

The



# IEEE Newsletter

PUBLICATION OF THE NORTH JERSEY SECTION OF THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS

*NJ Control Systems Chapter:*

## **Learning-based Disassembly Process Planner for Uncertainty Management**

On Thursday, December 8, 2005, the IEEE North Jersey Section Control Systems Chapter will host a presentation titled "Learning-based Disassembly Process Planner for Uncertainty Management." The speaker will be Dr. Ying Tang.

### **About the Talk**

As product lifecycles are getting shorter and shorter, manufacturers are facing a great deal of economic and political pressure to reclaim and recycle their obsolete products. Disassembly, as one of the natural solutions, is of increasing importance in material and product recovery. However, this process is fraught with many uncertainties (e.g., variations in product structure and condition, and human factors). The development of an effective modeling and management tool for such involved factors is very critical in moving disassembly towards a more efficient and automated regime. The proposed approach undertakes this problem. More specifically, a fuzzy Petri net model is introduced to explicitly represent the dynamics inherent in disassembly. Instead of presuming the pertinent data in the model is already known, a self-adaptive disassembly process planner and associated computationally effective algorithms are designed in a way to: (1) accumulate the past experience of predicting such data, and at the same time, (2) exploit the "knowledge" captured in the data to choose the best disassembly plan and improve the overall disassembly performance. To ensure the robustness of the learning procedure, variable memory length is further introduced. The proposed methodology and algorithms are illustrated through the disassembly of a batch of flashlights in a prototypical disassembly system.

### **About the Speaker**

Dr. Ying Tang is an Assistant Professor of Electrical and Computer Engineering at Rowan University. She received her BS and MS degrees from the Northeastern University, P.R. China, in 1996 and 1998, respectively, and PhD degree from New Jersey Institute of Technology, Newark, NJ, in 2001. Her research interests include modeling and scheduling of computer-integrated systems, Petri nets and applications, reconfigurable systems design, hardware and software co-design, software security, and networking and communication. She has led and participated in several research and education projects funded by National Science Foundation, Lockheed Martin Corporation and US Navy (NAVSEA). Her work has resulted in over 50 publications and one book chapter. She has chaired several technical sessions, and served/been serving on organizing and program committees for many conferences.

**Time:** 5:00-6:00 PM, Thursday, December 8, 2005.

**Place:** New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Directions are available at <http://www.njit.edu/University/Directions.html>.

**Information:** Professor Timothy Chang (973) 596-3519 (changtn "AT" njit.edu).

*NJ Section PACE & GOLD:*

## **Engineers Meet: Your Business**

All invited. On Wednesday, December 14, 2005 the North Jersey Section Professional Activities Committee and Graduates of the Last Decade will host a meeting to network, socialize, enjoy refreshments and discuss the professional side of engineering.

All will have an opportunity to present their views about the profession, the job market, review past meetings and discuss pressing issues for PACE.

### **Bring job leads, information, and get on our Email list**

Members and students from other professional societies and engineering disciplines are always welcome. We now include members from IEEE, ASME and AEA. For more information about these groups see:

[www.aea.org/chapters/nj/](http://www.aea.org/chapters/nj/)

[www.ieeeusa.org](http://www.ieeeusa.org)

[web.njit.edu/~ieeenj/](http://web.njit.edu/~ieeenj/)

[www.asme.org/sections/northjersey](http://www.asme.org/sections/northjersey)

<http://ewh.ieee.org/reg/1/>

**Time:** 6:30 to 9:00 PM, Wednesday, December 14, 2005. Refreshments will be served.

**Place:** Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ, (973) 772-5500.

**Information:** Paul Ward, (973) 790-1625 (PWard1130 "AT" aol.com) or Richard F. Tax, (201) 664-6954 (rtax "AT" bellatlantic.net).

**DECEMBER 2005**

# December 2005

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### IEEE NJ SECTION HOME PAGE

<http://web.njit.edu/~ieeenj/>

### IEEE NJ SECTION NEWSLETTER HOME PAGE

<http://web.njit.edu/~ieeenj/NEWSLETTER.html>

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*The North Jersey Section Executive Committee usually meets the first Wednesday (except holidays and December) of each month at 7:00 PM. Meetings are open to all members. For information on meeting agenda contact Secretary Russell Pepe at (201) 960-6796, rpepe "AT" att.net.*

## North Jersey Spring 2006 Student Presentation Contest Coming Up

The new spring-06 student presentation contest is coming up!

The North Jersey Section will be holding a presentation contest scheduled for late-February/early-March of 2006. This contest has been held in years past and its overwhelming success in generating student participation and interest make it an fantastic event for up and coming engineers. This year's contest will feature similar prizes (\$\$\$) and have graduate and undergrad categories.

The main focus of the presentation contest is to give students an opportunity to sharpen their communication skills, and help prepare for real life situations as practicing engineers and researchers. Additionally, the North Jersey Section contest provides an excellent chance for students to practice for the Region 1 Student Paper contest in the spring.

