUTER SCIENCE AT UCF

Research in Computer Science spans a wide range of topics. At UCF research in Computer Science emphasizes:

- Innovative uses for computation (including new applications, algorithms, protocols, and tools),
- Studies of issues surrounding computation (including security, theory, human-computer interaction, and insights into the design, programming and verification of programs and systems), and
- Investigations into the nature of computation (including questions such as: what is intelligence, and what are different ways to compute?).

Typically, writing a computer program is not considered worthy of a research publication, unless the program is being used to demonstrate some new tool, programming technique, or has some other purpose driven by the kinds of Computer Science questions described above. Thus, while we are eager to partner with others in research, our potential research partners need to be aware that computer science research is not the same as programming.

Our faculty have won many awards (such as best paper awards at conferences) and have been recognized by various professional societies. We have on our faculty 5 Fellows of the IEEE, 1 ACM Fellow, 1 IAPR Fellow, 1 SPIE Fellow, and 2 Fellows of the AAAS. Our faculty also includes 5 NSF CAREER award winners, 3 AFOSR Young Investigator award winners, and 2 DARPA CS Study Group award winners.

In what follows we give a brief overview of the main research areas in Computer Science at UCF.

**Computer Vision** addresses the problem of how to use computers to process visual information, including pictures and videos. Specific problems include detection and recognition of objects, features, or actions, segmentation of videos, and using image or video data in computational processes. Drs. Bagci, Borji, Foroosh, Gong, da Vitoria Lobo, Shah and Welch work in this area.

**Image and Video Processing** addresses the problems of acquisition, storage, retrieval, and processing of images, videos, and high dimensional signals for extraction and analysis of useful information for human users, robots, and autonomous systems. Specific problems include design and analysis of imaging sensors, high-dimensional signal representation and transformation, compression methods, image/video retrieval, 3D sensing and modeling, medical imaging, space imaging, and live video computing. Drs. Bagci, Foroosh, Gong, and Hua work in this area.

**Virtual Reality (VR)** is a multidisciplinary area of research aimed at interactive computer-mediated immersive simulations of environments or experiences typically involving sight, sound, and touch. Simulations involving a blending of real and virtual objects is often referred to as Augmented Reality (AR). Research in VR/AR encompasses a wide range of fundamental topics, including computer graphics, multi-modal systems (e.g., displays, tracking, haptics, robotics), 3D interaction, illusions of presence/tele-presence, and human factors. One of our current foci is on human-centered experiences involving avatars and virtual humans for training teachers, healthcare practitioners, and military personnel. **Human Computer Interaction (HCI)** is the scientific study how humanity communicates with all aspects of computing technology. HCI is an interdisciplinary field that spans computer science, computer engineering, psychology, human factors, and cognitive science. In our department, we focus specifically on developing and evaluating interactive systems that help to improve people's lives when using computer-based environments. We focus on improving the user experience in application areas such as education, entertainment, medicine, robotics, and general work productivity. Drs. Gonzalez, Hughes, LaViola, Welch, and Wisniewski work in these areas.

**Artificial Intelligence (AI)** seeks to understand the fundamental nature of intelligence and how to make computers exhibit intelligent behavior. **Machine Learning** addresses the problem of how to automatically learn concepts and behaviors from data. With seven faculty in AI and machine learning, UCF CS is highly active in these areas. Major research strengths include complex systems, data mining, diagnostics, evolutionary computation, intelligent simulation, knowledge

**Computer Graphics** addresses the problem of how to produce images of objects from their mathematical descriptions using computers. Examples of specific research foci include how to render realistic looking objects, how to animate such objects, and how to use rendering and animation for simulation and interactive training including Virtual Reality and Augmented Reality. Some of our work involves computer vision/image processing, for example interactive view synthesis and Spatial Augmented Reality. Drs. Hughes, Pattanaik, and Welch work in this area.

**Software Engineering** addresses the problem of how to produce quality software on time and within a specific budget. **Systems** work addresses the problem of how to build large computer systems that accomplish some specific purpose. Specific research problems in Software Engineering that we are investigating include: how best to describe what software systems are supposed to do (specification), how to ensure that computational systems behave correctly (verification), model checking of software and hardware systems with a particular emphasis on scalable formal verification of cyber-physical systems and quantitative computational models, how to parallelize systems for maximum efficiency, how to model, analyze, and optimize the performance of software, and how to build large, concurrent and distributed systems. Drs. Dechev, Hua, Jha, Leavens, Marinescu, Orooji, Turgut, and Wang work in these areas.

**Database** research addresses the problem of storage and retrieval of data. Information must be stored in a fashion that allows both efficient and convenient retrieval by people and applications. Specific problems addressed in research at UCF include techniques for parallel and distributed processing of very large data sets, database management as a service, moving object databases for mobile computing, querying multimedia databases that may include online cameras as a special class of storage devices, database management in the Internet of Things, and data privacy and security. Drs. Bassiouni, Deo, Hua, Lang, Llewellyn, Orooji, Qi, and Zou work in this area.

**Parallel Computation** deals with the theory and practice of organizing computations to run faster on machines with several processors. Different models of parallelism are studied along with parallelizability of various problems. Practical aspects involve designing parallel algorithms and data structures to solve compute-intensive problems on rapidly-evolving platforms with massive parallelism, fast and efficiently. A key challenge for creating and adapting parallel software applications is the high architectural complexity of HPC systems in terms of their degree of concurrency and heterogeneity, sensitivity to communications and data movement, and requirements for locality. Enabling effective large-scale multiprocessor computing will have an impact that crosscuts multiple areas of science. There are still many barriers involved in building efficient HPC software applications and hardware platforms. Research at UCF aims to provide the fundamental tools and techniques for understanding how to design applications and algorithms for the rapidly evolving massively parallel chip architectures. Drs. Dechev, Deo, Hua, Jha, Marinescu, and Wang work in this area.

**Networking and Mobile Computing** is concerned with designing efficient communications protocols and architectures for exchanging data among computers and mobile devices. The scientific results of the field enable a wide range of networked applications and enhance the real-world experience of network and mobile users. Research areas investigated by our faculty include but are not limited to resource management techniques in ad hoc, cellular, and cognitive radio networks, challenging topics in sensor networks such as intruder tracking, underwater sensors and maximizing value of information, intelligent sharing of wired and wireless bandwidth, and real-time transmission of audio and video over wireless networks/Internet. Drs. Bassiouni, Chatterjee, Guha, Hua, and Turgut work in this area.

**Computer Security** is concerned with designing mechanisms for protecting computers and networks from attacks, keeping information confidential and safe from tampering, preventing unauthorized access to resources, and providing robust security to various applications including e-commerce transactions. Research areas investigated by our faculty include but are not limited to Intrusion Prevention and Detection, Malware Propagation Modeling and Analysis, Security of Wireless Networks, Sensor Networks and Vehicular Ad hoc Networks, Authentication Protocols, and Cloud Security. Digital
Forensics addresses the problem of recovering evidence (e.g., to be used in court) from computers, mobile devices, or any storage media that may hold data in binary form. Drs. Bassiouni, Guha, Jha, Leavens, Wocjan, and Zou work in these areas.

