Welcome to the spring 2011 edition of the ECEE alumni newsletter! There are many new and exciting developments this semester, including a new student advising center and student project lab. Photos of these new resources can be seen throughout the newsletter.

With more than have over 55 full-time faculty members and more than 30 research and affiliate faculty, we provide a high caliber of research, teaching, and mentoring capabilities. We are proud of their contributions and hope that you find opportunities to interact with them in a professional capacity in the near future.

In this edition we present the Control Systems, Electromagnetics, Antennas, and Microwave Circuits, Electric Power and Energy Systems, and Signal Processing and Communications faculty. The year that they began at Arizona State University is also listed next to their title. The remaining faculty members were spotlighted in the fall 2010 issue and can be found on our website. For more information on our faculty or to contact us, visit http://engineering.asu.edu/ecee

**Electric Power and Energy Systems**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Year/Institution</th>
<th>Expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raja Ayyanar</td>
<td>Associate Professor, 2000; Ph.D., University of Minnesota</td>
<td>Power electronics, grid integration of photovoltaics and wind, PWM converters, electric drives.</td>
</tr>
<tr>
<td>Richard G. Farmer</td>
<td>Research Professor, 1966; M.S., Arizona State University</td>
<td>Project planning and interaction of turbine generators with EHV transmission systems RGF.</td>
</tr>
<tr>
<td>Kory Hedman</td>
<td>Assistant Professor, 2010; Ph.D., University of California, Berkeley</td>
<td>Energy systems, power system economics, programming, operations and planning.</td>
</tr>
<tr>
<td>Gerald T. Heydt</td>
<td>Regents' Professor, 1995; Ph.D., Purdue University</td>
<td>Power engineering, electric power quality, distribution, transmission, power education, sensors and instrumentation.</td>
</tr>
<tr>
<td>Keith E. Holbert</td>
<td>Associate Professor, 1989; Ph.D., University of Tennessee</td>
<td>Process monitoring and diagnostics, sensor fault detection, instrumentation development, ionizing radiation effects.</td>
</tr>
<tr>
<td>George G. Karady</td>
<td>Professor, 1986; Ph.D., University of Technical Sciences, Budapest</td>
<td>Power electronics, high-voltage engineering and power systems.</td>
</tr>
<tr>
<td>Daniel J. Tylavsky</td>
<td>Associate Professor, 1982; Ph.D., Pennsylvania State University</td>
<td>Electric power systems, numerical methods applied to large-scale system problems.</td>
</tr>
<tr>
<td>Ravi Gorur</td>
<td>Undergraduate Program Chair, Professor, 1987; Ph.D., University of Windsor</td>
<td>HV insulators, nanodielectrics, composite conductors, electric field calculations, nondestructive testing.</td>
</tr>
<tr>
<td>Vijay Vittal</td>
<td>Ira A. Fulton Chair and Regents' Professor, 2005; Ph.D., Iowa State University</td>
<td>Electric power, power system dynamics and controls, nonlinear systems, and sustainable energy.</td>
</tr>
</tbody>
</table>
Signal Processing and Communications

Chaitali Chakrabarti  
Professor, 1990;  
Ph.D., University of Maryland  
**Expertise:** VLSI algorithms and architectures for signal processing, low power embedded systems.

Douglas Cochran  
Associate Professor, 1989;  
Ph.D., Harvard University  
**Expertise:** Sensor signal processing, applied harmonic analysis, detection theory.

Tolga M. Duman  
Professor, 1998;  
Ph.D., Northeastern University  
**Expertise:** Wireless & mobile communications, channel coding, modulation, underwater acoustic communications, information theory.

David H. Frakes  
Assistant Professor, 2008;  
Ph.D., Georgia Institute of Technology  
**Expertise:** Vascular flow Imaging and associated fluid dynamic applications, suppression of optical turbulence distortion in video.

Antonia Papandreou-Suppappola  
Professor, 1999;  
Ph.D., University of Rhode Island  
**Expertise:** Waveform-Agile Sensing, Time-Frequency Processing, Stochastic Processing Biosensing.

Joseph Hui  
Professor, 1999;  
Ph.D., Massachusetts Institute of Technology  
**Expertise:** Communications, networking, switching, queuing, theory, virtualization, cloud computing, energy, electric vehicles.

Lina Karam  
Professor, 1995;  
Ph.D., Georgia Institute of Technology  
**Expertise:** Image & video processing, compression, & transmission, visual quality assessment, multidimensional signal processing.

