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The IEEE

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NEW IEEE FELLOWS FROM NJ SECTION

Dr. Hatsuaki Fukui — Bell Telephone Labs
"For contributions to the understanding and design of low noise microwave
transistors and transistor amplifiers."

Kao Chen — Westinghouse Electric Corporation
"For leadership and contributions in the design and development of indus-
trial power distribution systems and energy-saving illumination systems."

Edward E. McIlveen — Retired
"For contributions in electric power cable design and testing."

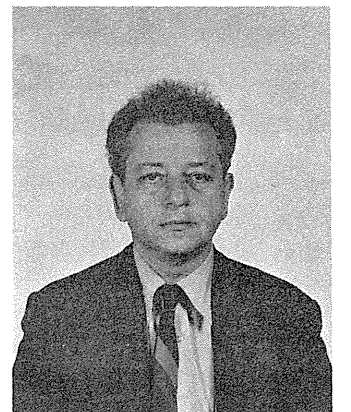
SMC Chapter Meet On Visual Perception

The Systems, Man, and Cybernetics
Society's North Jersey Chapter will present
Professor Bela Julesz, the internationally
renowned researcher on visual perception
and texture understanding, as its speaker
on March 9, 1983.

All engineers and scientists interested
in vision systems, robotics, artificial intel-
ligence, pattern recognition, image proces-
sing, and machine vision are encouraged to
attend this extremely useful talk titled "The
Deep Structure of Vision."

About The Talk

Research in visual texture discrimina-
tion and in the discrimination of briefly
presented patterns has revealed the exist-
ence of two separate visual systems, a pre-
attentive and an attentive one. The pre-
attentive visual system cannot process



complex forms yet can, almost instantan-
eously without effort or scrutiny, detect
differences in a few local conspicuous
features, regardless of where they occur.

These differences, termed textons, are
elongated blobs of specific color, angular
orientation, width, length, binocular and
movement disparity, and flicker rate. For

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RICHARD F. TAX
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line segments, their terminators (ends of lines) and crossings often behave as textons.

The preattentive system can only count the number of textons and detect their local densities but cannot perceive the positional relations between them. However, the preattentive system can direct a narrow aperture of focal attention to the areas where differences in texton density occur in about 50-msec steps (four times faster than scanning eye movements).

About The Speaker

Bela Julesz (M’57) received the Dipl. Ing. degree in electrical engineering from the Technical University of Budapest in 1952 and the PhD degree from the Hungarian Academy of Sciences in 1956. He taught and did research in communication systems in Budapest until 1956, when he joined Bell Laboratories as a member of the technical staff. From 1964 till 1982 was head of the Sensory and Perceptual Processes Department.

Since 1959 he has devoted full time to visual research, particularly depth perception and pattern recognition. He is originator of the random-dot stereoimage technique and of the method of studying texture discrimination under stochastic constraints.

Time: 7:30 PM, Wednesday, March 9, 1983.
Place: ITT Auditorium, 500 Washington Ave., Nutley, N.J.
Pre-Meeting Dinner: 5:30 PM, Jade Fountain Restaurant, Clifton (adjacent to Nutley, N.J).
Information and Dinner Reservation: Dr. Behnam Ashjari (201) 420-5614; Mr. Edgar Van Winkle (201) 939-8304; Dr. Allen Gorin (201) 757-1600, Ext. 2472; Dr. Andrew Meyer (201) 645-5468.

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Boston Section
Supports Gruenwald

In what may be a first in Region I history, the Boston Section Executive Committee submitted the name of Alex Gruenwald, a former Chairman of the New York Section, as a candidate for Region I Director, 1984-1985 (see accompanying article).

In a joint action, the New York Section, at a regularly scheduled meeting of its executive committee, unanimously endorsed the candidacy of Mr. Alex Gruenwald for the position of Region I Director.

SMC Meeting Report

The second meeting of the N.J. Chapter of Systems, Man, and Cybernetics Society was held on February 9, 1983 with a high turn-out of audience. There were 30 participants. The speaker was Dr. Allen Gorin of Lockheed Electronics, Plainfield, N.J. The title of the talk was “Automatic Target Identification.”

PACE Chairman Report

The Professional Activities Committee for Engineers will extend its activities to cover the complete spectrum of the United States Activities Board with all Washington office actions reflected locally here in North Jersey.