Bioinformatics is an interdisciplinary field to study various biological problems using advanced computational and statistical methods. With large-scale high-throughput biological data rapidly accumulated, this fast-growing field has become an indispensable part to biology research, also an important avenue for computer scientists to study biological problems. Bioinformatics research at UCF CS focuses on the following several areas: computational genomics, metagenomics, non-coding RNA and RNA genomics, systems biology to model gene protein interactions and gene regulation, and machine learning and data mining algorithms to integrate massive biological data and networks. Computational systems biology is the new and upcoming inter-disciplinary science that combines approaches from dynamical systems, control theory, formal methods, and process algebra to study the complex interactions within and among biological systems. Building on the existing success of bioinformatics and bio-imaging research, computational systems biology constructs mathematical and computational models so as to facilitate a holistic understanding of biological systems; hence, it differs fundamentally from the reductionist view of traditional studies in life sciences. Together with partners from medical schools and national laboratories, we are studying translational computational systems biology with applications in drug design, metabolic networks, clinical-decision making, and the design of verified biomedical cyber-physical systems. Drs. Hu, Jha, Thankachan, Yooseph, and Zhang work in these areas.

Theory of Computing addresses the problem of understanding the fundamental nature and limits of computation. Algorithms addresses the problem of how to best solve specific problems using minimal time and space resources. Quantum Computing addresses the problem of how to compute using quantum mechanical phenomenon, such as photons. Specific problems in the Theory of Computing include how to classify problems as to their degree of difficulty. Specific problems in Algorithms include finding (optimal) algorithms for computing problems, and proving that a given problem requires a certain minimum amount of resources for its solution. Specific problems in Quantum Computing include finding algorithms for solving problems efficiently using quantum information. Drs. Deo, Hughes, Marinescu, Thankachan, Wocjan, and Zhang work in these areas.

Computer architecture research focuses on designing computer systems optimized for high performance, energy efficiency, and scalability or some combination thereof. This research may focus on many aspects of computer systems including the design of processors, memory systems, GPUs, mobile and embedded devices, big data I/O systems, networks, and large-scale parallel machines. Specific problems include the hardware/software co-design of energy efficient architectures for heterogeneous multicore processors and understanding the interaction of file systems and parallel I/O systems in big data applications and its implications for modern file system design. Dr. Heinrich works in this area.
Ulas Bagci

Assistant Professor
Ph.D., Computer Science: University of Nottingham, UK, 2010.

Contact
bagci@crcv.ucf.edu
407-823-1047

Research
http://www.cs.ucf.edu/~bagci
- Medical Image Computing and Biomedical Imaging
- Medical Computer Vision and Machine Learning
- Radiological Image Analysis
- Molecular Imaging Informatics

Other Experience
- Staff Scientist and Lab Manager, NIH.
- Visiting Fellow, University of Pennsylvania.
- Co-Founder, DGMed Inc.

Professional Activities
- Member: MICCAI, IEEE, AAAS, ASA, Royal Statistical Society (RSS), RSNA, SNMMI
- Editorial Board Member, Elsevier CBM
- Program Committee Member for many international conferences

Honors and Awards
- 2014 & 2011-RSNA Certificate of Merit (3 times)
- 2014-IEEE TBME Highlights on the Cover-Novel PET Image Segmentation methodology
- 2013 & 2012-Winner of NIH FARE Award
- 2013-Highlighted in AuntMinnie and MDLinx due to Novel MRI/PET Image Analysis Software
- 2012-Best Poster Prize, Molecular Imaging of Infectious Disease
- 2006-Best student paper award, IEEE SIU Conf.

Mostafa Bassiouni

Professor
Ph.D., Computer science; Pennsylvania State University, 1982

Contact
bassi@cs.ucf.edu
407-823-2837

Research
http://www.cs.ucf.edu/~bassi
Director, UCF Center for Cybersecurity, a National Center of Academic Excellence in Cyber Defense Education Director, CSIT-TEAm Florida
Consortium of Metropolitan Research Universities UCF, USF, FIU
Co-Director, Networking and Security (NetSec) Lab
- Computer Networks
-- Internet Transport Protocols
-- Cellular/Wireless and Optical Networks
-- Network Security
- Distributed Systems
-- Distributed Interactive Simulation

Other Experience
- Visiting Faculty Researcher, Cincinnati Bell Information Systems Inc., Summer 1994
- Consultant, Trendium Inc., 2000

Professional Activities
- Associate Editor, The Computer Journal- Oxford University Press
- Editor-in-Chief, Electronics- Digital Publishing Institute (MDPI)
- University Internet-2 Application Chair, 1998-2001
- Program Chair, 1st & 2nd Conference on Computer Simulation Methods and Applications, 1998 & 2000
- Technical Program Committee Member of many Conferences
- Guest Co-Editor, Journal of Simulation Practice & Theory, Special Issue on Simulation Methods and Applications, April 2002
- Served as Reviewer for 40 International Journals and IEEE/ACM Transactions

Honors & Awards
- UCF Research Incentive Award, 2004-05
- UCF Teaching Incentive Program Award, 1998-99, 2003-04 and 2009-10
- Excellence in Undergraduate Teaching Award, College of Engineering & Computer Science, 2013
- Distinguished Research Lecturer Award, College of Engineering & Computer Science, 2003
- Distinguished Researcher Award, College of Arts and Science, 1995
Ladislau Bölöni

Associate Professor
Ph.D., Computer Science; Purdue University, 2000

Contact
lboloni@cs.ucf.edu
407-823-2320

Research
http://www.cs.ucf.edu/~lboloni

- Autonomous agents
  - Modeling of human behavior in social and cultural environments
  - Human-robot interaction
  - Mutable agents
  - Knowledge representation
- Cognitive architectures
  - Narrative reasoning
- Distributed and grid computing
  - Task scheduling and resource allocation
- Wireless networking
  - Sensor networks with mobile sinks and nodes

Other Experience
- Visiting Researcher, Hungarian Academy of Science 1994-95
- Infrastructure Architect, CPlane Inc. 2000-2002
- Visiting Researcher, Imperial College, London, 2011
- Visiting Researcher, University of Rome La Sapienza, 2012
- Member of Technical Advisory Board / Chief Architect, MosaixSoft Inc.

Professional Activities
- Associate Editor, International Journal of Parallel, Emergent and Distributed Systems
- Associate Editor, International Journal of Ad Hoc and Ubiquitous Computing
- Associate Editor, Journal of Human Robot Interaction
- Panel reviewer (NSF, NASA, NIH)

Honors & Awards
- Kurzweil Best Artificial General Intelligence Idea Prize 2014
- Best Paper Award ICC 2013
- NASA Software Award 2005
- Senior Member, IEEE

Ali Borji

Assistant Professor
Ph.D.,...

