UAH Named National Center of Academic Excellence for Information Assurance Education

The University of Alabama in Huntsville has been named a National Center for Academic Excellence in Information Assurance Education. The designation was awarded to UAH through 2012 by the National Security Agency and the U.S. Department of Homeland Security.

UAH has been working to strengthen its information assurance program for two years, and this designation shows that the university can provide the necessary tools and skills to bring greater confidentiality and integrity to computers and their networks, according to Dr. Reza Adhami, chairman of UAH's Electrical and Computer Engineering Department.

"Being designated a national center for information assurance by the NSA and the Department of Homeland Security gives us confidence that we are reaching some of the goals we have established for this program," Adhami said. "We believe our efforts are reducing the vulnerability of America’s information infrastructure, and that is becoming a more important component for the security and the defense of our homeland."

The goal of the program is to reduce the risks in computer networks by promoting higher education in information assurance and producing a growing number of professionals with expertise in various disciplines.

Institutions who have earned this designation are located throughout the country with most being in close proximity to major Department of Defense installations, federal research centers and other federal agencies. In this role, UAH will serve as a regional center of information assurance expertise and provide programs aimed at retooling and retaining federal and state information technology personnel.

The center has been a collaborative effort among several UAH academic departments including Electrical and Computer Engineering, Computer Science, and Accounting & Information Systems as well as Huntsville-based Dynetics, Inc. Dynetics helped establish the Information Assurance laboratory and has several employees who are graduate-level instructors.

"Dynetics is pleased to be a small part of this very significant achievement for UAH and the Huntsville community. Our vision is to build a nationally recognized IA center of excellence capability in Huntsville that includes academia, government organizations, and commercial business partners. This milestone is a major step toward achieving this vision," said Dr. Marc Bendickson, Dynetics CEO.

Cyber Chargers Lab in EB 107

The Cyber Chargers Lab is designed to replicate a real world wired and wireless information network infrastructure. The focus of the lab is to provide students a facility to effectively gain hands-on experience in computer and network security. There are 16 Pentium 4 workstations capable of running several different operation systems including Windows and Linux. In addition there are 5 Windows, 5 Linux, and 5 Unix servers. The lab contains both Cisco and ADTRAN switches, routers, firewalls, and VPNs. The equipment can be configured to create an exclusive Cisco, exclusive ADTRAN, or mixed WAN environment. The lab currently supports the courses, Information Assurance Engineering I and Information Assurance Engineering II.
Michael Davenport Awarded Defense Intelligence Agency Scholarship

Michael (Mike) Davenport, a senior in the Department of Electrical and Computer Engineering majoring in Optical Engineering, won a $10,000 award in a nationwide competition for the National Consortium for MASINT Research (NCMR) scholarship in Fall 2006 and again in Fall 2007. He was also invited to attend the NCMR Semi-Annual Technical Review meeting in Albuquerque, New Mexico, in October 2007.

The Defense Intelligence Agency’s NCMR Scholars Program provides promising undergraduate juniors and seniors the opportunity to receive up to $10,000 per year towards tuition, textbooks, and room & board. The NCMR Scholars Program supports education initiatives by DIA and the Office of the Director of National Intelligence (ODNI).

Mike Davenport was recommended for the scholarship by Dr. Junpeng Guo, Associate Professor in the ECE department. Mike started working in Dr. Guo’s Plasmonics / Nanophotonics Group as a Summer Undergraduate Research Fellow (SURF) in the summer of 2006. In the summer of 2007, he worked in Dr. Guo’s group again as an undergraduate research assistant sponsored by the Undergraduate Research Experience (URE) program at UAH. Mike participated in research involving the control of photons in the nanoscale by using the coherent movement of electrons, which is an emerging area termed as "plamonic photonics". It has been widely believed that plamonic photonics research may lead to next generation devices for applications from better and smaller biochemical sensors to fast computers.

UAH – National Center for Information Assurance Education

Criteria are designed to measure and recognize the depth and maturity of information assurance academic programs and to stimulate the development of information assurance programs to meet the varying needs of students, including workforce professionals, as well as the employment needs of government and industry.

