Welcome from the Chair

The Department is happy to see National Institutes of Health, DARPA and National Science Foundation funding going to junior faculty; Xiaoning Qian, Luther Palmer and Yu Sun. Abe Kandel has received recognition for being a pioneer in research on Fuzzy Sets and Systems from the IEEE Computational Intelligence Society.

Our students have picked up some recent awards. Ransford Hyman, received a Best Poster Award during the Student Research Poster Competition at the Richard Tapia Celebration of Diversity in Computing Conference. Jeremy Blackburn was awarded the Best Poster Award for “Cheaters in a Gaming Metanetwork” in the joined ACM HPDC - SIGMETRICS Student Poster Session. A USF team of graduate and undergraduate students led by Jeremy Rasmussen came in Third in the Southeastern Collegiate Cyber Defense Competition.

Profs. Dmitry Goldgof and Ranga Kasturi and Grad. Students Matt Shreve and Joshua Candamo have the most downloaded paper in IEEE Transactions on Intelligent Systems for both October 2010 and December 2010. Prof. Sudeep Sarkar has been named the co-Editor-in-Chief of Pattern Recognition Letters.

Our 30-year anniversary picnic was enjoyable for the attendees with good food and a spirited volleyball game. We were pleased to have some alumni and past faculty there. Our undergraduate scholarship drive is ongoing in the effort to reach an endowment of $25,000.00 and could sure use your help to support worthy undergraduates (we are to about $4500.00). You can donate at [https://usfweb2.usf.edu/foundation/asp/ssl/adfdn/funds.asp?dept=ESB&group=TG](https://usfweb2.usf.edu/foundation/asp/ssl/adfdn/funds.asp?dept=ESB&group=TG) by selecting 220290 Computer Science and Engineering Fund.

We congratulate Andriana Iamnitchi who received tenure and was promoted to Associate Professor this summer! We congratulate Rollins Turner on his retirement and thank him for his service. Ed Kellner has also retired, congratulations, and we thank him for his service.

We are seeing a surge in undergraduate enrollment as the job market for Computer Scientists and Computer Engineers stays robust. We had the largest graduating class in the last 5 years during 2010-11 and are looking forward to an exciting and productive academic year for 2011-12.

Best Wishes,

Lawrence O. Hall
Professor and Chair
Dr. Xiaoning Qian has received funding from the National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health for the proposal titled: Identifying Risk Factors and Interactions for Type 1 Diabetes in Large Studies. The project aims to develop data-driven methods to analyze potential genetic and environmental risk factors for the development of Type 1 Diabetes. Co-Investigators on this project include Drs. Hye-Seung Lee and Kendra Vehik from the Pediatric Epidemiology Center directed by Dr. Jeffrey Krischer, and Dr. Bo Zeng in the Department of Industrial & Management Systems Engineering.

Professor Luther Palmer has received a 4-year $293,000 grant from DARPA under the Maximum Mobility and Manipulation (M3) program. The award is for the proposal entitled: Biologically Based Network Controller for Dynamic Locomotion of Legged Morphologies with Variably Compliant Actuators.

The research aims to develop a network control system for legged robots, based upon neural pathways identified in legged animals that will enable robots to dynamically adapt their gaits to terrain irregularities while maintaining stability. The neurobiological basis for this controller emerged in the last couple of years and this research proposes to implement the algorithm in hardware and confirm the generality of the control technique on a wide range of morphologies.

Professors Dmitry Goldgof and Larry Hall have received a 3-year James and Esther King Program grant with Bob Gillies, Ph.D., PI, and Bob Gatenby, M.D. at Moffitt Cancer Center. The King Program sponsors innovative research seeking new insights into the prevention, diagnosis, treatment, and cure of tobacco-related diseases. This $277,000 sub-award is part of a 3-year grant to study the “Radiomics of Lung Cancer Screening”. The aim of this project is to identify image features of suspicious lesions in screening CT scans, which predict development of life-threatening cancer.

University of South Florida, Department of Computer Science & Engineering
Spotlight on New Grants

**Dr. Yicheng Tu** has received NSF funding for the proposal titled: Making Databases Green - An Energy-Aware DBMS Approach. This project is collaborative with Dr. Bo Zeng from IMSE at USF, and Dr. Xiaorui Wang from The Ohio State University. The total amount funded for this 3-year grant is $461,678, in which USF’s budget is $266,440. This project addresses design and implementation of database management systems that are energy efficient. Such systems can benefit a number of industrial sectors whose operations depend heavily on database-supported software such as online retailing systems, financial management software, and social networking platforms, through significantly lower electricity expense.

