



The IEEE

Newsletter

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

NJ MTT/AP Chapter

Efficient Numerical Analysis and Design of Microstrip Patch Antennas and Their Applications in GPS Systems

The topic at the December 8th, 1999 meeting of the MTT/S/AP-S Chapter will be "Efficient Numerical Analysis and Design of Microstrip Patch Antennas and Their Applications in GPS Systems." The speaker will be Dr. Lale Alatan.

About the Talk

Both the theory and the design of microstrip patch antennas will be covered. First, the numerically efficient MoM (Method of Moments) that employs closed form Green's functions will be presented. This will be followed by a discussion on how to incorporate this efficient numerical technique with optimization algorithms (the Gradient search and Genetic Algorithms) to assess its potential as a computer-aided design tool. Finally, the design of dual frequency bi-orthogonally polarized microstrip patch antenna structures to be used in GPS receivers will be presented. The considered configurations include orthogonally placed coplanar rectangular patches, orthogonally stacked rectangular patches and stacked square patches.

These three different configurations will be compared for their input matching, radiation pattern, gain, and polarization characteristics.

About the Speaker

Lale Alatan has received BS, MS and PhD degrees from the Middle East Technical University, Turkey, all in Electrical Engineering. She was a post-doctoral research associate at the Carnegie Mellon University, Pittsburgh. Since July 1998, she has been working with the ECE Department of the New Jersey Institute of Technology as a visiting research associate. Her research interests include numerical analysis of printed structures, microstrip antennas, phased arrays, microwave and

millimeterwave circuits, interconnect analysis, Genetic Algorithms and Global Positioning Systems.

All Welcome!

You do not have to be an IEEE member to attend. Free buffet for attendees will be served at 6:15 PM.

Time: 7:00 PM, Wednesday, December 8, 1999.

Place: New Jersey Institute of Technology (NJIT), Room 202, ECE Center, Newark, NJ. Directions are available at www.njit.edu.

Information: Dr. Edip Niver (973) 596-3542 (NJIT), Willie Schmidt (973) 492-0371, or Dr Lale Alatan (973) 596-8453.

Congratulations to the New Senior Members

July 1999

Bajaj, Krishan S.
Haq, Tanveer U.
Silberman, Gabriel

September

Eckert, Wieland
Osika, David M.
Owen, Wayne F.
Wu, Pan

October

Strobel, Michael F.

To get your application and information on advancing to Senior Member, send your name and mailing address to: Don Weinstein, Kulite Semiconductor, One Willow Tree Road, Leonia, NJ 07605-2239, (201) 461-0900 Ext. 234, mornings, FAX (201) 461-0990, email: don@kulite.com.

NJIT's Department of Electrical and Computer Engineering is Looking for a New Chairperson

Applications and nominations are invited for the position of Professor and Chairperson of the Department of Electrical and Computer Engineering (ECE). Candidates should have an earned doctorate in Electrical Engineering or closely related field, strong leadership ability, a proven research record and a commitment to engineering education. The ECE department at NJIT is the largest department in the Newark College of Engineering, with 38 full-time faculty and 1,300 students, of which 91 are doctoral students.

The department offers BS, MS, and PhD degrees in Electrical Engineering and in Computer Engineering, and administers the MS program in Telecommunications. The Computer Engineering program has grown significantly in recent years and has tremendous potential for further growth. Within the ECE department are the New Jersey Center for Multimedia Research, the New Jersey Center for Wireless Telecommunications, the Center for Communications and Signal Processing, and the Center for Optoelectronics and Microelectronics. The research volume within the department is close to \$3 million. The University reserves the right to substitute the equivalent education and/or experience at its discretion. Send resume to: Personnel Box CECE-NCE, University Heights, Newark, NJ 07102-1982.

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Deadline for receipt of material is the 1st of the month preceding the month of publication. All communications concerning editorial and business matters, including advertising, should be sent to the Business Manager via e-mail at k.saracinello@ieee.org or to *The IEEE Newsletter*, c/o Keith Saracinello, 25 Messenger Ln, Ringoes, NJ 08551, (732) 562-6472.

IEEE NJ SECTION HOME PAGE

<http://www-ec.njit.edu/~ieeenj/>

IEEE NJ SECTION NEWSLETTER HOME PAGE

<http://www-ec.njit.edu/~ieeenj/NEWSLETTER.html>

REPORT ADDRESS CHANGES TO:

IEEE Service Center, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, (732) 981-0060. It is not necessary to inform the North Jersey Section when you change your mailing address. "The IEEE Newsletter" and other section mailings use a list provided by IEEE's national headquarters.