About Dynetics

Dynetics, one of Huntsville’s largest employers, serves US Government and commercial customers in the areas of space and missile defense, tactical missiles and aviation, ground combat systems, intelligence, information assurance and information operations, information technology, and automotive. Capitalizing on the expertise of more than 950 employees in offices nationwide, Dynetics has achieved international quality certifications, including ISO 9001 and SEI CMM Level 3. Dynetics’ capabilities include all phases of weapons systems research and development; acquisition, logistics, and system engineering; test, evaluation, and experimentation; modeling and simulation; and hardware and software products.

An employee-owned small business, founded in 1974 in Huntsville, Alabama, Dynetics began offering Information Security and Assurance consulting services in 1999, through its subsidiary, IE. In 2001, they established an Information Security Assurance Analysis Center (ISAAC) to support military and commercial customers. IA principles are applied in both commercial security consulting and delivering Certification and Accreditation services to DoD agencies.

About UAH

The University of Alabama in Huntsville is a doctoral-granting, research-intensive university with more than 7,000 students. The university is ranked by U.S. News &World Report among the 150 best national doctoral universities in the nation, and UAH serves as the anchor tenant for Cummings Research Park, the second largest research park in America. More information about UAH can be found at www.uah.edu.

SPIE Student Travel Grant Awarded to Ronen Adato

Ronen Adato, Optical Engineering graduate student and president of the SPIE student chapter at UAH, received a travel award from SPIE, covering all the expenses for him to attend the SPIE Optics & Photonics 52nd Annual Meeting, August 25 – 31, 2007, in San Diego, California.

This award included travel and food expenses, lodging for seven nights, student registration fee, and the fee to attend one short-course at the conference. In addition, he attended the Student Leadership Workshop and presented a technical paper (published in the conference proceedings).

Ronen successfully defended his MSE thesis, “Surface Plasmon/Polariton Propagation Along Layered Metal-Dielectric Structures,” in Fall 2007. He has co-authored many professional journal and conference papers with his ECE faculty advisor, Dr. Junpeng Guo, Associate Professor. (see recent publications on page 9)
Have you joined Co-op?

Cooperative Education (Co-op) is a unique academic program that provides students the opportunity to gain practical, professional work experience while they complete their degree. Co-op students work in paying jobs directly related to their field of study. This experience allows them to enhance their academic preparation, acquire valuable work experience and explore career options.

The UAH Co-op Program was established in 1979. Since then, nearly 4,000 students have completed work assignments in business, industry, and government. These students have enriched their education and earned more than $55 million. Co-op is open to all majors, both undergraduate and graduate.

Approximately 400 students participated in the UAH Co-op Program during the 2006-07 academic year, with earnings exceeding $3.3 million. Enrollment has consistently grown during the last five years and we expect that trend to continue.

Director Suzanne Norris emphasizes the important role the program maintains in students’ academic careers. “Many students report that Co-op opportunities in our community had a significant impact on their choice to attend UAH,” states Norris. “Co-op provides students opportunities to connect with mentors, the employer, and our community. It is a win-win situation for everyone.”

Cody Mitchell, a recent UAH graduate and the 2007 UAH and Alabama Association of Colleges and Employers Co-op Student of the Year, gained more than just invaluable experience at his Co-op assignment with Mentor Graphics – he gained a full-time career at graduation. He understands that the combination of classroom knowledge and Co-op experience is invaluable. “Some things cannot be taught in the classroom because only experience can provide knowledge,” he notes. “Though I maintained a high level of success in my coursework, my Cooperative Education experience truly completed my undergraduate academic career.”

Like Cody, nearly 75% of students accept offers of full-time employment from their Co-op companies, relieving the stress of searching for a job.

Currently, companies such as Adtran, Intergraph, Dynetics, NASA/Marshall Space Flight Center, Aerospace Testing Alliance, Mentor Graphics, Jacobs ESTS Group, Southern Company and many others are interviewing students for potential Co-op assignments. We encourage all UAH students to join the Co-op Program so they do not miss out on these great opportunities. **We have several openings in electrical and computer engineering for the spring term,** so be sure to call our office today.

As a Co-op working for UAH, Todd Thompson, an electrical engineering major, sums up his view of Co-op, “I recommend that students take advantage of the opportunities available to them through Co-op and capitalize on the doors that will be opened through the Co-op Program.”

