UNIVERSITY OF SOUTH FLORIDA

ANNUAL REPORT

COLLEGE OF ENGINEERING

USF
UNIVERSITY OF SOUTH FLORIDA
COLLEGE OF ENGINEERING

2013 | 2014

Although this is a transition year for the College of Engineering as the search for a new permanent dean was underway and is now completed, the accomplishments of the college have been significant.

By far, the most important accomplishment has been a successful ABET accreditation review and visit. A three-day, on-campus visit by the team was completed in October and they found no weaknesses or deficiencies in any of the programs. We expect the final report from ABET, due sometime in August 2014, that all of our programs will be accredited for the maximum six years. Successful ABET accreditation provides our students and prospective employers assurance that our programs meet the same rigorous criteria that other similar engineering and computer science programs across the country and the world must meet. It is a clear indication of the dedication of our faculty and staff to provide our students with a high quality education.

Rafael Perez
Interim Dean

The number of undergraduate students who select engineering as a major at USF continues to increase. Engineering's undergraduate headcount for fall 2013 was up by 13 percent over fall 2012 while the masters' student headcount was up 14 percent. The retention rate for undergraduate engineering students has shown a significant increase of 6.6 percent over previous years' retention rates. The college's addition of course-based learning communities and an early warning system, along with expansion of living learning communities are likely responsible for these improvements in retention.

The research accomplishments of the college continue on an upward trend. Two faculty from the Dept. of Electrical Engineering, Selcuk Kose and Gokhan Mumcu, received NSF CAREER Awards. For the first time in the college's history research expenditures exceeded $30M for the year with an increase of more than $2.2M from the previous year.

The overall research outlook reinforces our dedication to support the university's research enterprise and we will continue to seek collaborative and focused opportunities in various sectors to diversify the faculty research portfolio.

Lastly, the Alfred P. Sloan Foundation announced recently that it will partner with the University of South Florida to create a University Center of Exemplary Mentoring (UCEMs). Initiated through the Foundation's Minority PhD program, the new partnerships are designed to identify universities with a proven track record of successfully educating underrepresented minority graduate students in STEM disciplines and empower these universities to expand, strengthen, and institutionalize efforts aimed at minority recruitment, mentoring, educational support, and professional development. USF is one of only five centers to be established nationwide.

Welcome Dean Robert H. Bishop

We are delighted to welcome, Dr. Robert H. Bishop, P.E., as the sixth dean of the College of Engineering at the University of South Florida. A distinguished teaching professor and researcher, Dean Bishop is a specialist in the applications of systems and control theory to modern engineering products.

Robert H. Bishop
Dean

Bishop's current research involves development of advanced spacecraft navigation methods and he has initiated several nanosatellite projects. He was selected twice as a Faculty Fellow at the NASA Jet Propulsion Laboratory and as a Welliver Fellow of the Boeing Company to work with their business units to learn about connecting industry needs with educating the next generation of engineers. He is the co-author of one of the world's leading undergraduate textbooks in control theory and has authored two other textbooks, edited two handbooks, and authored/co-authored over 125 journal and conference papers.

Bishop was selected to lead Marquette's engineering college in 2010 after previously working as a professor and department chair at The University of Texas at Austin. Before then, he was a practicing engineer at Draper Laboratory - the Massachusetts Institute of Technology spinoff that has played a historically significant role in the U.S. space program - where he developed an international reputation as a leading specialist in guidance, navigation and control of aerospace vehicles.

Bishop earned his Ph.D. (1990) at Rice University in Electrical and Computer Engineering, his M.S. (1980) and B.S. (1979) in aerospace engineering at Texas A&M University. He is a Fellow of the American Institute of Aeronautics and Astronautics and a Fellow of the American Astronautical Association.

Our Mission

The mission of the College of Engineering at the University of South Florida is to improve the quality of life in our community by:

- Providing a high-quality education for our students and practicing professionals
- Creating new knowledge and solving real world problems via innovative research
- Engaging in effective community service and outreach

Our Values

- Student Success
- Collaboration and Collegiality
- Commitment to Continuous Improvement
- Innovation
- Diversity
- Service to Humanity

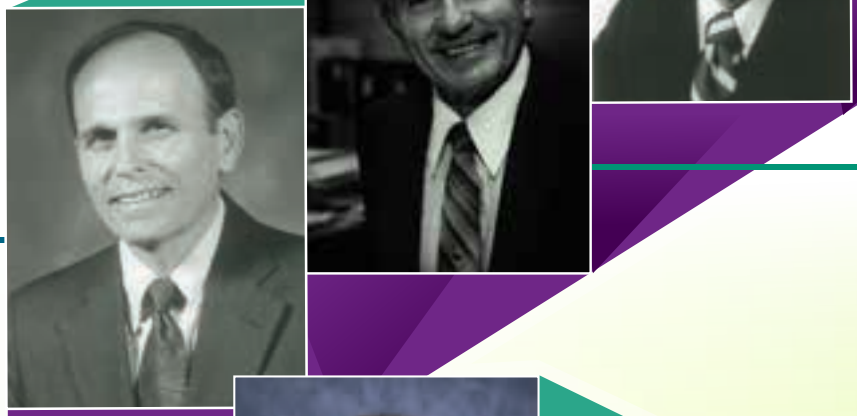
COLLEGE OF ENGINEERING

1964 50 2014

UNIVERSITY OF SOUTH FLORIDA

THIS IS JUST THE BEGINNING

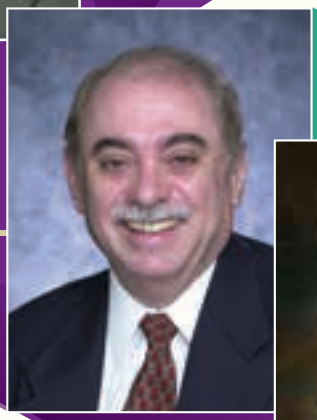
This year, the College of Engineering celebrates its 50th year of educating engineers. On September 8, 1964, the college opened its doors to the first 240 students. They are the foundation of an alumni group that presently consists of more than 20,000 graduates.



Edgar W. Kopp, Jr.
Founding Dean
1964-1979

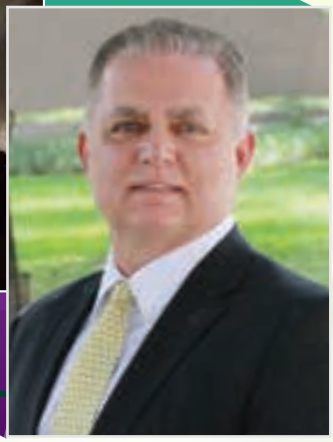
Glenn A. Burdick
1979-1986

Michael Kovac
1986-1999



Louis Martin-Vega
2001-2006

John M. Wiencek
2007-2013



Robert H. Bishop
2014

Academic and Professional Success for Our Students

Accreditation

ABET accreditation provides assurance that a college or university program meets the quality standards established by the profession for which the program prepares its students. ABET accredits postsecondary programs housed in degree-granting institutions which have been recognized by national or regional institutional accreditation agencies or national education authorities worldwide.

Accreditation is value. Reaching into our public, probate and professional lives, accreditation is proof that a collegiate program has met certain standards necessary to produce graduates who are ready to enter their professions. Students who graduate from accredited programs have access to enhanced opportunities in employment; licensure, registration and certification; graduate education and global mobility.

The bachelor of science degree programs in Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Industrial Engineering, and Mechanical Engineering are accredited by the Engineering Accreditation Commission of ABET.

The bachelor of science degree program in Computer Science is accredited by the Computing Accreditation Commission of ABET.

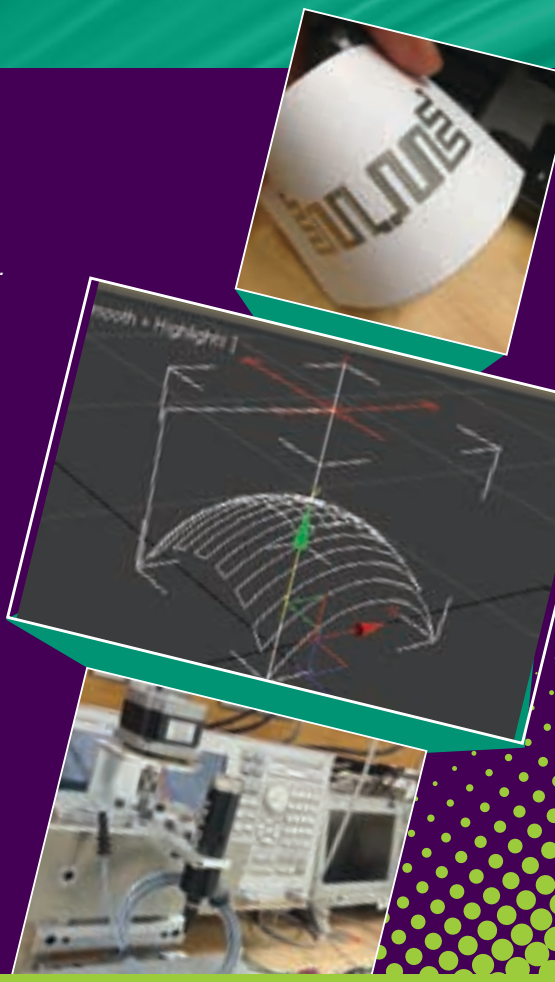
BEST@USF

A college-wide program for enhancing experiential learning in our students.