The contest at the North Jersey Section level is also supplemented by awarding cash prizes to the three best presentations in both graduate and undergrad categories. All engineering students are encouraged to participate in submitting team or individual presentations on any project work related to engineering. This local contest does not require students to write a full paper, just a slide-based presentation on technical or non-technical work is sufficient. Senior design projects, lab projects, personal engineering hobbies, engineering policy, etc., are great topics to submit. Moving onto the regional contest requires submitting a short written paper.

The details of contest rules, judging criteria, viable topics for presentations, and abstract form will be same as last year. Also if you would like to get an idea of what topics would be appropriate or how you can prepare your abstract, take a look at winners from past years at the NNJ IEEE SAC homepage. The exact date/time/location is still TBD.

This year's North Jersey Section Contest will be open to graduate and undergraduate students and first/second/third place prizes will be awarded in each category of \$100/\$75/\$50. All participants MUST REGISTER by submitting an abstract by filling in the form available at the SAC website to qualify as a contest participant.

Any and all questions can be emailed to the contest organizer, a.j.patel "AT" ieee.org.

## NJ Consultants' Network: Annual Meeting

On Thursday, December 8, 2005, the IEEE Consultants' Network of Northern NJ will conduct its annual Planning Meeting and Workshop.

### About the Talk

The combined November/December meeting of the IEEE Consultants' Network is designed as a strategic planning event for Network members and for consultants who are considering membership in the Consultants' Network.

The main purpose of the meeting will be to discuss ideas and expectations for the various Network functions in the upcoming year. Results of the annual election of officers will be announced at the time.

This working session is traditionally an open, informal forum to determine what the IEEE-CNNNJ is doing right or wrong. The floor will be open to suggestions for improvements, recommendations of new Network directions and activities and proposals of new feature topics for the general meetings.

The major functions performed by the IEEE Consultants' Network that will be discussed are:

- Monthly General Meetings - Suggested feature topics will be discussed.
- Member Networking - Member presentations and alternate general meeting formats that improve networking.
- Group Marketing & Image Building - CNNNJ Website, tri-fold and postcard mailing, CNNNJ's free consultant referral service, and alternate publicity methods.

Refreshments and pastries will be available during the course of the evening and there will be no pre-meeting dinner for members as is customary.

### About the Consultants' Network

Founded in 1992, the IEEE Consultants Network of Northern NJ encourages and promotes the use of independent technical consultants by business and industry.

**Time:** 7:30 PM, Thursday, December 8, 2005.

**Place:** Aeroflex/KDI-Integrated Products, 60 S. Jefferson Rd, Whippany, NJ. (Entrance at rear of building)

**Information:** For directions and up-to-date meeting status, call Robert Walker (973) 728-0344 or visit our website at [www.TechnologyOnTap.org](http://www.TechnologyOnTap.org). To download a map to KDI, go to: <http://www.mcekdi-integrated.com/directions.htm>.

# IEEE North Jersey Section Activities

## December 2005

**Dec. 8** – “Annual Meeting” - NJ Consultants' Network, 7:30 PM, Aeroflex/KDI-Integrated Products, 60 S. Jefferson Rd, Whippany, NJ. Robert Walker (973) 728-0344 or [www.TechnologyOnTap.org](http://www.TechnologyOnTap.org).

**Dec. 8** – “Learning-based Disassembly Process Planner for Uncertainty Management” - NJ Control Systems Chapter, 5:00-6:00 PM, New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Professor Timothy Chang (973) 596-3519 ([changtn “AT” njit.edu](mailto:changtn@njit.edu)).

**Dec. 13** – “Basics of YAG Lasers” - NY, LI, and NJ EMBS Chapters, 7:15 PM, Manhattan, NY (address will be provided after RSVP). Professor Joel H. Levitt (212) 479-7805 ([jlevitt “AT” pratt.edu](mailto:jlevitt@pratt.edu)).

**Dec. 14** – “Your Business” - NJ PACE & GOLD, 6:30 – 9:00 PM, Clifton Memorial Library, 292 Piaget Ave, Clifton, NJ. Paul Ward, (973) 790-1625 ([PWard1130 “AT” aol.com](mailto:PWard1130@aol.com)) or Richard F. Tax, (201) 664-6954 ([rtax “AT” bellatlantic.net](mailto:rtax@bellatlantic.net)).

### Upcoming Meetings

**Jan. 4** – “NJ Section Meeting”, 6:30 PM, “Executive Committee Meeting” - 7:00 PM, ITT, 100 Kingsland Rd, Clifton, NJ. Russell Pepe at [rpepe “AT” worldnet.att.net](mailto:rpepe@worldnet.att.net).

**Feb. 18-May 6** – “C# .NET Programming” – North Jersey Section, Saturday Mornings, 10 sessions, 9:00 AM-12:00 PM, location TBA. Bhanu Chivukula ([b.chivukula “AT” computer.org](mailto:b.chivukula@computer.org)).

**Mar. 14-May 9** – “Project Management” – North Jersey Section, Tuesday Evenings, 8 sessions, 6:30-9:00 PM, NJ International Bulk Mail Center, 80 County Rd, Jersey City, NJ. Bhanu Chivukula ([b.chivukula “AT” computer.org](mailto:b.chivukula@computer.org)).