For more information, contact the Co-op Office at 824-6741 or coop@uah.edu. Apply today and discover the career of your dreams!
ECE Graduate Teaching Assistants

Jing Cai
Degree: Ph.D. student
Major: Electrical Engineering
Advisor: Dr. Pan

Farshad Khieri
Degree: Ph.D. student
Major: Electrical Engineering
Advisor: Dr. Joiner

Ossama Toutonji
Degree: Ph.D. student
Major: Electrical Engineering
Advisor: Dr. Adhami

Ujjal Bhowmik
Degree: MSE student
Major: Electrical Engineering
Advisor: Dr. Adhami

Alireza Hassanzadeh
Degree: Ph.D. student
Major: Electrical Engineering
Advisor: Dr. Lindquist

Jun Namkung
Degree: Ph.D. student
Major: Electrical Engineering
Advisor: Dr. Lindquist

Ashley Hunt
Degree: MSE student
Major: Electrical Engineering
Advisor: Dr. Johnson

Vladimir Uzelac
Degree: Ph.D. student
Major: Computer Engineering
Advisor: Dr. Milenkovic

Jing Zhang
Degree: MSE student
Major: Electrical Engineering
Advisor: Dr. Stensby

Joel Wilder
Degree: Ph.D.
Major: Electrical Engineering
Advisor: Dr. Milenkovic

Other GTA information was unavailable before press time.

(Visit our department at www.ece.uah.edu)
Welcome new and returning students to UAH’s ECE Department Laboratories for the 2007/2008 Fall Semester.

This semester showed a marked improvement for Dr. Pan’s Networks class with an increase in hardware donated by Adtran. The Adtran routers, shown on top of a PC in the photo below, allow for a class of 20 students to individually participate in learning how to configure routers.

The Adtran lab (EB229) has gone through a major renovation since last Spring. There are now 20 work stations comprising a Dell Optiplex 745 dual-core PC with 1 GB of RAM, a flat panel display which replaces the bulky CRT’s of yesteryear, and each station now has its own Adtran router which can be directly configured, thanks to Adtran’s generous donation.

EB 246 (above) was renovated recently, as well. The bulky CRT monitors were replaced with the leaner and more efficient flat panel displays. An overhead video projector has been installed and is connected to the Sun network, allowing all in the class to see programming solutions from the instructor in real time.

EB 109 (above), used for EE 100L and EE 384 labs, also has flat panel monitors and an overhead projector.

Classrooms EB239 and EB240 have been renovated in the last few months. We have replaced all the old desks, installed new white marker boards, and installed an overhead video projector.

Adtran, Inc. presents new routers for the ECE Department Adtran Lab, EB 229. From left to right: Dr. David Pan (Assistant Professor), Dr. Reza Adhami (ECE Chair), Rick Schansman (Adtran VP for Engineering), Stacey Givens (Adtran, University Co-op Recruiting Coordinator), and Dr. Jorge Auñón (UAH Engineering Dean).
Dr. Aleksandar Milenkovic, Associate Professor, received a UAH 5-year Service Award at the Spring 2007 service awards luncheon.

Dr. Milenkovic joined the ECE Department in August 2001 as an Assistant Professor. He received his Ph.D., M.S., and B.S. degrees in Computer Engineering from the University of Belgrade in 1999, 1997, and 1994, respectively.

The goal of Dr. Milenkovic's research is to develop new techniques for designing computer systems (both hardware and software) such that they can achieve the highest performance at minimal cost. His research interests span the areas of computer architecture and organization, embedded systems, VLSI, parallel and distributed technology, and computer networks.

Dr. Nagendra Singh, Professor, received a UAH 20-year Service Award at the Spring 2007 service awards luncheon.

Dr. Singh has over 20 years of experience in numerical modeling and simulation of electromagnetic and plasma systems. He has richly contributed to the field of space plasma research through particle simulation of complex plasma processes such as antennas in plasmas, formation of electric double layers, waves and instabilities, large-scale plasma flows and charging of spacecrafts. Some of his recent works have been on development of 3-D plasma codes for satellite-plasma interactions in NASA’s tether project, and nonlinear evolution of waves in space plasmas; the codes employ the particle-in-cell method. The 3-D code was recently parallelized. Dr. Singh has recently developed a code for studying dynamical behavior of photoreactive materials used in nonlinear optics. He has also developed 1- and 2-D particle-in-cell codes for liquid crystal devices having widespread applications in displays.

Dr. Seong-Moo (Sam) Yoo, Associate Professor, received a UAH 5-year Service Award at the Spring 2007 service awards luncheon.