The Bulls Engineering Success Training (BEST) program provides selected undergraduate students in the College of Engineering an interdisciplinary industry-based capstone design experience.

A BEST team of six students complete an industry-contributed project in two semesters and earn six credit hours. The BEST program prepares students for their first job in industry and enables them to hit the ground running.

Being part of the BEST program is a great way for companies to help prepare the next generation of practicing engineers. Participating companies benefit directly from having a project completed and gain recruiting advantages in hiring new engineers.



Corporate Ambassador Program

Since 1998, the USF Engineering Alumni Society's Corporate Ambassador Program has fostered a closer relationship between engineering students and the thousands of alumni working in engineering fields. The ambassadors serve as liaisons and a main point of contact between the engineering community at large and the college. Over the years, hundreds of organizations have provided experiential learning opportunities for students through internships, co-ops and mentoring.

New Online Degree Programs Launched

Online Master of Science in Electrical Engineering for Professionals

With the master of science in electrical engineering for professionals program, working engineers have the opportunity to research in areas of bioengineering, nanotechnology and nano-scale systems, signal processing and networking, wireless communications and sensors, microwave devices and integrated circuits, electro-magnetics, control systems and biomedical devices following System of Systems Engineering concepts.

Working professionals looking to increase their salary, earn the opportunity to work on higher-level projects, or seek to keep up with the pace of innovation will find this program easily fits their busy work schedule. Requirements are BS in electrical engineering or another hard science, and a minimum GPA of 3.0 / 4.0. For more info or to apply: msee.usf.edu

Online BS and MS in Information Technology

The college recently incorporated the information technology program from the former USF Lakeland Campus into the Department of Computer Science and Engineering. The BS program in information technology offers academic programs designed to bridge the gap between computer science and management information systems. The BS program offers unique flexibility in its ability to tailor the program within specific industries such as health care, cybersecurity, robotics and more.

The MS degree is geared toward experienced IT professionals who are interested in broadening and deepening their knowledge of new and emerging information technologies, as well as advancing their careers in IT leadership while remaining in the workforce.

Alfred P. Sloan Foundation Partners with University of South Florida to Create University Center of Exemplary Mentoring

The University of South Florida is celebrating a major academic achievement with its selection by the Alfred P. Sloan Foundation to house one of just five University Centers of Exemplary Mentoring. Sloan chose USF based on its track record for educating underrepresented minority graduate students in STEM disciplines, particularly in marine science and engineering. The new partnership, which comes with a three-year grant of $630,000, aims to help USF expand outreach to these students and support them through professional development. USF is the only university in Florida to receive this recognition, and the only non-AAU institution included nationwide, joining Cornell University, Georgia Institute of Technology, Pennsylvania State University and University of Iowa. Together the five UCEM awards total $4.7 million.

The USF Sloan program will be led by Jose Zayas-Castro, professor and associate dean for research in the College of Engineering, Frank Muller-Karger, professor in the College of Marine Science, and managed by Bernard Batson, director of diversity programs at the College of Engineering. Professors Norma Alcantar (Chemical and Biomedical Engineering), Sanjukta Bhanja (Electrical Engineering), Nathan Crane (Mechanical Engineering), and Mark Jaroszeski (Chemical and Biomedical Engineering) will serve as members of a faculty coordinating committee to support the center's recruitment and retention efforts.

"Since the Sloan MPHD programs began in 2005, USF has been a national leader in the graduation of Latino and African American PhD students in both the engineering and marine science fields," according to Batson. "In addition to the fellowships, the new center calls for the establishment of student professional development and faculty mentoring initiatives to impact STEM graduate education throughout the University."

Selected through a competitive search, University of South Florida was chosen based on a number of criteria, including its historical success in recruiting and mentoring graduate students from underrepresented minorities; the quality of the departments and programs constituting the UCEM; the quality, breadth, and creativity of their planned future activities; and the strength of their institutional commitment to furthering education for underrepresented minorities in the natural and physical sciences, mathematics, and engineering.

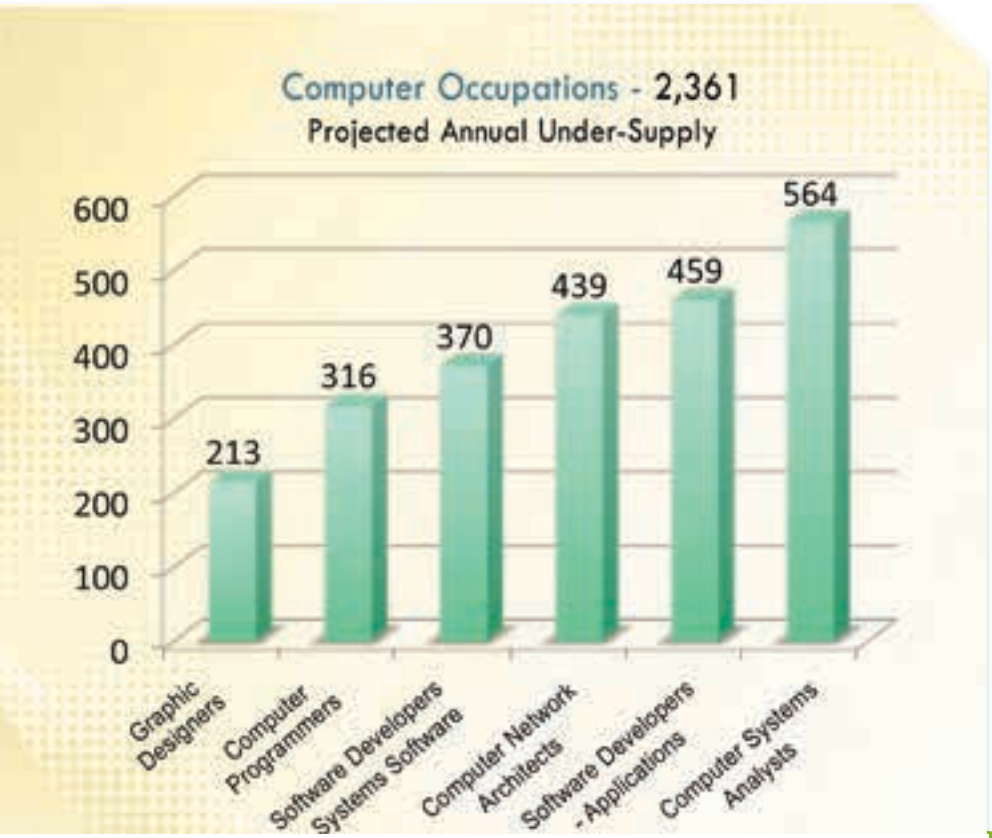
TEAm Grant

USF's Department of Computer Science and Engineering is hiring five new faculty members and additional teaching assistants as part of a multimillion dollar, state-led initiative designed to increase the number of graduates in the exploding computer science, computer engineering, and information technology fields. The department offers degrees in all three areas. Two tenure track professors and three instructors will start teaching this fall, thanks to a Targeted Educational Attainment (TEAm) grant funded by the Florida Legislature. USF is partnering with the University of Central Florida and Florida International University on the $4.9 million project.

With the additional faculty, the college plans to expand course offerings in the three fields, which have boomed over the past five years thanks to smart phones, cloud computing and robotics. During that period, the Department of Computer Science and Engineering has seen the number of undergraduate degrees more than double, from 70 in 2008-2009 to more than 140 in 2012-2013.

According to the U.S. Bureau of Labor Statistics, occupations such as software developers, database administrators, web developers, and systems analysts are among the fastest growing — and most lucrative — jobs in the STEM field. Starting salaries for 2013 graduates nationwide ranged from $57,100 for information technology to $64,800 for computer science and $71,700 for computer engineering according to a recent report from the National Association of Colleges and Employers.

The primary goal of the TEAm grant is to produce qualified graduates from Florida's universities who continue to live and work in the state. The demand for employees in the rapidly growing high-tech sector, particularly in areas such as defense and cybersecurity, is one reason many business and industry professionals supported the grant project.