**Mar. 24** – “Automatic Transfer Switches and Power Control Systems Seminar” - NJ IAS/PES Chapters, 9:00 AM – 3:00 PM, Automatic Switch Co., 50 Hanover Rd, Florham Park, NJ 07932. Complete details will appear in the January Newsletter.

**Mar. 27-28** – “2006 IEEE Sarnoff Symposium” – see [www.sarnoffsymposium.org](http://www.sarnoffsymposium.org) for details.

**May 7** – “NJ Section Awards Reception” - 3:00 to 6:00 PM at the Birchwood Manor, 111 North Jefferson Rd, Whippany, NJ. Anne Giedlinski (973) 377-3175.

**Members and Non-Members Welcome**

**PLEASE POST**

NY, LI, and NJ EMBS Chapters:

## Basics of YAG Lasers

On December 13 2005, the Engineering in Medicine and Biology Society (NY/LI/North Jersey chapter) will present "Basics of YAG DPSS Lasers and Medical Applications" with speaker Michael E. Posner.

### About the Talk

This is an educational program intended for those who are not experts on lasers and want to learn more about one of the newest and most promising types. Just within the last few years, YAG lasers have dropped drastically in price. Basic terms will be defined, e.g. YAG=Yttrium Aluminum Garnet, DPSS=Diode Pumped Solid State, KTP=Potassium Titanyl (Titanium Oxide) Phosphate. The basic concept is that a standard infrared laser diode (typical output 808nm) excites a dopant coated (YAG) slab or rod to emit at a lower frequency (higher wavelength, typically 1064 nm). This then excites a KTP crystal frequency doubler with a halved wavelength output typically 532 nm, visible green.

Demonstrations: There will be

demonstrations of a 2W YAG laser including burning plastic at a distance of one foot.

Some of the Issues to be addressed:

- ↗ Use in laser pointers (5mW green YAG lasers are 20-50X brighter than simple 5mW red laser diodes!)
- ↗ Use in Laser Surgery
- ↗ Use in lethal & non-lethal weapons. The speaker has a patent pending on a non-lethal gun
- ↗ Use in mechanical hole drilling and industrial engraving
- ↗ Use in wart and tattoo removal
- ↗ Use in electrolysis
- ↗ Use in a laser scalpel
- ↗ Use as laser tweezers in gene splicing (future).

The amazingly high efficiency of diode and DPSS lasers will also be discussed--they can have an input (electrical) to output (light energy) efficiency over 25%.

### About the Speaker

Michael E. Posner, BSEE, MSBME.

Education: BSEE, Feb. 1983, Pratt Institute. Graduated with honors. Member, Tau Beta Pi. Masters in BIOMED, Jan. 2005, Brooklyn Polytech.

Work Experience:

- RF Engineer for WPIX CH11 (the WB) 1983-1988.
- "ELECTRONIC VISIONS" ( Sub S corp.) 1988-present  
Clients: Hard Copy, WNYC-TV, NVI, America's Most Wanted.  
Also produced VILE VIDEO comedy on a public access channel.

**Time:** Seating at 7:15 PM, Tuesday, December 13, 2005.

**RSVP:** Pre-registration required. There is no admission charge. You need not be a member of EMBS or IEEE but all must pre-register by email to jlevitt "AT" pratt.edu. If you do not have email then you can pre-register by leaving a message on (212) 479-7805, 24 hr. voice-mail. Deadline for all pre-registration is midnight on Dec. 12.

**Place:** Manhattan. Address will be emailed to those who email and will be available on the meeting day on a phone announcement on (212) 479-7805.

**Information:** IEEE-EMBS Chairman: Prof. Joel H. Levitt (212) 479-7805, email: jlevitt "AT" pratt.edu.

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## JOIN US FOR GRADUATE WEEK AT POLYTECHNIC UNIVERSITY DECEMBER 1-8

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### GRADUATE WEEK DATES

#### BIOMEDICAL ENGINEERING AND BIOINFORMATICS

Thursday, December 1, 2005  
6:00 pm - 8:00 pm  
Brooklyn Campus - LC400

#### INTEGRATED DIGITAL MEDIA

Friday, December 2, 2005  
6:00 pm - 8:00 pm  
Brooklyn Campus - RH204

#### MECHANICAL, INDUSTRIAL AND MANUFACTURING ENGINEERING

Tuesday, Dec 6, 2005  
6:00 pm - 8:00 pm  
Brooklyn Campus - LC400

#### COMPUTER SCIENCE

Wednesday, December 7, 2005  
6:00 pm - 8:00 pm  
Brooklyn Campus - LC102

#### DEPARTMENT OF MANAGEMENT

Wednesday, December 7, 2005  
6:00 pm - 8:00 pm  
Brooklyn Campus - LC400

#### ELECTRICAL AND COMPUTER ENGINEERING

Thursday, December 8, 2005  
6:00 pm - 8:00 pm  
Brooklyn Campus - LC102

#### CIVIL ENGINEERING AND CONSTRUCTION MANAGEMENT

Thursday, December 8, 2005  
6:00 pm - 8:00 pm  
Brooklyn Campus - LC400



## Nominate a Colleague for Fellow

It's never too early to start thinking about nominating a colleague who is a senior member for the 2007 class of IEEE Fellows. Nominating forms are due to the Fellow Committee by 1 March 2006.