**Dr. Miguel Labrador and Dr. Rafael Perez** were awarded $300,000 from the National Science Foundation to run their summer Research Experiences for Undergraduates (REU) site for three more years! This year, the 10-week summer program gives undergraduate students from around the country the opportunity to do research in Ubiquitous Sensing, which includes location-based services, participatory sensing, and human-centric sensing applications. For more information, visit the program’s website at: [http://www.csee.usf.edu/REU](http://www.csee.usf.edu/REU).

**Professor Sudeep Sarkar** and **Special Education Associate Professor Barbara Loeding** of USF Polytechnic received one of two College of Engineering Interdisciplinary Scholarships awards for Spring 2011. The group is developing a technology that will provide individualized feedback during sign language instruction to augment classroom learning. The project will produce an intelligent sign language tutor that will be able to provide instructions to beginning signers. The technology, called iSIMON (intelligent SIgn language MONitor), will rely on cameras to sense sign attempts and provide constructive feedback and video demonstration of how a sign should be made.

Awards

**Professor Abe Kandel** has received the prestigious Fuzzy Systems Pioneer Award from the IEEE Computational Intelligence Society. The Fuzzy Systems Pioneer award recognizes significant contributions to early concepts and sustained developments in the field of fuzzy systems.

Professor Kandel pioneered research in fuzzy hardware; in particular, groundbreaking work in fuzzy switching theory, fuzzy pattern recognition and fuzzy databases. He has published several hundred papers, including the very first paper on fuzzy sets published in the prestigious IEEE Proceedings titled, “Fuzzy Sets, Fuzzy Algebra, and Fuzzy Statistics”.

**Dr. Larry Hall** has been named Distinguished University Professor for 2011. The DUP Recommending Committee was impressed with the fact that he has attained a high level of international recognition for his work on topics in the areas of fuzzy pattern recognition, medical image and data mining. Professor Hall has published nearly 70 journal papers, over 150 peer-reviewed conference papers, and has authored an impressive number of book chapters and edited volumes. The University is pleased to recognize Dr. Hall’s outstanding scholarly record and significant contributions to USF.
Graduate Students, Jeremy Blackburn, Ramanuja Simha, Clayton Long, Xiang Zuo, and Nicolas Kourtellis, were awarded the Best Poster Award for “Cheaters in a Gaming Metanetwork” at the ACM HPDC - SIGMETRICS Student Poster Session held at the Federated Computing Research Conference in San Jose, CA. The poster was selected based on an ad-hoc 2-minute oral presentation to the poster award committee and on peer reviews. This research started as a final class project in the Spring 2011 collaborative courses Basics of Parallel and Distributed Computing (taught by Prof. Adriana Iamnitchi from the CSE Department) and Social Network Analysis (taught by Prof. John Skvoretz from the USF Department of Sociology).

Student News

Over the past year, several colleagues visited USF and graciously presented lectures on various subjects of interest to our faculty and students. We want to thank everyone for coming and sharing their passions and interests to help celebrate the department’s 30th Anniversary!

30th Anniversary

News Article

An investigative article on the history of the USF Computer Science and Engineering Department was published in the College of Engineering’s Envision Magazine for Spring 2011. The well researched story includes interviews with the founders and early professors in the department. It uncovers the origins of the program, bringing in students and faculty from another state university, resulting in a sub-department of Electrical Engineering leading to a full department in a few short years. You can pick up a copy of Envision in the Dean’s office or access it online here:


Lecture Series

Over the past year, several colleagues visited USF and graciously presented lectures on various subjects of interest to our faculty and students. We want to thank everyone for coming and sharing their passions and interests to help celebrate the department’s 30th Anniversary!

