



The IEEE

Newsletter

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

Vehicular Technology Society:

The Search for Life

Continues

On Tuesday, April 15, 1997, the North Jersey Chapter of the IEEE Vehicular Technology Society and the Stevens Institute IEEE Student Branch will present a talk on "SETI: The Search for Life Continues" by Dr. H. Paul Shuch, Executive Director of The SETI League, Inc.

About The Talk

Thousands of new galaxies, nearly a dozen new solar systems, probable fossilized microbes in three different meteorites -- these are only a few of the exciting astrophysical discoveries of the past year, which impact the scientific Search for Extra-Terrestrial Intelligence (SETI). In this IEEE presentation, the head of the major grass-roots SETI organization will discuss the significance of these recent findings, the prospects for discovering intelligent life, and the steps YOU can take to become involved in The Search. Already dozens of microwave experimenters have put their small, home-made radiotelescopes on line in an amateur search of unprecedented proportions. Soon, thousands of participants will be up and running, and our dream achieved: that no direction in the sky shall evade our gaze.

About The Speaker

H. Paul Shuch, a well-known educator and engineer, earned his PhD from the University of California, Berkeley, and has taught Electronics and Aeronautics at various colleges and universities for more than twenty years. One of his early mentors was the late IEEE president Dr. Barney Oliver. Dr. Shuch is currently on leave of absence from his position as Professor of Electronics at the Pennsylvania College of Technology, in order to serve as the first Executive Director of The SETI League, Inc. His teaching and research have won numerous national awards. He is the author of over 150 publications, is

credited with designing the world's first commercial home satellite TV receiver, and invented the patented BiDCAS aircraft collision alert system. Paul is listed in Who's Who in Aviation and Aerospace, Who's Who in California, Who's Who of American Inventors, Who's Who in Science and Engineering, Who's Who in American Education, American Men and Women of Science, and International Directory of Distinguished Leadership.

All Welcome

There is no admission charge, you need not be an IEEE member to attend. Light refreshments will be served.

Time: 7:30 PM, Tuesday, April 15, 1997

Place: Stevens Institute of Technology, Hoboken, NJ.

Information: Mel Lewis (914) 964-2864 (m.lewis@ieee.org) or Art Greenberg (201) 492-1207.

NJ Section PACE:

Competition, Who Needs It ??

On Thursday, April 10, 1997, the North Jersey Professional Activities Committee for Engineers (PACE) will present a talk by Mr. Rodney Cole. The topic of discussion will be "Competition, Who Needs It ??".

About The Talk

We are all constantly reminded that the evil spectre of the competition lurks in every dark corner, waiting for the first opportunity to pounce. The idea that we must be competitive, or fall by the way-side, is the mantra of modern management.

Do we really need to compete? Are there any alternatives? Come out and discuss your views!

About The Speaker

Rodney Cole has over 15 years of experience in the electronics industry.

Time: 6:15 PM, Thursday, April 10, 1997. Free refreshments will be provided.

Place: Clifton Public Library, 292 Piaget Ave., Clifton, NJ, (201) 772-5500 or see Newsletter web page.

Information: Dr. Robert Sinusas (201) 228-3941.

NJ PES/IAS:

1996 NEC Code Changes / Update

On Thursday, the 17th of April, 1997 the NJ Section Power Engineering and Industrial Applications Society will present a program on changes and revisions contained in the 1996 NEC Code. The speaker will be Won Kim.

About The Talk

The presentation will cover new rules affecting overcurrent protection, proper wiring methods and motor installations.

About The Speaker

Won Kim is a licensed Professional Engineer, Construction Official and Electrical Inspector. Mr. Kim is also an Adjunct Professor at Essex County College and a Principal Project Engineer at Schering Plough.

Time: 7:00 PM, Thursday, April 17, 1997

Place: GPU Energy, 300 Madison Ave., Morristown, NJ.

Information: Ken Oexle (201) 386-1156.

APRIL, 1997

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IEEE NJ SECTION HOME PAGE

WWW at <http://hertz.njit.edu/~ieeenj>

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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 call Secretary Alan Stolpen (201) 822-1300, ext. 2416.

Chairman's Column

This column will hopefully be a monthly feature of the Newsletter and will address items of general interest to the membership.

On May 4th we are holding our annual awards dinner at the Birchwood Manor. It is a pleasant afternoon of good food and drink and a chance to meet our new Fellows and those who have received Region and Section awards.

We are adding a new approach to education courses. This month's Newsletter is listing a one day workshop in JAVA. It will be held on a Saturday which eliminates the need to attend without requiring employers permission. If you have any comments about one day/weekend workshops or any suggestions for additional courses, please contact Fred Chichester at (201) 744-3065.

The section will begin holding "Section Meetings", that is meetings that do not favor any discipline but hopefully will appeal to a broad membership. The first one will be a PACE sponsored talk about investing which is important to all members. While it is not a "Section Meeting", the Vehicular Technology Society's April meeting at Stevens which discusses SETI, the Search for Extraterrestrial Intelligence, would fall into that category.

