Reliability Calculation Methods

The North Jersey Chapter of the Reliability Society will meet on April 18, 1989, to hear a talk on "Reliability Calculations From Component Models." The speaker will be Mr. Donald Wright of Bull HN Information Systems, Inc., Lawrence, Massachusetts.

About The Talk

There are three principle methods used for reliability calculation in the commercial and military markets: British Telecom HPD4, Bellcore TR-TSY-000332, and MIL-HDBK-217. Other corporations, such as CNET in France and Italtel in Italy, are examining these mathematical forms in an effort to establish their own method for calculations. The major cost in the commercial world, as well as within government systems, is in logistics modeling. As a result, reliability models must present a viable representation of failure rate projections and system availability, as well as building a database for calculating logistics and service costs.

We are now coming into an era where bar code control throughout product life will result in data structures that allow full correlation analysis between performance and projection. System models projections may be developed using bar code traceability. With bar code system beginning at the start of production and continuing into the field, actual models of product and component failure rates can be developed from the data. This presentation will examine these problems and argue for the need to establish a base parameter model under the auspices of ASQC, IEEE, RAC, and/or STACK that will be used by all Reliability Engineers in first approximation models. With this common base we may begin exchanging information for the betterment of the Reliability Engineering field.

About The Speaker

Donald Wright is presently a Staff Reliability Engineer with Bull HN Information Systems, where he is currently working internationally to develop a base component description model to be used in reliability calculations. He has attended the RCA Institutes, earned a BS degree with majors in Mathematics and Science from Pullman College, and has done extensive graduate work at Florida Institute of Technology, Northeastern University and Lowell University.

Free Buffet

A free buffet will be provided starting at 6:00 PM, on a first-come-first-served basis.

Time: 7:00 PM, Tuesday, April 18, 1989.

Bullffet sponsored by P.O. Box 242

Further Information: Sergio Bagoenko (212) 386-5358.
PACE Meeting: Preview of Upcoming "Careers Conference"
The North Jersey Section's Professional Activities Committee for Engineers will meet on Thursday, April 13, 1989. The meeting will address the problems of underemployed engineers and also preview the upcoming "Careers Conference" scheduled for May 28, 1989. (See information in this issue.)

All IEEE members and guests are encouraged to attend. Refreshments will be served.

Time: 7:30 PM, Thursday, April 13, 1989.
Place: ITT Auditorium (next to the Tower), use rear door, 500 Washington Ave., Nutley, N.J.
Further Information: Richard Tax (212) 664-6803.

Catheter Choices For Arterial Blockage
On April 5, 1989, the Metropolitan Chapter of the Engineering in Medicine and Biology Society meeting will feature "Current Methods for the Treatment of Coronary Arteries." The speaker will be Dr. David Grewe, Datascope Corporation.

About The Talk
The recent emergence of numerous catheters for removing blockages from coronary arteries raises questions as to the purpose for their variety of design. The talk will describe catheters which push blockages out of the way, others which remove them and some which use heat or laser to cut through them.

About The Speaker
Dr. Grewe received his Ph.D. degree in Biophysics from the University of Vermont in 1974. He has been involved with the development of cardiovascular devices for the past 20 years. Among these are angioplasty catheters and laser catheters for removing atherosclerotic plaque.

Optional Pre-Lecture Get Together
There will be an informal pre-lecture get together 6:30 PM in the Tower cafeteria.

Time: 7:30 PM, Wednesday, April 5, 1989 (informal get together (optional) 6:30 PM in Tower cafeteria)

Place: Rockefeller University, Tower Building, Room 305, 1230 York Ave., 66th St., NYC
Further Information: Ben Canal (212) 777-1586; Vivy Kowtha (212) 926-4063; Joe Bogoivc (212) 241-8032; Edna Feher (212) 757-0610.

Chairman's Corner
Questions to all of the North Jersey Award recipients shown in this issue of our Newsletter. We will formally recognize them for their contributions at an annual banquet which has been moved from Wednesday, April 4th, to Wednesday, May 3rd. This was done so that it would be coincident with the annual awards banquet also sponsored by the IEEE, which we are proud to support for any inconvenience.

Please plan on attending our banquet on May 3rd. Chairman Ray Sears and committee are planning a banquet at the Chantilier, Millburn, N.J., similar to the one conducted last year and all for the same low price of $35.00 per person. Make your reservations early as this might be sold out with early reservations.

Again, volunteers are always welcome to support the ELECTRO SHOW to be held at the Sover-Stark Center on Monday, April 12, and are asked to call the committee for information on their obligations.

The Region 1 Educational Activities Chair, chaired by Dick Askley, has made two video tape engineering courses with handouts available to members of our Section. For additional information, see notice on continuing engineering education.

By the way, to those of you who think that the IEEE is not doing enough in professional activities to obtain portable pensions and alleviate salary compression and discrimination, I urge your support of Merrill Buell, a new candidate for President-Elect of the IEEE. He strongly supports action on these issues and needs about 2400 member signatures by mid May. If you would like to sign the petition or take one around to your member associates, please contact me at (212) 540-1283 (RJ or RJ) or Dick Tax at (212) 664-6594 (RJ).