Source:
"Aligning Workforce and Higher Education For Florida's Future" Commission on Higher Education Access and Educational Attainment November 2013

Outstanding Young Alumni

Simon Restrepo '13 BS Mechanical Engineering
Support Engineer for Stewart-Haas Racing

NASCAR

Evan Kroske '13 BS Computer Science
Google Ad Words Division

Google

Oscar Lara Yejas '10 MS Computer Science,
'12 PHD Computer Science & Engineering
Team Member on IBM Infosphere's Big Insight Group

IBM

Alejandra Vega '11 BS Mechanical Engineering
Quality Engineer for Johnson & Johnson

Johnson & Johnson

Daniel Kamsler '13 BS Industrial Engineering
Emerging Leader Program at Nielsen

nielsen

Al-Aakhir Rogers '11 PHD Electrical Engineering
Senior Processing Engineer at Draper Laboratories

DRAPER LABORATORY

Devin Walker '12 MS Engineering Science
(Chemical Engineering) 2014 Forbes 30 Under 30 List
COO of Trash 2 Cash

TRASH 2 CASH ENERGY

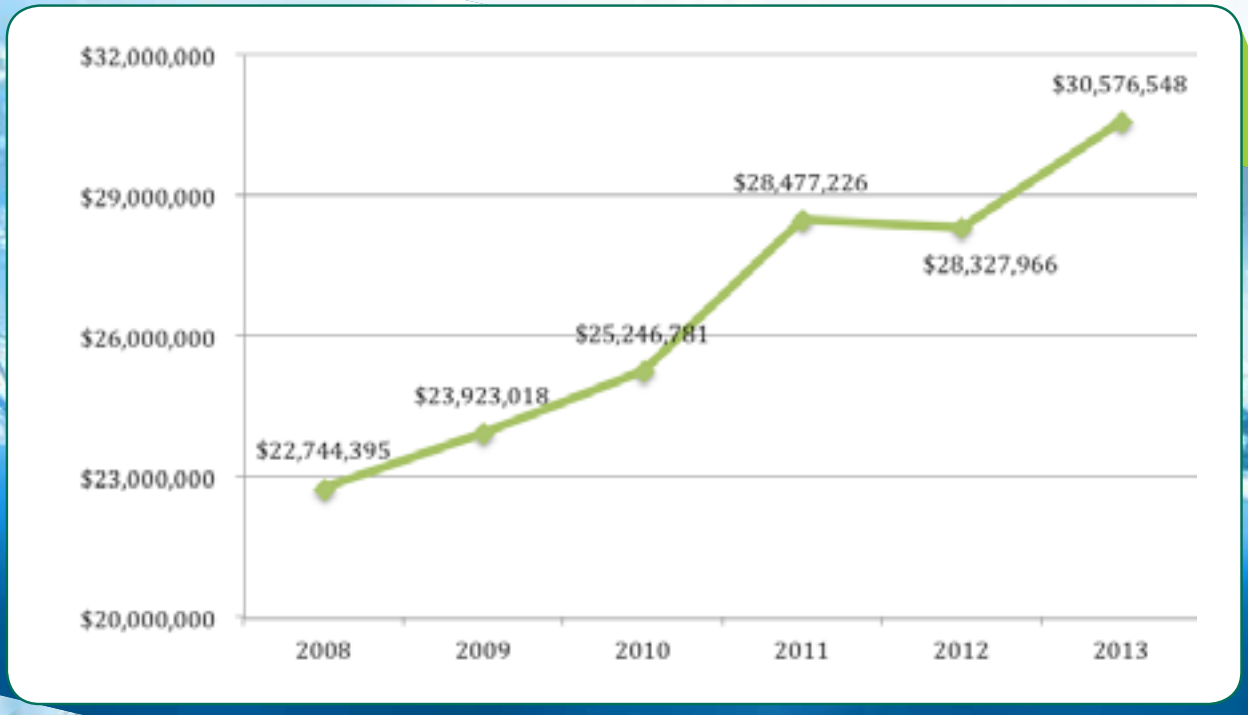
Engineering Group Awarded Prestigious EPA National Research Water Center in Nutrient Management

Researchers in the Department of Civil & Environmental Engineering have been awarded a $2.22 million grant from the U.S. Environmental Protection Agency to establish a national research center to tackle a dire issue plaguing waterways in Florida and across the country: nutrient pollution from wastewater and storm water runoff.

The USF Center for Reinventing Aging Urban Infrastructure for Nutrient Management (RAINmgt) will develop integrated research and demonstration projects focused on nutrient pollution management technologies while also developing regional models that determine appropriate solutions from the household to city levels. Their work will also emphasize pollution reduction and water reuse options over treatment and disposal.

The center will be led by Professor James Mihelcic, who is joined by environmental engineering faculty members Jeffrey Cunningham, Sarina Ergas, Maya Trotz, Daniel Yeh, and Qiong Zhang.

Research Expenditures Five-Year Trend



Source: USF Info Center

The Center for Urban Transportation Research (CUTR) was established in 1988 as a resource for policymakers, transportation professionals, and the public. CUTR's multidisciplinary faculty of full-time researchers provide internationally-recognized, high-quality, objective expertise in the form of insightful research, in-depth policy analysis, comprehensive training and education, and effective technical assistance that translates directly into benefits for its project sponsors. CUTR receives more than $13 million per year in national, state, and local contracts and grants to support its research, education, training, and technical assistance missions. It is the home of the National Center for Transit Research and the National Bus Rapid Transit Institute. In 2013, CUTR celebrated its 25th anniversary.

2013 – 2014 Highlights

In 2013, CUTR's National Center for Transit Research (NCTR) was selected from more than 145 applicants as a federally-funded University Transportation Center and was awarded a $2.8 million grant to continue its transportation research, training, education, and technology transfer activities. Initially designated in 1991, USF and its NCTR partner universities have been awarded more than $30 million in federal grants that have been matched by state and local grants and contracts. NCTR also produces the international academic *Journal of Public Transportation*, now in its 17th year, and supports up to 20 graduate students annually. For more information on NCTR, visit http://nctr.usf.edu.

Five patents were awarded in 2013–14 to an innovative team of CUTR and USF Department of Computer Science and Engineering researchers specializing in location-aware technologies: System for Pattern Recognition in Real-time Location-based Services Applications, a prediction method that estimates the real-time position of a mobile device based on previously-observed data; Architecture and Two-Layered Protocol for Real-Time Location-Aware Applications, a two-layer communication protocol that supports efficient real-time location-aware application on multiple mobile devices; Adaptive Location Data Buffering for Location-Aware Applications, covering technology used in mobile tracking apps that supports the use of an unreliable protocol to transmit location data from a mobile device to a server in real-time; Using Pattern Recognition in Real-time LBS Applications, which estimates the position of a mobile device based on previously observed data; and System and Method for Real-time Travel Path Prediction and Automated Incident Alerts, which predicts individual travel paths based on real-time location and personal travel history and delivers highly-targeted incident alerts based on this information. More information on these patents and related projects can be found at www.locationaware.usf.edu.

From left: Miguel Labrador, Rafael Perez, Sean Barbeau, Nevine Georggi, and Philip L. Winters

Authored by CUTR Mobility Policy Research Program Director Dr. Steve Polzin and sponsored by the American Association of State Highway and Transportation Officials (AASHTO), *Commuting in America 2013* is a series of 16 briefs that use Census data to describe the emerging patterns of commuting in the U.S., building on three prior documents issued over the past three decades. AASHTO makes these items available via its website (www.transportation.org).

CUTR is expanding its national and international leadership in access management. Kristine Williams, Director of CUTR's Planning and Corridor Management Program, completed the second edition of the Transportation Research Board's *Access Management Manual* and served as conference co-chair and keynote speaker for the second International Access Management conference held in Shanghai, China. In collaboration with Dr. Basil Psarianos of the National Technical University of Athens, she is developing an international access management circular for publication by TRB and a chapter on access management for the 7th edition of the *ITE Traffic Engineering Handbook,* in collaboration with Dr. Vergil Stover.