A joint Circuits and Systems/Electron Devices technical society chapter has been established in our section. Dick Snyder is acting chairman and he is known for his active leadership.

Finally, we'd like to know if there is interest in holding a social event. Possibilities are a bus trip to a major league baseball game, night at the races, theater party or dinner dance. Contact any member of the Executive Committee at the phone/FAX numbers listed on the masthead to let us know your opinion.

NJ MTT/AP Chapter:

Design of Microwave Sources

The topic at the April 23, 1997 meeting of the IEEE NJ Section MTT/S/AP-S Chapter will be "Design of Microwave Sources".

All Welcome

You do not have to be an IEEE member to attend.

Time: 7:00 PM, Wednesday, April 23, 1997. Free buffet will be starting at 6:15 PM.

Place: CTI, Whippany, NJ.

Information: Dr. Chandra Gupta (201) 633-4469 (GEC-Marconi), Edip Niver (201) 596-3542 (NJIT) or Willie Schmidt (201) 492-0371. See IEEE NJ Section Home Page (URL listed on masthead) for details regarding the talk, speaker and directions.

92nd Semi-Annual Seminar - INTRANETS

IEEE New York Communications Society

Strategies, Network Infrastructure, Groupware, Platforms and Applications

Time: 9:00 AM to about 4:30 PM, Thursday, May 22, 1997.

Place: United Engineering Center, 345 47th Street, New York, NY.

Information: Jim Barbera at j.p.barbera@ieee.org or by fax at (212) 465-8877.

Membership Development

Membership Development (or "MD") in a nutshell is the job of making folks feel good about the IEEE... so good, in fact, that 1) someone would join if they weren't already a member, or 2) if they are a member, they'd not even consider letting their membership lapse for fear of missing out on the multitudinous benefits it brings. More formally, one might state that MD's purview encompasses both member recruitment and retention. If you're excited about IEEE (and you must be at least a little if you're reading this) "Pass It On!" It is the privilege and responsibility of each and every member to "sell" IEEE.

A typical methodical, engineering approach to any task at hand begins with what one already knows about the issue at hand. Why do YOU remain a member? Why did you join in the first place (whether a few years or decades ago)? Wear your IEEE pin and tell people about it whenever you can. The oft-cited reasons of others include: excellent technical journals, local meetings of interest, great life insurance, employer-paid dues, networking opportunities, and the chance to "give back" to the profession. Some of the lesser-known benefits of IEEE membership include: publishing opportunities, personally-controlled leadership and professional development, the wide-ranging financial programs and boosts to small business made possible by our group buying power, among others.

When was the last time you told one of "The uninitiated" about the IEEE? An easy to remember resource for all our members is the 1-800 member services number listed on the back of your card, which should be in your wallet right now. It takes only a few minutes to call that number and request a form be mailed out direct to any colleague who may be interested. Do it this week!

North Jersey Section Activities April 1997

April 2—"NJ Section Executive Committee Meeting" – 7:00 PM, Plant 11, GEC-Marconi, 164 Totowa, NJ. Alan Stolpen (201) 822-1300, ext. 2416.

April 10—"Competition, Who Needs It ??" – NJ Section PACE, 6:15 PM, Clifton Public Library, 292 Piaget Ave., Clifton, NJ. Dr. Robert Sinusas (201) 228-3941.

April 15—"The Search for Life Continues" – NJ Chapter VTS, 7:30 PM, Stevens Institute of Technology, Hoboken, NJ. Mel Lewis (914) 964-2864 (m.lewis@ieee.org) or Art Greenberg (201) 492-1207.

April 17—"1996 NEC Code Changes / Update" – NJ IAS/PES Chapters, 7:00 PM, GPU Energy, 300 Madison Ave., Morristown, NJ. Ken Oexle (201) 386-1156.

April 17—"Models of the Peripheral Auditory System and Clinical Implications"—NY/NJ/LI EMBS, 6:30 PM, New York Academy of Medicine, Fifth Avenue at 103rd Street, New York, NY. For further information contact Office of Medical Education, New York Academy of Medicine (212) 822-7271.

April 18—IEEE Graduates of the Last Decade (GOLD), 6:30 PM, Houlihan's in Secaucus, NJ. Amy Galarowicz (201) 818-3740.

April 23—"Design of Microwave Sources" – MTT/S/AP-S Chapter, 7:00 PM, CTI, Whippany, NJ. Dr. Chandra Gupta (201) 633-4469 (GEC-Marconi), Edip Niver (201) 596-3542 (NJIT) or Willie Schmidt (201) 492-0371.

April 30—"Optoelectronics with Organic Thin Films" – IEEE LEO Chapter, 5:00 PM, NJIT, Room 202, ECE Building, Newark, NJ. Haim Grebel (201) 596-3533.

Upcoming Meetings

May 4—"NJ Section Awards Reception"—3:00 to 5:00 PM at the Birchwood Manor, 111 North Jefferson Road, Whippany, NJ. Anne Giedlinski (201) 377-3175.