The IEEE Fellow grade is conferred by the Board of Directors upon a person with an extraordinary record of accomplishments in any of the IEEE fields of interest. The total number of Fellows selected in any one year cannot exceed one-tenth of 1 percent of the total voting IEEE membership.

To obtain the IEEE Fellow Nomination Kit, visit the IEEE Fellow Activities Web site at <http://www.ieee.org/fellows> or send a message to fellow-kit "AT" [ieee.org](mailto:ieee.org).

*NJ PES/IAS Chapters:*

## Energy Conservation Technical Discussion Series

Beginning January 2006, the PES and IAS Chapters will sponsor a FREE monthly series of discussions on the topic of Energy Conservation. Industry leaders will discuss various topics including but not limited to:

- utility incentives
- high efficiency lighting
- high efficiency transformers, motors & variable frequency drives
- solar, wind, and wave power
- hybrid vehicles
- plus many more timely topics

The FREE sessions will be held on a recurring monthly evening at a host facility centrally located near Edison, NJ.

The discussions will begin at 6:30PM preceded by a pre-meeting buffet starting at 6:00PM.

Look for additional details in the January Newsletter.

Interested presenters should contact Ronald W. Quade, PE, (732) 205-2614 or [rwquade@ieee.org](mailto:rwquade@ieee.org).

## North Jersey Section Seeks Committee Chairs and Volunteers

The NNJ IEEE Section ExCom is seeking new volunteers to help conduct business at the section level for the benefit of its membership in the North Jersey section and surrounding areas. There are a variety of volunteer positions open and available. They range from long-term to short-term, technical to non-technical, leadership or just participatory. All activities have varying levels of time commitment. For Chapter Chairs, you must be a member of the corresponding IEEE Society.

If you would like to become involved with volunteering in some of these efforts or positions or just become more informed about what is happening at the NNJ IEEE Section, please contact the persons listed below for additional information and questions. You can even attend the section business meeting held the first Wednesday of every month to find out more and other volunteer activities that require some help.

Some of the positions currently open and available are:

- *Engineering in Medicine & Biology Chair/Vice-Chair.* Contact Har Dayal ([har.dayal@baesystems.com](mailto:har.dayal@baesystems.com)).
- *Solid State Circuits Chair/Vice-Chair.* Contact Har Dayal ([har.dayal@baesystems.com](mailto:har.dayal@baesystems.com)).
- *Women in Engineering Affinity Group Coordinator.* Contact Har Dayal ([har.dayal@baesystems.com](mailto:har.dayal@baesystems.com)).
- *Historian Committee* seeks help collecting IEEE historical information and specifically IEEE North Jersey Section History. Contact Al Stolpen ([a.stolpen@ieee.org](mailto:a.stolpen@ieee.org))
- *Student Activities Chair.* Contact Amit Patel ([a.j.patel@ieee.org](mailto:a.j.patel@ieee.org))

Additionally, if interested volunteers would like to get more general information about other activities in our section, visit the North Jersey Section website for newsletter information <http://web.njit.edu/~ieeenj/> or contact Har Dayal, [har.dayal@baesystems.com](mailto:har.dayal@baesystems.com).

## The NJ Section Education Committee Requests Your Feedback

The IEEE North Jersey Section has been helping fellow engineering professionals for the last fifty years. The Education Committee has successfully conducted software and engineering training courses over the last few decades. The Committee is committed to professional development of the members and the instructors for the courses are very qualified and experienced in their respective fields. Classes are arranged on weekday evenings or on Saturdays provided at least fifteen candidates are available. Completion certificates are issued by IEEE Headquarters with CEU credits for the number of training hours.

Due to the slow growth of the economy and several other factors, registration for these courses has diminished over the last few years. I would urge members to send their feedback regarding what courses they would be interested in, the format, location, and day/time, etc., by email to [b.chivukula@computer.org](mailto:b.chivukula@computer.org).

Regards,  
Bhanu Chivukula  
Chair, Education Committee  
Vice Chair, IEEE North Jersey Section

## Conference Rooms Needed!

The North Jersey Section (Education Committee) is looking for conference room facilities to hold their training seminars. The seminars are being held on one weeknight from 6:30 PM to 9:00 PM. In return for providing the conference facility for free, the organization can get free registration up to three members in the course/seminar. Please contact Bhanu Chivukula, Education Committee Chairman, at [b.chivukula@computer.org](mailto:b.chivukula@computer.org) for suggestions or discussions, if interested.

