



The IEEE

Newsletter

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

IEEE Awards Third Millennium Medals

We are pleased to announce that forty-one members of the North Jersey Section have been awarded Third Millennium Medals as part of an IEEE world-wide program to recognize individual members for their outstanding contributions to Section, Major Board and Society activities within IEEE.

IEEE, based on nominations petitioned through Section Chairs, Society Presidents and Board Vice Presidents, awarded a total of 3000 Millennium Medals. Recipients receive a personal congratulatory letter from Bruce Eisenstein, President of IEEE, and inscribed Medal and a certificate recognizing their accomplishments.

Each nominating entity is responsible for conducting an appropriate recognition program and presenting the Medal and certificate to their recipients. Individuals nominated by the North Jersey Section will be recognized at our Awards Reception scheduled for Sunday afternoon, May 7, 2000 at the Birchwood Manor.

Section members awarded the Third Millennium Medal include:

<i>Prathima Agrawal</i> <i>Jont B. Allen</i> <i>Bishnu S. Atal</i> <i>John A. Baka</i> <i>Murty P. Bhavaraju</i> <i>Andrew H. Bobeck</i> <i>A.R. Calderbank</i> <i>Frederick D. Chichester</i> <i>Alfred Y. Cho</i> <i>Melvin I. Cohen</i> <i>Richard V. Cox</i> <i>Thomas D. De Nigris</i> <i>I. Dorros</i> <i>Alfred E. Dunlop</i>	<i>Amy E. Galarowicz</i> <i>Anne M. Giedlinski</i> <i>Arthur H. Greenberg</i> <i>Hermann K. Gummel</i> <i>George H. Heilmeyer</i> <i>Amos E. Joel Jr.</i> <i>B.H. Juang</i> <i>Dan Kahn</i> <i>Gerald Karam</i> <i>Howard H. Leach Jr.</i> <i>Melvin A. Lewis</i> <i>Michael I. Liechenstein</i> <i>John S. Mayo</i> <i>Kenneth J. Oexle</i>	<i>H.W. Ott</i> <i>William L. Perlman</i> <i>Ira J. Pitel</i> <i>Lawrence Rabiner</i> <i>R.V. Rebbapragada</i> <i>Wilhelm M. Schmidt</i> <i>Raymond W. Sears Jr.</i> <i>David Slepian</i> <i>Richard V. Snyder</i> <i>Alan H. Stolpen</i> <i>Richard F. Tax</i> <i>Donald O. Weinstein</i> <i>Yiu Kwan Wo</i>
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Congratulations!

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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>

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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 Wayne Owens at (201) 767-3400, ext. 226, wowens@crestron.com.

NJ Consultants' Network:

If We're So Smart, Why Aren't We Rich?

On Thursday, April 27, 2000, members of the IEEE Consultants' Network of Northern NJ (CNNNJ) will present a talk "If We're So Smart, Why Aren't We Rich?" by Randice-Lisa Altschul, a very successful inventor and entrepreneur.

About the Talk

The consulting profession attracts some of the brightest and most innovative minds of the engineering industry, and yet the consulting profession is not particularly lucrative. Hence, consultants are constantly confronted with the conundrum that is the topic.

About the Speaker

Randice-Lisa Altschul is a highly successful inventor and entrepreneur with her home base in Cliffside Park, NJ. Ms. Altschul, 39, hit her first invention home run when she was 25. She had created a cops-vs-cocaine-dealers game that took place on a map of Miami, and she persuaded the executive producer of the "Miami Vice" television series to let her call it the Miami Vice Game.

Since then, Ms. Altschul has invented numerous other games, most notably Barbie's 30th Birthday Game. Her latest invention resulted in a patent for a technology that can be used to manufacture cellular phones so inexpensively that they could be sold for a fixed amount of air time -- as long-distance calling cards are -- and then tossed in the garbage once their minutes have been used up.

Ms. Altschul constantly enlists the help of consulting engineers to work out the details of her new ideas. From her experiences she will share valuable insights into the differences between entrepreneurs and consulting engineers.

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.

All Welcome!

You do not have to be a member of the IEEE or of the Consultants' Network to attend. Networking after the meeting is encouraged.