May 7—"NJ Section Executive Committee Meeting" – 7:00 PM, Plant 11, GEC-Marconi, 164 Totowa, NJ. Alan Stolpen (201) 822-1300, ext. 2416.

May 15—"Electric Vehicle Technology" – NJ IAS/PES Chapters, 7:00 PM, GPU Energy, 300 Madison Ave., Morristown, NJ. Ken Oexle (201) 386-1156 or Tom Piascik (201) 430-6692.

May 17—"JAVA Workshop" – IEEE NJ Section, 9:00AM-4:00PM, Ramada Inn, Fairfield, NJ. Dr. Fred Chichester (201)-744-3065 (leave message).

May 22—"92nd Semi-Annual Seminar - INTRANETS"—NY Communications Society, 9:00 AM to 4:30 PM, United Engineering Center, 345 47th Street, New York, NY. Jim Barbera at j.p.barbera@ieee.org or by fax at (212) 465-8877.

June 20—"How to Get the Most Out of Your Electric Power System"—IAS and PES Chapters Technical Seminar, 8:30 AM to 3:30 PM, Auditorium, GPU Energy, 300 Madison Ave., Morristown, NJ. Dick McFadden (212) 239-8510.

Members and Non-Members Welcome PLEASE POST

1997 IEEE NORTH JERSEY FELLOWS

Steven James Hillenius

"For contributions to the field of solid-state technology and its applications to integrated circuits."

Picture of Steven James Hillenius

Dr. Hillenius received his BS degree from The University of Delaware, Newark, De. in 1973 and the PhD degree from the University of Virginia, Charlottesville, Va. in 1979, both in physics. He was an Assistant Professor of physics at the University of Virginia from 1978 to 1981 where his research involved low temperature solid state physics. In January of 1981 until the present he has worked for Bell Laboratories. From 1981 to 1983 he was a Bell Laboratories Member of Technical Staff where he developed scaling rules for high speed bipolar devices and simulated and developed advanced CMOS technology. In 1984 he became a supervisor of a VLSI Technology Development Group where he developed a symmetric CMOS technology which incorporated CoSi₂ into sub-micron CMOS technology as well as new structures for radiation hard devices. From 1989 to 1991 he was the project manager for developing and placing into manufacture a SRAM technology. From 1992 to 1996 he was a Bell Laboratories Research Technical Manager for a Device Research Group. In 1996 he became the Head of The ULSI Device Technology Research Department where he manages the research of a department consisting of device research and computer aided design of processing and devices. He also manages research interactions with NEC in a joint research cooperation.

Dr. Hillenius has eight patents in the area of semiconductor device structures.

In 1992 he received the AT&T Patent Recognition Award which is given to the AT&T inventors of the most commercially significant patents. This was given for the patent #4,554,726 "CMOS Integrated Circuit Technology Utilizing Slow And Fast Diffusing Donor Ions To Form The N-Well", by S. Hillenius and L. Parrillo, issued 11/26/85. He has published over 40 articles on semiconductor devices and processing.

He has held many responsibilities within the IEEE Electron Device Society including, 1996 General Chairman of the International Electron Devices Meeting (IEDM), 1995 Technical Chairman of the IEDM, 1989-1994 other technical committee responsibilities for the IEDM. He is the IEEE Electron Device Society Publications Chair. From 1984 to 1989 he was the Associate Editor of IEEE Electron Device Letters.

Lawrence O'Gorman

"For developments in the areas of pattern recognition and document analysis and for technology transfer of these into industrial and commercial systems."

Picture of Lawrence O'Gorman

Lawrence O'Gorman has been at Bell Laboratories, Murray Hill, NJ, in the Information Systems Research Laboratory since 1984. He is currently a Distinguished Member of Technical Staff. His research interests include pattern recognition, document image analysis, image processing, security aspects of networked documents, and machine vision.

Dr. O'Gorman received the B.A.Sc. degree from the University of Ottawa,

Ontario, in 1978, the MS degree from the University of Washington, Seattle, in 1980, and the PhD degree from Carnegie Mellon University, Pittsburgh, in 1983, all in electrical engineering. From 1980 to 1981 he was with Computing Devices Company in Ottawa, where he worked on digital signal processing and filter design.

Dr. O'Gorman's most recent work involves security aspects of personal and document authentication. In particular, the demands of networked transactions and remote database access require that the identity of the person and the authenticity of the transactional documents be verified. Work in this area involves fingerprint verification and unique document image descriptions. He has also developed the RightPages Electronic Library System, which became a product of AT&T. Previous work in machine vision led to a system used in AT&T manufacturing plants to precisely align layers and parts of printed circuit boards.