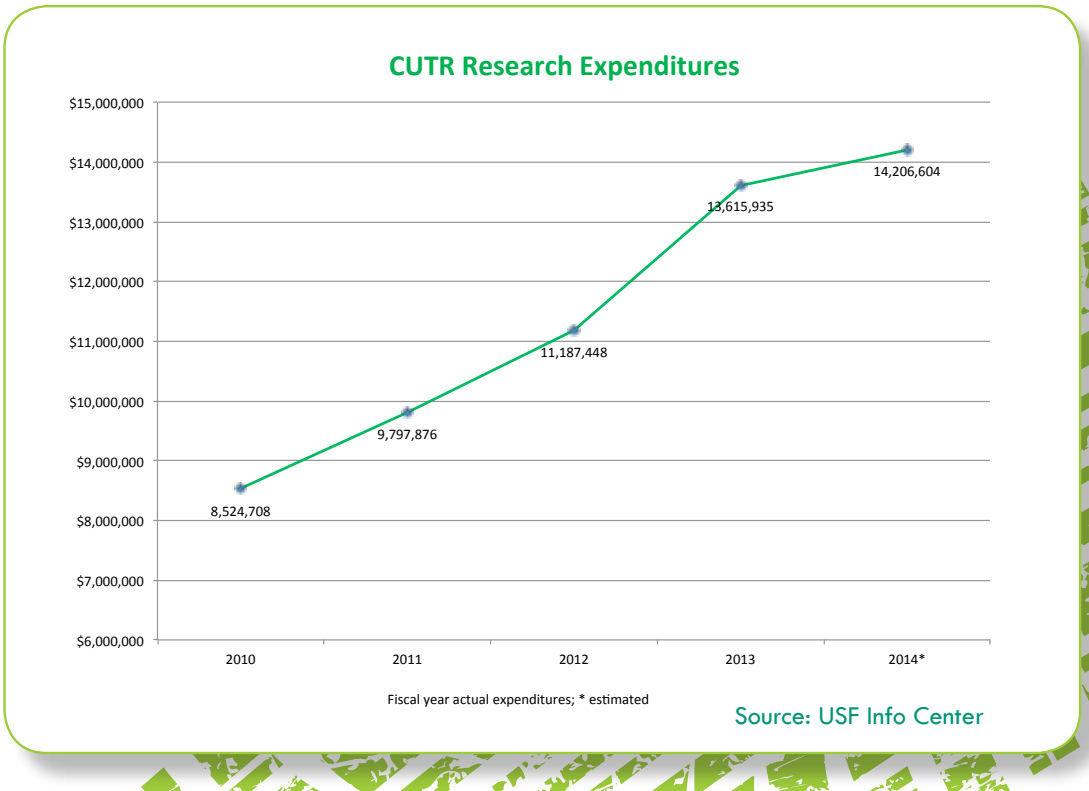
Led by Steve Reich, Director of CUTR's Transportation Program Evaluation and Economic Analysis Program, the Automated Vehicle Institute (AVI) recently was established to assist communities, businesses, and government in navigating complex policy, legislative, public relations, and planning issues that accompany the evolution of connected and automated vehicles. Florida was one of the first states to adopt legislation that enabled testing and operating automated vehicles, and the Tampa Hillsborough Expressway Authority, a designated "test bed," is partnering with AVI to make this a reality. For more information, visit www.automatedvehicleinstitute.org.

The National Highway Traffic Safety Administration (NHTSA) awarded CUTR a $2.25 million motorcycle safety grant to develop and demonstrate strategies to promote the voluntary use of motorcycle helmets.

At the direction of the Federal Transit Administration (FTA), CUTR researchers conducted a bus safety study for the U.S. House of Representatives to examine the safety of public transportation buses in the U.S. that travel on highway routes, examine the laws and regulations that apply to commercial over-the-road buses, and provide recommendations on additional safety measures.

CUTR annually recognizes a leader in transportation in Florida with its CUTR Transportation Achievement Award. The 2013 award went to A. Wayne Rich, former Chairman of the Orlando-Orange County Expressway Authority and a long-time supporter of transportation in Florida. The 2014 award will be presented on October 22, 2014, to former Florida Senator and current Florida Transportation Commission member Jim Sebesta.

For more information on CUTR and its research, programs, and activities, visit http://cutr.usf.edu.

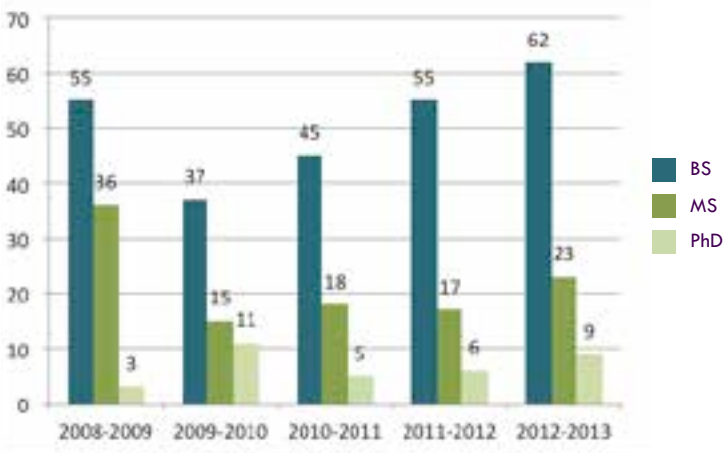


Chemical and Biomedical Engineering

Christopher Passaglia, associate professor received the $100,000 Thomas R. Lee Award for Glaucoma Research. He is also the recipient of a $388,769 grant from the National Eye Institute/National Institutes of Health. The two-year award "A Novel Method of Glaucoma Induction and Regulation" proposes to engineer a novel instrument for glaucoma treatment.

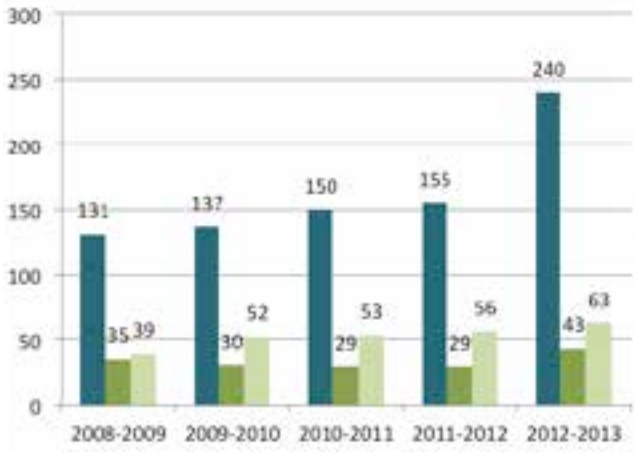
An image created by Anna Pyayt, assistant professor, and visually enhanced by Howard Kaplan, visualization specialist at USF's Advanced Visualization Center, captured the People's Choice award last fall in Science magazine's International Visualization Challenge.

Degrees Awarded Five Year Trend



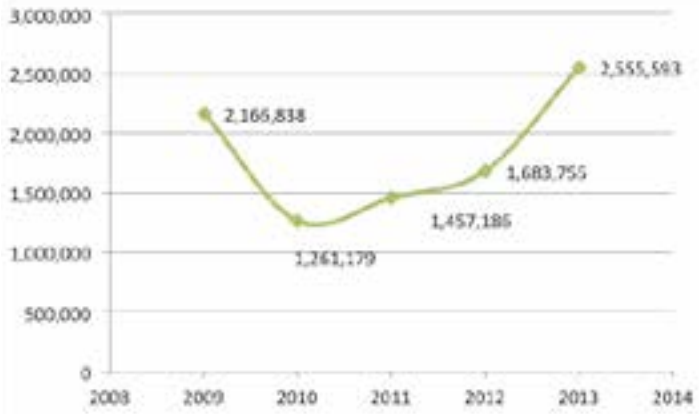
Source: USF Info Center

Enrollment Five Year Trend



Source: USF Info Center

Research Expenditures Five Year Trend



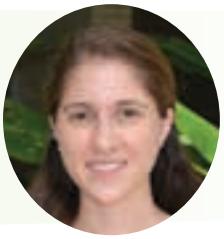
Source: USF Info Center

Distinguished University Professor D. Yogi Goswami, PE, and director of the Clean Energy Research Center (CERC) is the recipient of the 2013 Technical Communities Globalization Medal from the American Society of Mechanical Engineers (ASME). Professor Goswami was also named as a Charter Fellow of the National Academy of Inventors. Election to NAI Fellow status is a high professional distinction accorded to academic inventors who have demonstrated a highly prolific spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on quality of life, economic development, and the welfare of society.

Sandy Pettit, '94 BSCH, '10 MSCHE, '13 PHD, accepted a faculty position in the School of Chemical and Biomolecular Engineering at the Georgia Institute of Technology. As a doctoral student, Pettit received a USF Golden Bull Award, one of USF's highest honors given annually to undergraduate and graduate students who encompass the spirit of USF and have demonstrated its values.

Arseny Zhdanov, a doctoral student in chemical engineering, received a USF Presidential Doctoral Fellowship worth $25,000 per year and provides tuition and fees for up to five years.

Eilis McGranaghan, a senior chemical engineering student, was awarded a Fulbright Research Grant to conduct research for her master's thesis at the Pontificia Universidade Catolica do Rio Grande do Sul in Brazil.



Chemical engineering seniors, Cheryl McCane and Emily Tonjes received 2013-2014 academic scholarships from the Society of Women Engineers (SWE). Cheryl was awarded the SWE Dupont Scholarship and Emily was awarded the SWE Susan Miszkowicz Memorial Scholarship.

Edikan Archibong, a doctoral student in chemical engineering, received the 2013 Winifred Burks-Houck Women's Graduate Student Leadership Award by the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE). Archibong was selected based upon her leadership activities, commitment to community service, and potential for academic success.