Contact
Ali.Borji@ucf.edu
407-823-0667

Research

Other Experience

Professional Activities

Honors & Awards
Mainak Chatterjee
Associate Professor
Ph.D., Computer Science & Engineering; University of Texas at Arlington, 2002

Contact
mainak@cs.ucf.edu
407-823-5793

Research
NetMoC: http://netmoc.cs.ucf.edu/
- Wireless Networks
  - Cognitive radio networks
  - Dynamic spectrum access
  - Ad hoc and sensor networks, 4G/5G
- Network Economics
  - Pricing issues in networks
  - Game and Auction theories
- Network Science
  - Social network interactions
  - Information propagation
- Video Delivery
  - Video transport, QoE
  - IPTV, VoD, Streaming media

Other Experience
- Faculty Fellow, Air Force Research Lab
- Consultant, NEC, ITT, and AFRL
- Research Intern, Nokia Research, 2001

Professional Activities
- Associate Editor, Pervasive and Mobile Computing
- Associate Editor, Computer Communications
- Founding Chair, ACM Workshop Mobile Video (MoVid)
- Secretary, IEEE Technical Committee of Cognitive Radio
- TPC Co-Chair: WoWMoM, ICCCN, ICDCN, AMOC
- TPC member: INFOCOM, DySPAN, ICC, PerCom

Honors & Awards
- Best paper award, IEEE PIMRC 2011
- US National Research Council Fellowship Award 2011
- Teaching Incentive Program Award (TIP), 2010
- Best paper award, IEEE Globecom 2008
- Young Investigator Program (YIP) Award, AFOSR
- Best dissertation award, CSE, UTA, 2002
- Best Summer Intern, Nokia Research, 2001

Niels da Vitoria Lobo
Associate Professor
Ph.D., Computer Science; University of Toronto, 1993

Contact
niels@cs.ucf.edu
407-823-2873

Research
http://server.cs.ucf.edu/~vision/faculty/nielslobo.html
- Computational Vision
  - Object Detection in Cluttered Backgrounds
  - Integral Image Based Curve Detection
  - Hand and Person Detection and Tracking
- Active Vision and Mobile Robotics
  - Automobile Lane Following
  - Obstacle Detection
  - Optical Flow and Affine Motion Integration
- User Interfaces and Graphical Modeling
  - Wristband Trackers
  - Games for Mathematics Education

Professional Activities
- Associate Editor, Image Vision and Computing
- Associate Editor, Machine Vision and Applications

Honors & Awards
- UCF Millionaire’s Club, UCF Office of Research, 2008
- Teaching Incentive Program Award, 1996

Active Funding
- Pictures Represent Opportunities For Inspiration In Tech $1.2M from National Science Foundation with Mubarak Shah, Juli Dixon, and Gina Gresham, to work with Orange County Public High Schools, 2007-2010
- Project GAUSS: $600K to work with Math Majors (co-PI), from National Science Foundation, 2008-2011
- REU in Computer Vision: $300K, National Science Foundation, co-PI
Damian Dechev

Associate Professor
Ph.D., Computer Science and Engineering; Texas A&M University, 2009

Contact
dechev@cs.ucf.edu
407-823-2549

Research
http://cse.eecs.ucf.edu

- Programming Techniques and Tools
- Multiprocessor Programming
- Concurrent Data Structures
- Verification of Concurrent Algorithms
- Large-scale Performance Analysis

Other Experience
- Senior Member of Technical Staff, Sandia National Laboratories, Livermore, CA 2009-2010;
- Research Assistant, Texas A&M University, College Station, TX 2003-2009;
- Adjunct Faculty, University of Delaware, Newark, DE, 2001-2003;

Professional Activities
- Referee for NSF and DOE ASCR Reviews Panels.
- UCF CS Department Graduate Committee Member.

Honors and Awards

Narsingh Deo

Professor and Charles N. Millican Eminent Scholar Chair
Ph.D., Electrical Engineering; Northwestern University, 1965

Contact
deo@cs.ucf.edu
407-823-6336

Research
http://www.cs.ucf.edu/~deo

- Parallel Algorithms and Data Structures
- Computational Graph Theory
- Complex Networks
- Computational Complexity and Algorithms
- Large Networks
- Multicore Computation

Other Experience
- Professor Computer Science, Washington State Univ. 1977-86; Dept. Chair 1980-84
- Professor of EECS Program Chair, IIT, Kanpur 1971-77
- Member Tech. Staff, Jet Propulsion Lab 1966-71
- Burroughs Corp (Engineer/Senior Engineer) 1960-66
- Visiting Faculty: IBM, Watson Res. Center; Oak Ridge National Lab; ANU, Canberra; University of Illinois, Urbana; University of Nebraska; Lincoln; ETH, Zurich; I.I. Sc. Bangalore; IIT, Kharagpur; Chuo University, Tokyo; Monash Univ., Melbourne

Professional Activities
- Editor-in-Chief, Jour. of Information Technology & Software Engineering
- Member, Editorial Board, The Journal of Supercomputing
- Member, Springer Editorial Board
- Member, Editorial Board, Journal of Electrical Engineering and Electronic Technology
- Member, Editorial Board, MDPI Electronics (Multidisciplinary Digital Publishing Institute), an open-access journal publisher, Basel, Switzerland
- Program Committee, 32nd International Symposium on Mathematical Foundations of CS
- Program Committee, 8th International Conference on Innovative Internet Community Systems
- President, Forum for Interdisciplinary Math (2007-10)
- Authored 4 books and over 250 refereed research papers; 3 US patents in digital hardware

Honors and Awards
- Apollo Achievement Award (NASA), 1969
- Fellow, IEEE, ACM, ICA, AAAS
- UCF Distinguished Researcher, 1989
- Florida’s Governor’s Award for Science and Technology, 1989
- IEEE Distinguished Speaker, 1988-90
- UCF Research Incentive Award, 1996
- UCF Teaching Incentive Award, 1998
- UCF Excellence in Graduate Teaching Award, 2000
- Life-time- Contribution Award of Forum for Interdisciplinary Math, 2002
Hassan Foroosh

Professor
Affiliated faculty, Institute for Simulation & Training (IST), UCF
Ph.D., Computer Science; INRIA-University of Nice, France, 1996

Contact
foroosh@cs.ucf.edu
407-823-5299

Research
Director, Computational Imaging Lab.: http://cil.cs.ucf.edu

- Video Surveillance and Camera Networks
  - Tracking in Video Camera Networks
  - Video Activity Recognition and Monitoring
  - Video Analysis and understanding
  - Video Registration
  - Tracking Moving Targets on a Moving Platform
- Image-Based Modeling
  - Camera Network Calibration
  - 3D Modeling from Video/Image Data
  - Video-Based Motion Capture and Animation
  - Facial expression, Hand Gesture, and Text Recognition in Video
- Image Processing
  - Image Registration, Super-resolution (SAR, EO, IR, Hyperspectral)
  - Compressed Sensing
  - Medical Image Processing

Other Experience
- Senior Research Scientist, UC Berkeley, 2000-2002
- Research Scientist, University of Maryland, College Park, 1997-2000

Professional Activities
- Associate Editor, IEEE Transactions on Image Processing, 2002-2008
- Session Chair CVPR, 2008
- Area chair, TPC member: ICIP, since 2002
- TPC member: CVPR, ICCV, since 2002

Honors & Awards
- Senior Member, IEEE
- IAPR Piero Zamperoni Award, 2004
- Academic Excellence Award, Sun, 2004
- Distinguished Researcher of EECS, UCF, 2005
- Distinguished Researcher of CECS, UCF, 2006
- IAPR Best Scientific Paper Award, 2008

Boqing Gong

Assistant Professor
Ph.D., Computer Science; University of Southern California, 2015

Contact
bgong@ucf.edu
407-823-3181

Research
http://crcv.ucf.edu/people/faculty/Gong/

- Machine Learning
  - Domain Adaptation / Transfer Learning
  - Zero-Shot Learning
  - Determinantal Point Process
  - Deep Learning
- Computer Vision
  - Visual Recognition of Objects, Attributes, Human Activities, etc.
  - Supervised Video Summarization
  - Image Tagging
  - Webly-Supervised Visual Recognition

Professional Activities
- NSF Panels: March 2016, May 2016
- Program Committee Member of AAAI (2015-), IJCAI (2015-), and a couple of workshops associated with IEEE conferences

Honors & Awards
- NSF Award entitled “CRI: RI: Multi-Source Domain Generalization Approaches to Visual Attribute Detection”
- Adobe Systems Inc. Unrestricted Gift
- NVIDIA GPU Grant
- Viterbi School of Engineering Doctoral Fellowship
Avelino J. Gonzalez

Professor
Ph.D., Electrical Engineering; University of Pittsburgh, 1979

Contact
gonzalez@ucf.edu
407-823-5027

Research
http://people.cecs.ucf.edu/gonzalez

- Artificial Intelligence
- Human Behavior Representation in Tactical Simulations
- Context-based Reasoning
- Machine Learning from Observation of Humans
- Virtual humans
- Knowledge-Based Systems

Other Experience
- Interim Chair, Civil and Environmental Engineering Department, University of Central Florida, 2005-2007.