I have a correction to make to the list of chairman presented in last month's NEWSLETTER. Henry Moss was elected the new Reliability Chapter Chairman. His work number is (212) 785-8458. Welcome to the Executive Committee, Henry Howard.

Center for Microwave and Lightwave Engineering at NJIT
North Jersey Section IEEE & Graduate Student Association, NJIT
The New Jersey Institute of Technology

Optoelectronic Seminar Series
Planning Committee
M. Gentzsch, DSIC; E. Ghobadi, EE; G. Schatzi, R.J.; L. Lai; AT&T; S. Nagal, AT&T; E. Niver, NJIT; I. Reinold, S.CEE; G. Whitman, NJIT; J. Yardley, Alltel.

Session No. 5. COMPONENTS FOR OPTICAL SYSTEMS
April 12, 1989 2:00 PM-4:30 PM
NJIT, Ballroom in Hazel Center

New Semiconductor Laser Structures
Elli Kapon
Bellcore
Noise, Distortions and Other Bad Things That
Impair Performance of Lightwave Systems
Thomas Darce
AT&T Bell Laboratories
Photic Switching Systems
Scott H. Scotton
AT&T Bell Laboratories

Registration Information
There is further up for sale: refreshments served. Reserve Parking in Lot 8. Directions Available.

For Further Information Call:
Dr. Gerald Whitman, E.E., Dept. NJIT
(201) 505-3233/3252

North Jersey Section "IEEE NEWSLETTER", April, 1989 - Page 3

make your correspondence sound mass-produced. When Members of Congress receive many letters with nearly identical wordings, they dismiss them as being part of an organized pressure campaign. This method works only when mail is so voluminous that it is impossible to read it rather than read. Personalized, individual letters often work best.

- Communicate at any time, but especially when legislation is being discussed by congressional committee members, subcommittees, or at hearings. You should be present on the floor of your house or in your state. Your correspondence will mean more when attention is already focused on your concern.

- Find out the committees and subcommittees on which your Congressman sits. His name should be found in the "Who's Who" section of his district. They have more influence over legislation in these jurisdictions.

- Persuade your Congressman to sign his name in favor of your position and ask for their consideration. You may find it useful to review arguments against your position and show why your position is preferred over others.

- Communicate with Members of Congress as a constituent, not as a lobbyist. In the latter role, neighborhood, community or industry spokesperson. However, if you truly are representing a particular group, mention it.

- If Senators or Representatives have supported your cause or idea in previous legislation, let them know you appreciate their past efforts on the issue and that such support is applauded by their constituents.

Communicate to Get Results
IEEE United States Activities addresses many national policy issues, as described in IEEE-USA's Federal Legislative Agenda. An updated Agenda is targeted for publication in January 1989. An IEEE-USA committee has proposed these issues for inclusion: retirement income benefits; tax policy; commodity price stabilization, telecommunications; professional careers of electrical and electronic engineers (with sections on manpower, age discrimination, ethics, and intellectual property); energy policy; research and development; space policy; and government policies on technological competitiveness.

You may become a Member of Congress better represent IEEE and your interests in the national legislature by communicating your views and position. However, before you can effectively represent the best way to ensure that all technical interests are being represented. If you need additional help or specific details on the issues, contact IEEE United States Activities is one of the most active, contact the IEEE-USA Office in Washington, D.C.

"NO-GO ON FREE O.T."

There is no such thing as a free lunch and there is no such thing as a free ride. Some people always have to pay for one thing and abuse is another; only you can decide. The following is our December 1988 IMPACT:

IEEE-USA SEEKS TO ELIMINATE UNCOMPENSATED OVERTIME
Eisenhower Administration and staff continued to press for changes in the practice of mandatory uncompensated overtime on Federal contract work. On September 14, Edward C. Berenson, Assistant Secretary to the President for Professional Activities, testified before the House Appropriations Committee's Subcommittee on Defense, Staff Director for Professional Activities, and W. Thomas Schellenger, Staff Manager of Government and Career Activities, met with Allan V. Burman, Deputy Administrator and Acting Administrator of the Office of Federal Procurement Policy (OFPP) and other Administration officials.

IEEE and other professional societies are urging Congress and OFPP to drop any existing or proposed changes that allow uncompensated overtime for U.S. Department of Defense and other Federal contracts. "We will continue to work with all involved parties such as the U.S. Congress, the Defense Contract Audit Agency, and Department of Navy" to bring these problems to light," Dr. Berenson wrote. "There is no substitution for the positive effect of focused demonstrative leadership from the top, and for that we look to your office.

Therefore, we continue to expect your guidance and effective policy implementation to ensure that the practice of requiring mandatory uncompensated overtime under Federal contracts is eliminated."

Mention this to your Congressional representatives in your next communication.

Use The Calendar
Each issue of "IEEE NEWSLETTER" contains a monthly Section Activities Calendar. You can help spread the word about our activities by making copies of the Calendar or other meeting notices and posting copies in the offices of other members in your Section and other conspicuous places. All of these meetings are open to all members, guests and potential members. You do not have to be a member of a specific society to attend society meetings.