CEE

Civil and Environmental Engineering

Daniel Yeh, associate professor, and his team of graduate students invented a machine designed to address sanitation problems by turning sewage into clean water, energy and fertilizer. They won the $50,000 Cade Museum Prize and $10,000 in free legal services from Edwards Wildman.

Professor Gray Mullins received the 2013 C. William Bermingham Innovation Award from the Deep Foundations Institute (DFI) for his Thermal Integrity Profiler (TIP) technology. TIP technology utilizes heat generated by curing cement to evaluate the integrity of cast in place concrete foundations such as drilled shafts, bored piles, augered cast-in-place, continuous flight auger piles and drilled displacement piles.

Distinguished University Professor Alberto Sagues was appointed a Corresponding Academic on the Argentine Academy of Engineering. Sagues holds the Professional Engineer (PE) designation and is a Fellow of NACE International, the Corrosion Society.

Prof Rajan Sen traveled to Israel last fall as part of an of invited delegation of environmental scientists from the United States on a 10 day tour of historic and cultural sites courtesy of Project Interchange. They interacted with Israeli officials as well as other distinguished overseas visitors attending WATEC conference in Tel Aviv, visiting Hedera ocean desalination, Shafdan purification and Eshkol filtration plants tapping the Sea of Galilee, as well as viewing experimental fields of solar panels on the Negev desert during a visit to the Blaustein Institute of Desert Research on their way to Jerusalem.

Prof Rajan Sen also spent one year in the U.S. Department of State as a Jefferson Science Fellow learning how engineering concepts become global policy.

A thousand students throughout the Southeastern United States and Puerto Rico met on the University of South Florida Tampa campus March 27-29, as the USF Civil and Environmental Engineering Dept. hosted the 2014 American Society of Civil Engineers Student Conference.

Maureen N. Kinyua, a doctoral student in environmental engineering, received the W. Wesley EckenfelderGraduate Research Award from the American Academy of Environmental Engineers and Scientists, recognized for her research contributions in advancing wastewater treatment.

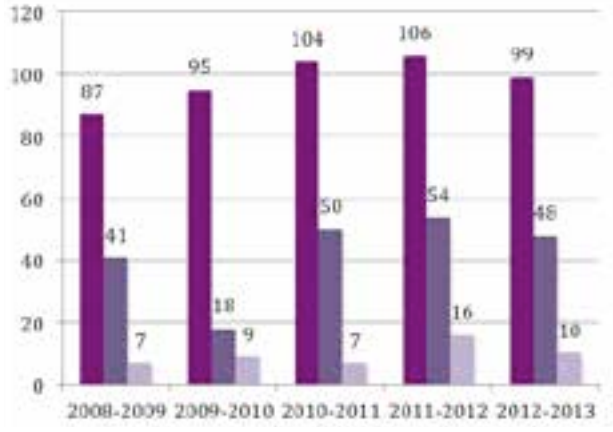
Trang Luong, a third year civil engineering student, was named a New Face of Engineering – College Edition 2014 by Discover E, which recognizes the best and brightest engineering students whose academic successes and experiences have positioned them to make an impact. Trang was named one of 10 New Faces of Civil Engineering – College Edition by the American Society of Civil Engineers (ASCE).

Along with Trang, Melissa Butcher, an Accelerated Program graduate student was selected one of the 10 New Faces of Civil Engineering. This recognition program promotes the achievement of young civil engineers by highlighting their academic success, volunteerism, and dedication to making a positive impact on society through their chosen profession. The University of South Florida is the only school with two New Faces this year.

Sherrell Lall, BSCE '12, MSCE '13, MSEM '13 was selected by the National Center for Transit Research as the Student of the Year for 2013.

Students from USF won the Water Environment Federation (WEF) 2013 Student Design Competition when the team's project, "City of St. Petersburg Biogass Utilization Project" won in the wastewater design category.

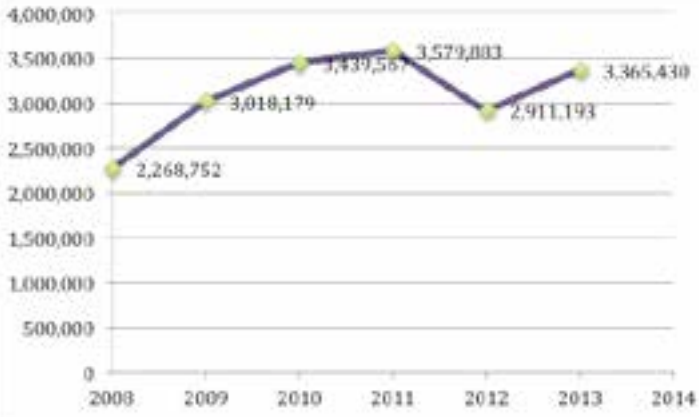
Degrees Awarded Five Year Trend



Source: USF Info Center

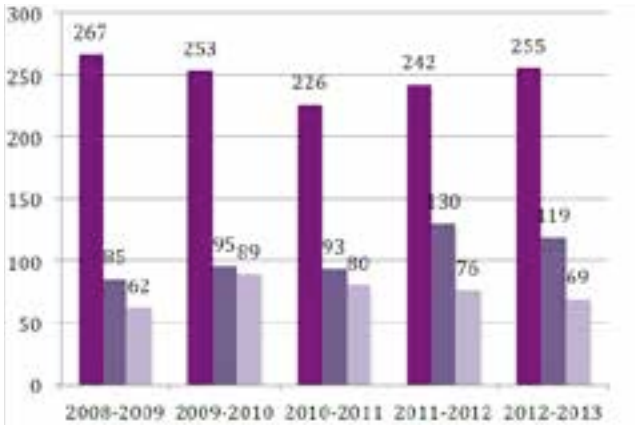
Andrea Sanchez, a doctoral student in civil engineering, is the recipient of a Society of Hispanic Professional Engineers (SHPE) dissertation fellowship award, which recognizes deserving Latino graduate students who demonstrate both significant scholarly accomplishments and high aptitude for a career in science, technology, engineering or mathematics.

Research Expenditures Five Year Trend



Source: USF Info Center

Enrollment Five Year Trend



Source: USF Info Center

Computer Science and Engineering

Sudeep Sarkar, professor and associate vice president for Research and Innovation, was named a Fellow of the American Association for the Advancement of Science (AAAS) for distinguished contributions to the field of computer vision and pattern recognition, particularly in perceptual organization, grouping, and biometrics.

New Faculty:

Nathanael Paul

Adrian Johnson, a doctoral candidate in computer science and engineering, was accepted into the prestigious 2014 IEEE Virtual Reality (VR) Doctoral Consortium held this past spring in Minneapolis, MN.

Leslie Rodriguez, '13 BSCP, received the USF Hispanic Pathways (undergraduate category) and USF Status of Latino (SOL) Student awards for his academic achievements, leadership activities and community service, and his past internships with the National Science Foundation, GE, and IBM.

Associate Professor Anda Iamnitchi has received a Faculty Research and Engagement Award from Yahoo.

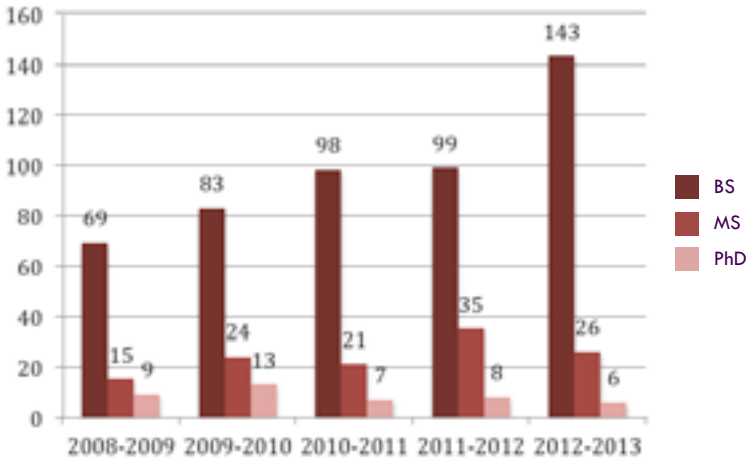
The project "Mitigating Information Overload for Increased User Engagement in User-Generated Content Systems" will study in depth the information overload experienced by users in Yahoo Answers, model this process, understand its effects, and propose methods to alleviate it via load distribution.

Graduate student Kenneth Ramclam received the prestigious Richard A. Newton Young Student Fellow award.

The USF Cyber Defense team won the "Best in Service" award at the 2014 Southeastern Collegiate Cyber Defense Competition at Kennesaw State University in Georgia the week of March 31, 2014 (http://www.seccdc.org).