Time: 7:30PM, Thursday, April 27, 2000.

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.TechnologyOnTap.com.

Here's Your GOLDen Opportunity!

Have you graduated (from your first bachelors' degree) in the last ten years? Looking to make professional and personal connections in the North Jersey area? Want to learn more about how to make your IEEE membership work for you? Then let's get a GOLD (Graduates of the Last Decade) group rolling again. The North Jersey Section is searching for folks interested in GOLD activities. We are seeking a North Jersey GOLD Chair (don't worry-there's not that much to do, and seasoned help is available) along with some new committee members to assist. Anyone who has recently graduated is heartily encouraged to jump in! Chances are, that any leadership and project planning responsibility you have at work will pale in comparison to the opportunities that await around IEEE.

Other GOLD Chapters around the world have been holding such *fun* (yes, that's a key word) events as: family barbecues, happy hours, and of course the more traditional IEEE format - meetings on topics ranging from "Managing Your Boss" and "Planning for Your Next Job" to "First Time Home Buying." Discussions often cover challenges faced by those fresh (or not so fresh) out of school, whether working in corporate America or self-employed. If anyone is interested, or even has any questions at all, contact Amy Galarowicz at email: a.galarowicz@ieee.org or work phone number (973) 765-0830.

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**IEEE
CONSULTANTS' NETWORK
OF NORTHERN NJ**

www.TechnologyOnTap.com

Graduating this spring? Or, in the last ten years? "It's All Uphill From Here"

All North Jersey graduating college students are invited to join North Jersey GOLD (Graduates of the Last Decade) for a happy hour & dinner. No strings attached, just plenty of folks to share experiences with. We will discuss what IEEE can do to help make the transition from school to career. We will also probably compare notes on the funniest question to be asked in an interview, oddest corporate culture quirk endured, and strangest project/task assignment. It will be informative and fun, REALLY! Direct any questions to Amy Galarowicz at email: a.galarowicz@ieee.org or work phone M,W,F (973) 765-0830.

Where: Totowa Holiday Inn (Rt 46 West, 1 mile past Rt 3/46 intersection).

When: 6:30 PM Thursday April 20, 2000.

NJ Communications Society:

Multiprotocol Switching

On the 10th of April, 2000, the IEEE North Jersey Communications Chapter, together with the New Jersey Center for Wireless Telecommunications, will sponsor a talk on "Multiprotocol Switching." The speaker will be Dr. Jian-Guo Chen.

About the Talk

We will present a structure which is able to switch traffic from different protocols simultaneously. The structure can provide per flow queueing for both ATM and IP traffic. Guaranteed QoS is provided on a per flow basis. We will also address several practical issues related to the proposed structure.

About the Speaker

Upon receiving a PhD degree from the Department of Electrical and Computer Engineering department, New Jersey Institute of Technology in 1997, Jian-Guo Chen has been working at Bell Labs of Lucent Technologies, focusing on ATM and IP switch ASIC architecture design and verification.

Time: 5:00 PM (refreshments start at 4:45 PM), Monday, April 10, 2000.

Place: NJIT, 202 ECE Center, Newark, NJ.

Information: Nirwan Ansari (973) 596-3670 (ang@njit.edu). Please check <http://www-ec.njit.edu/~ieeenj/comm.html> for the latest updates.

North Jersey Section Activities April 2000

Apr. 5—"NJ Section Executive Committee Meeting" – 7:00 PM, ITT, 100 Kingsland Road, Clifton, NJ. Wayne Owens at (201) 767-3400 ext. 226 or wowens@crestron.com.

Apr. 10—"Multiprotocol Switching" - NJ Communications Chapter, 5:00 PM, NJIT, 202 ECE Center, Newark, NJ. Nirwan Ansari (973) 596-3670 (ang@njit.edu). Please check <http://www-ec.njit.edu/~ieeenj/comm.html> for the latest updates.

Apr. 13-IEEE President-Elect To Visit North Jersey - NJ Section PACE, 7:00 PM, Fairleigh Dickinson University, Teaneck Campus, Muscarelle Building, NJ. Alan Stolpen, (973) 822-1300 x-2416 (a.stolpen@ieee.org) or Richard Tax (201) 664-6954 (rtax@bellatlantic.net).