PACE Committee Meets Monthly
The PACE Committee meets on the second Thursday of every month at the ITT Auditorium, 500 Washington Avenue, Nutley, N.J. (near the ITT Tower) at 7:30 PM. Our Section Executive Committee meets there on the first Wednesday of every month (except in December) at 7:30 PM. Please make sure that you are contacted and that the meeting will be well received. Contact Richard Tax at (212) 664-0803 (after 7:30 PM) or write to R. Tax, 630 Montview Place, River Vale, N.J. 07675.

Joint Computer/Communications Society Chapter Session Dates
Spring 1989

May 24 MUMPS - A popular language used by large financial firms and other large businesses
TBD Dave Parry
212 325-8415

May 24 Wiring
ITT
Richard Tax
212 785-7669

May 31 Operating System AT&T Bell
Murray Hill
Harry Dyal
212 785-7651

June 21 Newark Airport
Air Communications
212 785-8415

Neural Networks in Robotic Application
On April 21, 1989, the Long Island IEEE Artificial Intelligence and Intelligent Systems Technical Committee has organized the first of a series of symposiums on the most important and popular topics in recent months, "Neural Networks (NN) and Applications To Robotics.

The first symposium will consist of six speakers from the State University of Stony Brook. The speakers will present their research work for advancing the state of the art in neural networks archi-

There is further up for sale: refreshments served. Reserve Parking in Lot 8. Directions Available.

For Further Information Call:
Dr. Gerald Whitman, E.E., Dept. NJIT
(201) 505-3233/3252

North Jersey Section "IEEE NEWSLETTER", April, 1989 - Page 3

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North Jersey Section "IEEE NEWSLETTER", April, 1989 - Page 3

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(201) 505-3233/3252

North Jersey Section "IEEE NEWSLETTER", April, 1989 - Page 3
PACE NEWS
By R. Tax

CAREERS CONFERENCE
A new speaking schedule appears on the desk of staff at IEEE Headquarters. Remember, IEEE is a member of the Alliance for Career Development, a new industry organization that will be announcing its new government affairs program in the near future. Attendees can learn more about the Alliance, their mission, and how they can help in promoting career development in the workplace.

ANYONE KNOW OF A CAREERS CONFERENCE?
If you know of a careers conference that we have not yet listed, please let us know. We are currently planning to hold a careers conference in the Fall of 2008. Please contact us at info@ IEEE.org for more information.

HUMAN RIGHTS:
Speaking of conferences, the IEEE Human Rights Committee is hosting a conference on human rights in the workplace. The conference will be held on October 5, 2008, at the Sheraton Hotel in New York City. The conference will feature keynote speakers, panels, and workshops on a variety of topics, including freedom of speech, discrimination, and workplace safety. For more information, please contact the Human Rights Committee at info@ IEEE.org.

IEEE North Jersey Section Calendar
April 5, 2008—"Current Methods For Opening Blocked Coronary Artery"—Metropolitan Chapter of the Engineering in Medicine & Biology Society, 7:30 PM, Rockefeller University, Tower Bldg., Room 305, Yale Ave. at E. 66th St., NYC. Ben Carel (212) 739-1560.

April 13—"ElectrotoS9"—IEEE METSAC. See details in March Newsletter for show, conference, and tutorials information.

April 12—"Optoelectronic Seminar Series: Session No. 3"—NJIT/NJ Northern Section, 3:00 PM, RJIT, Ballroom in Hamilton Center, Newark, N.J. Dr. Gerald Whitman (210) 596-3323/3521.

April 12—"PACE Meeting"—North Jersey Section PACE Committee, 7:30 PM, ITT Auditorium, 500 Washington Ave., Nutley, N.J. Richard Tax (201) 664-0032.


April 18—"Reliability Calculations From Component Models"—North Jersey Chapter of the Reliability Society, 7:00 PM, ITT Auditorium, 500 Washington Avenue, Nutley, N.J. Sergei Bogaenko (201) 386-3538.

April 19—"Diversity Protection For Digital Radio Against Multipath Fading"—Joint Computers and Communications Society, 8:00 PM, ITT Auditorium, 500 Washington Avenue, Nutley, N.J. George Parowski (212) 460-6030.

April 21—"Symposium: Neural Networks And Applications To Intel- ligent Robots"—IEEE Artificial Intelligence and Intelligent Robotics Technical Committee, 6:00-8:30 PM, Harry J. Schure Hall, NY Institute of Technology, Old Westbury, L.I. Prof. Robert Hon (516) 249-3735.

April 21—"UNIX X-Window And OPENLOOK"—North Jersey Joint Computers and Communications Society, 8:00 PM, AT&T Bell Laboratory Auditorium, 600 Mountain Ave., Murray Hill, N.J. George Pick (201) 884-6040.

April 29—"CAREERS CONFERENCE"—IEEE Region 1 and North Jersey Section, 9:00 AM-4:00 PM, ITT Club House, 417 River Rd., Nutley, N.J. Richard Tax (201) 664-6954.