Professional Activities
- Founding President (1998-1990), past Treasurer (1993 to 2008), Florida Artificial Intelligence Research Society
- Life Fellow, IEEE

Ratan K. Guha

Professor
Ph.D., Computer Science; University of Texas, 1970

Contact
guha@cs.ucf.edu
407-823-2956

Research
Co-Director, Distributed Computing and Networking Lab: http://www.cs.ucf.edu/~guha

- Distributed Systems
- Computer Networks
- Cyber Security
- Modeling and Simulation

Other Experience
- Assistant Professor (1970 -1976), Associate Professor (1976 – 1980), Acting Chairman (1979) – Southern Illinois University
- Research Associate, University of Texas at Austin, 1973
- Member of Technical Staff, Bell Labs., 1979-80
- Consultant, WISE, Inc. (1985)
- Visiting Professor, Beijing University (1985)
- Tokten Consultant to United Nation Development Program (1987)
- Visiting Faculty: Indian Statistical Institute (2006), University of Genoa (2005), University of Wolverhampton (2005), University of Puerto Rico Mayaguez (2005), Thammasat University (1999), UC Berkeley (1997), Purdue University (1996)

Professional Activities
- General Chair, 1st & 2nd Conference on Computer Simulation Methods and Applications, 1998 & 2000
- Technical Program Committee Member and Reviewer of many Conferences
- Guest Co-Editor, Journal of Simulation Practice & Theory, Special Issue on Simulation Methods and Applications, April 2002
- Associate Editor: Modeling and Simulation in Engineering, Hindawi Publishing Corporation.
Mark Heinrich

Associate Professor
Ph.D., Electrical Engineering; Stanford University, 1998

Contact
heinrich@cs.ucf.edu
407-882-0138

Research
http://www.cs.ucf.edu/~heinrich

- Parallel Computer Architecture
- Heterogeneous/GPGPU Architectures
- Energy-efficient architectures
- Cloud-based Mobile and Web Services
- Scalable Cache Coherence Protocols

Other Experience
- CS Senior Design Coordinator, 2013–present
- Director, School of Computer Science, UCF, 2005
- Associate Director, School of EECS, UCF, 2005-07
- Founder, CTO, Phanfare Inc., 2004-2011, Acquired by Carbonite, August 2011
- Assistant Professor, ECE, Cornell University, 1998-2002

Professional Activities
- Senior Member, IEEE, Member ACM
- Reviewer NSF, various IEEE and ACM Conferences (ISCA, ASPLOS, HPCA, MICRO, PACT)
- Program Committee and Workshop Chair, HPCA

Honors & Awards
- Over 1,700 citations on Google Scholar
- IBM Faculty Award, 2004
- NSF CAREER Award, 2000-2004
- “The Stanford FLASH Multiprocessor” selected as one of best papers in 25 years of ISCA (836 citations)
- Cornell University College of Engineering’s Michael Tien ’72 Excellence in Teaching Award, 2001
- Cornell University IEEE Teacher of the Year, 1999-2000
- NSF Graduate Fellow, 1991-94
- Graduated 1st in class, Duke University, EE/CS, 1991

Haiyan (Nancy) Hu

Associate Professor
Ph.D., Computer Science; University of Southern California, 2006

Contact
haihu@cs.ucf.edu
407-882-0134

Research
http://www.cs.ucf.edu/~haihu

- Bioinformatics and Computational Biology
- Integrative Approaches to Identifying Phenotype Specific Pathways and Networks
- Motif Discovery and Regulatory Network Inference
- Gene/Protein Function Prediction
- Large-scale Genomic Data Integration
- Computational Epigenomics
- Data Mining and Machine Learning algorithms

Other Experience
- Research Assistant Professor, Indiana University 2006-2008

Professional Activities
- Panelist for National Institutes of Health (NIH) (2016)
- Panelist for The American Association for the Advancement of Science (2012)
- Guest Editor, Journal on Bioinformatics and Systems Biology
- Editorial Board of The International Journal on Bioinformatics and Biotechnology
- Reviewer for Pattern Recognition, Neural Networks, Genomics, Bioinformatics, and others
- Local Arrangement chair of ACM BCB conference (2012).

Honors and Awards
- NSF CAREER Award, 2012
- Research Incentive Award, UCF 2014
- Reach for the Stars Award, UCF 2015
Kien A. Hua

Professor
B.S., Computer Science; M.S. & Ph.D., Electrical Engineering
University of Illinois at Urbana-Champaign, 1982, 1984, 1987

Contact
kienhua@cs.ucf.edu
407-823-5342

Research
Co-Director, Data Systems Lab: http://dsg.cs.ucf.edu/

- **Data Management**
- **Data Analysis**
  - Multidimensional Data Analysis, Medical Imaging, Intelligent Transportation Systems
- **Data Communications**
  - Video Communications, Wireless Communications, Vehicular Networks
- **Data Security and Privacy**
  - Security in ad hoc networks, Privacy in Video Surveillance, Location-based Services, Mobile Computing

Other Experience
- Advisory Engineer and Lead Architect of a Parallel Computer Project, IBM Mid-Hudson Laboratories
- NASA domain expert in space launch technology

Professional Activities
- Conference Chair, Track Chair, Program Vice Chair, Technical Program Committee Member of numerous IEEE and ACM Conferences
- 250 refereed publications

Honors & Awards
- IEEE Fellow
- One of ten most cited researchers at UCF
- 11 Top/Best Paper Recognitions at international conferences and one paper of the year at a journal
- Best Presenter Awards at an international conference
- UCF College of Engineering & Computer Science Distinguished Lecturer
- UCF Teaching Incentive Awards (three times)
- UCF Research Incentive Award

Charles E. Hughes

Professor
Secondary Appointments: Professor, School of Visual Arts & Digital Media; Affiliate faculty, IST
Ph.D., Computer Science; Penn State University, 1970

Contact
ceh@cs.ucf.edu
407-823-2762

Research
Co-Director, Synthetic Reality Lab: http://sreal.ucf.edu
Affiliate, Computational Imaging Lab: http://cil.cs.ucf.edu
Co-PI, TeachLivE Lab: http://www.ucf.edu/teachlive

- **Virtual Environments**
  - Virtual, Augmented and Mixed Reality
  - Human surrogates (virtual and physical avatars)
  - Gesture analysis in virtual environments
  - Physical/social presence in virtual environments
  - Use of VEs in Teacher preparation, free choice learning, protective strategies for self and others, rehabilitation

Other Experience
- Professor, Computer Science, Univ. of Tenn., 1974-80
- Assistant Professor, Comp. Sci., Penn State, 1972-74
- NRC Postdoctoral Research Associate, 1971-72