## Notice to NJ Section Engineers

Paul Ward, a member of the NJ Section IEEE USA and Co-chair of its PACE committee, is looking for (a donation of) electronic test equipment that can be used for teaching electronics and electricity to students with learning disabilities (LD) at the Craig Upper School in Lincoln Park, NJ. This school is a private institution that receives its operating funds from either the parents of the students or some governmental subsidy.

The Craig Upper School is a school dedicated to teaching LD students at the high school level, preparing them to continue on to college or to enter the work force. It teaches a full curriculum, i.e., English, History, Mathematics, Science, and special courses directed at LD students. The staff is limited to approximately fifteen (15) including office, nurse, and guidance with the student population that ranges in the upper fifties (50) which is expected to grow. This ratio of student-to-staff helps to keep class size small and manageable, a class rarely exceeds seven (7).

Paul is trying to accumulate a couple of oscilloscopes, multimeters (analog or digital), oscillators, and function generators, so that a Basic EE course could be put together for a technical course and added to the present academic curriculum. The course would help the student to connect what he or she learned in Mathematics and Science into a practical experience.

The equipment does not have to be in perfect condition, just safe and usable.

If you can donate such equipment, please send it to the following address:

Craig Upper School  
Attn: Paul Ward  
200 Comely Road  
Lincoln Park, NJ 07035

Alternatively, contact Paul Ward at (973) 790-1625 or PWard1130 "AT" aol.com. He will pick it up if needed.

## "Leadership for Results" Courses Launched

IEEE-USA, in conjunction with AchieveGlobal, now offers 29 online courses designed to equip members with the "soft skills" needed to succeed in today's workplace. Course modules include: "Giving and Receiving Constructive Feedback"; "Managing Your Priorities"; "Proactive Listening"; and others, all of which are based on AchieveGlobal's experience in the professional training industry. IEEE members can access these courses for less than retail price. For more information and course registration, use your IEEE Web Account to log into the IEEE-USA online catalog [[https://salaryapp.ieeeusa.org/rt/salary\\_database/shop](https://salaryapp.ieeeusa.org/rt/salary_database/shop)], click on the "Shop" tab, and then click on the "Career-Development Courses" heading.

## U.S. IEEE Members Eligible for Discounted Continuing Education, Certificate, Grad Degree Courses

Through the IEEE Education Partners Program, U.S. IEEE members can now receive up to a 10 percent discount on online degree programs, certifications and courses -- on both technical and business subjects currently offered by more than a dozen accredited universities and private continuing education providers. Most courses are available online; however, some are instructor-led in person. Providers include such leading institutions as Drexel University, New Jersey Institute of Technology and Stevens Institute of Technology; and such organizations as Competence Software, Mind Leaders and Semi Zone. To enter each partner's special IEEE Web site and to browse the more than 2,000 courses offered, enter your IEEE Web account and password at <http://www.ieee.org/education/epp>.

*IEEE-USA in Action:*

## IEEE-USA Encourages Federal Government to Strengthen Cyber Security

Washington (21 September 2005) - IEEE-USA President Gerard A. Alphonse endorsed the findings and recommendations of the President's Information Technology Advisory Committee's (PITAC) report to the president, "Cyber Security: A Crisis of Prioritization" in a letter to federal government leaders on 6 September.

PITAC found that the U.S. information technology infrastructure is highly vulnerable to attack, and recommends that the government increase its support for fundamental research in civilian cyber security.

"The country's computer network infrastructure is critically important for commerce and communication, and for the control of our civil infrastructures, including ever-increasing roles toward our energy security," Alphonse wrote. "Without cyber security protection, our computer networks are vulnerable to criminal and terrorist attacks."

IEEE-USA will also submit written testimony to the House Science Committee, which held a cyber security hearing on 15 September. Go to <http://www.house.gov/science/press/109/109-129.htm> for more information.

The PITAC report is available at [http://www.nitrd.gov/pitac/reports/20050301\\_cybersecurity/cybersecurity.pdf](http://www.nitrd.gov/pitac/reports/20050301_cybersecurity/cybersecurity.pdf).

Alphonse's letter (<http://www.ieeeusa.org/policy/policy/2005/090705.asp>) was sent to all members of the House and Senate leadership committees; House Science Committee members; Dr. John Marburger, director of the Office of Science and Technology Policy; and Dr. Simon Szykman, director of the National Coordination Office for Networking Information Technology Research and Development.

*NEWS from IEEE-USA:*  
**IEEE-USA Urges  
Senate Committee Not  
to Increase H-1B Visas**

Washington (19 October 2005) -- The Senate Judiciary Committee should not vote to release 300,000 additional H-1B visas, IEEE-USA President Gerard A. Alphonse wrote in a letter to the committee today.

"We urge you not to make a bad situation worse by approving another increase in H-1B admissions ceilings," Alphonse wrote.

The Senate committee is expected Thursday to discuss a proposal that would allow as many as 60,000 additional H-1B visas to be issued in any of five fiscal years in which the current cap of 65,000 is reached. By imposing an extra \$500 fee on the new visa, the proposal is expected to raise up to \$30 million a year. The proceeds would help meet budget reconciliation targets, not improve the H-1B program. IEEE-USA supports a House Judiciary Committee proposal to raise revenue by increasing fees on L-1 visa applications.