May 10—"Technology Management"—NY/NJ Chapter of the Engineering in Medicine & Biology Society, at the Science Museum, 7:30 PM, 90 Washington Ave. at E 66th St., NY.

May 17—"Symposium: Emerging Microwave Technologies"—IEEE Chapter MITT Society. For details contact Pari Bozorgi (212) 341-1700, ext. 437.


PLEASE POST Members and Non-Members Welcome

LT. COL. R. TAX, USA
SIS Mixers Design And Testing

The April 13, 1989 meeting of the North Jersey IEEE MTT-AP Chapter will feature a talk on "Submillimeter Heterodyne Detection With Superconductive Electronics." The speaker will be Dr. Michael J. Wengler of the University of Rochester.

About The Talk
A superconductive tunnel diode called an SIS is an extremely sensitive detector of signals at frequencies of 100 GHz and higher. In fact, it is capable of detecting every photon that it absorbs. For spectroscopy of signals from 100 to 700 GHz, heterodyne receivers using an SIS as the mixing element have demonstrated lower noise levels than any other technology. These receivers have been used for 100 to 260 GHz radio astronomy at radio-telescopes around the world since about 1970, and have recently been used up to about 500 GHz.

This talk will describe these SIS mixers, including the underlying physical principles of the SIS diode and its interaction with radiation, the design of SIS mixers, and the fabrication and testing of these mixers.

The operation of the SIS tunnel diode detector has characteristics of both the semiconductor diode used for microwave receivers, and the photo-diode or photo-conductor used for infrared and higher frequencies. It is a tunnel diode in that its detection is essentially done by rectifying the incoming signal wave. It is like the photocell in that it absorbs energy from the incoming signal in units of hv, the energy quantum. It is this second property that accounts for its incredibly high sensitivity.

Like the underlying physics, the design of substrate SIS receivers also draws from both microwave and optical techniques. For the longer wavelength end of this range, waveguide-mounted SIS's are used. For the shorter wavelengths, waveguides become very small and lossy. Instead, we use what we call the quasi-optic SIS. The SIS is integrated with a lithographically defined micro-antenna. The SIS-antenna is then placed on the back of a lens, which focuses the signal radiation into it. The orientation of the diode is chosen as high a frequency as it has yet been tested, 760 GHz.

Various SIS receivers in use on radio telescopes will be shown. The progress of work with the quasi-optic SIS will be reviewed. Fabrication techniques for SIS diodes will be described.

About The Speaker
Dr. Michael J. Wengler started his high frequency receiver career in 1978 when he worked for Bell Telephone Labs in the Radio Research Department. There he worked on ultra-low-noise 100 GHz receivers, which were based on GaAs Schottky diodes operated at cryogenic temperatures.

In 1980 he joined Caltech and began working on 100 GHz receivers using the SIS superconductive tunnel diode. He extended the theory of the SIS mixer by treating the signal radiation quantum mechanically. He developed computer programs to aid in the design and analysis of SIS mixers. Finally, he constructed the first quasi-optic SIS receiver, which showed record sensitivity for detection of 3 GHz.

On receiving his PhD in 1987, he became assistant professor of Electrical Engineering at the University of Rochester. He is investigating both theoretically and experimentally, the quantum mechanical implications of the extremely high sensitivity of the SIS. He is continuing to develop submillimeter receivers for radio astronomy. He will also work with other superconductive circuits, in particular he is interested in oscillating circuits for the submillimeter frequency range.

Professor Wengler is an NSF 1988 Presidential Young Investigator and a member of the IEEE.

Free Buffet Dinner

There will be a free buffet dinner for attendees in the lobby at 6 PM. Reservations for the complimentary dinner are requested.

Time: 7:30 PM, Thursday April 13, 1989
Place: IIT Clubhouse, 417 River Road, Nutley, N.J. (Pre-meeting dinner starts at 5 PM. Reservations required)

Information/Reservations: Dick Snyder (201) 492-1207; Wilco Schmidt (201) 284-2255.

Diversity Protection For Digital Radio

On April 19, 1989 the North Jersey Joint Computers and Communications Society will present a talk on "Diversity Protection For Digital Radio Against Multi-path Fading." The speaker will be Dr. Sing H. Lin and Ted C. Lee of Bellcore.

About The Talk
This talk summarizes a series of critical experiments which led to recent discoveries that digital radio systems cannot achieve the diversity protection techniques such as antenna angle diversity, antenna mode diversity, antenna pattern diversity, frequency diversity and space diversity. The measured diversity improvement factors for digital radio against multipath dispersive fading are larger than those predicted by existing analog radio systems by at least one order of magnitude. Applications of these findings will lead to substantial savings in the cost for digital radio routes. These discoveries stimulated the development of new models of diversity improvement factors for digital radio and the development of the DROV computer program for engineering digital radio routes.

About The Speaker
Dr. Lin is a District Manager for Digital Radio Systems at Bellcore. He is responsible for Bellcore Generic Technical Requirement Documents, engineering guidelines and engineering tools for digital radio systems which are used by Bell Operating Companies in both inter-city transmission and subscriber loop applications. Dr. Lin received his BSEE from the University of California, Berkeley, in 1969. From 1969 to 1983, he was a Member of Technical Staff and Technical Supervisor for Radio Systems at Bell Labs.