USAB’s Legislative Report says: (A) Congress finally was able to pass nuclear waste legislation so our nuclear power plants will be able to move again. (B) The Justice department won’t block joint research projects on computers so the U.S. could make a concerted effort to take over and organize our efforts to win this high tech industry competition. “Science” (Nov. 6, 1982) describes a real battle where united governmental or at least joint research may help us win.

PACE meeting speaker Mr. Don Wilson mentioned a good book by a Boston IEEE author. Paula Levetwan wrote a book entitled “Professionals Out of Work” describing the conditions of the 1970’s which sounds much like our present situation. It is a shame that we must suffer our unemployment from government payroll cuts. We engineers should have better control of our working environment. This book finally came out this year and PACE recommends it to you.

The slide and talk show called “Energy in Perspective” was finally presented and

poorly attended. More power to the United States Activities Board. A show on Age Discrimination has been ordered next from the Washington office.

MAITLAND MCLARIN, North Jersey
PACE Chairman

History & Current
State Of UNIX

Dr. Gottfried Luderer of Bell Laboratories will present an overview of UNIX at the March 16th, 1983 meeting of the North Jersey Computer/Communications Chapter.

About UNIX

The UNIX operating system was conceived in 1969 when Bell Laboratories scientists set about to create a computing environment which was comfortable to use and effective in their work. The result is a general purpose, multi-user, interactive operating system engineered to make the designer’s, programmer’s, and documenter’s computing environment simple, efficient, flexible, and productive. UNIX has, without marketing, advertising, or technical support become widely used by universities and research establishments. Moreover, UNIX has spawned an industry of suppliers of variant operating and hardware systems. Today, UNIX is used in systems for applications such as word processing, electronic mail, document preparation, data access, and data collection as well as for software development.

This talk will briefly touch upon the history and current state of UNIX and will concentrate on a discussion of some of its most important features.

About The Speaker

Dr. Luderer, currently in charge of the Data Switching Network Development Department, has been with Bell Laboratories since 1965 working in the fields of operating systems and local area networks. He has taught at Stevens Institute of Technology and Princeton University, and is a member of the IEEE and ACM.

For an overview on what UNIX is all about, plan on attending. Everyone is welcome; bring your friends. There is no charge, and reservations and IEEE membership are not required.

Time: 7:30 PM, Wednesday, March 16, 1983.
Place: Jersey Central Power & Light Co., Madison Avenue (Route 24) at Punch Bowl Road, Morristown, N.J.
Program Information: Dick Aiken (201) 428-7842.

that all members of the Task Force continue their active participation, and that the Task Force continue to grow in its efforts to alleviate the manpower problems facing our profession.

Please do not hesitate to contact me if there is anyway that I can be of assistance to you or to the Task Force.

Sincerely,
RICHARD J. GOWEN, CHAIRMAN,
Manpower Task Force
(Ed. Note: Wayne Amacher (Past Chairman, Santa Clara Section) has an excellent file of articles on Engineering Manpower. Should you obtain any new articles please send them to Wayne Amacher, 1088 Ticonderoga Drive, Sunnyvale, CA 94087.—R.T.

CUTBACKS IN ENGINEERING COMPANIES IN 1982
This list is not exhaustive. It was gleaned from Silicon Valley newspapers and Electronic trade journals. The list consists for the most part, of the titles of the articles appearing thru November 9, 1982.