IEEE-USA has long held that permanent immigration is a better solution to assist U.S. companies in their search for talented foreign high-tech workers such as engineers and scientists. H-1B visas are temporary (three to six years).

Alphonse also cited a recent Department of Homeland Security (DHS) Inspector General's report confirming that DHS does not have a process in place to stop issuing H-1B visas once the congressionally mandated ceiling of 65,000 has been reached. Sen. Charles Grassley (R-Iowa) and Rep. John Hostettler (R-Ind.) learned that DHS' Citizenship and Immigration Services (CIS) might have violated federal law by approving more than 72,000 H-1B visa petitions for FY 2005.

"It boggles my mind that with our computer technology, CIS can't count to 65,000," Grassley said in an 18 October news release. "Bureaucrats are playing a guessing game, and show no shame. Congress put these restrictions in place to help American workers, and we expect them to be followed."

A copy of the Inspector General's report is available at

<http://grassley.senate.gov/releases/2005/10182005.pdf>

**IEEE-USA Employment  
Navigator Simplifies  
Job Search Campaigns**

With more than 100,000 job sites on the Internet, searching for a new job can be a full-time job in and of itself. IEEE-USA Employment Navigator simplifies job searching by collecting some five-million job leads from more than 170,000 Web sites and consolidating them into a single, searchable database. The leads, updated daily, are pulled from job boards; corporate, government and newspaper Web sites; and niche job sites that are specific to industry, occupation or geographic region. Subscribers to the service get access to multiple job listings, including opportunities not found on public job boards -- which account for nearly 30 percent of the jobs listed in the database.

Employment Navigator complements the IEEE Job Site, which provides members access to employers who are specifically looking to recruit IEEE members.

Read more about the Employment Navigator in the October online edition of The Institute at:

<http://www.theinstitute.ieee.org/portal/pag es/tionline/legacy/inst2005/oct05/10w.fe at urenavigator.html>

or go directly to the Web site:

<http://www.ieeeusa.org/careers/ employmentnavigator>

**U.S. IEEE Student  
Members Encouraged  
to Apply for IEEE-USA  
Mass Media Fellowships**

Washington (4 November 2005) - IEEE-USA is for the first time seeking two U.S. IEEE student members to work as reporters, researchers and production assistants in newsrooms across the country by serving a 10-week mass media fellowship in the summer of 2006.

Administered by the AAAS in Washington, D.C., mass media fellows must have the ability to explain complex scientific and engineering principles in a way the general public can understand. The program helps strengthen connections between engineers and journalists, as well as increase public understanding and awareness of science, engineering and technology.

Applicants must at least be a senior in college majoring in a technical field,

mathematics or social sciences. Mass Media Fellows receive a weekly stipend of \$450. Applications are due no later than 15 January 2006. For more information and an application go to <http://www.aaas.org/programs/education/ MassMedia/>; or contact Stacey Pasco, at [spasco@aaas.org](mailto:spasco@aaas.org), tel. (202) 326-6441.

In 2005, AAAS Mass Media Fellows produced some 250 news stories on science and technology. Abby Vogel, a graduate student at the University of Maryland, served as IEEE-USA's 2005 Mass Media Fellow. Vogel worked for the Richmond (Va.) Times-Dispatch, and wrote articles on West Virginia wind farms and making shuttles safer. She also placed several articles on the front page of the paper. For more on IEEE-USA's participation in this program, go to <http://www.ieeeusa.org/communications/ massmedia.asp>

*IEEE-USA in Action:*

**IEEE-USA Urges  
Congress to Extend  
R&D Credit**

Washington (27 October 2005) - IEEE-USA joined with the Information Technology Association of America, the American Electronics Association, the Electronic Industries Alliance and others in urging Congress to extend and strengthen the Research and Experimentation Tax Credit (R&D credit) before it expires on 31 December.

The 21 October letter (<http://www.ita.org/taxfinance/docs/RDHighTechfinal.pdf>) was sent to Senate Finance Committee Chairman Charles Grassley (R-Iowa) and Ranking Member Max Baucus (D-Mont.); and House Ways and Means Committee Chairman Bill Thomas (R-Calif.) and Ranking Member Charles Rangel (D-N.Y.). It endorses bills pending before the Senate (S. 627) and House (H.R. 1736) that would significantly strengthen the current R&D credit.

The credit allows companies to devote more money to research and development than they would otherwise. As noted in the letter, R&D contributes many positive economic benefits to the United States, including "increased revenue streams to U.S. companies that enhance their ability to hire employees, purchase capital goods, pay dividends to shareholders and contribute to a strong U.S. tax base."

## Annual Life Grades Luncheon

The third Annual Life Grades Luncheon sponsored jointly by the Power Engineering Society Chapter and the Section was held on October 20th, 2005 at the Hamilton Park Conference Center, Florham Park, NJ. Roger Sullivan, the current Region 1 Director, talked about Region 1 issues that were presented at the recent Section's Congress held in Tampa, Florida. Jack Alacchi, a volunteer in the RE-SEED program, talked about his recent experiences with this program.