Dr. Lee is a senior member of IEEE, a member of USR and a member of COMSTAR US Study Groups 5 and 9. His work includes experiments, analyses and modeling related to terrestrial and earth satellite radio systems. He is a recipient of Bellcore Awards of Excellence.

Dr. Lee received his PhD in EE from the Ohio State University in 1983. From 1979 to 1983, he was a Graduate Research Associate at the Electro Science Laboratory at Ohio State and worked on millimeter wave propagation for satellite communication and radar target identification. He joined Bellcore in 1984 as a Member of Technical Staff. He has been working on diversity protection techniques for microwave digital radio and radio interference caused by urban reflections and scattering. Dr. Lee is a member of the IEEE.

Time: 8:00 PM, Wednesday, April 19, 1989
Place: IIT Auditorium, 500 Washington Avenue, Nutley, N.J.

Further Information: George Paroski (201) 460-3030; Dr. Sing Lin (201) 787-5459

Engineering Management Society Announces Meeting Dates

The NY/NJ Chapter of the Engineering Management Society announces the following schedule of meetings for 1989:

May 10 - Dr. William Wells - "Technology Management in Multipath"
September 18 - Dr. Jerry Siegel - "Motivating The Engineer"
November 15 - Dr. Michael Frisch - "Leadership in Management."
For information call: Jay Gilbart (201) 420-5269.

QUESTIONNAIRE

What societies are you a member of?
Your Age: ___________ Highest degree: ___________ Major: ___________
Are you presently working in the field of your degree?

CAREER MANAGEMENT TOOLS:
Please assign in order of priority the following career management tools:

[ ] Knowledge of your own skills
[ ] Knowledge of market demand for your type of services
[ ] Information about market trends
[ ] Marketing tools needed to market your skills
[ ] Continuing Education
[ ] Talents that could be used with different responsibilities
[ ] Talents that could be used in a second career

Do you think that your career management tools need continual sharpening?

JOB MARKETING

Have you ever been successful in finding employment through services provided by a professional society?

[ ] Should the scientific and engineering professional societies offer an employment service something like 40 Plus in NYC?
[ ] Should the scientific and engineering professional societies offer a clearinghouse for consulting assignments?

If you have changed jobs recently, do you prefer working through employment agencies?

[ ] responding to ads in the press

SKILLS TRANSFER

Do you have skills that you believe could be used by more than one industry?

SIZE OF THE MARKET

Do you think there's a shortage of manpower with your skills?

Is it difficult for someone over 50 to find work?

WORK LOCATION

Would you accept full time assignments out of this area?

Assignments beyond normal commuting distance?

Assignments outside the country?

Are you familiar with the ways and means of work arrangements for working outside the USA such as work permits, IRS rules, fees and contracts, questions of medical insurance, etc.

CAREER CHANGE

Are you satisfied with your present position?

Are you planning a career change in the near future?

CONTINUING EDUCATION

Who should pay for continuing education?

the employer?

government?

the employee?

Why did you select that answer?

Do you want to learn more about how to set up your own consulting company or emulate the Apple Computer company?

MOVING AHEAD WITHIN

Do you want to learn techniques for remaining in the same company?

HELP US

If you think you know what is needed to help the scientist and engineer improve his career management tools, encode your ideas with this questionnaire.

Please fill out and send this questionaire to:
Mr. David P. Perry
IEEE North Jersey Chapter Internsociety Committee
For Information Call: Jay Gilbart (201) 420-5269.

North Jersey Section "IEEE NEWSLETTER" - April, 1989 - Page 4
IAS Seminar On Co-Generation And Resource Recovery

On May 20, 1989 the New Jersey Section Industry Application Society will present a Panel Symposium consisting of six presentations covering the primary areas of concern to the electrical engineer. The Chairman and Moderator will be R.V. Rebbehyperagia, Chairman IAS/New Jersey Chapter, who is the Manager, Electrical Engineering, Burns and Roe Co. of Orlando, New Jersey.

The presentation will be held before the talks commence and coffee will be served throughout the morning. A buffet luncheon will be served during seminar break to offer an opportunity for people to get together to discuss various side issues at length.

Time: 9:00 AM-3:00 PM, Saturday, May 20, 1989.

CAREERS CONFERENCE
Saturday, April 29, 1989
8:00 AM - 4:00 PM
Registration and Continental Breakfast
Lunch and Refreshments Provided
ITT Club House
417 River Road, Nutley, N.J.

Directions: From Garden State Parkway, take exit 153 to Route 3, East, to Route 21 South. From N.J. turnpike, take exit 16W West to Route 21 South. Then take first exit on Route 21 South, Exit 6, Lyndhurst, Nutley, turn right onto River Road, North, to ITT Club House on left.

CAREER DEVELOPMENT

Designed to aid engineers in planning and developing their own personal careers. In addition, assistance with planning mid-career changes, including preparation for engineering management, will be provided. Handouts, including the IEEE Employment Guide and a career development bibliography, will be provided.