Jim Bezdek – Professor (Retired), University of West Florida
- Anomaly Detection in Wireless Sensor Networks using Elliptical Similarity, Visual Assessment & Clustering

Ranadip Pal – Professor, Texas Tech University
- Tackling Model Complexity of Genetic Regulatory Networks
- Communication and Collaboration of Fuzzy Robots
- Multilayer Perceptrons Based on Fuzzy Operations

Laszlo T. Koczy – Professor, Szechenyi Istvan University, Gyor, Hungary
- Communication and Collaboration of Fuzzy Robots
- Multilayer Perceptrons Based on Fuzzy Operations

Philip Kegelmeyer – Senior Scientist Sandia National Laboratories
- Simple, Costless Handling of Skew Data by Ensembles of Decision Trees

Wojciech Szpankowski – Professor, Purdue University
- Shannon Legacy and Beyond
Lab Life

Robot Perception and Action Lab (RPAL)  
http://rpal.cse.usf.edu

The current core research interest of RPAL is in robot perception and action that involves robot vision and tactile perception, learning, intelligent reasoning and motion and force planning.

RPAL is currently building a human-tool-environment interaction monitoring system that can capture and analyze interaction activities in great detail with cameras and computer vision techniques. At the same time, we are integrating a robot system with a 6-axis robotic arm, 4-DOF robotic hand, and three tactile sensors on the fingertips. A learning framework is designed to allow the robot to learn skills from humans to interact with environment intelligently.

In addition, RPAL is also involved in several interdisciplinary research projects that are closely related to robotics. Our collaboration with Tampa General Hospital and USF Electrical Engineering Departments has resulted in an NSF grant funding research on novel imagery to assist minimally invasive surgery. Yet another of our partners, USF Music Department, joins our research into robotic aided hand disorder rehabilitation. Other collaborations have us working closely with Moffitt Cancer Center to develop a new telemedicine platform.

RPAL is committed to providing an enjoyable and state-of-art research environment that values mentoring of graduate and undergraduate students so that together we can contribute high impact research and breakthrough. Currently there are 11 members in RPAL – one faculty, four Ph.D. students, three Master students, and three REUs. We always have openings for new talents. If you are interested in doing research at RPAL, please contact Dr. Yu Sun.

Student News

CSE graduate students, Zichen Xu, Peyman Behzadnia, and their team, won the $5000 USF Graduate Student Challenge Grant. Their one-year project is titled, “Large Scale Energy-efficient Data Management,” and Professor Yicheng Tu is the faculty advisor.

Ransford Hyman, Jr., a doctoral candidate in the Department, received a Best Poster Award during the Student Research Poster Competition at the Richard Tapia Celebration of Diversity in Computing Conference in San Francisco. Ransford presented on “A Clock Control Strategy for Peak Power Reduction Using Path Clustering.”

Alescia Malone - An incoming Ph.D. student, has received the USF Graduate Student Success Diversity fellowship from the USF Graduate School. This fellowship includes a stipend and tuition waiver for 3 years.

A USF team finishes 3rd in the Southeastern Collegiate Cyber Defense Competition. Held at Kennesaw State University, Georgia, the team included CSE students: Alex Taylor, Nathan Preseault, Ricky Joudrey and Clayton Whitelaw. This competition is unique in its focus on the operational aspect of managing an existing commercial network infrastructure.
Department Scholarship Recipients

The USF College of Engineering annually bestows dozens of scholarship for engineering students. Listed here are the Computer Science and Engineering students receiving an award for the 2011/2012 school year.

To be eligible for all these awards, and more, a student simply fills out one online application. The application for the next school year is available in December at http://schapp.eng.usf.edu/. There are awards based on need, merit, service, leadership activities and association.

Update: The first recipient of the newly established Spirit of Innovation Award, sponsored by CSE alumni, Maha Sallam and her husband K.K. Quah, will be named in the near future.

Nicole Ayton - Peter Pempsell Scholarship
Ayaz Hemani - CAE USA Scholarship
David O’Donnell - CAE USA Scholarship
Michael Kubacki - CAE USA Scholarship
Joshua DuBois - College of Engineering Memorial Scholarship
Lauren Woodbridge - College of Engineering Alumni Society Legacy Scholarship
Khalid Brown-Walker - Aboly Hagan Scholarship
Luis Cintron - Aboly Hagan Scholarship
Nathan Preseault - Edgar W. Kopp Memorial Scholarship
German Plazas - Honeywell Hispanic Scholarship
Maria Hernandez - Honeywell Hispanic Scholarship
Alex Brown - General Dynamic Ordnance and Tactical Systems Scholarship
Zak Burkhardt - Mozelle Beverly Scholarship