He is the author of over 20 journal papers, 25 conference proceedings papers, and four book chapters; has been co-editor of special issues on document image analysis in *IEEE Computer* and in *Machine Vision and Applications*; and is co-author of an IEEE tutorial text with R. Kasturi, *Document Image Analysis*. He was co-winner of an R&D 100 Award in 1996 for a system to prevent illicit document distribution. He was co-winner of the Best Industrial-Related Paper Award at the 1996 International Conference on Pattern Recognition. This was for a description of a system to prevent document counterfeiting. He has twelve patents in application or granted. He has been active on several program committees of the IEEE and IAPR (International Association of Pattern Recognition) and is a Fellow of both these organizations.

Felix P. Kapron

"For development of low-loss fibers, and for contributions to fiber optic theory."

Picture of Felix P. Kapron

Felix Kapron has been active in fiber optics for 30 years. He was educated in Canada at the University of Toronto, the University of British Columbia, Simon Fraser University, and obtained a PhD in Physics from the University of Waterloo. At Corning Glass Works in Corning NY he was a member of the team announcing the first low-loss fibers in 1970, and also investigated zero and higher-order chromatic dispersion, polarization, and backscattering. He joined Bell-Northern Research in Ottawa ON to help start the fiber optics R&D program, and then was at the ITT Electro-Optical Products Division in Roanoke VA, concerned with cable and components, including international laboratory technology transfers.

Since 1987 Dr. Kapron has been at Bellcore in Morristown NJ, at various times responsible for groups dealing with fiber, components, measurements, and subsystems. He contributes to requirements, standards, and consulting as a Principal Engineer in the Optical Fiber and Components department.

Felix Kapron has a dozen U.S. patents and over a hundred publications, has given numerous courses and tutorials, and has served on several conference committees such as OFC, CLEOS, the NIST Symposium on Optical Fiber Measurements, the International Wire & Cable Society (IWCS), and currently co-chairs the National Fiber Optic Engineers Conference (NFOEC). He has leadership and contributory positions in technical standards groups within the Telecommunications Industry Association (TIA) domestically and the International Electrotechnical Commission (IEC) internationally. He was on the editorial

board for Journal of Lightwave Technology, Applied Optics, and the Journal of Optical Communications, and is a member of the Optical Society of America (OSA). He is an IEEE Fellow for development of low-loss fibers, and contributions to fiber optic theory and standards.

Chin-Hui Lee

"For contributions to automatic speech and speaker recognition."

Picture of Chin-Hui Lee

Chin-Hui Lee received the BS degree from National Taiwan University, Taipei, in 1973, the MS degree from Yale University, New Haven, in 1977 and the PhD degree from University of Washington, Seattle, in 1981, all in electrical engineering.

In 1981, he joined Verbex Corporation, Bedford, MA, and was involved in research work on connected word recognition. In 1984, he became affiliated with Digital Sound Corporation, Santa Barbara, where he engaged in research in speech coding, speech recognition and signal processing for the development of the DSC-2000 Voice Server. Since 1986, he has been with Bell Laboratories, Murray Hill, NJ, where he is now a Distinguished Member of Technical Staff and the Head of the Dialogue Systems Research Department at Bell Labs, Lucent Technologies. His current research interests include signal processing, speech modeling, adaptive and discriminative modeling, speech recognition, speaker recognition and spoken dialogue processing. His research scope is reflected in a recent edited book, entitled *Automatic Speech and Speaker Recognition: Advanced Topics*, published by the Kluwer Academic Publishers in 1996.

From 1991 to 1995, he was an associate editor for the IEEE Transactions on Signal Processing and Transactions on Speech and Audio Processing. He was a member of the ARPA Spoken Language Coordination Committee between 1991 and 1995. He has also been a member of the Speech Technical Committee of the IEEE Signal Processing Society (SPS) since 1995. In 1996 he helped promote the newly formed SPS Multimedia Signal Processing (MMSP) Technical Committee and is a member of the MMSP-TC. Dr. Lee is a recipient of the 1994 SPS Senior Award. Now he serves as the Chairman of the SPS Speech Technical Committee.

David Lee

"For contributions to theory and industrial applications of the design and testing of communication protocols."

Picture of David Lee

David Lee was born in Hong Kong and grew up in Soozhow, China. He received the Master of Arts degree in Mathematics from Hunter College of City University of New York in 1982 and the PhD degree in Computer Science from Columbia University in 1985.

Since 1985, he has been a Member of Technical Staff at the Computing Science Research Center of Bell Laboratories, Murray Hill. He has been an adjunct professor at Columbia University and a Visiting Faculty of National Institute of Standards and Technology.

His current research interests are communication protocols, complexity theory and image processing.

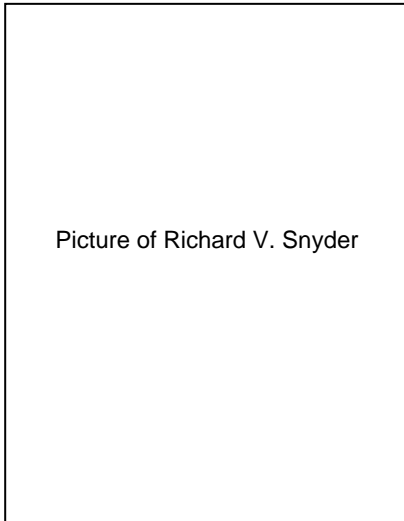
David Lee received the Bell Laboratories Research Distinguished Member of Technical Staff Award in 1996.

