

IEEE TEAMS UP WITH A UNIVERSITY FOR A PILOT PROGRAM TO OFFER A WEB-DELIVERED COURSE

PISCATAWAY, NJ, 28 January, 1999 - The IEEE has created an alliance with the Department of Electrical and Computer Engineering at the University of Illinois at Urbana-Champaign (UIUC), Urbana, IL, to offer a web-delivered course on antennas and propagation.

This four-week course, designed to serve as a refresher for practicing engineers, will be based entirely on the Internet. Classes run from 1 April, 1999 through 30 April. Registration ends 31 March, 1999. Course capacity is limited to 30 students.

The course will provide learners with an analytical and intuitive understanding of antenna physics, expose them to antenna computer-aided design software, and introduce them to a variety of antenna structures of practical interest. The course will also cover recent developments in the wireless and personal communication systems. Those intending to register are expected to have a basic knowledge of electromagnetic wave theory outlining the general plane wave solution of Maxwell's equations, phenomena involving reflection and transmission of plane waves, transmission lines, and impedance matching techniques. Students who successfully complete the course will be awarded 3.6 IEEE Continuing Education Units (CEUs).

Eric Michielssen, Ph.D. will be instructing the course. Dr. Michielssen received his Ph.D. from the University of Illinois at Urbana-Champaign in 1992. He is an assistant professor in the UIUC Department of Electrical and Computer Engineering, associate director for the Center of Computational Electromagnetics, and a part-time faculty member in the Beckman Institute Photonic Systems Group. His professional interests are computational electromagnetics, photonic systems, high-speed digital circuits, fast algorithms, and stochastic optimization.

For more information about the course contents and requirements, and to register for the course, go to:

<http://www.ieee.org/organizations/eab/distance.htm>

The tuition for this pilot offering of the course is: Member price, \$350. List price: \$400.

For more information about this educational opportunity contact Peter Wiesner, IEEE Educational Activities, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331; Phone: (732)562-5500; Fax: (732)981-1686; E-mail: p.wiesner@ieee.org

CONGRESS APPROVES H-1B VISA INCREASE

On October 21, 1998, President Clinton signed into law the American Competitiveness and Workforce Improvement Act (ACWIA). The new law was passed in response to claims from business and educational organizations that the nation faces serious shortages of information technology workers. It makes major changes in laws governing the admission of foreign nationals to work temporarily in the United States on H-1B visas.

The new law provides for a three-year increase in H-1B admissions from 65,000 per year under prior law to 115,000 in FY 1999; 115,000 in FY 2000 and 17,500 in FY 2001. It also establishes a new \$500 per petition filing fee for businesses to fund scholarships in math, engineering and computer science; retraining for displaced workers and pay for improved program administration and enforcement. And it increases monetary penalties on employers of H-1B workers that file fraudulent applications or violate other provisions of the law.

Under pressure from IEEE-USA and other groups, Congress also enacted worker safeguard provisions to ensure that the admission of foreign nationals on H-1B visas does not adversely affect job opportunities and compensation for U.S. workers. Under these provisions, some employers who wish to hire H-1B workers will have to affirm that they have tried to recruit similarly skilled American workers and that they have not displaced American workers before they hire foreign workers. Unfortunately, the recruitment and retention requirements will only apply to a handful of so-called "H-1B dependent" companies.

IEEE Pairs Up With Teachers To Help K-12 Students Learn Technology

Piscataway, NJ, 29 January, 1999 -- Fifteen members of the IEEE Pre-College Education Coordinating Committee (PECC), a cross-section of engineers and educators, recently developed a framework for an IEEE pre-college education initiative. The framework was developed after the committee brainstormed ways in which the IEEE and the engineering community can collaborate with teachers to foster innovative teaching strategies among K-12 science, math, and technology teachers.

Formed in October 1998 at the Technological Literacy Counts workshop in Baltimore, MD, the PECC is one of the few IEEE committees that actively recruits non-engineers. Pete Lewis, Educational Activities Staff Director, contends, "It's important that the IEEE take an active role in enhancing the technological literacy of K-12 students. We can only do so by listening to the educational needs of those on the front lines, the teachers themselves."

In a round-table discussion format, participants sought to answer the following questions: In this rapidly growing technology age, WHAT tools/resources do K-12 educators need in order to most effectively teach their students science, math, and technology subjects? As the world's largest technical professional society, HOW can the IEEE, and the engineering community at large, help teachers foster technological literacy among their students?

A participating and appreciative eighth-grade science teacher from Oklahoma said, "I am so glad the IEEE is breaking out of the 'box' and reaching out to teachers." In the coming months, the IEEE will form a specific action plan for its pre-college education initiative. For more information, contact Barbara Stoler, IEEE Educational Activities, 445 Hoes Lane, PO Box 1331, Piscataway, NJ, 08855-1331; e-mail: b.stoler@ieee.org.