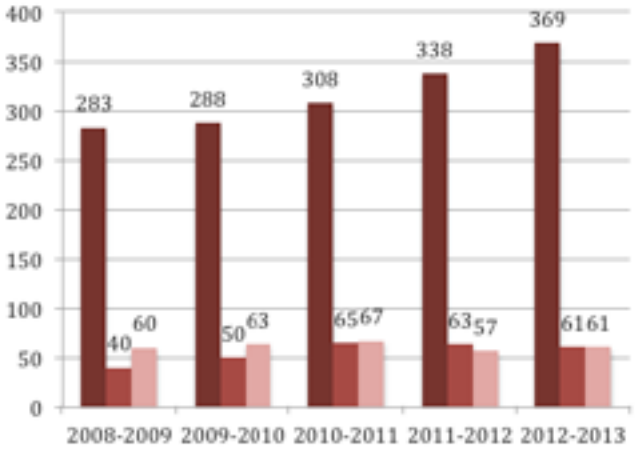
Assistant Professor Nathanael Paul has received funding with the Univ. of Washington to work on Trustworthy Insulin Pump Systems and the Artificial Pancreas. This project involves improving the forensics of insulin pump systems through eating detection, and it also involves applying large-scale data analysis in ensuring the authenticity of insulin pump system data. This effort is part of a multi-institutional and multidisciplinary team known as the Strategic Healthcare IT Advanced Research Projects on Security (SHARP) and is supported by the Office of the National Coordinator for Health Information Technology. More information can be found at http://sharps.org/.

Degrees Awarded Five Year Trend



Source: USF Info Center

Enrollment Five Year Trend



Source: USF Info Center

Research Expenditures Five Year Trend

Source: USF Info Center

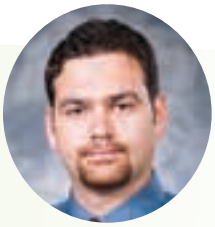
Electrical Engineering

Ralph Fehr, instructor, received the 2014 Outstanding Engineer award from the IEEE Power and Energy Society, Florida West Coast Chapter for his contributions to the chapter and to the engineering community in 2013.

Electrical Engineering Assistant Professor Selcuk Kose was awarded a five-year CAREER Award from the National Science Foundation. Kose's award totals $450,000 over the five years. His research focuses on the development and design for circuit structures to optimize voltage distribution to meet the market demand for more power-efficient portable electronics.

Distinguished University Professor Richard D. Gitlin, Sc.D., was named a Charter Fellow of the National Academy of Inventors (NAI). Election to NAI Fellow status is a high professional distinction accorded to academic inventors who have demonstrated a highly prolific spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on quality of life, economic development, and the welfare of society. Professor Gitlin has been named Distinguished University Professor by USF. Gitlin joined USF in 2008 after a distinguished career in the private sector with over 30 years at Bell Labs and Lucent Technologies.

Electrical Engineering Assistant Professor Gokhan Mumcu received a CAREER Award from the National Science Foundation for his proposal: "Microfluidically Loaded Highly Reconfigurable Compact RF Devices." The four-year award totals $400,000.



Drew Hoff, professor in the Electrical Engineering Department, has been elected to the chair position of the Electronics and Photonics Division (established in 1932) of the Electrochemical Society (ECS), which was established in 1902.

New Faculty:

Chung Seop Jeong

Ismail Uysal

Nasir Ghani

Frank Alexander, Jr., a doctoral student in electrical engineering, was awarded a prestigious Whitaker International Program Scholarship grant.

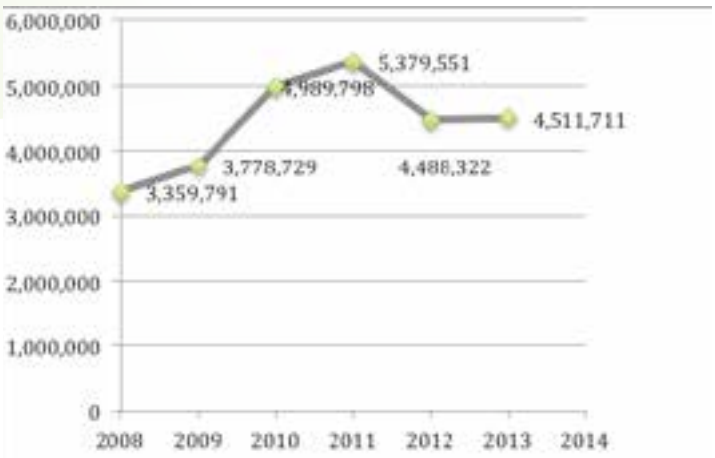
Ahmad Gheethan, a doctoral student in electrical engineering, was recognized with an honorable mention in the Student Paper Competition of the 2014 IEEE AP-S International Symposium on Antennas and Propagation; placed first in Texas Instrument's Sensing Design Challenge; and was selected to receive the IEEE Antennas and Propagation Society Doctoral Award.

Maria Cordoba Erazo and Jonathan O'Brien, doctoral students in electrical engineering, received Outstanding Student Poster awards from the IMAPS 2013 conference held in Orlando in October.

Michael Grady, a doctoral student in electrical engineering, received the IEEE Microwave Theory and Techniques (MTT-S) Graduate Fellowship for Medical Applications for 2014.

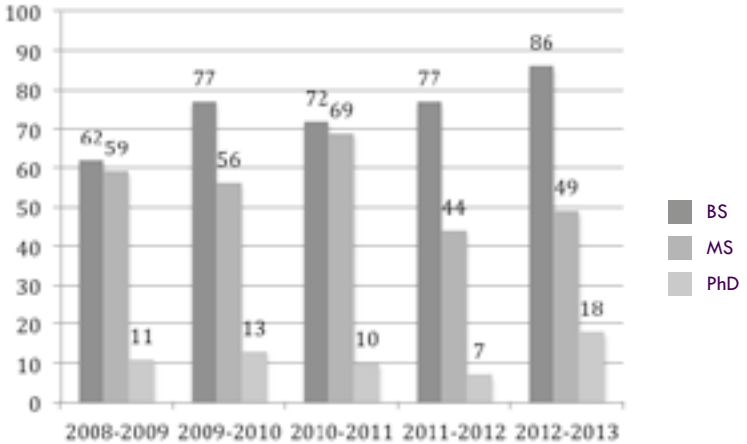
Tylar Murray, doctoral student in electrical engineering was awarded the Draper Fellowship. Tylar has a background in physics and computer science. Since coming to USF, he has been studying ways to apply dynamical systems principles to the design of user-avatar interaction.

Research Expenditures Five Year Trend



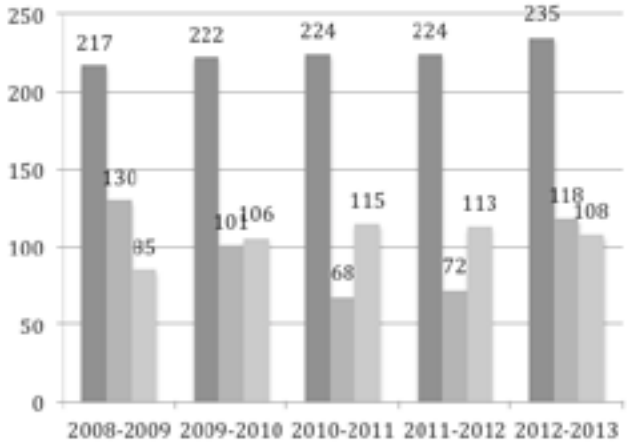
Source: USF Info Center

Degrees Awarded Five Year Trend



Source: USF Info Center

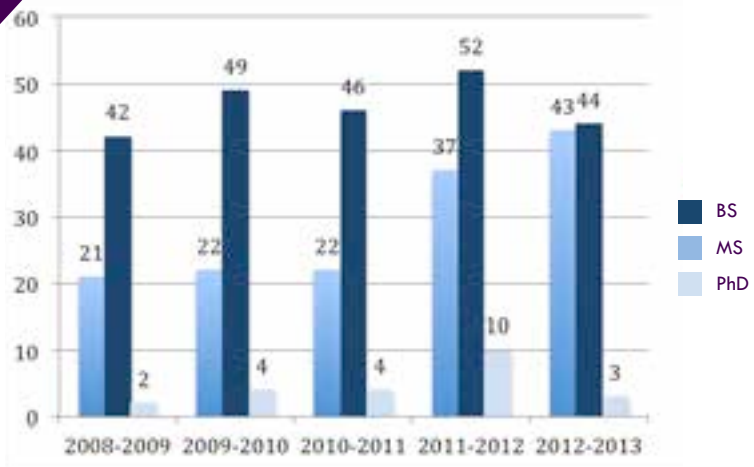
Enrollment Five Year Trend



Source: USF Info Center

Industrial and Management Systems Engineering

Degrees Awarded Five Year Trend



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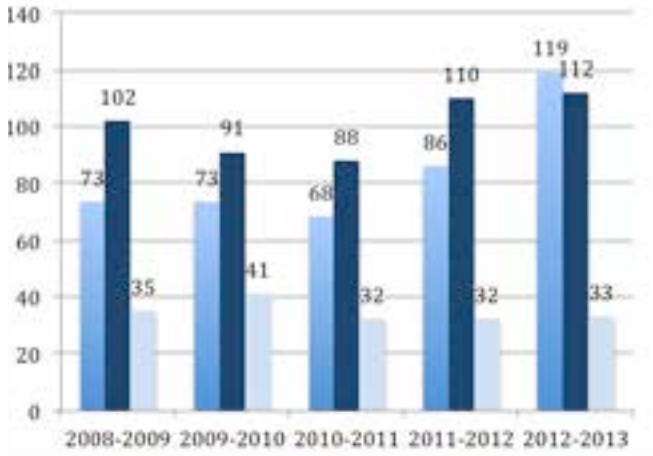
Enrollment Five Year Trend