David Lee is an Editor of IEEE/ACM Transactions on Networking and an

associate editor of Journal of Complexity. He has served as a Guest Editor of Baltzer/ACM journal on Special Topics in Mobile Networking and Applications, a General Co-chair of ICNP'96, a Program Co-chair of ICCCN'96 and ICNP'94, and an Area Chair and Technical Program Committee Member of various conferences. He is a Permanent Member of Discrete Mathematics and Theoretical Computer Science.

Richard V. Snyder

"For contributions to the development of high power miniature stopband filters and extremely wideband bandpass filters for microwave applications."



Picture of Richard V. Snyder

Dr. Richard V. Snyder is the President and founder of RS Microwave, a well-known 16 year old manufacturer of RF and Microwave filters. He is the author of over 50 papers on the subject of filters and couplers, as well as holder of 13 patents. He received his BS, MS and PhD degrees from Loyola Marymount, USC and PINY. His current research areas include electromagnetic simulation as applied to filters and networks, dielectric resonators and active filter networks.

Dr. Snyder's contributions have led to improved performance and decreased size for communication and electronic countermeasure systems. In the area of bandpass filters, he has been instrumental in the development of evanescent mode designs with ratios of stopband width to passband center frequency of up to 40:1. A classical comb-line design displayed ratios of only 8:1. He has developed dielectric resonator bandpass filters with very wide stopbands by combining evanescent mode filters with dielectric resonators, imbedding one into the other. His high-power bandstop filters have helped to make the JTIDS

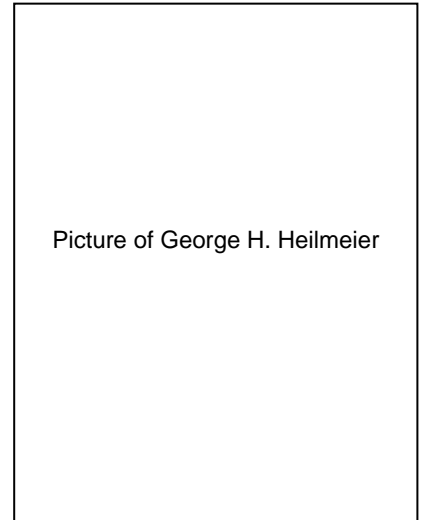
military communication system a production success. With his current successful efforts in miniaturization, they are leading to a new generation of airborne, miniaturized JTIDS-related systems.

Dr. Snyder served the IEEE as North Jersey Section Chairman and as a 14 year Chapter Chairman for the MTT and AP Societies. He has twice received the Region 1 award. A reviewer for the IEEE *Transactions on Microwave Theory and Techniques*, the IEEE *Microwave and Guided Wave Letters*, and other IEEE and MTT publications, Dr. Snyder teaches filter and network courses as an adjunct professor at the New Jersey Institute of Technology. His professional involvement also includes MTT-ADCOM special assignments and various MTT Chapter lectures on the subject of filters and networks. For the last two years, he served as Standards Chairman for the MTT ADCOM. Currently he is serving as Co-Chairman of MTT-8 (the Microwave Theory and Techniques Society Technical Committee charged with oversight of Filters and Networks) and Co-Chairman of the Co-Located MTT-AP Symposium to be held in Philadelphia in 2003.

1997 Medal of Honor

George H. Heilmeier

"For discovery and initial development of electro-optic effects in liquid crystals."



Picture of George H. Heilmeier

George H. Heilmeier is Chairman and Chief Executive Officer of Bellcore, a leading provider of communications software and professional services based on world-class research. Prior to joining Bellcore in March 1, 1991, as the company's President and Chief Executive Officer, he was Senior Vice President and Chief Technical Officer of Texas Instruments, Inc. Dr. Heilmeier, a native of Philadelphia, holds a BS in electrical engineering from the University of Pennsylvania and MA, MSE, and PhD degrees in solid-state electronics from Princeton University. He has also been awarded honorary degrees by Stevens Institute and the Israel Institute of Technology (The Technion).

He joined RCA laboratories in 1958, working on various electronic and electro-optic devices, and became Head of Solid State Device Research in 1966. His work with electro-optic effects in liquid crystals led to the first liquid-crystal displays for calculators, watches, computers and instrumentation. That effort earned him in 1968 the prestigious David Sarnoff Award from the Institute of Electrical and Electronics Engineers and the Eta Kappa Nu Award as the Outstanding Young Electrical Engineer in the U.S.