The IEEE is the world's largest technical professional society, serving the interests of more than 330,000 members in the information and electrotechnology communities in approximately 150 countries. In keeping with its "Networking the World" slogan, the IEEE helps to foster technological innovation, enable members' careers, and promote worldwide professional community.

For more information contact:

Christy Bouziotis Phone: (732) 562-6526
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E-mail: c.bouziotis@ieee.org

Long Island Section is now live on the internet
Our World Wide Web (www) address is:

<http://sils.pratt.edu/~longis/>

or through links from the IEEE home page at www.ieee.org

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Please visit our website at: <http://sils.pratt.edu/~longis/> for up to date listings, changes and cancellations

March 3, 1999 — LI Consultants Network. at 7:00 PM, Networking. L.I.E. exit 57 at the LILCO Training Center, 131 Hoffman Lane, Hauppauge. For further information, call Chris Early at (516) 764-1067.

March 17, 1999, Wednesday, 8:30 AM - 5:30 PM (Exhibits: 10:30 AM - 5:30 PM). IEEE Sarnoff Symposium on *Advances in Wired and Wireless Communications*. Sponsored By: IEEE Princeton Section, TCNJ Engineering Department, TCNJ, IEEE Student Branch, and the Sarnoff Corporation. The College of New Jersey, Hillwood Lakes, Trenton, NJ. Registration: Advance/Same Day: \$50/\$75 (\$5/\$10 student; \$0 life members) (Registration includes entrance to all sessions and one copy of technical digest; additional digest: \$20). Advance Registration: Ms. Desiree McDermott (609) 734-2430, Sarnoff Corporation, CN 5300, Princeton, NJ 08543-5300. Exhibitor Information: Alan Egger at alanegger@representative.com or Sandy Lehrfeld at sandy@microlambda.com

March 29 — Excom Meeting. at 6:00 PM at AIL.

April 5,7,9 — Microprocessors and Software Seminar. See page 4 for more information.

April 7, 1999 — Consultants Network with Section, Career Paths for Engineers, probably at Polytechnic University Auditorium. See page 6 for more information.

April 19,21,23 — Intermediate Microprocessors and Software Seminar. See page 5 for more information.

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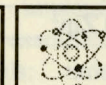
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**IEEE Long Island Section Presents
Microprocessors and Software Seminar**

4/5, 4/7, 4/9

Overview

The Long Island Section of IEEE is presenting a three session (3 hours per session) training course "Microprocessors and Software for the Novice". This seminar begins with a global discussion of microprocessors and their application in today's products, continues with introduction of development tools, selection criteria of a particular processor and proper concurrent design approach that must be applied to a microprocessor based system.

Who Should Attend

This course is for engineers and managers who need a better understanding of the terminology, advantages and pit-falls of today's microprocessor/software technology. It will also serve the needs of the entry level hardware or software engineer who can gain much practical knowledge based on the many years of experience of the instructor.

Key Benefits

- Learn the terminology and fundamental key concepts of any microprocessor based system
- Understand sufficient amount of the technology to be able to do further study on your own
- Understand what software and hardware tools are the minimum requirements for a successful development
- Be able to make trade-off decisions about a design before start of the project

Content

What you will learn: hardware/software, Make or buy?, What is a microprocessor, a bit of history, what can it do, Microprocessors vs. Microcontrollers, Families of processors, Abilities and constraints, The design cycle, Hardware design issues, Software design issues, Selection of processor, Selection of tools: Compilers, simulators, in circuit emulators, logic analyzers ..., Assembly or High level programming? Specific design examples, A live walk through of a simple application development from program development to compilation and execution

Seminar Coordinator and Instructor

Professor Babak D. Beheshti is a faculty member in School of Engineering and Technology, New York Institute of Technology. He has taught many courses on the topic of microprocessors, and in his consulting activities he has many years of microcontroller based products and systems design experience.

Location and Times

The seminar will be given in Melville, NY, 6:00 to 9:00 PM. Registrants will be advised of the exact location and receive an acknowledgment by mail shortly after registration. The seminar is wholly the responsibility of IEEE LIS and the instructor.

For further information contact Prof. Beheshti via email at b.beheshti@ieee.org or by phone at 516-686-7437.

Fees will be refunded in full if the seminar is canceled or the registrant cannot be accommodated due to capacity limitations. Other refunds will be considered.

Registration Fees

Payment Due	IEEE members ²		
	Public ¹	member	student/life
Mar. 25	\$250	\$200	\$140
Mar. 30	\$300	\$250	\$190

Notes:

1. Includes IEEE Associate New Member dues for those who submit an application at the seminar.
2. 1999 membership card required at first session. Not applicable to affiliate members.