EMPLOYMENT ASSISTANCE

Designed to aid engineers through a step-by-step procedure to locate prospective employers, which is a more difficult task than most realize. Will enable the engineer to prepare a good resume. Sample interviewing sessions will be provided. You will be taught the art of negotiating salary, vacation benefits, etc.

ECONOMIC FORECAST

The economic outlook for the New York Metropolitan and Northeast areas will be provided for the next 3-5 years by a professional economist. This is a well-developed workshop and has been presented approximately 25 times before by IEEE USAB. The principal speaker will be John Miller, a retired engineer, who is a member of the IEEE USAB Employment Assistance committee.

FEE: Free to IEEE Members and unemployed engineers, with advance registration April 20th; $36.50 half-year IEEE membership fee for nonmembers, with advance registration April 20th. After April 20th, $10.00 to above fees.

For additional information and advance registration, contact: Duane Matthiesen, Boston (508) 440-8214; Richard Tax, North Jersey (201) 664-6954.

IASEM Newsletter • April 1989 • Page 12

First Annual Bioengineering Conference
On May 10, 1989, the First Annual Bioengineering Conference sponsored by the IEEE Engineering in Medicine and Biology New York/Northern New Jersey/Long Island Chapter, will take place at the Rockefeller University, Tower Building, Room 305, NYC.

The NY EMBBS Conference hopes to promote regional cooperation and communication in biomedical engineering and computing through the exchange of technical information. Additional information may be obtained by contacting any of the following persons:
Benjamin Geval, Chairman, SUNY Health Science Center, Box 1199, 455 Clarkson Avenue, Brooklyn, N.Y. 11203 (718) 270-1712;
Ralph Hakim, Program Comm., Brooklyn VA Medical Center, Dept. Cardiology, 800 Poly Place, Brooklyn, N.Y. 11208 (718) 635-3257;
V.J. Kwatha, Vice Chairman, Rutgers University, Dept. Bioengineering, Box 909, Piscataway, N.J. 08855 (201) 877-1889.

Intersociety News
by Dave Perry

RECOVERING FROM CONTRACT/JOB TERMINATION

Sometimes contract or job termination can occur without warning. There’s a leveraged buyout, the regulated company becomes deregulated and must reduce its staff to become competitive, a defense contractor loses a major contract, the technology changes from analog to digital. At other times, one may know well in advance that the contract or job is about to be terminated. Even remaining in the same company, the engineer and scientists need to be prepared to move with changes in technology and changes in the structure of business.

If you are in control of your career you may find that the end of one contract or job is an opportunity and a challenge. Applying the tools of career management will help to strengthen your control.

There are several career conferences in the works designed to help you sharpen your career management tools. Region 1 is planning one for Saturday, April 29, to be held at the ITT Club House. IEEE is planning a National Career Conference to be held in St. Petersburg, Florida this coming November and as mentioned in the last issue of the Newsletter, New Jersey Section Intersociety Committee is planning a conference for some time in 1990 with the title: “Career Management For The Mature Engineer.”

We are inviting a number of other local societies to join us in running the 1990 conference as the topics to be covered apply to scientists and engineers regardless of their speciality. Invitations to participate are going out to local chapters of the American Chemical Society, The Society of Chemical Engineers, American Society of Mechanical Engineers, The Institute of Management Science, Operations Society of America, and others that were cosponsors of our Small Business R&D Opportunities Conference held at the Woodridge Hilton in 1987.

In order to test the waters, we have prepared a questionnaire to determine your priorities as to career management and to collect some information about the number of people interested in sharpening their career management tools.

Continuing Engineering Education
Region 1 recently obtained two public domain video tape engineering courses for use by sections within Region 1. The course material consists of video tapes and handouts. The two video courses are as follows:
1. Practical Aspects of Sampling and the Discrete Fourier Transform, by Gregory A. Clark, dated 11/18/85, approximately 28 hours.

We have one set of material for each of the above courses which we must return within a reasonable time so that others may be made available to other sections. If you are interested in borrowing either of the above courses for either individual or group study, please contact George Graul at (201) 790-4403. If there is enough interest, we will look into obtaining a copy soon.

IEEE REGION 1
and NORTH JERSEY SECTION
CAREERS CONFERENCE
Saturday, April 29, 1989
8:00 - 9:00 AM Registration and Continental Breakfast
Lunch and Refreshments Provided
ITT Club House
417 River Road, Nutley, N.J.

While this is going on, the IEEE USAB is planning a conference at the ITT Club House on Career Development. We are planning to invite a number of local organizations to participate in this event. We are hoping to have this conference sometime in 1990.

We are interested in your ideas and suggestions for this conference. If you have any ideas, please contact Dave Perry at (201) 790-0800.
This Year in New York City:  
**Electro Delivers**

**The People**  
The Products  
The Technology

Electro Delivers the newest products, the latest technology and the largest gathering of technical experts in one place at one time in the Eastern United States.

Electro Delivers the largest concentration of electronic products such as: components, microelectronics, fiber-optic-optics, computers, test equipment, control systems, production and packaging equipment, and software. Products that help you do your job better, quicker and more economically. Electro gives you an unprecedented opportunity to shop, compare and select from the finest vendors in the world.