Professional Activities
- Entertainment Computing, Associate Editor, 2011-
- Journal of Cybertherapy and Rehabilitation, Scientific Board
- IEEE VR Program Committee, 2012-13
- IEEE VR, co-chair, Research Demos, 2013
- HCII Program Committee, 2008-15
- ISMAR 2009 Tutorial Chair; Program Committee, 2009-13
- Reviewer for NSF, and various journals and conferences

Honors & Awards
- Pegasus Professor, UCF 2007
- IEEE SeGAH Best Paper Award, 2016
- Best Publication Award from the Teacher Education Division of the Council for Exceptional Children, 2015
- Dean’s Research Professorship Award, 2013
- Undergraduate Teacher of the Year, UCF 2001
- Excellence in Undergraduate Teaching, UCF 2001, 1992
- Excellence in Research, CECS 2014
- Senior Life Member, IEEE, & Senior Member, ACM
- Keynote at ACM Multimedia EMASC Workshop, 2014
Sumit Kumar Jha

Assistant Professor
Charles N. Millican Faculty Fellow
Ph.D., Computer Science; Carnegie Mellon University, 2010
MS, Computer Science, Carnegie Mellon University, 2009
B.Tech. (Honors), Computer Science and Engineering, IIT Kharagpur, 2004
Certificate in Quantitative Finance (CQF), 2012

Contact
jha@cs.ucf.edu
407-882-2215

Research
http://www.cs.ucf.edu/~jha

- Stochastic and Hybrid Systems
- Randomized and Parallel Algorithms
- Computational Modeling and Validation
- Computational Systems Biology
- Computational Finance

Professional Activities
- Program Committee, IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS), 2013
- Program Committee, IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS), 2012
- Program Committee, ACM Conference on Bioinformatics, Computational Biology and Biomedicine (ACM BCB), 2012
- Local Arrangements Chair, IEEE Conference on Computational Advances in Bio and Medical Sciences, 2011
- Program Committee, Constraints in Formal Verification, 2011
- Member, Alpha Quant Club, 2010-2011
- Invited Speaker, BioPathways Workshop, International Conference on Systems and Molecular Biology, 2010

Honors and Awards
- IEEE ICCABS Best Paper Award, 2010
- Carnegie Mellon Fellowship, 2004-2010
- Travel Award for paper accepted at Computational Methods in Systems Biology (CMSB), 2008
- ACM Travel Award for paper accepted at Conference on Hybrid Systems Computation and Control (HSCC), 2006

Joseph J. LaViola Jr.

Charles N. Millican Faculty Fellow and Associate Professor
Ph.D., Computer Science; Brown University, 2005
Sc.M., Applied Mathematics; Brown University, 2001

Contact
jjl@cs.ucf.edu
407-882-2285

Research

- Virutal and Augmented Reality
- Pen and touch-based user interfaces
- 3D user interfaces
- Usability analysis

Other Experience
- Director of the Modeling & Simulation Graduate Program at UCF, 2016 - Present
- Adjunct Associate Professor of Research, Brown University, 2006-Present
- Founder, Fluidity Software, Inc., Somerville, MA, 2006-Present
- Founder, J JL Interface Consultants, Inc., Oviedo, FL, 2000-Present

Professional Activities
- Senior Member, ACM, IEEE Computer Society
- Associate Editor, ACM Transactions on Interactive Intelligent Systems

Honors & Awards
- UCF Reach for the Stars Award, 2014
- UCF Scholarship of Teaching and Learning Award, 2013
- UCF Research Incentive Award, 2012
- NSF CAREER Award, 2009

Research Grants

Selected Publications
Gary T. Leavens

Professor and Chair of Computer Science
PhD, Electrical Engineering & Computer Science; Massachusetts Institute of Technology, 1989

Contact
leavens@cs.ucf.edu
407-823-4758

Research
http://www.cs.ucf.edu/~leavens

- Formal Methods in Software Engineering
  - Specification of OO software components
  - Design of JML (see www.jmlspecs.org).
  - Theory of behavioral subtyping and specification inheritance.
- Programming Languages
  - Design and semantics of aspect-oriented programming languages.
  - Theory and design of multiple dispatch languages, including MultiJava (see www.multijava.org).

Other Experience
- Professor, Iowa State University 1989-2007
- Member of Technical Staff, Bell Labs, 1977-84

Professional Activities
- Member of IFIP Working Group 1.9/2.15 (Verified Software) and IFIP WG 2.3 (Programming Methodology)
- General Chair, Foundations of Software Engineering 2018
- General Chair, SPLASH 2012 conference
- Program Co-chair, VSTTE 2010 conference
- Research Program Chair, OOPSLA 2009 Conference
- Co-editor-in-chief: Transactions on Aspect-Oriented Software Development (Springer), 2011-2013, now on editorial board
- Associate Editor: Journal of Object Technology
- Assistant Editor, Software and Systems Modeling
- Co-organizer of two international workshop series:
  - Formal Techniques for Java-Like Languages

Honors & Awards
- Upsilon Pi Epsilon honor society, 2011
- “Memorable Teacher”, College of LAS, Iowa State Univ., 2007
- Senior Member of the ACM, 2007
- Senior Member of the IEEE Computer Society, 2000
- IEEE Distinguished Visitor Program Speaker 2003-2005

Fei Liu

Assistant Professor
Ph.D., Computer Science;
University of Texas at Dallas, 2007

Contact
feiliu@cs.ucf.edu
407-823-3183

Research
http://www.cs.ucf.edu/~feiliu/

- Natural language processing
  - Summarization
  - Social media analysis
  - Language generation
  - Information extraction and retrieval
  - Spoken language understanding
- Machine learning
- Data mining
- Data analytics and visualization

Other Experience
- Senior Research Scientist, Bosch Research, Palo Alto, California, 2011 – 2013

Professional Activities
- Area Chair, North American Chapter of the Association for Computational Linguistics (NAACL)

Honors & Awards
- Invited to participate in MIT Rising Stars in EECS (An Academic Career Workshop for nearly 60 top EECS women scholars in academia), 2015
- Special Performance Recognition Award, Bosch Research, 2012
- Eric Jonsson Distinguished Research Fellowship, 2007-11
- Academic Excellence Award, 2011
- The Aage and Margareta Moller Endowed Scholarship, 2010
Dan C. Marinescu

Professor
Ph.D., Electrical Engineering and Computer Science;
Polytechnic Institute, Bucharest, 1975

Contact
dcm@cs.ucf.edu
407-823-4860

Research
Scientific Director, i2Lab: http://i2lab.ucf.edu
- Scheduling
- Workflow Management and Grid Computing
- Parallel Algorithms and Performance Evaluation of Parallel and Distributed Systems
- Quantum Computing and Quantum Information Theory
-Computer Clouds

Other Experience
- Professor of Computer Science at Purdue University from 1984-2001
- Associate Professor of EECS, Polytechnic Institute
- Senior Researcher, Institute for Atomic Physics of the Romanian Academy of Science.
- Adjunct Professor, Tsinghua University, Beijing
- Visiting Faculty at:
  - IBM Research in Yorktown Heights, New York, 1985
  - Intel in Portland, Oregon, 1993
  - Deutsche Telecom in Bonn, 1996
  - Multi-Media Systems in Dresden, Germany
  - Institute for Information Sciences, Beijing, P.R. China, 1992
  - GSI, Darmstadt, Germany
  - UTFSAM Valparaíso, Chile
- Journal/Book Publications:

Honors & Awards
- Author of “Approaching Quantum Computing” which was co-authored with Gabriela M. Marinescu and was awarded the prize of the Romanian Academy of Science for Informatics in 2004.
- Ernest T.S. Walton Award, Science Foundation of Ireland, 2007
- Fulbright Expert
Ali Orooji

Associate Professor and Undergraduate Program Coordinator
Ph.D., Computer and Information Science; The Ohio State University, 1984

Contact
orooji@cs.ucf.edu
407-823-5660

Research
http://www.cs.ucf.edu/csdept/faculty/orooji.html

- Database Systems
- Software Engineering

Other Experience
- CS/IT Undergraduate Coordinator and Undergraduate Committee Co-Chair, School of EECS, 2006 – Present.
- Computer Programming Team Faculty Advisor, 1989 – present.
- Local chapter of UPE Faculty Advisor, 1991 – present.