| | |
|---------|---|
| 1-30-82 | Magnuson Fires 140 Workers |
| 2-24-82 | GE Cutting 500 San Jose Jobs |
| 3-3-82 | Applied Lays Off 100 Employees |
| 5-10-82 | TI Cuts Another 850 Workers |
| 5-10-82 | CDC Asks For Volunteers to Take Time Off |
| 6-16-82 | Lenkurt Closing San Carlos Plant, Will Lay Off 500 or More |
| 7-82 | Exxon Shuts Delphi, Axes 220 Staffers |
| 7-9-82 | Sunnyvale’s Signetics Postpones Salary Reviews |
| 7-10-82 | Zilog Plans Shorter Work Week to Reduce Computer Inventory |
| 7-19-82 | Valtec Lay Off 10% of Workforce |
| 7-19-82 | 250 Laid Off at W.E. Facility |
| 8-8-82 | National to Cut 1000 Workers from U.S. Payroll |
| 8-8-82 | Semiconductor Companies Are Battling to Avoid Lay-offs |
| 8-9-82 | Finding Suitable Employment Can Be Very Hard Work, Boom Days for Job Hunters in Silicon Valley Are Over |
| 8-16-82 | Lockheed Orders Halt to Hiring |
| 8-16-82 | Pay Cut Shutdown at Monolithic Memories |
| 8-17-82 | Memorex Lays Off 100 Workers |
| 8-23-82 | Burroughs to Shut Plant, Affecting 440 Employees |
| 8-23-82 | Univac Unit Lays Off 50 Salaried Employees |
| 8-23-82 | Signetics Plans to Cut 400, Dropping No Layoff Policy |
| 8-23-82 | Program Axings Shake Up Three Staffs (Boeing, Hughes, and Lockheed all Faced Limited Employment Shakeups... |
| 8-26-82 | Boeing’s Wichita Division Laid Off 550 Workers..) |
| 8-26-82 | The Not So Booming Job Market |
| 8-28-82 | Intersil Systems Reportedly Has Laid Off 40-50 Workers |
| 8-30-82 | AVX Lays Off 500 Employees in US, 10% of Workforce |
| 9-2-82 | Staff Cuts at GTE Lenkurt, Kaiser Cement |
| 9-6-82 | Measurex Schedules 5% Layoff |
| 9-6-82 | P-E (Perkin-Elmer) Phasing Out Division, 200 of 250 to Be Laid Off |
| 9-6-82 | Kemet Lays Off 80 Employees |
| 9-13-82 | Sykes Releases 45 Employees |
| 9-13-82 | ITT Cannon Releases 25; More Layoffs Expected |
| 9-17-82 | Many Recent Grads Who Got Good Jobs Are Now Losing Them |
| 9-17-82 | Two High-Tech Firms Layoff 200 Workers Here (Shugart, GCA Corp.) |
| 9-17-82 | Pan Am to Cut 5000 Jobs |

| | |
|----------|--|
| 9-18-82 | Data Products Corp. To Put 120 Workers On Part Time |
| 9-20-82 | National Orders 2nd 6-Month Wage Freeze |
| 9-21-82 | Manpower, Inc. Finds Employers Still Not Hiring |
| 9-21-82 | Survey Finds Fewer Bay Area Firms Are Hiring |
| 9-22-82 | Report That Xerox Closing 80 Offices |
| 9-22-82 | Why Fridays Can Be Frightening At Fairchild Instrument |
| 9-25-82 | Two High-Tech Firms Go To Reduced Work Schedules (Synertek, Varian) |
| 9-25-82 | Varian Furloughs 1100 Workers |
| 9-27-82 | Tek (Tektronix) To Cut Expenses In Wake Of Qtr. Profit Drop |
| 9-27-82 | Diablo Cuts 15% of Workforce |
| 9-27-82 | F C & I Laying Off Hundreds to Meet Schlumberger Goal |
| 9-28-82 | Texas Instruments to Lay Off 2600 |
| 9-28-82 | FMC Layoffs Increase by 4600; 1600 Permanent |
| 10-4-82 | Layoffs Rear Their Ugly Head |
| 10-8-82 | The Older Workers Soaring Joblessness |
| 10-9-82 | Intel Profit For Quarter Drops 23%—Firm Might Lay Off Workers, Some Stock Analysts Say |
| 10-9-82 | Beckman Orders Employees To Take Days Off Without Pay |
| 10-9-82 | Siltec Lays Off 14% of Its Workforce |
| 10-13-82 | National Semiconductor Plants Will Close Thanks-giving Week (ie., Without Pay) |
| 10-18-82 | Sheldahl Cuts Salaries By 10% |
| 10-18-82 | MicroPro International Laying Off 100 Staffers |
| 10-18-82 | Motorola Increases Off-Time |
| 10-18-82 | Honeywell Units Lay Off 100 |
| 10-18-82 | Solitron Extends Working Hours (without additional pay) |
| 10-19-82 | Students (Engineering) Are Sleeping In Halls To Gain Jobs |
| 10-20-82 | Index Shows Demand Dip (for Engineers) |
| 10-25-82 | F C & I Cuts 70 From Test Opns. |
| 10-25-82 | Tek Releases 68 Employees |
| 10-25-82 | D G (Data General) to Close Most US Mfg. for Christmas Holidays (without pay) |
| 10-25-82 | CDC Plans Holiday Plant Closings |
| 10-25-82 | Modcomp Closing Half of December |
| 10-26-82 | Texas Instruments Reports Profits, Warns of Layoffs |
| 11-1-82 | Storage Technology Projects Profit Drop, Cuts Back Workforce |
| 11-1-82 | AVX Lays Off 100 S.C. Workers |
| 11-1-82 | STC Cuts 400 in US; Overseas Layoffs Possible |
| 11-1-82 | Four-Phase Sys. Lays Off 141 |
| 11-1-82 | Micro-Z Cuts 20% of Workforce |
| 11-1-82 | Motorola Asks 48 Hr. Week; 40 Hr. Pay |
| 11-1-82 | Emerson’s E & S Cuts 100 Staffers |
| 11-1-82 | Siltec Planning “Forced” Vacations |
| 11-6-82 | Data Products to Lay Off 100 Workers Next Week |
| 11-6-82 | 3800 Tandem Employees Facing Unpaid Vacations |
| 11-8-82 | Systems Engineering Lays Off 35 Employees |
| 11-8-82 | Motorola Semicon. to Lay Off 275 |
| 11-8-82 | Two VPs Exit Data I/O; 15 Cut |
| 11-8-82 | Honeywell Info Systems to Slash 1850 Employees |
| 11-8-82 | Holiday Closing at Signetics (Thanksgiving and Christmas without pay) |
| 11-9-82 | Xerox is Laying Off 600 More From Jobs in Upstate New York |