Electro Delivers an idea-generating professional program that helps you in your professional growth and development and to become an even greater asset to your organization.

**NEW AT ELECTRO** this year will be the AUTOMATED DESIGN CENTER. Experience first-hand the newest developments and applications in this exciting technology! The Electro/89 Automated Design Center will feature thousands of product demonstrations of hardware, software and systems.

Electro is the most comprehensive design-oriented electronics trade show in the East. Its 14 years of established leadership assures you of a smooth, professionally run and rewarding trade show experience.

**Electro/89**  
**Building a World Class Economy... Your Passport to the Future**

**SHOW HOURS**  
Tuesday, April 11, 1989  
9:30 a.m.-6 p.m.  
Wednesday, April 12, 1989  
9:30 a.m.-6 p.m.  
Thursday, April 13, 1989  
9:30 a.m.-4 p.m.

**PLAN NOW TO ATTEND!**  
50% off at-the-door registration for IEEE members!

For information, call 800/421-6816.  
In California, call 800/262-4208.

**PLEASE NOTE:**  
**NEW DATE**

Date: May 3, 1989  
Time: 7 PM—RECEPTION  
8 PM—DINNER  
Place: CHANTICLER, Millburn  
376-2222

**Banquet Menu**

**Reception - 7:00 PM**
Tart Shells Portuguese  
Stuffed Mushrooms Graham  
Broiled Chicken Livers Monticello  
Aubergine Supreme  
Pastries Hom ouvres Assortie  
Contonese Egg Rolls - Sauce Anglaise  
Frankfurter Puffs  
Veal Souffles a la Oscar  
Danish Liver and Potato Souffles  
Quiche Lorraine  
Shrimp Soto Mayer - Sauce Romanoff  
Miniature Pizzas  
Baked Clams Crosette  
Clams on Half Shell  
Oysters on Half Shell  
Veal Scallopini a la Tiberius  
Chicken Hawaiian  
Petite Stuffed Cabbage - Hungarian Style  
Baked Stuffed Shells - Sauce Marinara  
Rice Pilaf  
Fresh Chinese Vegetables  
Chinese Style Rice  
Baked Sugar Cured Ham  
Petite Party Breads  
Unlimited Cocktails  
Wine and Beer

**Dinner - 8:00 PM**
Salad Valencia  
Shredded Gorgonzola Cheese Passed  
Imported Flat Breads  
Chateaubriand  
Broccoli Italienne  
Glazed Belgian Carrots  
Old Fashioned Potatoes  
Petite Dinner Rolls/Butter  
Coffee/Cream  
Chocolate Mousse  
(Liquor during and after dinner - individual responsibility).

**SECTION BANQUET - May 3, 1989**

A time to relax, unwind and enjoy —  
A time to pay tribute to our New Fellows —  
A time to honor our new Senior Members —  
YES it’s time for the Annual Section Banquet

Following the enthusiastic response of those who attended the Banquet the past eleven years, we are returning to the Chanticler in Millburn. The affair is scheduled for Wednesday evening, May 3, 1989. Each ticket is $35.00 and includes a complete pre-paid Cocktail Hour preceding dinner. Spouses and guests are welcome.

Reservations required by April 22, 1989. Complete the reservation form below and return it with your payment. If any additional information is required concerning the Banquet, contact Ray Sears at 386-2259.

Inquire about corporate tables.

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Use this form for Banquet reservations enclosing a stamped self-addressed envelope. Reservations required by April 22, 1989. Mail reservation request to:

Ray Sears  
13 Garabrant Street  
Mendham, NJ 07945

Enclosed is Please forward _______ tickets at $35.00 each (make checks payable to North Jersey Section IEEE) to:

Name:__________________________
Address:________________________
City:___________________________  
State:__________________________  
Zip:____________________________

I would like to share a table (seating _________) with the following:

______________________________
______________________________
______________________________
______________________________

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April 11-13, 1989  
Jacob K. Javits Convention Center  
New York City, New York  
Sponsored by  
Region 1, METSAC and CNCE, IEEE  
New York and New England Chapters, ERA  

[Image of map]
those involving the discovery and analysis of dark-line defects; the discovery of strain effects upon laser reliability; the attainment of long operating lifetimes in LEDs and injection lasers; the first measurement of the thermal acceleration of injection laser operating lifetime; and effects of surfaces on LED and laser reliability. In 1980 Mr. Hartman was appointed Supervisor of the Semiconductor Lightwave Laser Group. He is a member of Sigma Xi, and the American Physical Society.

Serge Luryi
FELLOWSHIP

Dr. Luryi has been a member of the technical staff at AT&T Bell Laboratories, Murray Hill, N.J. since 1980, where he is currently a group supervisor in Advanced VLSI Development Laboratory. He has published over 70 papers on topics ranging from properties of polymerization gates to theory of the quantized Hall effect. His main research interests are in the physics of exploratory semiconductor devices. He holds a number of patents on novel high-speed and optoelectronic devices as well as new methods of epitaxial crystal growth. Among his major accomplishments is the invention in 1983 of a new class of three-terminal hot-electron devices (the charge injection transistor, or CHINT, and related devices) and the proposal in 1984-1985 of several single crystal Ge/Si heterostructures for long-wave fiber-optics communications. Since 1986, Dr. Luryi has been the Editor of IEEE Transactions on Electron Devices.