Dr. Yoo joined the ECE Department Faculty in August 2001 as an Associate Professor of Computer Engineering. He received his M.S. and Ph.D. in Computer Science from the University of Texas at Arlington in 1989 and 1995, respectively. His earlier extensive research in multiprocessor scheduling based on mesh architecture was published in IEEE Transactions on Parallel and Distributed Systems and the Journal of Parallel and Distributed Computing.

His current research interests include information assurance, cryptography, computer network security, wireless networks and mobile computing, parallel computer architecture, and image processing.

Dr. Aleksandar Milenkovic 5-Year Service Award Recipient

Dr. Nagendra Singh 20-Year Service Award Recipient

Dr. Sam Yoo 5-Year Service Award Recipient

Spring 2008 Advanced EE Classes

EE 604 Digital Image Processing 5:30-6:50 PM, Tuesday and Thursday
Review of digital filters. Spatial filters and realizations. Edge and wedge detectors. Derivative matrices and u-notch, r-notch filters. Periodic images, their transformation and scanning, their two-dimensional Fourier transforms. Rational vectors and image filtering. Prerequisite: EE 426/506. For more information contact Dr. Adhami at 824-6316 (adhani@ece.uah.edu).

EE 605 Classical Control Design 3:55-5:15 PM, Monday and Wednesday
Design of feedback, feedforward, and minor-loop controllers/ compensators using classical control engineering techniques and classical performance criteria. Frequency domain synthesis of lag, lag, lead-lag, etc. compensators; tuning of PD and PID controllers; error budgets; use of commercial CAD software for classical control design and performance evaluation; digital simulation techniques. CAD laboratory sessions. The prerequisite for this course is EE 505, 425 or equivalent. For more information contact Dr. Shtessel at 824-6164 (shtessel@ece.uah.edu).

EE 615 Analog Circuit Design 3:55-5:15 PM, Tuesday and Thursday
Use of operational amplifiers to synthesize special-purpose filters and circuits for analog signal processing and conditioning; linear and switching power supplies; high-frequency effects; circuits for transmitters and receivers; digital circuits from an analog viewpoint; A/D and D/A converters; selected topics. The prerequisite: EE 414/514. For more information contact Dr. Joiner at 824-6126 (ljoiner@ece.uah.edu).

EE 703 Modern Control Design 3:55-5:15 PM, Monday and Wednesday
Use of modern (state-variable) control concepts and theories to design high-performance controllers for multi-input/multi-output set-point regulation and servo-tracking/pointing problems. Modeling of uncertain disturbances; design of disturbance-accommodating controllers; introduction to adaptive and stochastic control. Use of commercial CAD software for modern control design and performance evaluation. CAD laboratory sessions. The prerequisite for this course is EE 701 or equivalent. For more information contact Dr. Johnson at 824-6293 (johnson@ece.uah.edu).

EE 707 Information Theory 5:30-6:50 PM, Tuesday and Thursday
Self-information, entropy, mutual information, and channel capacity, encoding, error detecting and correcting codes. Sampling theorem. Discrete and continuous channels. Prerequisite: EE 426/506. For more information contact Dr. Berinato (Bob.Berinato@dynetics.com).

EE 711 Antenna Theory 2:00-5:00 PM, Thursday
Antennas and antenna arrays. Radiation patterns and impedance characteristics. Spheres, cylinders, horns, slots, microwave lenses, traveling-wave, and frequency independent antennas. Prerequisite: EE 609. For more information contact Dr. Singh at 824-6678 (singh@ece.uah.edu).

EE 722 Sliding Mode Control 5:30-6:50 PM, Monday and Wednesday
The basic and advanced theories and analytical techniques for modeling and analysis of systems dynamics in sliding manifolds. Traditional and High Order Sliding mode controller design. Discontinuous and equivalent control, robustness. Applications to control of electro-mechanical systems, reusable launch vehicle, aircraft, spacecraft, and DC-to-DC power converters. The prerequisite for this course is EE 701 or equivalent. For more information contact Dr. Shtessel at 824-6164 (shtessel@ece.uah.edu).

EE 725 Advanced Radar Techniques 3:55-5:15 PM, Monday and Wednesday
Modern radar systems for search and tracking are analyzed with emphasis on signal processing. Modeling and simulation of system and environment. Advanced techniques include CFAR, binary modulation, frequency agility, polarization agility, and synthetic aperture. The prerequisite for this course is EE 608, 619 or equivalent. For more information contact Dr. Budge (Merv.Budge@dynetics.com).