PACE NEWS

Professional
Activities
Committee for
Engineers

By R. Tax

Latest PACE News

SOCIAL FOR ENGINEERS. Friday evening, March 18, provides our members with an opportunity to socialize, meet other members of IEEE, relax and enjoy the hospitality of the Section. I hear this might be the start of something new for Section activities. The executive committee is encouraging each member to bring a potential member as a guest, to introduce him (or her) to IEEE. Guests will be given the opportunity to join IEEE at half-price. Instead of \$61.00, the price will be \$30.50 for 1983.

APRIL EVENT. Another evening of relaxation and enjoyment is on April 13, 1983. The Section Banquet, at only \$19.50 a ticket is a real treat for all. At the reception you may choose from 23 hors d'oeuvres, wine, beer and unlimited cocktails followed by a complete dinner of roast prime ribs of beef. Of course, it will be held at the Chanticle in Millburn. This is a real bargain and I'm sure you will enjoy the food, atmosphere and company of your associates.

EMPLOYMENT GUIDE. Through the USAB and its Employment Assistance Task Force, IEEE has just released its first publication entitled "Employment Guide for Engineers and Scientists."

I was impressed first by the names of the contributors that have been volunteers of USAB committees for many years and given freely their time and energy in serving our profession. Richard Backe, chaired the Employment Assistance Task Force. Others on the Committee are Ron Fredricks, National Professional Activities Committee for Engineers (PACE) Chairman: David Lewis, currently Career Activities Council Chairman: Marlin Ristenbatt Task Force Leader on Career Maintenance and Development; and James Sheehy of Kerry Systems, a member of the North Jersey Section. Of course there were too many contributors to mention. Some of you may have unknowingly contributed by responding to IEEE surveys.

This handbook, we may safely say, was written by engineers for engineers. The price is \$10 to members and available free to unemployed members. The IEEE Catalog No. UHO156-O is available from the IEEE Service Center, 445 Hoes Lane, Piscataway, N.J. 08854.

Congress Takes Second Look At AEA

Although the American Electronics Association (AEA) is preparing their latest survey, members of Congress, in response to their constituents, are now taking another look at AEA and seeking other sources of information on engineering manpower. IEEE's USAB Manpower Task Force has also been alerted to the new AEA Survey and intends to monitor and act on this issue as top priority.