Dr. Luryi received his undergraduate degree in physics in 1971 from the Leningrad State University, USSR. In 1979 he emigrated to Canada, where he received his MSC and PhD degrees in theoretical physics from the University of Toronto, 1975 and 1978, respectively. His graduate and postdoctoral research was devoted to intermolecular interactions and lattice vibrations in solid hydrogen.

Nicholas F. Maxemchuk
FELLOWSHIP

Dr. Maxemchuk is head of the Distributed Systems Research Department at AT&T Bell Laboratories, Murray Hill, N.J. and has been at AT&T Bell Laboratories since 1976. Prior to joining Bell Laboratories he was at the RCA David Sarnoff Research Center in Princeton, N.J. for eight years.

Dr. Maxemchuk has been on the adjunct faculties of Columbia University and the University of Pennsylvania. He has been an advisor to the United Nations on data networking and has been on networking panels for the U.S. Air Force and DARPA. He has served as the Editor for Data Communications for the IEEE Transactions on Communications, as a Guest Editor for the IEEE Journal on Selected Areas in Communications, and has been on the program committee for numerous conferences and workshops. He received the BSEE degree from the City College of New York, N.Y. and the MSEEE and PhD degrees from the University of Pennsylvania, Philadelphia.

Dr. Maxemchuk was awarded the RCA Laboratories Outstanding Achievement Award, the Bell Laboratories Distinguished Technical Staff Award, and the IEEE’s 1985 and 1987 Leon G. Abraham Prize Paper Award.

Debasis Mitra
FELLOWSHIP

Debasis Mitra is currently head of Mathematics of Networks and Systems Department, AT&T Bell Laboratories. He joined Bell Laboratories as a Member of Technical Staff in 1968. Since 1972 he has been in the Mathematical Sciences Research Center at Murray Hill. During the fall semester of 1984 he was a Visiting Mckay Professor at the University of California, Berkeley.

He has worked on the stability analysis of nonlinear systems, semiconductor networks, growth models for new communication services, speech waveforms, coding, digital filters, adaptive filters, echo cancellers and network synchronization. His current interests are in communication networks, quasilinear networks and parallel algorithms. He has been involved in the development of asymptotic theories for large queuing networks and their incorporation in the software package PANACEA. He has also been working on various asynchronous parallel numeric algorithms.

Mr. Mitra was born in India in 1944. He received the BSc and PhD degrees in Electrical Engineering from London University in 1964 and 1967, respectively. During 1965-1967 he held a United Kingdom Atomic Energy Authority Research Fellowship.

In 1967 he was awarded the Premium Award for Best Publication by the Institution of Electrical Engineers, United Kingdom. He was also awarded the 1981 Guillen-Geisser Prize Paper Award by the IEEE. He is a member of the ACM, SIAM, ORSA and IFIP Working Group 7.3.

James West
FELLOWSHIP

James West, DMTS, Acoustics Research Department, AT&T Bell Laboratories, Murray Hill, N.J. “For contributions to electret transducers and the understanding of charge-storage phenomena in polymers.”

Robert Sinusas
REGION 1 AWARD

Robert Sinusas has been involved with the Executive Committee of the New Jersey Section of the IEEE since 1975. During 1975-1976 he was the Chairperson of the Socio-Economics Committee. He has held the position of Group Coordinator, Secretary, Treasurer, Vice Chairman, Chairman, and is now Junior Past Chairman of the North Jersey Section.

For his undergraduate studies he attended Drexel University in Philadelphia, PA. He continued his graduate studies at the New Jersey Institute of Technology in Newark. He has worked and consulted for a number of companies in the North Jersey area: Fairchild, Monsanto, DuPont Labs, Weston and Bendix. He is currently associated with Allied Bendix Aerospace Guidance System Division.

Dr. Sinusas is a Senior Member of the IEEE and is a licensed professional Engineer (NJ).

Prashitta Agrawal
Yehoshul Bar-Ness
Lawrence Bernstein
Larry U. Dworkin
Joseph E. Gausie
Alastair M. Glass
Gary J. Handler
Robert L. Hartman

George D. Graul
REGION 1 AWARD

George D. Graul, originally an IRE member, has been active in the IEEE since the 70's when he served first as Vice Chairman then Chairman of the Vehicular Technology Chapter. He has since served as chairman of various Chapters and Committees including PAC NY Section, Instrumentation & Measurements, Member-at-Large, Secretary North Jersey Section and various other positions. He is active with ELECTRO and has chaired many committees. He is a senior member of the IEEE and a Fellow of the Radio Club of America.

Mr. Graul presently serves as Vice Chairman of the North Jersey Section, Chapter Organizations Chairman of the New York Section, Editor of the RAB Publication INTERFAGE. He is presently retired and keeps active by participating in IEEE functions.