Professional Activities
- ACM-ICPC International Steering and Executive Committee Member, 1998 – present.
- Int’l UPE Executive Council Member, 2000 – present.

Honors & Awards
- Outstanding Engineer Award, Computer Chapter, IEEE Orlando Section, 1995.
- Excellence in Undergraduate Teaching Award, College of Arts & Sciences, UCF, 1998.
- Presidential Award for Special Merit (for Exceptional Professional Achievements), UCF, 2000.
- ACM-ICPC Measures Distinguished Service Award, Selected 2008; Award of Excellence, March 2008; and Distinguished Service Award, 2000.
- ACM-ICPC Award, Southeast Regional
- ACM-ICPC Award, World Contest Finals

Sumanta Pattanaik

Associate Professor
Ph.D., Computer Science; Birla Institute of Technology and Science, Pilani, India, 1993

Contact
sumant@cs.ucf.edu
407-823-2638

Research
- Real-time Realistic Rendering, Material Modeling
- Nature Rendering
- Interactive Global Illumination
- High Dynamic Range Imaging & Display

Other Experience
- Visiting Faculty: University of Southern California, Fall 2015; Yale University, Fall 2008; and University of Girona, Spain, Spring and Summer 2009.
- INRIA Post-Doctoral Fellow, IRISA-INRIA, Rennes, France, 1993-1995
- Senior Staff Scientist, National Center for Software Technology (NCST), Bombay, India, 1985-95
- Scientific Officer, Bhabha Atomic Research Center (BARC), Bombay, India, 1980-85

Professional Activities
- Program Committee Member: I3D 2015, SIBGRAPI 2016.

Honors & Awards
- UCF TIP Award, 2011.

Active Grants
- UArizona-DARPA Grant (2016-2018). REVEAL: Light Field Measurement and Exploitation at Information Theoretic Limits

Recent Book


Recent Publication
Guo-Jun Qi

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

Contact
guojun.qi@ucf.edu
407-823-2764

Research
- Data Mining and Analytics
  - Knowledge Acquisition and Aggregation
  - Social Media Analysis
  - Stream Data Mining and Analysis
- Machine Learning and Pattern Recognition
  - Large Margin Method
  - Graphical Model and Random Field
- Computer Vision and Multimedia Computing
  - Multimodal analysis
  - Image Understanding, Recognition and Retrieval

Professional Activities
Guest Editor for:
- Special Issue “social media mining and knowledge discovery”, in Multimedia Systems, Springer

Program Committee Chair for:
- International Conference on MultiMedia Modeling (MMM 2016).

Workshop Chair for:
- International ACM Workshop on Crowdsourcing for Multimedia (CrowdMM 2015), in conjunction with ACM International Conference on Multimedia (ACM MM), 2015, Brisbane, Australia.
- IEEE International Workshop on Frontier of Crowdsourcing in Multimedia Computing (FCMC) in conjunction with IEEE International Conference on Multimedia and Expo (ICME) 2014, July 14-18, Chengdu, China.

Area Chair for:

Senior Program Committee Member for:
- ACM International Conference on Information and Knowledge Management (CIKM 2015)

Honors & Awards
- 2015 Best Paper Runner-up, ACM Multimedia
- 2014 Best Student Paper Award, ICDM
- 2013 "Best of ICDE Paper" by IEEE Transactions on Knowledge and Data Engineering
- 2011,2012 IBM Fellowship, IBM
- Best Paper Award, The 15th ACM International Conference on Multimedia (ACM SIGMM)

Mubarak A. Shah

Agere Chair Professor
2° Joint Appointment in College of Optics and Photonics
2° Joint Appointment in Department of Mathematics
Ph.D., Computer Science; Wayne State University, 1986

Contact
shah@cs.ucf.edu
407-823-5077
Assistant: Tonya LaPrarie 407-823-4952

Research
Center for Research in Computer Vision: http://crcv.ucf.edu/
- Video Surveillance and Monitoring
  - Visual Tracking
  - Scene and Object Recognition
  - Human Activity Recognition
  - UAV Video Analysis
- Video Registration
- Video Categorization and Segmentation
- 3D reconstruction
- Content-based Video Retrieval

Professional Activities
- Editor-in-Chief, Machine Vision & Applications, Springer
- Associate Editor ACM Computing Surveys
- Program Co-Chair, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2008

Honors & Awards
- 2012 University Excellence in Research Award
- 2011 CECS Advisory Board Award for Faculty Excellence
- Scholarship of Teaching and Learning Award, 2011
- Fellow, IEEE (2003), AAAS (200), IAPR (2008), SPIE, 2008
- UCF Distinguished Researcher Award, 2007
- SANA Award, 2007
- Pegasus Professor Award, 2006
- UCF Research Incentive Award, 2003, 2009
- ACM Distinguished Speaker (DSP), 2008-.
- IEEE Distinguished Visitors Program Speaker, 1997-2000
- Engineering Achievement Award, Harris Corp. Information Systems Div., 1999
- Outstanding Engineering Educator, IEEE 1997
- UCF Teaching Incentive Program Award, 1996, 2003
Kenneth O. Stanley

Associate Professor
Ph.D., Computer Science; University of Texas at Austin, 2004

Contact
kstanley@cs.ucf.edu
407-823-4289

Research
Homepage: http://www.cs.ucf.edu/~kstanley/
Evolutionary Complexity Group: http://eplex.cs.ucf.edu/

- Inventor, NeuroEvolution of Augmenting Topologies (NEAT), HyperNEAT, and Novelty Search Algorithms
- Artificial Intelligence (AI) and Machine Learning (ML)
- Evolutionary Computation
- Artificial Neural Networks (ANNs)
- Neuroevolution: Evolving ANNs with Evolutionary Algorithms
- Generative and Developmental Systems
- AI and ML in Video Games and Real-time Simulations

Book (with coauthor Joel Lehman)

Professional Activities
- Executive Committee of the ACM Special Interest Group on Genetic and Evolutionary Computation (ACM SIGEVO), since 2011
- Editorial Board of Frontiers in Robotics and AI, since 2015
- Associate Editor of IEEE Transactions on Computational Intelligence and AI Games, since 2008
- Founder and Editor in Chief of aigameresearch.org, a peer-reviewed repository for AI-based research-related games, since 2012.