The Membership of IEEE is to be commended for their efforts in challenging AEA and the Congressional leaders that used AEA's information to effect the wording and intent of the Immigration Reform and Control Act. This issue is far from dead. All efforts should and will be continued. Membership assistance is still necessary to maintain the interest of their Congressional Representatives. Keep Congress informed about manpower issues and let them know that we are still alert and seeking to reinstate the original intent of the Senate version of S.2222 (1982).

On January 29, 1983, the Manpower Task Force of USAB met and agreed with the Senate version that requires all foreign students to return home for a period of 2 years to adjust their immigration status, without any waivers or exceptions.

500 Megabucks For Training?

Presently, the 98th Congress of the United States is faced with H.R.582, the "National Engineering and Science Personnel Act of 1983." This Act will establish a fund of 500 megabucks of the tax payers hard earned dollars and deliver this money to the National Science Foundation (NSF), under the name of Engineering and Science, to be spent at their discretion.

The vague rationale quoted is "To provide a national policy for engineering, technical, and scientific personnel, to provide for cost-sharing by the private sector in training such personnel, and for other purposes."

Briefly, this is the same old tune with the same old lyrics written by academia under a NSF label. Only those associated with the educational establishment will be invited to dance to this melody. A more authentic title might be "Increase Engineering Education Productivity" with a chorus of "More is better."

Payments to NSF are to be in 100 megabuck, annual increments with NSF being responsible to report to Congress at no less than once every 2 years. Wouldn't your company like a contract like this?

You be the judge. A short 5 page, double spaced, 112 line copy of H.R.582 is available from your local Congressional office. You may mark up a copy and send it to your representative and the Committee on Science and Technology.

1982 Engineering Cutbacks

It has been a special honor to have served as Chairman of the Manpower Task Force this year. I believe ours has been one of the most active Task Forces in USAB. Much has been accomplished, but there is so much yet to do.

The attached list in cutbacks in engineering companies, provided by Wayne Amacher, identifies the impact of the recession on our industries. Clearly unemployment assistance must receive additional emphasis. The alien engineer, supply and demand projections, and engineering utilization remain extremely important topics for the IEEE.

It is my understanding that Jack Doyle will be shortly announcing a new Chairman of the Manpower Task Force. I strongly urge

North Jersey Banquet April 13, 1983

The North Jersey Section will hold its Annual Banquet on Wednesday, April 13, 1983. The location for the Banquet is the Chanticle in Millburn. The cost per person for the evening including a one-hour reception beginning at 7 PM and a full-course dinner, is \$19.50.

During the evening, the new Fellows and Section Award winners will be announced. In addition, the new Senior members will be recognized.

Everyone is invited to attend what promises to be a very enjoyable evening. Tickets may be obtained by filling out the form found on another page in this Newsletter and mailing your check, by April 2 to the address shown there!

Microwaves In Slow Motion

The April 20 meeting of the North Jersey Chapter of MTT/AP will hear Dr. Harold Seidel of Bell Laboratories discuss "Microwaves In Slow Motion,"

Dr. Seidel, supervisor of the RF Technology Studies Group at Bell Laboratories, is one of the most renowned men in the field and his talk should be of interest to network and systems people as well as microwave people.

About The Talk

"Microwaves" derived its name from its short wavelength. However, short wavelength was more than a region of the spectrum; it brought with it intense limitation of circuit realization and the failure of traditional representation. Notwithstanding its origins, microwaves has come to denote less a high frequency practice and more a special view of circuit organization based on a scattering viewpoint.

Within these notions of wavelike character, circuit elements and their use appeared more akin to those of optics and ostensibly unrelated to those used at lower frequencies. Some of the elements and usages are listed as follows:

- (1) Reflectionless branching junctions; the class of hybrids and couplers both in-phase and quadrature.
- (2) Transit time and its application to phase interferometry; filters, wave couplers, distributed amplifiers, oscillators, etc.
- (3) Recognition of the significance of characteristic impedance and its application to reflectionless, noninteractive, network cascades.
- (4) Masers and parametric amplifiers; a strange join of classical nonlinear, and quantum mechanics.

Do these viewpoints have any impact in the lower frequency regimes? The speaker

believes they have more than curiosity content. He will discuss and demonstrate a variety of practical structures dealing with interferometers, quadrature couplers and parametric amplifiers at audio frequencies, and attempt to show the profitability of microwave language.