Apr. 14 & 15—"The 9th Annual Wireless and Optical Communications Conference", 8:30 AM, Marriott Hotel, Newark Airport, Newark, NJ. Details can be found on <http://www.wocc.org>.

Apr. 20-Graduates of the Last Decade (GOLD) Meeting, 6:30 PM, Totowa Holiday Inn, Totowa, NJ. Amy Galarowicz (a.galarowicz@ieee.org) or work M,W,F (973) 765-0830.

Apr. 27—"RF Microwave Subsystems as Integrated Super Components" - MTT/S/AP-S Chapter, 7:00 PM, NJIT, 202 ECE Center, Newark, NJ. Kirit Dixit (201) 400-2313, Willie Schimdt (973) 492-0371 or Dr. Edip Niver (973) 596-3542 (NJIT).

Apr. 27—"If We're So Smart, Why Aren't We Rich?" - NJ Consultants' Network, 7:30 PM, KDI Triangle, 60 S. Jefferson Road, Whippany, NJ. Robert Walker (973) 728-4500 or www.TechnologyOnTap.com.

Apr. 27—"Advances in Battery Technology" – NJ IAS/PES Chapters, 7:30 PM, PSE&G Training Center, Edison, NJ. Ken Oexle (973) 386-1156 (k.oexle@worldnet.att.net) or R. Vittal Rebbapragada (609) 720-3209 (r.rebbapragada@ieee.org).

Upcoming Meetings

May 3—"NJ Section Executive Committee Meeting" – 7:00 PM, ITT, 100 Kingsland Road, Clifton, NJ. Wayne Owens at (201) 767-3400 ext. 226 or wowens@crestron.com.

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

May 26—"Symposium on Next Generation Wireless Networks - Defining Applications and Services for the Next Generation" – New Jersey Center for Wireless Telecommunications, Time TBA, Room TBA, NJIT, Newark, NJ. Cynthia McCray at (973) 596-5548 (mccray@adm.njit.edu).

Members and Non-Members Welcome

PLEASE POST

IEEE President-Elect To Visit North Jersey

The North Jersey Section's Professional Activities Committee (PACE) is hosting a meeting to introduce you to IEEE's Presidential Elect, Joel B. Snyder, P.E. Many have waited, encouraged and supported Joel to seek and hold this office. Joel has, through more than 25 years, helped and supported the efforts of our North Jersey Section. He is the year 2000 President-Elect and will be the 2001 President of IEEE. His history of active leadership has benefited the profession and the industry.

About the Talk

This April 13th meeting will provide the opportunity to meet and speak with Joel and discuss IEEE. The talk will be an overview of recent IEEE happenings and a review of some of the IEEE-USA activities. We will have time to address concerns of the membership present.

About the Speaker

Joel Snyder has achieved wide recognition for his many activities involving the industrial sector, academe, and government. His recent experience includes private practice as a Consulting Engineer and the teaching of electrical engineering and computer engineering. He received the BEE and MS(EE) degrees from the Polytechnic Institute of Brooklyn and is a licensed Professional Engineer. Mr. Snyder's honors include the IEEE Larry K. Wilson Transnational Award, Gruenwald Award, Centennial Medal, and Citation of Honor, the EJC of Long Island Achievement Award. He has also received a Dedicated Alumnus award from the Polytechnic Alumni Association.

Mr. Snyder's activities bridge the industrial, government and academic communities. As a Consultant he provides management and engineering consultation services to clients in the industrial and government sectors. His industrial experience was obtained at Harman Kardon, Airborne Instruments Laboratory, and I.B.M. Mr. Snyder has been affiliated with Polytechnic University as a Senior Industry Professor of Electrical and Computer Engineering with prior academic experience at New York Institute of Technology and C. W. Post College of Long Island University.