EE 745 Modulation & Phase Locked Techniques in Communication 5:30-6:50 PM, Monday and Wednesday
Treatment of analog and digital phase locked loops. Applications in carrier regeneration, demodulation, and synthesis discussed. Linear and nonlinear PLL models and analysis. Noise analysis via Volterra Series and Fokker-Planck equation. False lock phenomenon. Prerequisites: EE 500 & EE 505. For more information contact Dr. Stensby (stensby@ece.uah.edu) or at 824-6258.
Spring 2008 Advanced CPE Classes

CPE 619 Modeling and Analysis of Computer and Communication Systems
Date & Time: TBA
Modeling of single and multiprocessor systems, single and multi-stage interconnection networks, Computer Networks. Analysis using Stochastic processes, Markov and Queueing techniques. Modeling using Petri Nets and Finite State models. Prerequisites: MA 585 or EE 500. For more information contact Dr. Milenkovic at 824-6830 (milenka@ece.uah.edu).

CPE 625 / EE 620 CMOS Analog Integrated Circuit Design
3:55-5:15 PM, Tuesday and Thursday
Analog circuit design in CMOS technology. CMOS processing technology. MOS transistor modeling. Basic current mirrors and single-stage amplifiers. Noise analysis and modeling. Basic OPAMP design and compensation. Advanced current mirrors and OPAMPs. Bandgap references. CMOS technology characterization for radio-frequency (RF) design. Prerequisite: EE 416. For more information contact Dr. Ho at 824-6128 (ho@ece.uah.edu).

CPE 631 Advanced Computer Systems Architecture
5:30-6:50 PM, Monday and Wednesday
Study of architectural features of modern processors, including cache memories and memory systems, pipeline designs, branch prediction techniques. Design of superscalar, multithreaded VLIW processors, code optimization for such systems will be studied. Quantitative evaluation of architectural features are emphasized throughout the course. Prerequisites: CPE 512, CPE 531. For more information contact Dr. Milenkovic at 824-6830 (milenka@ece.uah.edu).

CPE 633 Fault-Tolerant Computing Systems
11:10AM-12:30 PM, Tuesday and Thursday
Analysis and design of very high reliability and availability systems. Fault types, reliability techniques, and maintenance techniques. Case studies of high-availability long-life, life-critical systems. Both hardware and software techniques for achieving fault-tolerance will be studied. Prerequisites: CPE 531, CPE 526, EE 500. For more information contact Dr. Gaede at 824-6573 (gaede@ece.uah.edu).

CPE 641/EE 642 Data and Digital Communications
2:20-3:40 PM, Tuesday and Thursday
Introduction to digital and data communications; transmission channels; modulation and coding; telephone networks; data communication standards; noise and distortion; computer interfacing; protocols. Prerequisite: EE 420/500. For more information contact Dr. Joiner at 824-6126 (ijoiner@ece.uah.edu).

CPE 647 Ubiquitous Computing
3:55-5:15 PM, Monday and Wednesday
The new anytime, anywhere, computing paradigm, also known as ubiquitous computing, significantly changes the way we work and live. This course is project based, and explores issues of mobile, wireless, and distributed computing in the Internet environment, advanced human-computer interfaces, and power efficient computing. The prerequisite for this course is the approval of the course instructor. For more information and to gain approval contact Dr. Jovanov at 824-5094 (jovanov@ece.uah.edu).

CPE 648 Advanced Computer Networks
7:05-8:25 PM, Monday and Wednesday
Introduction to the advanced principles and concepts of computer networks. Topics covered include network protocols and the TCP/IP suite, high-speed networks, performance modeling and estimation, congestion and traffic management, compression, quality of service in IP networks, and network security issues. The prerequisite for this course is Introduction to Computer Networks (CPE 548 or equivalent). For more information, contact Dr. Pan at 824-6642 (dwpam@ece.uah.edu).

CPE 649 Advanced Information Assurance Engineering
5:30-6:50 PM, Tuesday and Thursday
This course provides an introduction to topics ranging from how to attack computer systems and networks to how to protect and recover from such attacks. It explores the basic processes that are utilized by computer attackers in order to develop a complete understanding and appreciation of the threat to information assurance. Course discusses the process of detecting, preventing, and recovering from information assurance attacks. Intrusion detection and prevention systems, auditing, security vulnerability assessments, and the incident response process are covered in some detail. The prerequisite for this course is CPE 549 (Introduction to Information Assurance). For more information on this course contact Dr. Adhami at 824-6316 (adhami@ece.uah.edu).