"The RE-SEED (Retirees Enhancing Science Education through Experiments and Demonstrations) is a Northeastern University program that prepares engineers, scientists, and other individuals with science backgrounds to work as volunteers, providing in-classroom support to upper elementary and middle school science teachers with teaching the physical sciences. After completing a comprehensive free training program, participants volunteer in middle school classrooms on the average once a week for at least one year.

RE-SEED began in 1991 with six volunteers. To date close to 500 RE-SEED volunteers have worked in schools in about 100 communities throughout the country offering about 500,000 hours of their time."

For more information on RE-SEED, go to [www.reseed.neu.edu](http://www.reseed.neu.edu) or contact Jack Alacchi at [sparkywatts "AT" ieee.org](mailto:sparkywatts@ieee.org).



Left to right: Jack Alacchi, Carl Fruehling, Joan Dixon, Roland Dixon, Kate Sullivan, Ron Quade, Ken Hendrix, and Roger Sullivan





Left to right: Carl Sulzberger, Won Kim, Ann Giedlinski, John Baka, Willie Schmidt, and Dr. Richard Snyder.



Left to right: Naz Simonelli, Al Stolpen, Alex Richardson, Ken Oexle, Dr. Michael Liechenstein, Dr. Fred Chichester, and Howard Leach.

## IEEE North Jersey Section Newsletter Advertising

The “NEWSLETTER” is the non-profit professional publication of the North Jersey Section of the Institute of Electrical and Electronics Engineers, Inc.

Published monthly except June (electronic only) and July, it is distributed to approximately 4,500 qualified members of the section.

Editorial content is pertinent and timely. It contains current information and details about special meetings, field trips, and seminars scheduled during the month and for future dates.

NEWSLETTER readers are influential in the Electrical and Electronics industries. They are in decision-making positions or can influence decisions in this important field.

Demonstrate your support of their professional organization by advertising in their Newsletter while reaching your customers and prospects.

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### IEEE North Jersey Section Newsletter Advertising Rates

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1/2 Page	480	410	340
1/3 Page	350	300	250
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Classified and Per Inch	30	25	25

IEEE North Jersey Section Course

Project Management

Tuesday Evenings, March 14, 2006 through May 9, 2006

Eight weekly classes (March 14, 21, 28, April 4, 18, 25, May 2, 9, 2006)

USPS, NJI & BMC, 80 County Road, Jersey City, NJ 07097-9998 (Checks should not be mailed to this address)

IEEE North Jersey Section appreciates USPS, BMC for sponsoring these courses at their premises

The North Jersey Section IEEE is offering an evening course entitled "Project Management". Dice.com lists 3200+ Project related jobs in the New York tri-state area daily! This course will help you to break down a master project into manageable tasks, pinpoint possible solutions, and provide information to keep the project under control. Using Microsoft Project 2003 software, you will learn to accomplish various project plans. In addition, it will greatly enhance your business, communications and interpersonal skills.

The IEEE certificate of completion will be given to you when you complete the course. You may wish to take two Certification exams, one in Project Management administered by Project Management Institute and the other in IT Project+ by CompTIA Inc.

Instructor: Donald Hsu, Ph.D., has been a corporate manager for 11 years and is an experienced trainer. Since 1999, he has trained 300+ people in IT Project+, MS Project 2003, and Project Management courses in eight organizations. Effective Project Management: Traditional, Adaptive, Extreme, Third Edition (Paperback) by Authors: Robert Wysocki and Rudd McGary – would be given in the class.

(This is not an exclusive PMP-PMI examination prep course even though project management processes and concepts are discussed in the class. No PDUs are issued for PMP eligibility. CEU credits would be given by IEEE)

TOPICS

- 1. Explain the need for a project manager
2. Define SOW, PERT, GANTT, CPM, and Scope of the project
3. Identify the team members, resources and plan for the strategy
4. Calculate schedule, budget variances, and monitor project progress
5. Manage changes, estimates, and communications
6. Set a baseline, import tasks from MS Excel, export Project files to MS Word
7. Create and modify custom reports, templates and combination views
8. Share resources and create a master plan loaded to Project Server
9. Approve updates and conclude a project plan
10. Analyze Global E-Commerce and present student Projects

Class size will be limited to a maximum of 25 with a minimum of 15. Early registration is recommended. 5% Discount for the first 10 registrations. Phone reservations will NOT be accepted. Reservations accepted after March 3, 2006 will require a late fee of \$25. No reservations will be accepted after March 9, 2006.

WHERE: NJ International Bulk Mail Center, Jersey City, NJ. (Checks should not be mailed to this address)

WHEN: 8 Tuesdays, March 14, 21, 28, April 4, 18, 25, May 2, 9, 2006, 6:30-9:00 PM.

COST: IEEE (& affiliate) members \$400; Non-IEEE members \$480.