His IEEE offices include Vice President for Professional Activities, Region 1 Director, USAB Vice Chairman, USAB Controller. (S'54 - M'57 - SM'68). He served on the: Board of Directors, Regional Activities Board, United States Activities Board, Educational Activities Board. He has served on USABs: Communications, Ethics, "Engineer Needs", Licensure & Registration,

Surveys, Manpower, Anti Discrimination, Employment Assistance, National PAC Coordinator, Ethics & Employment Practices, Nominations & Appointments committees to list just a few. He served the Long Island Section as: Chairman; Vice Chairman; Program Chairman; Lecture Series; Group/Society Coordinator; Computer Society Chapter.

Joel is cognizant of the issues at all of these levels and an excellent choice for IEEE's future president.

Time: 7:00 PM, Thursday, April 13, 2000.

Place: Fairleigh Dickinson University, Teaneck Campus, Muscarelle Building up the stairs from the main parking lot off route 4 and River Road, brown brick building. For directions, see http://www.fdu.edu/visitorcenter/directions/teaneck_map.html.

Information: Alan Stolpen, (973) 822-1300 x-2416, a.stolpen@ieee.org, Richard Tax, (201) 664-6954, rtax@bellatlantic.net.

NJ PES/IAS:

Advances in Battery Technology

The IEEE North Jersey Chapters of IAS/PES will host a technical presentation on "Advances in Battery Technology" on Thursday April 27th. R. Vittal Rebbapragada, P.E., will give this presentation.

About the Talk

Almost all application engineers in Industrial and Utility Power systems are familiar with lead-acid batteries. They are the backbone of the standby stored energy systems and provide the last line of defense in any distribution system as discussed in IEEE Std. 446-1995, "Emergency and Standby Power Systems for Industrial and Commercial Applications". The three main characteristics of a secondary (rechargeable) battery are energy performance, power performance, and lifetime (both in actual time and in charge-discharge cycles).

The presentation will provide a technical overview of the emerging developments in battery technologies and how it may effect the selection and application of standby batteries for industrial distribution.

Topics that will be presented include, developments in Space (NASA & DOD) and Electrical Vehicles (EV). Typical technologies that will be summarized during this presentation include but are not limited to: Lithium-Ion battery, Gel-Polymer Lithium battery, Aluminum Air battery, and Sealed Nickel-Cadmium

battery for Airplanes, Spacecraft battery, and Nickel-Metal Hydride battery. The Space Station will use nickel-hydrogen batteries, while the US Army prefers lithium-polymer batteries. In addition to these advances, there are advances in battery charging technology, including a wireless charger for EVs and quick charging chargers.

About the Speaker

Mr. Rebbapragada has over 40 years of experience in Industrial and Utility power systems. He has extensive experience with the selection and application of stationary batteries. He is a registered Professional Engineer and the Chapter Chairperson of the IEEE North Jersey PES Chapter. He is a Senior Electrical Consulting Engineer at Raytheon E&C.

Date: 7:30 PM, Thursday, April 27, 2000.

Place: PSE&G Training Center, Edison, NJ (Intersection Routes 1 & 287) at Pierson Road

Information: Ken Oexle (973) 386-1156 (k.oexle@worldnet.att.net) or R. Vittal Rebbapragada (609) 720-3209 (r.rebbapragada@ieee.org).

NJ MTT/AP Chapter

RF Microwave Subsys- tems as Integrated Super Components

The topic at the April 27, 2000 meeting of the MTT/S/AP-S Chapter will be "RF Microwave Subsystems as Integrated Super Components." The speaker will be Dr. Mahadevan Sridharan.

About the Talk

In today's environment, System Designers shrink the space available and increase the performance requirement of each subsystem including RF & Microwave part by many folds. In Microwaves, the technologies involved in designing a subsystem are varying vastly as the frequency range itself. For example, DC or low frequency signal at the output of a receiver to few Ghz at the input of a receiver. So it is a challenging job for the RF and Microwave Designer to meet these demands and make the subsystem not only small and cost effective but also superior in performance. Integrated design approach has been proven to be most optimum one for both in military environment as well as low cost, large volume wireless world. But the design decision process is the most complicated one and it puts great challenge for the Microwave System Designer in making his choices. This lecture explains the various aspects of

Integrated Super component design approach and cautions the designer to be aware of the various problems. A well-designed subsystem is bound to provide the desired performance. The merits as well as steps involved in the Integrated Super-Component Design approach are explained through examples such as Receiver Front End, Transmitter and Transceivers.