TIME AND PLACE TO BE ANNOUNCED IN THE NEXT ISSUE

NJ Section Nominees

Alan H. Stolpen, Chairman of the Nominating Committee of the North Jersey Section has announced the following nominations of Section Officers for 1983-1984:

Chairman: Anne Giedlinski

1st Vice Chairman: Eugene Niemiec

2nd Vice Chairman: Ted Higginson
Ed Roeloffs

Treasurer: John Van Savage

Secretary: Charles Coulomb

*Member-at-Large: Howard Leach
Maitland McLarin
Robert Sinusas
Dick Tax

(*Three to be selected by the Voting Members)

Nominations in addition to those made by the Nominating Committee may be made by petition from the membership. Such nominations must be signed by not fewer than 25 voting members of the North Jersey Section, and transmitted to the Section Secretary for submission to the Executive Committee not later than April 7, 1983. The petition must certify that the person(s) nominated have agreed to serve, if elected.

PACE Sets New '83 Meeting Dates

The North Jersey Section Professional Activities Committee will sponsor its regular monthly meeting the third Wednesday of every month. Meetings will be held from 7:30 PM to 9:30 PM at Singer-Kearfott, Plant 3, 1250 McBride Avenue, Little Falls, N.J.

These meetings are open to all members and interested public professionals with refreshments free of charge.

Further Information: M. McLarin (201) 335-6847; H. Waters, (201) 785-6417.

Associate Members: Chance To Advance

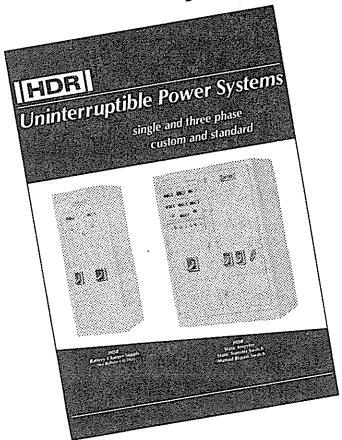
If you have a Bachelors Degree or at least three years experience, you are probably qualified for Member Grade.

If you have more experience, you may be eligible for Senior Member Grade.

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Cardiac Assessment With Nuclear Imaging

“Beat To Beat Assessment of Cardiac Function Employing Nuclear Imaging Techniques,” is the topic of the March 2 meeting of the Metropolitan Chapter of the Engineering in Medicine and Biology Society. The topic will be discussed by S. Heller, PhD, Physicist/Engr., Dept. of Nuclear Medicine, Albert Einstein College of Medicine & Montefiore Hospital.

Time: 7:30 PM, Wednesday, March 2, 1983.
Place: Rockefeller University, York Ave. at 66th St., NYC. Tower Bldg., Room 301.
Pre-Meeting Dinner: Tower Cafeteria, 6:30 PM.
Further Information: Rahul Mehra, PhD., Department of Cardiology, Brooklyn V.A. Medical Center, 800 Poly Place, Brooklyn, N.Y. 11209.

BCCE Sets Meetings

Future meetings scheduled by the NY/ NJ Broadcast Cable and Consumer Electronics Chapter are:

March 16, 1983--Application of CAD/ CAM/CAE/CAT to Consumer Electronics.

April 20, 1983--How a Major U.S. Electronics Company Survived and Thrived in the U.S. Consumer Electronics Business.

May 18, 1983--“Let’s Make an Invention.”

All meetings will be held at the Willkie Memorial Center, 20 West 40th St., NYC, at 7:30 PM.

For additional information call: Marvin Kurland (201) 527-6783; Robert Hauf (201) 527-6813; Theodore Fishman (212) 932-1800; Thomas Morrison (212) 575-1400.

How Fast To Sample

The NJ Control System Society apologizes for the inconvenience to persons who came to attend the meeting scheduled for November 18, 1982. For the benefit of the members, the speaker has agreed to give this talk again on March 10, 1983.

About The Talk

The talk addresses the fundamental difficulty in determining the sampling interval for converting analog signals into digital signals. New intuitive and heuristic methods will be given for determination

of time interval such that the digital output truly reflects the sampled input.

About The Speaker

The speaker, Dr. Charles R. Giardina, Professor of Electrical Engineering, Stevens Institute of Technology and Mathematical Consultant, Singer Kearfott has seventeen years of industrial experience primarily in the area of real-time digital mechanization.

