

IEEE MINI CONDUCTOR



Dayton Section Meeting

Tue Jan 13, 6:30 – 8:30 PM

The Dayton Section meeting will be held on Tuesday, January 13th

at Panera at the Fairfield Mall from 6:00pm-8:30pm

Meet * Greet * and Eat!
Location Change!

We have reserved the meeting room located on the left as you walk in.

Please attend!! We need inputs for this year's activities

Robert Ewing, Chair
Just Show Up! All Welcome

Miami Valley Consultants Network

2nd Friday of each month 11:30am at the Engineer's Club.

Please RSVP
937-228-2148.

We will discuss topics that will help members market, sell & complete consulting assignments.

<http://members.aol.com/mvohconsultants/>

Section News: Officer Changes & New Societies

Dayton Section - Ms. Felicia Harlow is the new IEEE Dayton Section Secretary.

Communications Chapter Starting up

Mr. Matthew Shuman & Dr. Bin Wang will kick off in January

EMB-SMC & SP Society - New chairman

Dr. Nikolaos Bourbakis will be the new Chairman of the EMBS-SMC

Signal Processing Chapter - New chairman

Dr. Michael Haas is moving to Chair the Signal Processing Chapter

“Layered Sensing” for the Air Force

As 2010 moves closer in time, our Dayton area thru Wright Patterson Air Force Base will be the research center for “Layered Sensing” for the Air Force, and this focus will likewise involve the support of small local high tech companies. Some of this new research has moved here from both Boston, MA and Rome, NY. Keeping this in mind, here are some new courses of interest- Radar Courses at Wright State University: Winter, Spring, and Summer Quarters and two new faculty positions at the Air Force Institute of Technology (details listed below) that should be of interest to our Dayton Section Electrical and Computer Science engineers.

Winter Quarter:

EE 675 - Introduction to Radar Systems

Introductory study of the radar equation, antenna patterns, target cross sections and system losses, radar measurements, pulse doppler and coherent techniques, detection probability and signal-to-noise ratio, sidelobe clutter, synthetic arrays, and pulse compression techniques.

Instructor: Dr. Brian Rigling

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Directory

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ACTIVE CHAPTERS

Antennas & Propagation: Microwave Theory & Techniques (APS/MTT)
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Communications Society CHANGE!
 Mr. Matthew Shuman

Dr. Bin Wang 937-775-5115 Bin.wang@wright.edu

Computer Society:
 Bret Givens

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Engineering in Medicine & Biology Society and Systems, Man & Cybernetics Society EMBS-SMC Chapter CHANGE!

Dr. Nikolaos Bourbakis, WSU

LEOS Society:

Andrew Sarangon 937-229-3190
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Signal Processing Society: CHANGE!

Dr. Michael Haas 937 255 8768
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Chairman's Corner



Dr. Robert Ewing

I would like to thank **Dr. Nikolaos Bourbakis**, Wright State University for stepping up to be the Chairman of the EMBS-SMC Chapter and for **Dr. Michael Haas** moving to Chair the Signal Processing Chapter to help focus more activities with that Chapter. **Mr. Matthew Shuman** has started the steps to form a new IEEE Dayton Chapter in Communications, with the help of **Dr. Bin Wang**, they will have monthly meetings at Wright State University and a kick-off meeting this month (January). Dr. Wang served as our Section Secretary for two years and decided to step down from that position at the end of this year. We would like to thank Dr. Wang for his faithful Section support and active service, and welcome his involvement in the newly forming Communications Chapter.

Ms. Felicia Harlow is the new IEEE Dayton Section Secretary. Ms. Harlow works at the Air Force Research Laboratory, Wright Patterson Air Force Base, Sensors Directorate, in the "Distributed Collaborative Sensor System Technology Branch". Her work involves the development of methodologies, techniques, and architectures for trusted distributed heterogeneous sensing systems to support the Layered Sensing vision. This includes the development of technologies to monitor and manage secure exchange of critical sensor data to assure collaborative operations.

On January 13th, we will have our **IEEE Dayton Section meeting at Panera**, 2751 Fairfield Commons, Beavercreek, from 6:00pm to 8:30pm. We need only need 24 hours notice with our order, so let me know if you wish to attend, by the 11th ! Plan to see you there!! We really would like to see more involvement from our local industries, so please come, get involved!

Robert Ewing, Chairman

Layered Sensing” *Cont. from Page 1*

Spring Quarter: EE 733 - Modern Radar Theory

Application of probability and random process to the performance characterization of range/doppler radar. Development of the concepts of resolution, S/N, ambiguity function, and pulse compression, and their applications to radar systems design. Consideration is also given to coherent imaging radar. *Instructor: TBD*

Summer Quarter: EE 680 - Synthetic Aperture Radar Signal and Image Processing

Analyze a synthetic aperture radar (SAR) system in terms of range, resolution, footprint, and SNR performance. Understand and implement models for SAR data collection. Understand and implement algorithms for SAR image formation such as polar format (PFA), backprojection, range migration (RMA). Understand signal phase coherency requirements for a SAR system. Understand algorithms for motion compensation and autofocus of SAR. Understand available computing technology for real-time SAR data processing and exploitation. Finally, contemporary SAR research such as Ground Moving Target Indication (GMTI), Change Detection (CD), Wide Angle Imaging, Sparse Aperture Imaging will be introduced.

Instructor: TBD

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Two New Faculty Positions are available at AFIT

Likewise, due to the “Layered Sensing” focus at Wright Patterson Air Force Base, Two New Faculty Positions are available at the Department of Electrical and Computer Engineering, Air Force Institute of Technology.

(1) Microelectronics and (2) Radar Faculty Positions in Electrical Engineering

Background Information:

The Department of Electrical and Computer Engineering at the Air Force Institute of Technology (AFIT) in Dayton, Ohio is seeking applicants for tenure track faculty positions in electrical engineering. Applicants will be considered at all academic levels. The department is particularly interested in receiving applications from individuals with strong backgrounds in 1) microelectronics, to include nanotechnology, MEMS, and device fabrication, or 2) radar signal processing, to include multi-channel monostatic and bistatic applications.

Applicant Qualifications:

Applicants must have an earned doctorate in electrical engineering or closely related discipline. Must be committed to excellence in graduate-level education, to include teaching and research mentorship.

They must be able to establish sponsored research projects or, as a research team member, expand upon existing projects within the department. Candidates for the rank of Assistant Professor should have a strong potential for both teaching and research. Candidates for senior positions should possess distinguished records in research and a demonstrated ability to lead programs at the graduate level. Applicants must be United States citizens and eligible to gain a secret security clearance.

Visit the website <http://www.afit.edu/en/eng> for more details on AFIT’s department, and its academic programs, and research specialties.

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Contact Bob Cooper 298-2062 or Bobc9101@sbcglobal.net**

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