About the Speaker

Mahadevan Sridharan (M'83) received an MS degree from Madras University, India in 1971 and PhD from University of Calcutta in 1981. Research work involved development of computer aided analysis of IMPATT structures and development of IMPATT Amplifiers and Oscillators.

In 1972 Dr. Sridharan joined Madras University as Assistant Professor and became professor in 1980. In 1982 he joined Hindustan Aeronautics Ltd., Hyderabad, India as a Microwave Design Engineer and became Head of the design group in 1987. He also developed GaAs FET and PHEMT Amplifiers, Receiver front ends and Transceivers for air-borne applications. In 1997 he joined Synergy Microwave Corporation as a Senior Design Engineer. His interests include giving lectures for engineers in the microwave industry as part of continuing education in Microwaves. Dr. Sridharan is currently involved in developing miniature Microwave passive and active components for wireless applications including fractional N- synthesizers.

Time: 7:00 PM, Thursday, April 27, 2000. Dinner will be available at 6:00 PM.

Place: NJIT, 202 ECE Center, Newark, NJ.

Information: Kirit Dixit (201-400-2313), Willie Schimdt (201-492-0371) or Dr. Edip Niver.

Do It Now! Advance to Senior Member Grade

To become a Senior Member, you need ten years experience. A Bachelors degree counts for three years and a Masters and Doctorate each count for one year. You don't have to be an IEEE member for ten years. The dues for Senior Members, Members and Associates are the same.

To get information and an application, contact Don Weinstein, Kulite Semiconductor, One Willow Tree Road, Leonia, NJ 07605-2239, (201)461-0900 ext 234 mornings, FAX (201)461-0990. Please include your mailing address.

The VT Conference Committee Wants You!! Looking for Volunteers, Sponsors, Exhibitors

The IEEE North Jersey Section is hosting the Fall 2001 Vehicular Technology Conference in Atlantic City, NJ from October 6-11, 2001. And now's your chance to get involved.

Have you ever wondered how a conference comes together? How speakers, tutorials, meals, and many other activities are smoothly integrated? How to produce a powerful technical program of international caliber? How to advertise your company's name on the coffee cups during the lunches and breaks?

Then this is the deal for you. The conference committee is issuing an open call for volunteers to help man its sub-committees. Currently the following have some openings: local arrangements, banquet, publicity, publications, registration, special/social events, transportation, and many others.

But it doesn't stop there. There are special discounts for student volunteers and sponsoring companies. What better way for your organization to get its name out to hundreds of people from worldwide in the mobile communications arena than by becoming Platinum, Gold, or Silver sponsors? You can even tailor your sponsorship to meet your advertising needs. This includes getting tables or floor space to exhibit YOUR products and services to those people with the purchasing power or an all electronic advertisement on the website.

Even students can get involved. There is a significant student admissions discount and does not require any society affiliations. We are also looking for students to man the registration desk and take on other activities. Universities are also welcome to become sponsors.

How can you find out more and get involved? Contact conference chair Art Greenberg at a.h.greenberg@ieee.org or (973) 492-1207, and Industry Liaison/Exhibits chair Stephen Wilkowski at swilkowski@lucent.com or (973) 386-6487. Check out the website at <http://www.fallvtc2001.com/index.htm>.

You hold the GOLDen key to a successful career!

If you are an IEEE member who has received your first professional degree within the last ten years, you are automatically a part of IEEE GOLD (Graduates of the Last Decade)! A GOLDen opportunity awaits you!



To see all the ways IEEE GOLD can help you succeed in your career, visit

www.ieee.org/gold/

Have questions?
Email: gold@ieee.org



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, contact the North Jersey Section Business Manager at k.saracinello@ieee.org, or call (732) 562-6472 after business hours (leave message).

Y2K Student Presentation Contest a Roaring Success

On Thursday, March 9, 2000 at NJIT the North Jersey Section held its annual student presentation contest. This year saw an unprecedented number of entries and an excellent turnout from spectators. The evening started with a lite dinner and a short presentation on GOLD (Graduates Of the Last Decade) by Amy Galarowicz explaining the benefits and special interest activities for younger IEEE members seeking career advice, financial insights, and professional networking.