His current areas of research include artificial intelligence, image processing, pattern recognition and the constructive theory of functions.

Time: 8 PM, Thursday, March 10, 1983.
Place: Jersey Central Power & Light Co., Madison Avenue (Rt. 24), Morristown.
Pre-Meeting Dinner: 6:15 PM, AFTON, Hanover Road & Columbia Turnpike, Florham Park.
Information And Dinner Reservations: Frank Kuhl (201) 328-2188 (days), (201) 663-1381 (evenings); Kushal Jain (201) 265-2000 (days) (201) 263-9168 (evenings)

Gas Insulated Substations

The March, 23rd meeting of the North Jersey Power Engineering Society will feature a presentation on “Gas Insulated Substations.” The speakers will be: Joseph Kennedy, Brown Boveri Corporation; and Fabian Farrell and John Courtot, - both associated with Jersey Central Power & Light Co.

Their presentation will include: (1) The reasons for electing to utilize the gas insulated design. (2) Gas insulated equipment which is manufactured by Brown Boveri. (3) Utility operating experience with gas insulated equipment at two substations on the JCP&L system.

About The Speaker

Joe Kennedy is Manager of Electric System Marketing at Brown Boveri in Greensburg, PA. He has been employed by B.V. since 1950 and has worked in the area of equipment application and product management. He has been involved with gas insulated substations equipment since 1970.

Mr. Fabian C. Farrell, the Substation Engineering Manager, and Mr. John J. Courtot is Substation Design Manager at Jersey Central Power and Light Co. Both are BSEE graduates and have been in the Substation Department for 16 years. They are responsible for all development and design aspects of the company’s substations

and are intimately familiar with the Morristown and Smithburg GIS Substations.

Time: 7:30 PM, Wednesday, March 23, 1983.
Place: Jersey Central Power and Light Co., Madison Ave. and Punchbowl Rd., Morristown, N.J.
Directions: Via Interstate Route 287, take exit 31 in Morristown and proceed east on Route 24 (Madison Avenue) toward “Madison.” JCP&L is on the left shortly after the third traffic signal.
Further Information: K.J. Oexle (201) 455-8481, E.P. Griffith (201) 455-8313.

The Management Of Federal Emergencies

The NY/NJ Chapter of the Engineering Management Society will hear Allen Zenowitz, Chief National Defense Executive Reserve Program discuss “Managing Federal Emergencies: An opportunity for Industry Executives” at its March 23, 1983 meeting.

About The Talk

Federal Emergency Management Agency (FEMA) is accountable for all Federal emergency preparedness, mitigation, and response activities to natural, man-made, and nuclear disasters. The speaker will describe the National Defense Executive Reserve (NDER) program, and outline its role in promoting understanding between government and industry and in providing specialized training and numerous benefits to member executives.

About The Speaker

Allen Zenowitz is Chief of the NDER program at FEMA. He is a brigadier general (ret.) in US Army Reserve, and he saw active service during the Korean war. He has also served as Regional Director of FEMA. Previously, he was a management consultant in the NY-Boston area. A native of Great Barrington, MA., Mr. Zenowitz holds a BS from Trinity College, a management degree from University of Connecticut, and a doctorate in law from New England School of Law.

Time: 7:30 PM, Wednesday, March 23, 1983.
Place: Willkie Memorial Bldg., 23 West 40th St., NYC.
Further Information: John Van Savage (201) 544-2334/2412, Al Bottoni (212) 393-3015, Barry S. Gourary (201) 783-5570.
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Electro/83 Set

Electro/83, the East’s largest and most extensive high technology electronics convention and exhibition, is expected to break all attendance records again this year. This three day event, scheduled on April 19-21 in the New York Coliseum and the Sheraton Centre, will attract over 48,000 industry professionals.

The theme of this year’s show is “Tomorrow’s Technology Today,” which appropriately reflects the role of Electro as a forum for the introduction of new products into the electronics marketplace. Attending Electro/83 will be key engineering, purchasing and management professionals in the areas of design, testing and manufacturing of electronics. They will exchange ideas and explore new opportunities with over 500 of the nation’s top high technology exhibitors manning over 1,000 booths.