Douglas Cochran  
Associate Professor, 1989;  
Ph.D., Harvard University  
**Expertise:** Sensor signal processing, applied harmonic analysis, detection theory.

Martin Reisslein  
Associate Professor, 2000;  
Ph.D., University of Pennsylvania  
**Expertise:** Multimedia streaming, multimedia traffic characteristics, metro and access fiber/wireless networks, engineering education.

Andreas S. Spanias  
Professor, 1988;  
Ph.D., West Virginia University  
**Expertise:** Digital signal processing, multimedia signal processing, speech and audio coding, adaptive filters.

Cihan Tepedelenlioglu  
Professor, 2001;  
Ph.D., University of Minnesota  
**Expertise:** Wireless communications, signal processing, sensor networks, data analysis for cyber-physical systems.

Hongyu Yu  
Assistant Professor, 2008;  
Ph.D., University of Southern California  
**Expertise:** MEMS: wireless flexible sensors for microfluidics, radiation and gas sensing; micro seismometers.

Junshan Zhang  
Professor, 2000;  
Ph.D., Purdue University  
**Expertise:** Wireless networks, information theory, cross-layer optimization, ad-hoc/sensor networks, stochastic analysis, epilepsy.

Yanchao Zhang  
Associate Professor, 2010;  
Ph.D., University of Florida  
**Expertise:** Estimation and filtering, dynamic optimization, neurophysiological basis for control, brain machine interface.

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**ECEE Annual Report**


*Did we miss you? Keep in touch with us, please email your career updates to askee@asu.edu*
Control Systems

Ying-Cheng Lai
Professor, 1999; Ph.D., University of Maryland at College Park
Expertise: Nonlinear dynamics, solid-state electronics, complex networks, signal processing, and computational biology.

Deirdre Meldrum
Ira A. Fulton Schools Dean 2007-2010, Professor, 2007; Ph.D., Stanford University
Expertise: Biosignatures discovery automation, live single cell analyses, robotics, genomics, lab-on-chip, nanotechnology.

Konstantinos Tsakalis
Professor, 1988; Ph.D., University of Southern California
Expertise: Control, identification, and optimization applications to semiconductor manufacturing, process control, and epilepsy.

Jennie Si
Professor, 1991; Ph.D., University of Notre Dame
Expertise: Estimation and filtering, dynamic optimization, neurophysiological basis for control, brain machine interface.

Armando Rodriguez
Professor, 1990; Ph.D., Massachusetts Institute of Technology
Expertise: Approximation theory, embedded systems, rapid prototyping, modeling, simulation, animation, and real-time control.

Electromagnetics, Antennas and Microwave Circuits

James T. Aberle
Associate Professor, 1989; Ph.D., University of Massachusetts
Expertise: Antennas and RF systems for wireless communications, modeling of complex electromagnetic phenomena.

Constantine A. Balanis
Regents' Professor, 1983; Ph.D., Ohio State University
Expertise: Computational electromagnetic methods (FDTD, FEM, MoM, GO/GTD/UTD, PO/PTD).

Rodolfo E. Diaz
Associate Professor, 1998; Ph.D., University of California Los Angeles
Expertise: Electromagnetic and optical scattering of complex material objects in realistic environments.

Joseph C. Palais
Graduate Program Chair, Professor, 1964; Ph.D., University of Michigan
Expertise: Fiber optic communications, holography, and distance education.

George Pan
Professor, 1995; Ph.D., University of Kansas
Expertise: Computational electromagnetic, electronic packaging, rough surface and inverse scattering, millimeter-wave antennas.

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To make a donation of any amount:
• Call Charles A. Silver at 480.965.9449
• Go online to www.asufoundation.org and click the gold “Invest in ASU” button. On the next screen, click “Ready To Give.” Then select “Engineering, Ira A. Fulton Schools of.” When asked to “Select an associated fund”, select “Electrical Engineering.”
• Mail your gift to – Cynthia Moayedpardazi, PO Box 875706, Tempe, AZ 85287-5706. Check should be payable to “Arizona State University” with “Electrical Engineering” noted on the memo line.
This spring the School of Electrical, Computer and Energy Engineering opened its new advising center and student project lab. The student project lab was designed to give students a place to work on their projects and has computers, large work tables, and cabinets for supply storage. The advising center was redesigned with couches, computers, and a work table to make waiting for class or an advising appointment a more comfortable and inviting experience. Next time you are on campus come check out these new resources on the 2nd floor of the Goldwater Building!