In 1970, he was chosen as a White House Fellow working on long-range research and development planning and technology assessment as a Special Assistant to the Secretary of Defense. A year later, he was appointed Assistant Director of Defense Research & Engineering in charge of all Department of Defense programs in electronics,

computer technology, and the physical sciences. Heilmeier won confirmation in 1975 as Director of the Defense Advanced Research Projects Agency (DARPA), where he initiated major efforts in stealth aircraft, space-based lasers and reconnaissance systems, infrared technology, and artificial intelligence. During his tenure at DARPA, he was twice awarded the Department of Defense Distinguished Civilian Service Medal, the highest civilian award given by the Department and one that is rarely given twice.

Heilmeier left government in late 1977 to join Texas Instruments as Vice President responsible for R&D in petroleum exploration, systems technology, microelectronics, and software for TI's equipment businesses. In 1978, he was appointed Vice President of Corporate Research, Development, Engineering and Strategic Planning and was named Senior Vice President and Chief Technical Officer in 1983.

He has received numerous awards, including the prestigious Japanese Communications and Computers Prize (1990) and three major IEEE awards, including the David Sarnoff Award, Founders Award, and the Philips Award. In September 1991, he was awarded the National Medal of Science by President Bush for contributions to national security and competitiveness. He received the National Academy of Engineering Founders Award, the academy's highest honor, in September 1992, and Eta Kappa Nu's Vladimir Karapetoff Eminent Members' Award in April 1993. In 1993, he received the Industrial Research Institute Medal for outstanding accomplishment in leadership of industrial research and was named the first Technology Leader of the Year by Industry Week magazine. His leadership in telecommunications and technology management was also recognized in a 1995 honorary doctorate in engineering from Stevens Institute of Technology. In 1996, he received the John Scott Award for Scientific Achievements from the city of Philadelphia for his pioneering work in the development of liquid-crystal displays. Previous winners of the Scott Award included Albert Einstein, G. Marconi, Madame Curie, the Wright brothers and Thomas Edison. The IEEE has announced that he will receive the 1997 Medal of Honor, its highest honor.

Dr. Heilmeier is a member of the Defense Science Board, the President's National Security Telecommunications Advisory Committee (NSTAC), and the National Security Agency Scientific Advisory Board. He serves on the Boards

of Directors of TRW, The MITRE Corporation, Compaq Computer Corporation, and Automatic Data Processing (ADP). He is also a member of the National Academy of Engineering, Massachusetts Institute of Technology Visiting Committee, Princeton University School of Engineering and Applied Science Leadership Council, Board of Overseers of the School of Engineering and Applied Science of the University of Pennsylvania, and a Fellow of the IEEE and of the American Academy of Arts and Sciences.

NY/NJ/LI EMBS:

Models of the Peripheral Auditory System and Clinical Implications"

On Thursday, April 17, 1997, the Metropolitan Chapter of the Engineering in Medicine and Biology Society of the Institute of Electrical and Electronics Engineers together with the New York Academy of Medicine's Sections on Biomedical Engineering and Otolaryngology announce "Models of the Peripheral Auditory System and Clinical Implications (Encoding of Speech in the Cochlea: Possible Implications for Hearing Aid Design)". The speakers will be Dr. Murray B. Sachs and Dr. Shyam M. Khanna.

About The Talk

Recent studies have advanced understanding of the biomechanics of hearing. Particularly significant contributions have been made in recent theoretical modeling and measurement studies of the neuromechanical behavior of cochlear hair cells in response to simple and complex stimuli.

Dr. Murray B. Sachs shall speak on encoding of speech signals in firing patterns of cochlear nerve fibers. He will discuss implications of advances in this area for improvement of hearing aid design.

Dr. Shyam M. Khanna shall speak on advances in in-vivo visualization of individual sensory cells in the inner ear using a confocal microscope, and measurement of sensory cell mechanical response to acoustical stimuli with laser interferometry. He will discuss design of instrumentation for, and the clinical significance of, cochlear sensory cell visualization and measurement.

About the Speakers

Dr. Murray B. Sachs is currently Professor and Director of the Department of Biomechanical Engineering at Johns

Hopkins University School of Medicine, Baltimore, Maryland. He received his PhD from the Massachusetts Institute of Technology in 1966, and completed a postdoctoral fellowship at Cambridge University, Cambridge, England in 1969. In 1970 he joined the faculty of Johns Hopkins University School of Medicine, where he became the founding director of the Biomedical Center for Hearing Science, and Distinguished Massey Professor of Biomedical Engineering. Dr. Sachs is internationally recognized for his many significant contributions in peripheral auditory system biomechanical theory, modelling, and measurement.

Dr. Shyam M. Khanna is currently Professor of Auditory Biophysics and Director of the Fowler Memorial Laboratory in the Department of Otolaryngology at Columbia University, New York, NY. He received his PhD from the City University of New York in 1964. He has made significant contributions in peripheral auditory system measurement, and is a recognized leader in the field. He is a Fellow of the Acoustic Society of America.

Pre-Meeting Reception

A reception with refreshments prior to the meeting will be held at the New York Academy of Medicine starting at 6:00 PM. A \$20 fee for the reception is requested. Reservations for the reception are requested by Monday, April 14, 1997.