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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 Milton Korn (973) 365-2757, miltonkorn@aol.com.

Two Events from Student Activities

November 6th marked another successful Professional Skills Development Workshop for North Jersey. It was held at Stevens Tech in Hoboken, NJ and saw students attending from all over the area. Representatives came from New York City schools, New Jersey schools, and one from as far away as Philadelphia. The wide spread of students attending indicates a good response to publicity and it is hoped attendance will grow even more next year.

The workshop featured many new speakers and some familiar faces. The seven speakers combined to provide a fantastic overview of different aspects of professional skills development for students and young engineers. They covered everything from leadership skills to the fundamentals of product engineering. Some lent insight to the subtleties of the software industry and others on how to communicate effectively.

Overall the workshop was a success with much positive feedback from those in attendance. If you would like more details on the workshop, speakers, and topics, check out the Student Activities Website or contact the workshop organizer.

The second big announcement from SAC is the Student Presentation Contest. This contest is held annually in mid to late February. It is planned to be held similarly in 2000 at Stevens Tech in Hoboken, NJ. The contest gives students a chance to practice their presentation skills before a panel of industry representatives. It also gives students a chance to compete for cash prizes of \$50, \$75, \$100 !! This year the contest is open to graduate and undergraduate students in two separate categories. Any school/lab project, thesis work, technical hobbies, and related material is acceptable for presenting. Short abstracts must be submitted and contest entrants must register at the SAC website. Details will be forthcoming, for questions contact Amit Patel a.j.patel@ieee.org or 973-284-2708 or visit

<http://menger.eecs.stevens-tech.edu/~apatel3/ieee.html>

IEEE Member - Get - a - Member Campaign

Recruit new members and get a credit voucher and a chance to win 1 FREE IEEE membership.

Campaign dates are September 1, 1999 to August 15, 2000.

Recruit	US\$ credit voucher amount
1 - 2 new members	a chance to win 1 year of FREE IEEE membership
3 - 5 new members	\$10.00 + a chance to win 1 year of FREE IEEE membership
6 - 9 new members	\$20.00 + a chance to win 1 year of FREE IEEE membership
10 or more new members	One year FREE IEEE membership for the year 2001

Get complete information and the number of membership applications you need by contacting Don Weinstein, Kulite Semiconductor, One Willow Tree Road, Leonia, NJ 07605-2239, (201) 461-0900, ext. 234 mornings, FAX (201) 461-0990, email: don@kulite.com.

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Call for a **free** consultant referral:
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**IEEE
CONSULTANTS' NETWORK
OF NORTHERN NJ**

www.hicom.net/~cnnnj

Annual Business

Meeting

On Thursday, December 2, 1999, the IEEE Consultants' Network of Northern NJ will hold its annual business meeting. Activities will include membership renewal, election of 2000 officers, and an open discussion of possible topics for future meetings.

About the Consultants' Network

The IEEE Consultants' Network of Northern NJ was founded in 1992 to encourage and promote the use of independent technical consultants by business and industry.

Time: 7:30 PM, Thursday, October 28, 1999.

Place: KDI Triangle, 60 S. Jefferson Road, Whippany, NJ.

Information: For directions and up-to-date meeting status, call Robert Walker (973) 728-4500 or visit our website at www.hicom.net/~cnnnj/.

Attendance: Free admission.

Members and Associate Members Can Advance to a Higher Grade

Members can become Senior Members and Associate Members may qualify for Member or Senior Member grades. To get information and an application, send me your mailing address. Don Weinstein, Kulite Semiconductor, One Willow Tree Road, Leonia, NJ 07605-2239, (201) 461-0900 Ext. 234, mornings, FAX (201) 461-0990, email: don@kulite.com.



North Jersey Section Activities December 1999

Dec. 1—"Wireless Datacommunications Seminar" - NY Communications Society Chapter, 9:00 AM - 4:30 PM, the auditorium of Consolidated Edison, 4 Irving Place, New York, NY. Bertil Lindberg (212) 825-1527 b.lindberg@ieee.org or see <http://www.ewh.ieee.org/r1/metsac>.

Dec. 1—"International Conference on Multimedia & Expo - Paper Submission Deadline" - see <http://www.ieee-multimedia.poly.edu> for details.

Dec. 8—"Efficient Numerical Analysis and Design of Microstrip Patch Antennas and Their Applications in GPS Systems" - MTT/S/AP-S Chapter, 7:00 PM, NJIT, 202 ECE Center, Newark, NJ. Dr. Edip Niver (973) 596-3542 (NJIT), Willie Schmidt (973) 492-0371, or Dr. Lale Alatan (973) 596-8453.