Source: USF Info Center

IMSE Lands Five New Grants in 2013-2014

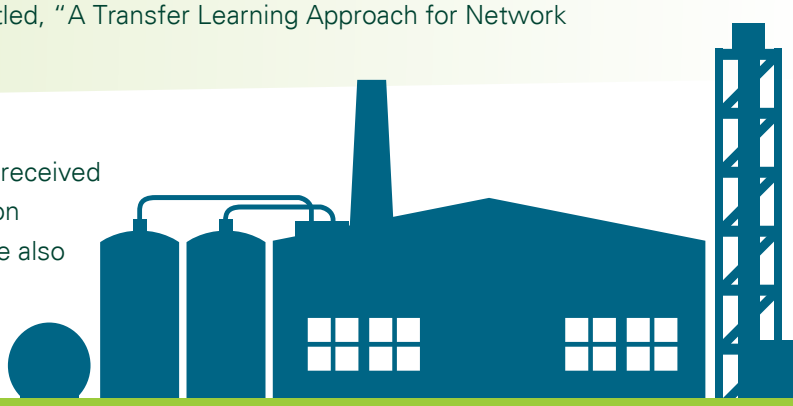
- Physical-Statistical Modeling and Optimization of Cardiovascular System
  Dr. Hui Yang (USF IMSE) collaborative research with Dr. Eric Bennett (USF Health) & Dr. Roshan Vengazhiyil (ISE, GA Tech) • Sponsor: NSF
- I-Corps: Mobile and E-Network Smart Health (MESH)
  PI: Dr. Hui Yang • Sponsor: NSF
- Identify Risk Factors and Interactions for Type 1 Diabetes in Large Studies
  PI: Dr. Bo Zeng • Sponsor: Texas A&M University
- Fast Algorithms for Two-Stage Robust Unit Commitment Models
  PI: Dr. Bo Zeng • Sponsor: ISO New England
- Planning and Computing Bus Stop location and Routing Problems for Zhengzou City Project
  PI: Dr. Bo Zeng • Sponsor: Zhengzou Bus Communication Company

Alex Savachkin, associate professor, received the 2013 Annual Award for Excellence in Teaching Operations Research from the Institute of Industrial Engineers.

Associate professors Grisselle Centeno and Susana K. Lai-Yuen were awarded a two-year grant from the National Science Foundation for support of their project titled "Increasing Diversity in Engineering Education Through Healthcare Applications."

Assistant Professor Shuai Huang and his co-authors received the best paper award in the IIE Transactions on Quality and Reliability Engineering for 2014 for their paper titled, "A Transfer Learning Approach for Network Modeling," to be published in IIE Transactions.

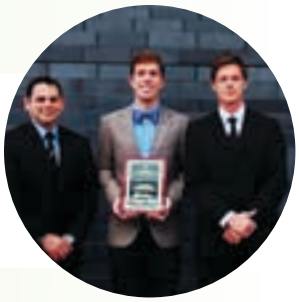
Katrina Stine, industrial engineering senior, received the 2013-2014 Material Handling Education Foundation, Inc. (MHEFI) Scholarship. She also received the Automatic Guided Vehicle Systems Honor Scholarship.



Industrial engineering doctoral student Gang Liu received the Computer & Information Systems (CIS) Division Best Student Paper Award at the IIE Annual Conference & Expo 2014. His paper was titled: Self-organized Recurrence Networks.

Jasper Quach, BSIE '2013, doctoral student in industrial engineering, won first place in the 2013 IEEE Power and Energy Society General Meeting, held in Vancouver. Jasper's poster titled "A Hybrid Maintenance Scheduling Model for Thermal Generators" was the culmination of an eight-month project.

Doctoral student Felipe Feijoo won first place in the student poster competition at the Power Up Energy EXPO held in Fort Walton Beach, FL. His poster titled "Pareto Optimal Design for CO2 Cap and Trade Policies in Deregulated Electricity Networks" displayed his research in optimization. This research has recently been published in the Applied Energy Journal.



Industrial engineering students Daniel Kamsler, Erik Eisinhart and Adam Lytle, took first place in the 2013 State of Florida Healthcare Innovation Competition.

Mehrnaz Abdollahian, an industrial engineering doctoral student, won first place in the annual INFORMS Conference poster competition which captures her outstanding cancer research work.

The USF student chapter of INFORMS received the 2012-2013 Summa Cum Laude INFORMS Student Chapter Annual Award, again this year after winning it last year (2011-2012). This is the highest recognition among all INFORMS Student Chapters worldwide.

Dr. Delbert Kimbler, a 1976 graduate in industrial engineering, created a $250,000 endowment which established the Del and Beth Kimbler Lecture Series in Industrial and Management Systems Engineering. Dr. Kimbler is a professor emeritus at Clemson University. Standing with Dr. Kimbler is one of his former USF graduate students, Professor Tapas Das, who is now chair of the Industrial and Management Systems Engineering Dept.

ME

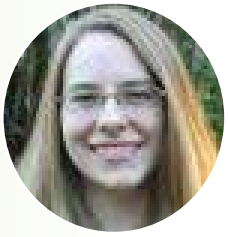
Mechanical Engineering

Nathan Crane, associate professor of mechanical engineering, has been selected for a Fulbright Scholar Award to United Kingdom by the J. William Fulbright Foreign Scholarship Board. Professor Crane will spend the spring 2015 semester at the University of Sheffield's world class Centre for Advanced Additive Manufacturing (AdAM). While there, he will conduct research in collaboration with internationally recognized scholars.

New Faculty:

Wenjun Cai
John Dixon
Jonathan Gaines

Laura Byrnes-Blanco, a senior in mechanical engineering, was awarded a prestigious NSF Graduate Research Fellowship. The NSF GRFP provides funding in the amount of $32,000 per year and full tuition and fees for three years over a five-year period.



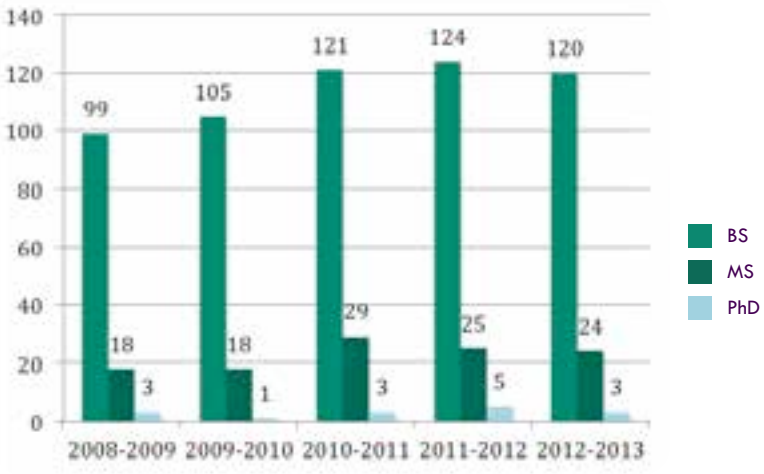
Jose Carballo, a doctoral student in mechanical engineering, received one of six best poster awards during the Sixth Annual USF Graduate Student & Postdoctoral Scholar Research Symposium.

Jamie Trahan, a doctoral student in mechanical engineering, received a Graduate Teaching Fellowship from the American Society of Mechanical Engineers (ASME). The award provides support to encourage PhD candidates, especially women and minorities, to pursue and encourage, engineering education as a profession.

The University of South Florida is the lead institution (along with Arizona State University, University of Pittsburgh and Alabama A & M University) of a National Science Foundation funded ($600,000) award for conducting research on the effectiveness of flipped classrooms for higher education STEM courses. In addition, the group will develop best practices for teaching in a flipped classroom.