Time: Program 6:30 PM, Thursday, April 17, 1997 (6:00 PM reception). The program is open without fee to members of the medical and allied professions. No advance registration is required for the program.

Place: New York Academy of Medicine, Fifth Avenue at 103rd Street, New York, NY (Limited free parking in NYAM enclosed lot at 2 East 103rd Street).

Further Information: Office of Medical Education, New York Academy of Medicine (212) 822-7271. For info. regarding EMBS, call Prof. Joel H. Levitt at (212) 479-7805 (24 hr voice-mail).

Did you graduate in the last decade? This is for you!

Graduates of the Last Decade (GOLD) is a new program focusing on "younger" IEEE members. As a group, we share many of the same frustrations, whether working for large or small companies in industry, government, or academia. Remember your first 'real' performance review? Do you relish or dread them now? How do you 'sell' new approaches you think will boost productivity? Who do you go to nowadays to ask for advice, both professionally and on technical matters? Convinced at times your boss is from another planet? Have you seriously (really!) considered where do you want to be in your career two or five years from now?

All this and more is food for thought at IEEE GOLD events. Meetings are aimed at helping you get the most out of your membership in IEEE. Join us to learn more about making use of every resource that's available to you. You may just meet interesting folks and have fun, too.

The next meeting is scheduled for 6:30 PM at Houlihan's in Secaucus on Friday April 18. If you are interested, but time and place are inconvenient, please do let us know. We are trying to develop an email list to communicate with everyone, but good old fashioned telephone is encouraged, also. For the month of May, the GOLD get-together is tentatively targeted for the last Thursday of the month, as a prelude to another IEEE meeting. More details to come. If there are any questions or suggestions, contact GOLD Chair Amy Galarowicz at voice (201) 818-3740 or email a.e.galarowicz@ieee.org.

IEEE LEO Chapter:

Optoelectronics with Organic Thin Films

On Wednesday, the 30th of April 1997, the IEEE Laser and Electro Optics Chapter will present a talk on "Optoelectronics with Organic Thin Films". The speaker at this meeting will be Dr. Stephen R. Forrest.

About The Talk

Exciting advances have been made in recent years which suggest that organic materials are now becoming practical for use in photonic device applications. Among the most noteworthy findings are:

- Demonstration of high luminance organic light emitting devices consisting of heterojunctions of two different organic molecular solids or polymers.

These devices emit with high quantum efficiency in the red, green and blue spectral regions. Due to the particular long lifetimes of the molecular organic devices, they have promise for application to a wide range of flat panel display applications.

- Demonstration of ultrafast polymer optical modulators.

- Demonstration of transistors based entirely on thin films of organic molecular compounds or polymers.

- Growth of highly ordered van der Waals-bonded organic thin films by the ultrahigh vacuum process of organic molecular beam deposition (OMBD).

Order is attained even in the absence of lattice matching between the film and the substrate. This has led to the realization of low defect density heterojunctions consisting of material combinations with widely different crystal structures, as well as to the demonstration of the first organic multiple quantum well structures by OMBD. These interesting structures share properties common to both insulators and semiconductors, suggesting that new and useful physical phenomena can now be engineered into the thin films.

- Demonstration of the integration of several different organic optical devices with inorganic semiconductor devices such as Si, GaAs and InP.

These include organic/inorganic heterojunction detectors, organic waveguide-coupled detectors, couplers, and modulators.

These, and other major advances in the field of organic thin film devices will be discussed. The prospects for future applications of molecular organic and polymer films in new and practical photonic devices will also be considered.

About The Speaker

Stephen Forrest graduated from the University of California with a BA degree in physics in 1972, and from the University of Michigan with a MSc and PhD degree in physics in 1974 and 1979, respectively. From there, he went to Bell Laboratories (Murray Hill) where he did both fundamental and applied research and development of photodetectors for use in long wavelength optical communications systems. In 1982, he became supervisor of the Integrated Optoelectronic Devices and Circuits group at Bell Laboratories. There, he worked on arrays of emitters and detectors, and integrated optical receivers. In 1985, Prof. Forrest joined the faculty of the Departments of Electrical Engineering and Materials Science at the University of Southern California where he continued his research on optoelectronic integrated circuits, as well as on a new class of optoelectronic materials: crystalline organic semiconductors. From 1989 - 1992, Prof. Forrest served as the Director of the National Center for Integrated Photonic Technology: a consortium of five universities including USC, Columbia, Kent State University, MIT and UCLA. In 1992, Prof. Forrest joined Princeton University as the James S. McDonnell Distinguished University Professor of Electrical Engineering and the Princeton Materials Institute, and as Director of Princeton's Advanced Technology Center for Photonics and Optoelectronic Materials (ATC/POEM). Prof. Forrest has served as Associate Editor to the Journal of Quantum Electronics and Photonics Technology Letters, has served on the OSA Technical Council, and is on the LEOS Board of Governors. In 1996-97, he was the recipient of the IEEE/LEOS Distinguished Lecturer Award. He is a member of the APS, MRS and the OSA, and is a Fellow of the IEEE.