Upcoming Meetings

Jan. 6—"NJ Section Executive Committee Meeting" - 7:00 PM, ITT, 100 Kingsland Road, Clifton, NJ. Milton Korn (973) 365-2757 or miltonkorn@aol.com.

Jan. 27—"Should You Write A Book?" - NJ Consultants' Network, 7:30 PM, KDI Triangle, 60 S. Jefferson Road, Whippany, NJ. (973) 728-4500.

Feb. 25—"Fee Setting for Consultants" - NJ Consultants' Network, 7:30 PM, KDI Triangle, 60 S. Jefferson Road, Whippany, NJ. (973) 728-4500.

Members and Non-Members Welcome

PLEASE POST

IT PAYS TO ADVERTISE IN THE NEWSLETTER

Over 5000 readers who are influential in the electrical, electronics, and computer industry receive the IEEE Newsletter each month (except July).

These readers represent many companies in the North Jersey area.

Included are manufacturers, consultants, sales representatives, universities, and colleges.

You can reach this targeted professional audience with your advertisement in the Newsletter.

For information about advertising in the IEEE Newsletter, see the North Jersey Section Home Page (<http://www-ec.njit.edu/~ieeenj/>), contact the North Jersey Section Business Manager at k.saracinello@ieee.org, or call (732) 562-6472 after business hours (leave message).

Free Internet E-Mail!

The North Jersey Section of the IEEE encourages you to get your own e-mail account, in part so we can send you meeting announcements and the newsletter electronically, and so you can make your IEEE related ideas known to us, if you're so inclined. But, until recently, it would cost you money to sign up with an internet service provider.

We'd like you to know that you can now get a free e-mail account so you can exchange messages with people all over the world. According to their literature, with JUNO (tm), you never have to pay monthly fees, no hourly fees, no sign-up fees. Depending on where you live, there may be a phone company charge for the connect time, if it's not a local call for you. Sponsors (commercials) pay for JUNO. But their messages don't interrupt what you're doing, they claim. If you have a PC running Windows, 4 MB RAM, 10 MB hard drive space available, a 3.5" floppy drive and a modem, JUNO gives you everything you need to send and receive e-mail. Call (800) 654-5866 to receive additional information and their free software.

This does not represent an IEEE North Jersey Section endorsement of the JUNO service, we're just letting you know it's out there. If you don't like their deal, you can always try one of the other internet service providers. Why not get connected now?

International Conference on Multimedia & Expo

July 30 - August 2, 2000
New York City

<http://www.ieee-multimedia.poly.edu>

International Conference on Multimedia & Expo 2000 is the first IEEE multimedia conference that will take place in joint collaboration with four IEEE societies. The same four IEEE societies that have recently launched the IEEE Transactions on Multimedia, namely the Circuits and Systems Society, the Computer Society, the Signal Processing Society and the Communications Society have again come together in making this one-of-a-kind conference a reality.

The goal is to unify all IEEE as well as non-IEEE multimedia related activities under the common umbrella of ICME 2000 - the millennium multimedia meeting. It is expected that this will become a yearly event as the flagship Multimedia conference of the IEEE. New York City (the Big Apple) is uniquely suited for this first-time event in view of its large concentration of high tech Industries, first-rate academic institutions and numerous small multimedia companies. The intent is to blend the traditional IEEE conference framework into an Expo by providing the industry an opportunity to showcase products.

Authors should submit a four-page manuscript in double-column format including authors' names, affiliations and a short abstract. Only electronic submission (in postscript format) will be accepted. Electronic submission procedure will be made available at the conference web site:

<http://www.ieee-multimedia.poly.edu>

Topics covered include but are not limited to the following:

- ◆ Signal processing for media integration
- ◆ Components and technologies for multimedia systems
- ◆ Human-machine interface and interaction
- ◆ Multimedia databases and file systems
- ◆ Multimedia communication and networking
- ◆ System integration
- ◆ Applications
- ◆ STDS standards and related issues

Once accepted, the authors will be asked to prepare a four-page camera ready paper to appear in the conference proceedings and CD-ROM proceedings.

Proposals for special sessions and half-day or full-day tutorial courses may be submitted to the respective chairs before the respective deadlines. Visit the conference web site for further information.

Deadlines

December 1, 1999	Submission of regular papers
February 1, 2000	Proposals for panels, tutorials, demos, exhibit
March 1, 2000	Notification of acceptance for papers
March 15, 2000	Notification of acceptance for proposals
April 1, 2000	Paper camera-ready copy due