The contest started as planned and many topics addressed electrical engineering for medical devices, electrical circuits, and other bio-engineering issues. The night belonged to Farleigh Dickenson University with all prizes in both graduate and undergraduate categories swept by its students. All the entrants and their abstracts can be found at the SAC website below. The winning abstracts are published here. Prizes of \$100/\$75/\$50 were awarded to placed winners and all runners-up received the Sloan Career Cornerstone and IEEE Careers for Electrical Engineering and Computer Scientists interactive CD. All participants also received official certificates.

The 1st place winning undergraduate Arthur Skupinsky qualified to move forward to the Regional Contest at Norwich University in Northfield, Vermont starting on Friday, April 7, 2000. All the details of their program can be found at <http://www.norwich.edu/ieee/index.html>.

Additional thanks go to North Jersey Section volunteers Mel Lewis, and Amy Galarowicz who helped judge the competition. The judges also filled out comment sheets which were collected and delivered to the participants. The primary goal being to help students develop their communication skills through constructive criticism.

The North Jersey Section Presentation contest will be again held next year. Greater participation is hoped and the call for presentations will start early in November. ALL North Jersey GRAD/UGRADS are welcome to participate for prizes. Find out more at Amit Patel a.j.patel@ieee.org or <http://menger.eecs.stevens-tech.edu/~apatel3/ieee.html>.

Alternative Power Supply for Surgically Implanted Pacemakers

Fred Shuber - First place - Graduate

Abstract: My research paper will discuss pacemaker technology and

alternative power sources for surgically implanted pacemakers. Currently, pacemakers come in two flavors: external and internal. This paper shall deal strictly with internal pacemakers.

The internal pacemaker is surgically implanted in the body, usually in the abdomen or just below the collarbone. With operating lifetimes of about 3 years, the average pacemaker patient must have the battery surgically replaced 6 times in his/her lifetime. This paper will explore the possibility of a reliable, rechargeable pacemaker battery. A rechargeable battery would dramatically reduce medical costs, inconvenience to the patient, and provide for a more independent lifestyle for all pacemaker patients.

Computerized Abstraction of ECG Feature Variability in Mitral Valve Prolapse (MVP) and Normal Populations Arthur Skupinsky - First place - Junior

Abstract: A new computer-assisted method for automatically measuring the RR interval, QT interval and the QRS complex duration over a 500-heartbeat span has been developed. The analog signal from an ECG machine is further amplified, filtered and converted to a digital signal by means of an A/D converter card. The resultant data is transferred into a personal computer. A graphical program designed in LabView automatically defines the QT, RR and QRS intervals by using an algorithm employing an adaptive method of smoothed derivatives and thresholds. This process virtually eliminates the need for operator adjustment or calculations before the data has been taken. Data is acquired over an epoch of heartbeats and interval means, standard deviations and HF/LF ratios of the power spectrum of the various interval series. To validate the algorithm a 4-lead single channel ECG analysis was performed on 6 patients known to have Mitral Valve Prolapse (MVP) and a control group of 45 volunteers. Since the Mitral Valve is now known to have muscle and nerve tissues it is postulated that there is Sympathetic/Parasympathetic System Balance involvement in the Mitral Valve Prolapse.

Implementation and Description of Said and Pearlman Codec

Beeta Tarokh - Second place - Senior

Abstract: Image Compression is a fundamental issue of growing importance in the field of Digital Signal Processing. Recently the field of Image Compression has seen exponential growth due to its ability to reduce the required bandwidth for transmission of images and video

streams over communication networks, such as the Internet. Numerous algorithms have been developed both for lossy and lossless compression of images including the JPEG and JBIG. Recently much effort has been spent on wavelet based lossy compression of images. The SPIHT algorithm (Set Partitioning In Hierarchical Tree), introduced by Said and Pearlman, is a landmark in the field of image compression. My proposal is to provide both an implementation and a description of this computationally simple technique of image compression. Examples of uncompressed images with their compressed versions will be provided, demonstrating the compression ratio of the algorithm.

Air Flow Sensor

John Papadopoulos - Third place - Senior

Abstract: This project encompasses the construction of an airflow sensor using an op amp, temperature sensors, and resistors to measure the heat loss of a semiconductor as a measure of airflow or loss of airflow.