Registration Form	
Microprocessors/Software Apr. 99	
Make checks payable to "IEEE Long Island Section".	
Send form to Babak Beheshti, 101 Caffrey Avenue, Bethpage, NY 11714-1435	
Name: _____	
Company: _____	
Address: _____	
City and Zip: _____	
Hphone: _____ Bphone: _____	
Fax: _____ email: _____	
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**IEEE Long Island Section
Intermediate Microprocessors and Software Seminar**

4/19, 4/21, 4/23

Overview

The Long Island Section of IEEE is presenting a three session (3 hours per session) training course "Intermediate Microprocessors and Software".

Who Should Attend

This course is intended for individuals with a basic understanding of microprocessors. Familiarity with any particular microprocessor is not required. Knowledge gained in the introductory microprocessor (offered April, 1999) is sufficient. This course is a follow up to the introductory course. Example applications of microprocessors, use of on and off chip peripherals, programming examples and real time considerations are discussed.

Key Benefits

- Learn the terminology and fundamental key concepts of any microprocessor based system
- Understand sufficient amount of the technology to be able to do further study on your own
- Understand what software and hardware tools are the minimum requirements for a successful development
- Be able to make trade-off decisions about a design before start of the project

Content

What you will learn: Review of fundamentals, focus on Intel 8051 Micro controller, registers, pin out, on-board peripherals(UART, Timers, A/Ds), ROM, RAM, EEPROM. Review of instruction set. Hardware design and interfacing, digital I/O: interfacing with switches, relays, and LEDs; analog I/O, design considerations. Design examples with software drivers. Interrupts and their role in real time applications. Basic concept of an interrupt. Interrupts in 8051, interrupt service routine setup and considerations. When to use interrupts. Background intensive implementations. Interrupt latency and priority. Software examples will be covered. Use of on-board peripherals: timers, and asynchronous serial communications. Sample programs and applications to interface to the RS-232 line. Where to use micro controllers: how to decide between strictly hardware solutions vs. Micro controllers in a product, system design cycle and its implications, where to use hardware peripherals vs. software implementation of it, software/hardware trade-off, future trends, concluding remarks.

Seminar Coordinator and Instructor

Professor Babak D. Beheshti is a faculty member in School of Engineering and Technology, New York Institute of Technology. He has taught many courses on the topic of microprocessors, and in his consulting activities he has many years of micro controller based products and systems design experience.

Location and Times

The seminar will be given in Melville, 6:00 to 9:00 PM. Registrants will be advised of the exact location and receive an acknowledgment by mail shortly after registration. The seminar is wholly the responsibility of IEEE LIS and the instructor. For further information contact Prof. Beheshti via email at b.beheshti@ieee.org or by phone at 516-686-7437.

Fees will be refunded in full if the seminar is canceled or the registrant cannot be accommodated due to capacity limitations. Other refunds will be considered. *Attendees of the Introductory Microprocessors and Software Seminar (April, 1999) will be given a 30% discount for the intermediate seminar.*

Registration Fees

Payment Due	IEEE members ²		
	Public ¹	member	student/life
April 10	\$250	\$200	\$140
April 15	\$300	\$250	\$190

Notes:

1. Includes IEEE Associate New Member dues for those who submit an application at the seminar.
2. 1999 membership card required at first session. Not applicable to affiliate members.

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Professional Activities Report

by Irwin Weitman, P.E.

Set aside the evening of Wednesday, April 7, 1999 (see add below) for a very special event for engineers of Long Island. We will have a seminar and panel discussion with questions from the audience. The title is: "Career Paths for the Engineer". The emphasis will be on preparing for the career path you choose but maintaining a flexibility that allows you to redirect your path if the market environment or for your personal reasons you want to change.

The will be 7 speakers experienced in the discipline that they will discuss. Some of them started on one path and then moved to another. Find out how they dealt with the change.

Don't MISS THIS OPPORTUNITY intended for any engineer from student to almost ready to retire. In addition to this array of experienced engi-

neers there will be refreshments served before the seminar starts. The speakers will be:

Peter Buitenkant
John Dunn
Ed Palacio
Arnie Scher
Joel Snyder
Irwin Weitman

The format will be:

- General introduction to the subject.
- Career path presentations.
- Questions from the audience with answers from the panel.

The March 3rd Meeting of the Consultants Network will have a presentation by the "Toastmasters". It will be a demonstration of *How to Present and Public Speaking*. This meeting is open to the public. Place: Keyspan Training Center in Hauppauge at 7:00 PM.

Who is managing YOUR engineering career? Where do you go from here, and what are your options?