CPE 748 Mobile and Wireless Networks
12:45-2:05 PM, Tuesday and Thursday
High-level issues in mobile and wireless networks. The main topics are mobile IP, Mobile Ad hoc NETworks (MANETS), wireless sensor networks, wireless LAN, Bluetooth, cellular networks, satellite systems, and security issues in mobiles and wireless networks. Prerequisites: CPE 648 or CS 670. For more information on this course contact Dr. Yoo at 824-6858 (yoos@ece.uah.edu).

Classes begin January 7th!
“Good educational practice dictates that electrical, computer, and optical engineering programs seek feedback from experienced practitioners on program objectives, strategies, and assessment methods. ABET Engineering Criteria, for example, calls for accredited programs to base their program objectives on “the needs of the program’s various constituencies.”

“The department’s goals include providing education excellence to its students and maintaining ABET accreditation of the electrical, computer, and optical engineering programs, and enhancing its research activities. The leadership, wisdom, experience, and teamwork skills of the board members will have a great influence on the attainment of these goals. The department intends to provide a relevant, disciplined, challenging and responsive educational experience to its students. The guidance provided by the board will help to achieve these goals.”

— Dr. Reza Adhami, ECE Chair

1. Dr. Jon Bendickson, Senior Engineer
   Dynetics, Inc.

2. Dr. Bob Berinato, Senior Engineer
   Dynetics, Inc.

3. Dr. William Bishop, Sr., Senior Project Manager
   Systems Studies & Simulation, Inc.

4. Dr. Haik Biglari, Sr. Director of Engineering
   Fairchild Controls

5. Dr. Mervin C. Budge, Jr., Chief Scientist
   Dynetics, Inc.

6. Dr. William Craig, Director
   Software Engineering Directorate
   US Army Aviation & Missile Command

7. Mr. Robert Darnall, Sr. Mgr./Business Development
   Raytheon Company

8. Dr. Dan Fleetwood, Professor & Chair
   Vanderbilt University

9. Mr. Daniel M. Joffe, Senior Staff Scientist/Mixed
   Signal Design Manager
   ADTRAN

10. Dr. Bob McMilan, Senior Research Scientist
    SMDC-RD-TC-MS

11. Dr. Marshall Molen, DTI-Ergon Distinguished
    Professor
    Mississippi State University

12. Dr. Jerry Moore, VP Emeritus
    ADTRAN

13. Dr. George O’Reilly,
    Phase IV Systems, Inc.

14. Dr. Claudette Owens, Acting Chief of the Information & Computational Engineering
    USASMDC

15. Mr. Jim Pepper
    DCS Corporation

16. Ms. Janice Rock, Research Engineer
    US Army

17. Dr. Terry D. Rolin, Electronics Engineer
    NASA-MSFC

18. Mr. Rick Schansman, VP for Engineering
    Adtran

19. Dr. Brian J. Smith, Research Electronics Engineer
    US Army

20. Mr. Joel Thomas, Director, Corporate Relations
    Aerospace & Defense Group, Inc.

21. Dr. Glenn Weathers, Chief Technical Officer
    Applied Data Trends, Inc.

22. Dr. Charles Corsetti, ABET Program Coordinator
    Electrical & Computer Engineering (EE)
    University of Alabama in Huntsville

23. Dr. Rhonda Gaede, ABET Program Coordinator
    Computer Engineering (CPE)
    University of Alabama in Huntsville

24. Dr. Robert Lindquist, ABET Program Coordinator
    Optical Engineering (OPE)
    University of Alabama in Huntsville

25. NSBE Student Representative
    National Society of Black Engineers (NSBE)
    UAH Chapter

26. SWE Student Representative
    Society of Women Engineers (SWE)
    UAH Chapter

27. Charger IEEE Student Representative
    Institute of Electrical & Electronics Engineers (IEEE), UAH Chapter
Journal Articles


Dr. Boykin was promoted to full Professor in August 2007.