The application of this unit is intended for air handlers of HVAC units. It will indicate loss of airflow due to various causes. It may be used to indicate when service is required, preventing possible damage due to operation without established air flow.

This set up will be fed from the low voltage control circuit of the unit it is mounted in. In addition, it will activate with airflow, which can be used to indicate loss of airflow. This output can be tied into an indicator light or an alarm.



IEEE

Networking the World™

WIRELESS AND OPTICAL COMMUNICATIONS CONFERENCE 2000 (WOCC 2000)
"Technologies for the Next "Killer" IP Applications"

April 14 & 15 (Fri & Sat), 2000
Newark Airport Marriott Hotel
Newark, New Jersey, USA

REGISTRATION/ENROLLMENT REMINDER

<http://wocc.org/wocc2000>

The Ninth Annual Wireless and Optical Communications Conference will be hosted this year at Newark Airport Marriott Hotel in Newark, New Jersey. The conference is held once a year to exchange information among professionals from China, Taiwan, Hong-Kong, Singapore, and the United States on the progress of technologies in the wireless and optical communications arena. The main objective of the annual conference is to strengthen the technical and business relationships between the Asian and North American wireless and optical communications industries. It provides a forum to bring together experts and industry leaders to discuss the advancement of wireless and optical communications technologies, exchange business experiences, and jointly explore new opportunities. This year the conference theme is "Technologies for the Next "Killer" IP Applications."

- Approximately 100 professional speakers in 17 technical sessions
- Keynote Speech: C. T. Huang, Chairman, National Science Council, Taiwan
- Excellent networking opportunities
- Buffet luncheon included
- Free parking at hotel for participants on April 14-15

Co-organized By

Chinese Institute of Engineers - USA (CIE-USA)
Chinese Association of Science and Technology (CAST)
Chinese American Academic and Professional Society (CAAPS)
Monte Jade Science and Technology Association (MJSTA)
The Photonics Society of Chinese Americans (PSC)

Conference Organizers:	Terry Cheng, Lucent Technologies Y.J Ray Chen, Professor, U. of Maryland
Conference Chair:	Tingye Li
Program Chairs:	On-Ching Yue, Lucent Technologies Haifeng Li, TYCO Submarine Systems
Program Coordinator:	Robert C. Wang, Lucent Technologies

Registration

Early registration:	\$100.00 per person / \$50.00 per student
On site registration:	\$140.00 per person / \$50.00 per student

Register on line: <http://wocc.org/registration.html>

For more information, please contact: Jung-Tao Liu, jtliu@lucent.com, Tel: (973) 386-3535.

IEEE AWARDS RECEPTION

*North Jersey Section
May 7, 2000
Birchwood Manor, Whippany NJ*

*A time to relax, unwind and enjoy --
A time to pay tribute to our new Fellows --
A time to honor our Award Winners --
YES it's time for the Annual Section Reception*

The Annual Section IEEE Awards Reception will be held at the Birchwood Manor, 111 North Jefferson Road, Whippany again this year. The affair is scheduled for **Sunday, May 7, 2000** from 3 to 6 PM. Tickets are \$35.00 each and include a complete prepaid, two-hour open bar, hors d'oeuvres, buffet, and dessert. Spouses and guests are welcome. We are limited to 90 attendees, so please make your reservations early.

Reservations are required by May 1, 2000. Complete the reservation form and return it with your payment. If you would like tickets mailed back to you, please enclose a self-addressed **stamped** envelope. Otherwise, your tickets will be held at the door for you. If any additional information is required concerning the reception, contact Anne Giedlinski at (973) 377-3175.

Use this form for Reception reservations. **ENCLOSE A SELF-ADDRESSED STAMPED ENVELOPE to receive tickets in advance.** **Reservations are required by May 1, 2000.** Mail reservation request to:

Anne Giedlinski
299 Brooklake Road
Florham Park, NJ 07932

Enclosed is _____ for _____ ticket(s) at \$35.00 each (make check payable to **North Jersey Section IEEE**) for:

NAME: _____

ADDRESS: _____