Time: 5:00 PM, Wednesday, April 30, 1997. Free pizza and soda will be served at 4:45PM.

Place: NJIT, Room 202, ECE Building, Newark, NJ.

Information: Haim Grebel (201) 596-3533.

**IEEE NORTH JERSEY
ONE DAY JAVA WORKSHOP**

RAMADA INN, FAIRFIELD, NJ

9AM-4PM

SATURDAY MAY17, 1997

The North Jersey section is presenting a one day introductory JAVA workshop. No prior knowledge of JAVA is required but knowledge of a high level computing language such as Fortran, C+, P/L 1, is advisable. The workshop will include a live demonstration of JAVA and its applications with emphasis on visual programming for the Internet. The class will be taught by Professor Barry Burd of Drew University.

Topics include a discussion of the advantages of JAVA, comparison with similar languages, an overview of Object Oriented programming techniques, JAVA syntax fundamentals, designing classes and objects. The workshop also covers capabilities of the JAVA Application Programming Interface in interactive window-based applications using images, sound and animation.

Class size is limited and early registration is recommended. Phone reservations will not be accepted. Please use the application form listed below.

WHERE: Ramada Inn, 38 Two Bridges Rd., Fairfield, NJ
WHEN: Saturday, May 17, 1997
COST: IEEE members \$150; Non-IEEE members \$225
CONTACT: Dr. Fred Chichester (201)-744-3065

REGISTRATION: JAVA ONE DAY WORKSHOP

TO: Dr. Fred Chichester, 56 Gordonhurst Ave., Upper Montclair, NJ 07043

Name: _____ IEEE No. _____

Affiliation: _____ Phone No. _____

Address: _____

Please enclose the required fee payable to North Jersey Section, IEEE

Signature _____

NJ PES/IAS:

Utility Customer Communication Using the Information Super Highway

The May 15, 1997 meeting of the NJ Section Power Engineering and Industrial Applications Society will present a talk on "Utility Customer Communication Using the Information Super Highway". The speaker will be William J. Labos.

About The Talk

New technologies will use the Information Super Highway to improve utility customer services and to change how utilities control, manage and market utility systems and services. The speaker is a member of a team developing the technology to make this happen.

Mr. Labos will discuss the future of automated reading, power quality monitoring, electric and gas system load control, distribution system automation, energy theft detection, appliance monitoring and control, future utility billing, options and utility services management. As utilities continue down the road of deregulation to a competitive marketplace, the technology is now being developed to help utilities and customers manage the technical and business opportunities. Come to hear Mr. Labos discuss the technology that will make this possible.

About The Speaker

William J. Labos received his BSEE from Newark College of Engineering (now NJIT), Newark, NJ in 1973. He joined Public Service Electric and Gas (PSE&G) in 1973 as an Instrumentation and Control System Engineer. In this 23 years at PSE&G, Mr. Labos has designed Plant Control and Electrical Systems for Fossil and Nuclear Power Plants. He has held various senior level technical and supervisory positions and since 1992 has worked on New Technology Development in the Power Quality and communications areas for the Electric Distribution Department. He currently holds the position of Director-New Products and Services.

Mr. Labos is a member of IEEE, the Tau Beta Pi and Eta Kappa Nu Associations, and is a licensed Professional Engineer.

Time: 7:00 PM, Thursday, May 15, 1997

Place: GPU Energy, 300 Madison Ave., Morristown, NJ.

Information: Ken Oexle (201) 386-1156 or Tom Piascik (201) 430-6692.

The Triangle Coalition For Education Reform

The Triangle Coalition joins the forces of business and industry, science and engineering, and education, forming local alliances and partnerships to encourage reform in science, mathematics, and technology education. For more information, contact them at The Triangle Coalition for Science and Technology Education, 5112 Berwyn Road, Third Floor, College Park, MD 20740-4129, or at (301) 220-0870 or fax (301) 474-4381.

Community-Based Linkages Project

The Linkages Project links community-based, advocacy, and service organizations with scientists and engineers to work toward improving K-12 science and math education for girls, minorities, and students with disabilities. Volunteers apply their expertise to setting up in-school and after school programs for students and their teachers, counselors, and parents. They also work on increasing public awareness. Contact Linkages Project at the American Association for the Advancement of Science (AAAS), 1333 H Street NW, Washington, DC 20005-4792, or at (202) 326-6670, and contact Yolanda, Scott George or Shirley Malcom.



IEEE AWARDS RECEPTION

*North Jersey Section
May 4, 1997
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 4, 1997** from 3 to 5 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 April 30, 1997. 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 (201) 377-3175.

Use this form for Reception reservations. **ENCLOSE A SELF-ADDRESSED STAMPED ENVELOPE to receive tickets in advance.** Reservations are required by April 30, 1997. 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: _____