Conference Papers


**Dr. Emil Jovanov**
Associate Professor

**Book Chapter**

**Conference Papers**

**Invited Presentation**
Ubiquitous Vital Sign Monitoring, First International Conference on Biomedical and Health Engineering (IS3BHE), Shenzhen, China, August 2007.

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**Dr. Alex Milenkovic**
Associate Professor

**Journal Article**

**Conference Paper**

**Dr. Milenkovic was awarded Tenure and promoted to Associate Professor in August 2007.**

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**Dr. David Pan**
Assistant Professor

**Conference Paper**

**Invited Presentation**
Source Correlation Exploitation for Distributed Coding of Images, Radar Division, Naval Research Lab, Washington, D.C., October 17, 2007

**Dr. Pan was elevated to the level of Senior Member of IEEE in July 2007.**

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**Dr. Alex Poularikas**
Professor Emeritus

**New Book**
Conference Papers


Dr. Yuri Shtessel
Professor

Journal Articles


Conference Papers


Dr. Nagendra Singh
Professor

Journal Articles


Conference Papers


Dr. Marcus Bendickson was inducted into the State of Alabama Engineering Hall of Fame in Spring 2007. His HoF citation is reprinted here.

If technological nay-saying seems to be on the decline in the new century, the work of Marcus J. Bendickson is one source of the phenomenon. In tracking the interactions of complex systems via mathematical and physical models of the systems, The University of Alabama in Huntsville alumnus and chief executive officer of leading Alabama corporation Dynetics achieved some revolutionary firsts.

In the 1970s, beneath defense organization uniformly raised eyebrows, Bendickson’s Dynetics’ team applied early digital supercomputing to characterize radar and missile systems’ performances without actually building them. Their work put costly “live system” testing behind the times. Bendickson’s definitive results from simulations of technological advances were a glimpse of a new, more-is-possible era.

With a master’s degree in electrical engineering from Columbia University and a bachelor’s degree in electrical engineering from Iowa State University, Bendickson worked for Bell Laboratories and Teledyne Brown from 1969 to 1975. He studied ground-based radar that featured weighted pulse train communications (well used in missile defense today) and microwave communications. Within months of Dynetics’ establishment in Huntsville in 1975, he joined it to pursue radar and missile engineering. In particular, Bendickson’s Dynetics’ group analyzed U.S. and NATO command-and-control, including the HAWK, Stinger, and Patriot missile defense systems, and the AWACS radar system. Amid such responsibility, he pursued a doctorate as a UAH night student. He also wrote his dissertation on improved understanding of radar waveform returns while employed full time.

Bendickson’s administrative skill became evident as he built teams of Dynetics aerodynamicists, radio frequency engineers, signals specialists, control theorists, and environmental modelers, closely allied to ensure design chains sans weak links. As Dynetics’ president from 1989 to 1997, Bendickson saw 190 employees increase to 410 and $14 million in sales increase to $60 million. He became CEO in 1997. Today, the company has 900 employees in eight states with $200 million in annual sales. In June, it opened spacious new headquarters in Huntsville’s Cummings Research Park.

Bendickson’s policy of responding quickly, modeling accurately, and curtailing costs led, among other things, to Dynetics’ design, fabrication, and delivery of the United States Air Force’s headline-grabbing MOAB bomb in under 90 days. Beyond their forceful impact on the United States’ capacity to protect its citizens, soldiers, and interests from threat systems, Bendickson and Dynetics have contributed safety solutions for medical information management, the automotive industry, and drug-treatment programs. His firm patented many ideas, including a counter-rotating scanner protected in 28 countries. The company also boasts many awards, including the Small Business Administration’s Prime Contractor of the Year, two Department of Defense awards for best research and development, and ISO 9001 certification.

The Institute of Electrical and Electronics Engineers named Bendickson its 2002 Professional of the Year. He is a member of UAH’s College of Engineering Industrial Advisory Board and is a UAH Foundation trustee. He is a past chairman of the board of his local Better Business Bureau, actively serves Huntsville’s chamber of commerce, and is a focus group member with the American Management Association. He is a member of the boards of the National Space Science and Technology Center, Arete Associates, and Colonial Bank.

Marcus and his wife, Sheryl, have a daughter who is a Huntsville educator, a son who is a Dynetics radar signatures expert, and one grandchild.

We want to hear from you!

The ECE Department looks forward to hearing your views and your success stories. Contact us to share your news and comments about your career and interests. Your story should be sent to realtime@ece.uah.edu