Honors & Awards
- UCF Reach for the Stars Award, 2014
- UCF CECS Dean’s Research Professorship Award, 2013
- UCF Research Incentive Award (RIA), 2012
- ACM Distinguished Speaker, named September 2011
- UCF Teaching Incentive Program (TIP) Award, 2011
- 2008 DARPA Computer Science Study Group (CSSG)
- Outstanding Graduate Teaching Award (School of EECS), 2008
- Finalist, 2010 Indie Game Challenge (12 of 250 independent games were chosen)

Gita R. Sukthankar

Associate Professor
Ph.D., Robotics; Carnegie Mellon University, 2007

Contact
gitars@cs.ucf.edu
407-823-4305

Research
http://www.cs.ucf.edu/~gitars/
http://ial.cs.ucf.edu/

- Multi-agent systems
- Machine learning
- Activity/plan recognition for:
  - Games and simulation systems
  - Assistive technologies
  - Human-robot interaction
- Social-computational systems

Other Experience
- HP Labs - Cambridge Research Laboratory
- Member of Research Staff, 2000–2003
- PARC – Sabbatical Visitor, 2015-2016

Professional Activities
- IFAAMAS Board of Directors (2016-2022)
- Co-chair AAAI Symposium Series (2012-onward)
- General chair, AAAI Conference on AI and Interactive Digital Entertainment (2013)
- Program chair, AAAI Conference on AI and Interactive Digital Entertainment (2012)
- Lead editor on Plan, Activity, and Intent Recognition: Theory and Practice (published by Morgan Kaufmann)

Honors & Awards
- UCF Reach for the Stars Award (2015)
- CECS Dean's Research Professorship Award (2013)
- UCF Research Incentive Award (2013)
- UCF Faculty Excellence for Doctoral Mentoring (Engineering and Sciences) (2012)
- ACM and IEEE Senior Member
- CECS Distinguished Researcher (asst. professor), 2010
- Charles N. Millican Faculty Fellow (2010, 2012)
- DARPA Computer Science Study Group, (2009)
- NSF CAREER (2009)
- Air Force Young Investigator Program (2009)
- ONR Summer Faculty Fellow (2008)
Sharma Thankachan

Assistant Professor
Ph.D., Computer Science; Louisiana State University, 2014

Contact
sharma.thankachan@ucf.edu

Research
- Parallel and External Memory Algorithms
- Algorithms for Sequence Analysis, Motivated from Applications in Bioinformatics
- Advanced Data Structures for
  - Succinct/Compressed Text (String) Indexing
  - Information Retrieval and Databases
  - Geometric Range Query Problems

Other Experience

Professional Activities
- Program committee member:
  - 17th IEEE International Conference on Parallel and Distributed Systems (ICPADS), 2011.
- Local arrangements chair: IEEE International Conference on Computational Advances in Bio and Medical Sciences (ICCABS), 2016.

Honors & Awards
- Dissertation year Fellowship (2013-2014), Louisiana State University.

Damla Turgut

Associate Professor
Ph.D., University of Texas at Arlington, 2002

Contact
turgut@cs.ucf.edu
407-823-6171

Research
http://www.cs.ucf.edu/~turgut

- Wireless networks
- Value of information (VoI)
- Sensor networks with mobile sinks
- Underwater sensor networks
- Ad hoc and vehicular networks
- Value of Privacy in Internet of Things (IoT)
- Autonomous agents
- Big data and machine learning for STEM education

Other Experience
- Visiting Researcher: University of Rome – La Sapienza, Italy (2012); Imperial College, London, UK (2011)
- Faculty Associate, CAESAR, UT Arlington, ’97-’98.

Professional Activities
- Associate Editor: Elsevier Ad Hoc Networks and IJCS
- Guest editor: Elsevier PMC and Computer Communications
- General Chair: IEEE LCN
- TPC Chair/Co-Chair: IEEE CCNC, GlobeCom, ICC, LCN, PerSeNS, N2Women
- TPC Member: IEEE INFOCOM, SECON, ICC
- External PhD Examiner in Australia and Canada
- Panel Reviewer: NSF, NSF GRFP, Dept. of Energy Office of Science Graduate Fellowship, European Young Investigator Award Scheme, Research Grant Council of Hong Kong, Natural Sciences and Engineering Research Council of Canada, Austrian Science Fund

Honors & Awards
- Featured in 2015 UCF Woman Making History
- iSTEM Faculty Fellow, 2014
- Best paper award, IEEE ICC 2013
- Distinguished Member of IEEE INFOCOM 2016, 2015 TPC
- 2014 CpE BS, SACSCOC Assessment Success Stories
- 2011 College Excellence in Professional Service Award
- UCF Teaching Incentive Program (TIP) Award, 2009
- Outstanding Research Award, UT Arlington, 2002
- Upsilon Pi Epsilon Honor Society, 1999
Liqiang Wang

Associate Professor
Ph.D., Computer Science; Stony Brook University, 2006

Contact
lwang@cs.ucf.edu
407-823-3187

Research
http:www.cs.ucf.edu/~lwang

- Big Data, Cloud Computing, and High-Performance Computing
  - Performance and Scalability Optimization
  - Big Data Analytics
  - Anomaly Detection and Log Analysis
- Program Analysis
  - Concurrency Error Detection
  - Software Resilience

Other Experience
- Castagne Associate Professor, Computer Science, University of Wyoming, 2013-2015
- Visiting Research Scientist (Sabbatical Leave), IBM T.J. Watson Research Center, 2012-2013
- Professor (Associate, Assistant), Computer Science, University of Wyoming, 2006 – 2015

Professional Activities
- Chair, IEEE International Workshop on Scientific Workflows and Big Data Sciences (SWF), 2010-2014
- Chair, Annual IEEE Service Cup, 2012-2013
- Track Chair, IEEE Cloud Computing, 2016
- NSF Committee on Software Infrastructure for Heterogeneous Computing, 2016
- Panel Reviewer: NSF, NASA (Wyoming)
- Reviewer for various journals.

Honors & Awards
- Overseas Scholars Collaborative Research Award (a.k.a. Outstanding Chinese Overseas Young Scholar Award), by Natural Science Foundation of China (NSFC), 2014
- Castagne Faculty Fellow Award, University of Wyoming, 2013
- NSF CAREER Award, 2011
- NSF TeraGrid Fellowship, 2009
- Best Paper Award, IBM Verification Conference, 2005

Gregory F. Welch

Professor and Florida Hospital Endowed Chair in Healthcare Simulation
Primary Appointment: Professor, College of Nursing
Secondary Appointments: Department of Computer Science and Institute for Simulation & Training
Adjunct Appointment: UNC Chapel Hill, Computer Science
Ph.D., Computer Science; UNC Chapel Hill, 1996

Contact
welch@ucf.edu
407-796-2823

Research
Co-Director, Synthetic Reality Lab: http://sreal.ucf.edu

- Virtual and Augmented/Mixed Reality
  - Human motion tracking/capture systems
  - Displays (head-worn, fixed, projector-based, etc.)
  - Systems
- Human-Computer Interaction
  - Human surrogates (virtual and physical avatars)
  - Interactive projector-based graphics
- Stochastic estimation (Kalman filters, etc.)
- Computer vision

Other Experience
- Research Professor (Associate, Assistant), Computer Science, UNC Chapel Hill, 1996–2012
- NASA Jet Propulsion Laboratory, 1987–1990

Professional Activities
- Presence: Teleoperators and Virtual Environments, Associate Editor
- Frontiers in Virtual Environments, Associate Editor
- IEEE VR 2013 Co-General Chair
- ISMAR 2012 Co-General Chair
- Reviewer for various journals and conferences
- Over 100 refereed publications, 5 patents, several pending
- Internationally-recognized “Kalman filter” web site

Honors & Awards
- IEEE Outstanding Performance, Co-Chair, VR 2013
- 1995 “An Introduction to the Kalman Filter” cited over 4,700 times according to Google Scholar
- Senior Member, IEEE Computer Society and Member, ACM
- Excellence in Teaching award, UNC-Chapel Hill, 2007
- Outstanding Senior Project, Purdue University, 1986
Pamela Wisniewski

Assistant Professor
Ph.D., Computer and Information Systems;
University of North Carolina at Charlotte, 2012

Contact
pamwis@ucf.edu
407-823-3189

Research
Human-Computer Interaction (HCI), Social Computing, Privacy, Safety, Health and Wellbeing in Sociotechnical contexts.