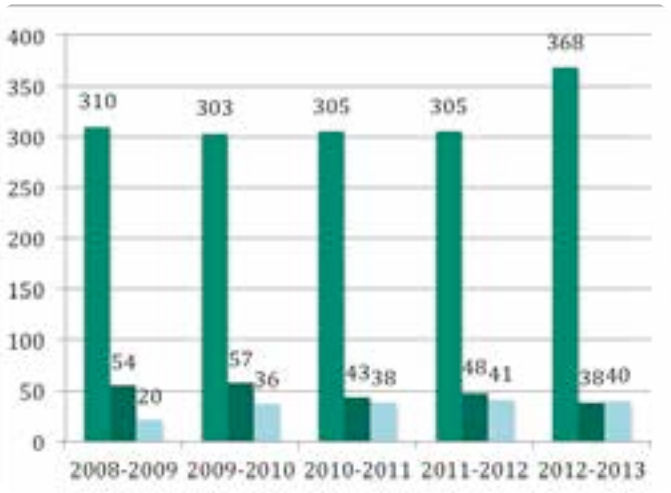
Autar Kaw, mechanical engineering professor, is a thought leader in flipped classroom technology. In a flipped classroom, students first study the topic by themselves typically using video lessons prepared by the professor or a third-party (such as Khan Academy). A flipped classroom frees up a lot of time for hands-on work and students learn by doing and asking questions.

Degrees Awarded Five Year Trend



Source: USF Info Center

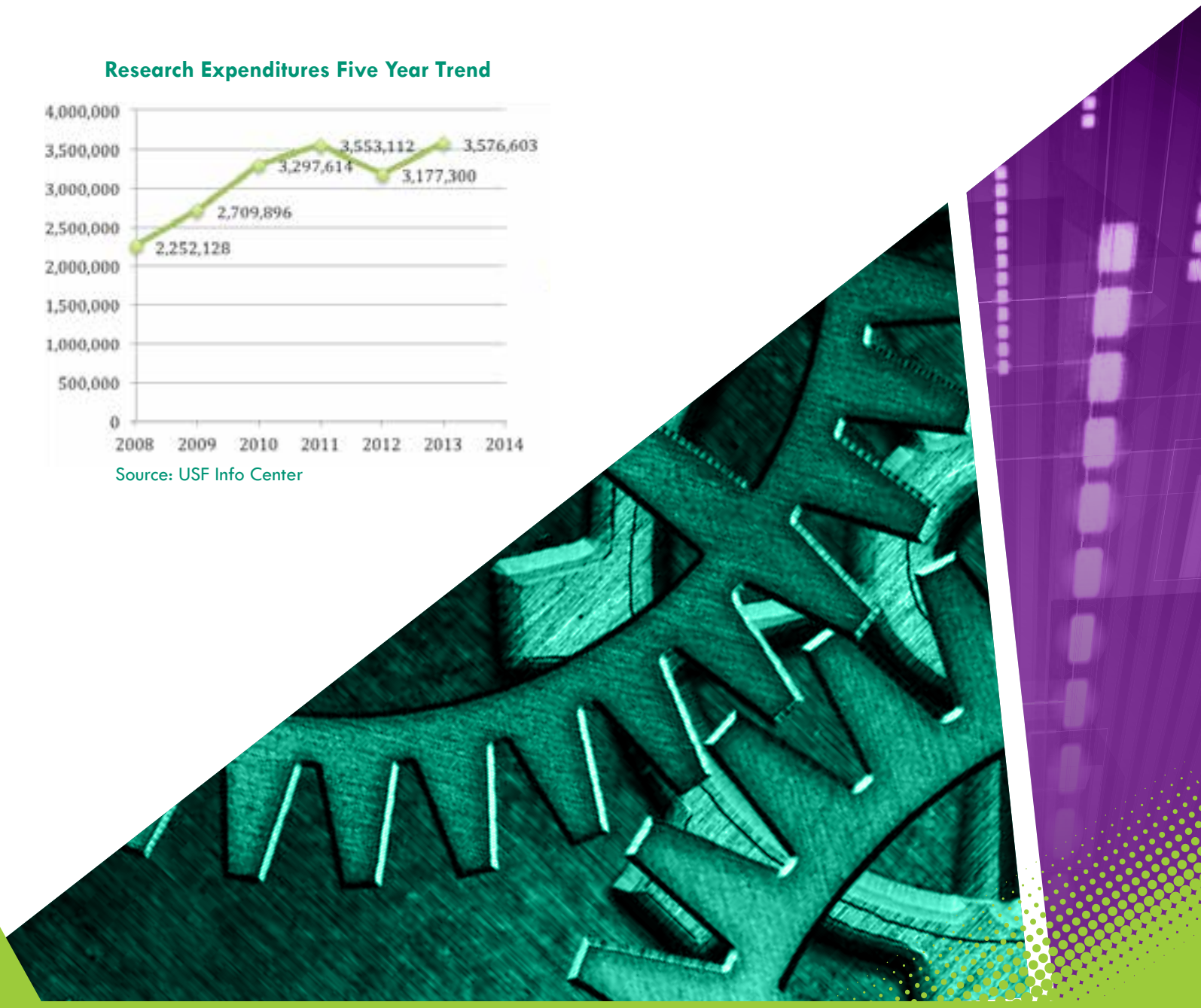
Enrollment Five Year Trend



Source: USF Info Center

Research Expenditures Five Year Trend

Source: USF Info Center



College Rankings

- U.S.News & World Report ranks #1 for online graduate engineering programs in Florida

- U.S.News & World Report ranks the Industrial Engineering graduate program at #42 in the nation among all online graduate programs

- U.S.News & World Report ranks USF MSEM online program as #26 in the nation

- CSE doctoral ranks as the #1 program in Florida and in the top one-third of all programs in the United States by the National Research Council NRC

- U.S.News & World Report ranks the college at #72 among public universities in the United States

- The college has 20 faculty members who have received the CAREER Award from the National Science Foundation NSF

- USF is ranked #12 by National Academy of Inventors and the Intellectual Property Owners Association's 2014 ranking of Top 100 Worldwide Universities Granted U.S. Utility Patents.

- The College of Engineering at the University of South Florida is ranked in the top five nationally in conferring engineering doctorates to both African American and Hispanic/Latino students by Diverse Issues in Higher Education's annual listing of the top 100 minority graduate degree producers in 2013.

- The University of South Florida was named in the top five Master's International programs by the Peace Corps. The Master's International program allows students to earn a graduate degree while serving as a Peace Corps Volunteer overseas.

ASEE Profiles ranks the college:

- **Top 20 in awarding doctoral degrees to Women**
- **Top 20 in awarding master's degrees to Women**
- **Top 20 for awarding bachelor degrees to Black or African Americans**
- **Top 20 for awarding bachelor degrees to Hispanics.**
- **Top 20 for tenured / tenure track Hispanic faculty**
- **Top 30 for awarding bachelor of science degrees in Computer Science**
- **Top 20 for awarding bachelor of science degrees in Computer Engineering**
- **Top 30 for awarding bachelor of science degrees in Electrical Engineering**

Our Corporate Partners

Our Corporate Partners

Global Initiatives

INTO has helped thousands of international students succeed in higher education. INTO provides a variety of academic Pathway and English language courses to help international students adapt to the educational, social and cultural norms and progress on to undergraduate and graduate programs at leading universities in North America, the United Kingdom and China.

175 former INTO USF students have successfully progressed and were registered into degree programs within the College of Engineering, with 104 pursuing bachelor's degrees and 71 in master's and doctoral programs. Seventy-five former INTO USF students have already graduated from the College of Engineering.

INTO students in engineering have come from more than 30 countries, and recently included:
Brazil, China, France, India, Iran, Iraq, Japan, Jordan, Kazakhstan, Kuwait, Libya, Malaysia, Morocco, Myanmar, Nigeria, Oman, Pakistan, Qatar, Russia, Saudi Arabia, South Korea, Taiwan, Thailand, Turkey, UAE, Vietnam and Yemen

USF World Engineering Students Go Abroad

During the past academic year, 59 engineering students have studied abroad. These experiences prepare our students for professional success in an increasingly diverse and globally connected world.

Hall of Flags

In 2011, the college remodeled the Hall of Flags in the Engineering II building. For many years, flags that represented the home country of every student who had studied here hung from the ceiling. At that time there were 87 flags. Upon remodeling the flags were placed on the wall for a total of 121 countries. In 2014, a new survey of home countries was done and the college added 18 more flags.

Peace Corps International Students

The program allows students to combine their graduate degree with service and research while serving in the Peace Corps as an engineer. With a strong focus on sustainability and humanitarian engineering design students are allowed to explore and innovate at the interface of engineering design and technology with people, society and health.

The college currently has 19 students in countries around the world participating.

Ghana - 1
Uganda - 3
Peru - 5
Zambia - 1
Namibia - 1
Liberia - 2
Dominican Republic - 1
Panama - 4
Madagascar – 1

These students came back from the countries below and are now completing their thesis.

Madagascar – 2
Uganda – 1
Panama – 5
Mexico – 1
Mali – 1

USF
UNIVERSITY OF SOUTH FLORIDA
COLLEGE OF ENGINEERING

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