On Wednesday, April 7, 1999 at 7:00 PM

The Professional Activities Committee of the Long Island Section of IEEE presents:

Controlling Your Engineering Career

The focus will be on the wide choice of opportunities available to today's engineer including: technical engineering, management, consulting, academia, sales & marketing, and patent law. The engineer as an entrepreneur and in financial industries will also be discussed.

The evening will begin with brief presentations by respected professionals from our area to be followed by a panel question and answer session.

**For engineering students through retirement candidates...
Do not miss this important event!**

Place: The auditorium of the Polytechnic Institute of NY in Farmingdale—located on rte. 110, South of Republic Airport. Refreshments will be served.

For additional information: contact John Dunn at 516-549-6555.

Engineering Tomorrow Looking for Images

A number of IEEE society volunteers (including the Presidents) are playing a major role in the development of the book *Engineering Tomorrow*, a coffee table type book to look at the impact electrotechnologies might have over the coming years. Each society has suggested visionary folks to interview and those interviews are on-going. We have a professional scientific writer (Trudy Bell), a publisher, and a packager. Janie Fouke, Division X Director, is helping to coordinate the production of this book, and she is asking for help with locating photos, images, and graphics that will enhance the book text. If you have suggestions regarding where to locate any photos, images or graphics, please CONTACT Janie Fouke-
E-MailTo: j.fouke@ieee.org

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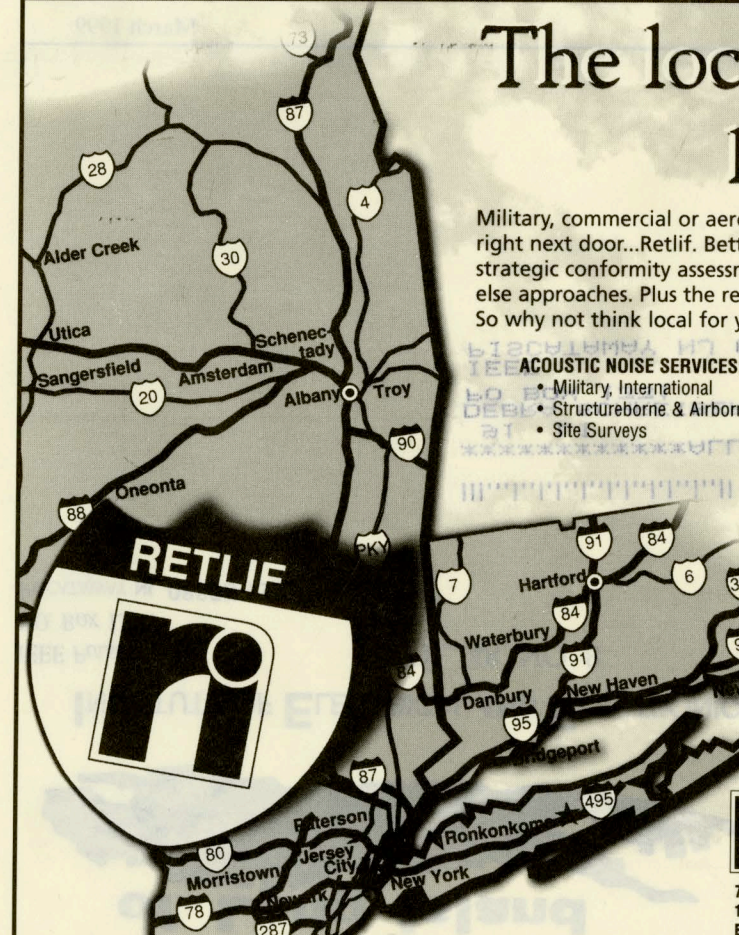
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by Rod Lowman, Historian

The meeting was one of a series of tutorial sessions the Joint Groups planned that year to acquaint their members with a number of fields they might not normally pursue or read about in their specialized literature. The series, it seems to me, demonstrates two things especially. First, the importance of a broad engineering education which covers much more than our specialties, and second, that we should not become so enamored with our specialties that we overlook possibilities in an allied field (or remotely different field) which may solve a problem better, in this case something normally in the province of Mechanical Engineers,

As a post script to my article in the January *PULSE* about Microsound, my confusion and perplexity have been clarified by one of our eminent microwave experts, Jesse Taub. In a recent note Jesse pointed out that the new name for Microsound is Microwave Acoustics. And it has become such an important area in microwaves that the MTT has designated a separate subdivision in the society for coverage of this field. In the latest MTT Newsletter, the chairman of this MTT-2 division, Robert Weigel emphasized that many telecommunication systems depend on the extremely high performance of Surface Acoustic Wave and Bulk Acoustic Wave filters and oscillators. Fixed code, chirped and even programmable filters have opened up a wide range of possibilities in signal processing field and wireless identification tagging and reading with SAW's have recently been introduced. So once again, the IEEE got you there first — even before the name changed!



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