CONTACT: Bhanu Chivakula -email b.chivakula "AT" computer.org

REGISTRATION: Project Management

Please mail the registration form with the check (Checks payable to "North Jersey Section IEEE") to Bhanu Chivakula, PMP, Chair Education Committee, IEEE North Jersey Section, 19 Prestwick Way, Edison, NJ 08820.

Name: / Mr. / Mrs. / Miss / Ms. / \_\_\_\_\_

Non-member IEEE Member Member #: Member of technical society email address

Employer: \_\_\_\_\_

Employer Address: \_\_\_\_\_

Home Address: \_\_\_\_\_

Business (day) telephone #: Home telephone #:

Please enclose required fee payable to: North Jersey Section IEEE
Registration status will be emailed after March 10, 2006. Phone inquiries concerning registration will NOT be honored. In general, the effective date of the application corresponds to the date when BOTH a fully completed application/registration and payment are received.

Tuition receipt will be mailed only if this box is checked Signature: \_\_\_\_\_

# IEEE North Jersey Section Course C# .NET Programming

Saturday Mornings, February 18, 2006 through May 6, 2006

Ten weekly classes (February 18, 25, March 4, 18, 25, April 1, 8, 22, 29, May 6, 2006)

Place: Avtech Fairfield Campus, 130 Clinton Rd, 2nd Floor, Room B, Fairfield, NJ 07004, (973) 882-8996  
(Checks should not be mailed to this address)

The North Jersey Section IEEE is offering a course entitled "C# .NET Programming". Since 2002, C# .NET has generated significant headway in Fortune 1000 enterprise development systems. Dice.com lists 650+ C# .NET related jobs in the New York tri-state area daily! This course will cover the fundamentals of C# language, the .NET framework, window and web-based applications, ADO.NET, ASP.NET, and XML. It will be useful for anyone to develop applications based upon these tools.

The IEEE certificate of completion will be given to you when you complete the course. Microsoft has MCAD and MCSD certifications. You may wish to get certified by taking the necessary Microsoft exams with the knowledge gained from this course.

Instructor: Donald Hsu, Ph.D., has been a corporate manager for 11 years and is an experienced trainer. Since 2002, he has trained 250+ people in Java, C++, XML, C# .NET courses in 6 organizations.

## TOPICS

1. Compare the enterprise development tools using C++, Java to C# .NET
2. Define Visual Studio .NET common language runtime
3. Identify C# syntax, data type, control structures
4. Distinguish methods, arrays, object-oriented programming
5. Build graphical user interface, multithreading, files and streams
6. Explain the benefit of using extensible markup language (XML)
7. Select database, SQL server, and ADO .NET
8. Choose ASP .NET, web forms, web controls, and web services
9. Operate the network, streams-based socket and mobile toolkits
10. Analyze the accessibility regulations and resources
11. Present student Projects

If desired, IEEE Continuing Education Units will be offered for this course. A small fee of \$15 will be required for processing. A total of 30 CEUs will be offered. Please indicate if desired below.

Class size will be limited to a maximum of 25 with a minimum of 15. Early registration is recommended. Phone reservations will NOT be accepted. Reservations accepted after February 8, 2006 will require a late fee of \$25. No reservations will be accepted after February 11, 2006.

**WHERE:** Avtech Fairfield Campus, 130 Clinton Rd, 2nd Floor, Room B, Fairfield, NJ 07004, (973) 882-8996  
(Checks **should not** be mailed to this address)

**WHEN:** 10 Saturdays, Feb 18, 25, March 4, 18, 25, April 1, 8, 22, 29, May 6, 2006, 9:00 AM to 12 noon

**COST:** IEEE (& affiliate) members \$475; Non-IEEE members \$550.

**CONTACT:** Bhanu Chivakula -email b.chivakula "AT" computer.org

## REGISTRATION: C# .NET Programming

Please email details to address b.chivakula "AT" computer.org. The filled in registration with the check (**Checks payable to "North Jersey Section IEEE"**) should be mailed to B. Chivukula, Chair, Education Committee, IEEE North Jersey Section, NJ, 19 Prestwick Way, Edison, NJ 08820

Name: / Mr. / Mrs. / Miss / Ms. / \_\_\_\_\_

Non-member

☞email address☜

IEEE Member Member #: \_\_\_\_\_ Member of \_\_\_\_\_ technical society

Employer: \_\_\_\_\_

Employer Address: \_\_\_\_\_

Home Address: \_\_\_\_\_

Business (day) telephone #: \_\_\_\_\_ Home telephone #: \_\_\_\_\_

Continuing Education Units: \_\_\_\_\_ Yes \$15 \_\_\_\_\_ No

If CEUs are chosen, please include a \$15 processing fee

Payment Enclosed \$ \_\_\_\_\_ Add \$25 late registration after February 8, 2006

Please enclose required fee payable to: **North Jersey Section IEEE**

Registration status will be mailed after February 12, 2006. Phone inquiries concerning registration will NOT be honored. In general, the effective date of the application corresponds to the date when BOTH a fully completed application/registration and payment are received.

Tuition receipt will be mailed only if this box is checked

Signature: \_\_\_\_\_