- Human interactions mediated by technology
- Social media and privacy regulation
- Adolescent risk and resilience in online contexts
- Contextual Privacy in Internet of Things (IoT)

Other Experience
- Postdoctoral Scholar in the College of Information Science and Technology, the Pennsylvania State University, 2013-2015

Professional Activities
- Workshop Co-organizer: CSCW 2015 The Future of Networked Privacy: Challenges and Opportunities; CSCW 2012 Reconciling Privacy and Social Media

Honors & Awards
- ACM SigChi Best paper award at CHI 2015 & 2016
- Best paper honorable mention CSCW 2015, CHI 2014
- TIAA-CREF Graduate Fellowship, 2005-2009

Pawel Wocjan

Associate Professor
Ph.D., Karlsruhe Institute of Technology, 2003

Contact
wocjan@cs.ucf.edu
407-823-2844

Research
Interdisciplinary Research in Quantum Computing and Quantum Information Science; Design and Analysis of Algorithms http://www.cs.ucf.edu/~wocjan

- Classical and Quantum Algorithms
- Quantum Information Theory
- Mathematical Cryptography
- Algorithmic Number Theory and Algebraic Geometry
- Complexity Theory

Other Experience
- Postdoctoral Scholar in Computer Science, Institute for Quantum Information, California Institute of Technology, 2004-2006
- Research Assistant, Department of Computer Science, University of Karlsruhe, Germany, 1999-2004

Professional Activities
- Reviewer for National Science Foundation
- Panelist for National Science Foundation
- Reviewer for Journals on Quantum Computing and Quantum Information Theory

Honors & Awards
- National Science Foundation CAREER Award for “Algebraic Approach to the Design of Novel Quantum Algorithms” in 2008
- UCF Research Incentive Award in 2011
Annie S. Wu

Associate Professor
Ph.D., Computer Science and Engineering; University of Michigan, 1995

Contact
aswu@cs.ucf.edu
407-823-5922

Research
http://www.cs.ucf.edu/~aswu

- Genetic Algorithms
- Evolutionary Computation
- Complex Adaptive Systems
- Multi-agent Systems

Professional Activities
- Editorial Board Member, Evolutionary Computation Journal
- Editorial Board Member, Memetic Computing Journal
- Program Co-Chair, Foundations of Genetic Algorithms X, January 2009
- Publicity Chair, 2008 Genetic and Evolutionary Computation Conference

Honors & Awards
- National Research Council Research Associateship Award

Shibu Yooseph

Professor
Ph.D., Computer and Information Science; University of Pennsylvania, 1997

Contact
shibu.yooseph@ucf.edu
407-823-5307

Research
- Algorithm design and combinatorial optimization
- Computational Biology and Bioinformatics: Genomics; Metagenomics; Sequence Assembly; Phylogenetics; Clustering and Ordination; Functional Genomics; Homology Detection; Biomarker Discovery; Machine Learning
- Microbiome research: Host-microbiome associations and mechanisms in the context of health and disease; Microbial diversity in different environments including water and air; Analysis and integration of ‘-omics’ data

Other Experience
- Human Longevity Inc. (2014-2016): Senior Director of Bioinformatics / Microbiome Lead
- J. Craig Venter Institute (2003-2016)
  - Professor of Informatics (2014-2016)
  - Director of Informatics, San Diego (2009-2011)
  - Associate Professor of Informatics (2009-2013)
  - Senior Computational Scientist (2003-2008)
- University of Southern California (1998-2000): Research Associate
- DIMACS, Rutgers University (1997-1998): Postdoctoral Fellow

Professional Activities
- On editorial board of Microbiome journal
- On MetaCyc Advisory Board
- Ad-hoc reviewer for various journals including Nucleic Acids Research, Bioinformatics, and PLOS
- NSF Reviewer (2015, 2014)
- NSF BIGDATA panel member (2012)
- NIH Reviewer GCAT Study Section (2013, 2011)
- ISMB Program Committee (2014)
- RECOMB and RECOMB-SEQ Program Committee (2013)
- Vice Chair for ACM BCB 2011

Honors & Awards
- Over 23,000 citations (source Google Scholar)
- Several publications recommended by Faculty of 1000
- GRASP algorithm featured in Biotechniques (2015)
- Postdoctoral Fellowship from NSF funded Program in Mathematics and Molecular Biology (1998-2000)
- Postdoctoral Research Fellowship from NSF funded DIMACS (1997-1998)
- Dean’s Fellowship (1992-1993)
Shaojie Zhang
Associate Professor
Ph.D., Computer Science; University of California, San Diego, 2007

Contact
shzhang@cs.ucf.edu
407-823-6095

Research
Computational Biology and Bioinformatics Group
http://www.cs.ucf.edu/~shzhang

Professional Activities
- Organizing Committee Member, RECOMB Satellite Conferences on Systems Biology and Computational Proteomics (2006)
- Associate Editor, Frontiers in Bioinformatics and Computational Biology
- Review Editor, Frontiers in Non-Coding RNA
- Reviewer for Israel National Foundation, Austrian Science Fund, and Fonds de recherche du Québec – Nature et technologies
- Member, RNA Society

Honors & Awards
- Best Paper Award, IEEE ICCABS 2012
- Best Paper Award, ASPDAC 2015
- J. Craig Venter Institute Summer Fellowship, 2006
- California Institute for Telecommunications and Information Technology (CalIT2) Fellowship, 2001

Cliff C. Zou
Associate Professor
Program Coordinator, Digital Forensics Master Program
Ph.D., Electrical & Computer Engineering; University of Massachusetts-Amherst, 2005

Contact
czou@cs.ucf.edu
407-823-5015

Research
Computer and Network Security
http://www.cs.ucf.edu/~czou/

Professional Activities
- Editorial Board Member: IJAHUC, SCN
- Program Committee Member for dozens of conferences
- NSF panelist (2011,2016); NIH panelist (2014)
- Senior Member: IEEE

Honors & Awards
- Publications have more than 4700 citations according to Google Scholar Citation.
- Best Student Paper Award in conference ACSAC 2007.
- Received UCF Teaching Incentive Program (TIP) award, 2013.
- Undergraduate research project "Personal Medication Monitor" won the first price in the first annual UCF Inventing Entrepreneurs Innovation Competition (reported by UCF News).
- Paper "Honeypot detection in advanced botnet attacks" published in IJICS (2010) was reported by EurekAlert! News Service and The Register, respectively.
- Rootkit work (paper published in Securecomm'08) was reported by PCWorld (05/09/2008).
- Research published in NDSS'06 reported by “New Scientist Magazine”, Mar. 4, 2006 189(2541), pg. 32.
- Best Paper Award runner-up in PADS 2005.
- Best Paper Award runner-up in ICCCN 2004.
- Interviewed by National Public Radio (NPR) on our Internet worm research, September 2003