A major highlight of Electro/83 will be its highly acclaimed Professional Program, which features 37 separate sessions presented by top minds in business and technology. In addition to the Professional Program, there will also be a Marketing Conference in the Sheraton Centre on Tuesday morning. It will be followed by the Keynote Luncheon at noon featuring guest speaker Joseph Gavin, President of Grumman Aerospace. Also on the agenda for Electro/83 is a Film Theatre which will present a daily program of technical and general interest films to be shown at the New York Coliseum all three days.

Three tutorial seminars will be offered at Electro/83: “Artificial Intelligence;” “Managing the Creative Person;” and “Direct Broadcast Satellites.” These special-fee events will be held in the Sheraton Centre on Monday, April 18. Also of interest will be the Special Exhibit on Office Automation where participants will get hands-on experience. The exhibit will include an electronic survey, electronic mail, and an information utility. All of these systems will be linked by a computer network and will be located in various locations throughout the convention in kiosk-type booths.

A regular shuttle bus service will connect the New York Coliseum and the Sheraton Centre. These free buses will operate from 8:30 AM to 5:30 PM daily.

Electro/83 is jointly sponsored by regional chapters of the Institute of Electrical

and Electronics Engineers (IEEE) and by the Electronic Representatives Association (ERA). Electro alternates on an annual basis between Boston and New York.

Mini/Micro Northeast-83 will be held in conjunction with, but separate from, Electro/83.

Local Section Members can register free by using the Registration Card bound in this issue.

Student Activities

By STELLA LAWRENCE

METROPOLITAN STUDENT COUNCIL PRIZE PAPER CONTEST – NEW DATE: APRIL 10, 1983

The Metropolitan Student Council Prize Paper Contest will be held on Sunday, April 10, 1983 at the Bramson ORT Technical Institute in New York City. The prizes this year have been increased for Seniors and Juniors to: First Prize - \$250, Second Prize - \$150, Third Prize - \$100, Fourth Prize - \$50.

In addition, there will be a separate contest for freshman and sophomore students with prizes of 1st - \$150; 2nd - \$100; 3rd - \$50 and 4th - \$25.

The best paper in each member school will also win an award of \$25.

The deadline for the contest has been changed to Tuesday, March 29th. All papers must be submitted to the Contest Secretary, Dr. Charles Rubenstein, Chairman, Dept. of Electrical Technology, Bramson ORT Technical Institute, 44 East 23rd St., New York, N.Y. 10010, (212) 677-7420. All contestants must be members in good standing of the IEEE.

REGION I PRIZE PAPER CONTEST

The Region I Prize Paper Contest will be held in New York City, in conjunction with ELECTRO '83, on Thursday, April 21, 1983. This year, due to a gift of \$2500 from ELECTRO, the Region I Prizes will be:

First Prize: \$2500
Second Prize: \$ 500
Third Prize: \$ 300
Fourth Prize: \$ 100

Why Enter the Prize Paper Contest?

This year, due to the efforts of Alex

Gruenwald, a student winning the MSC Prize Paper Contest, can also win the Region I first prize of \$2500, in addition to the high honor and publicity. It is not too late to start now. YOU might be the lucky winner!

MSC MEETING, THURSDAY, MARCH 10, 1983

The next meeting of the MSC will be held at Technical Career Institutes, 320 W 31 Street, between 8th and 9th Avenues. The meeting will be hosted by Prof. Fernando Segovia, Student Activities Chairman of the N.Y. Section.

The MSC Meeting is sponsored by METSAC and the N.Y. Section. One of the most important topics discussed will be the Professional Awareness Conference, what it is, it’s purpose, and how schools can prepare proposals for professional awareness conferences.

The Speakers for the evening will be: Victor Zourides, Area B Chairman IEEE Region I and Alex Gruenwald, Regional Professional Activities Chairman.

There will be light supper at 6 PM, followed by a discussion at 7 PM. All schools with branches in the METSAC area are urged to send representatives, the maximum is five representatives per school.

Parking in the garage next to the TCI building is \$4.50 with TCI verification. Branches that preregister with Prof. Segovia will be reimbursed for the garage fees for one car.

Branch officers should not miss this very important meeting!
ELECTRO '83

On April 19, 1983 New York City will become the electronics capital of the world. Approximately 50,000 “delegates” will gather for the opening of ELECTRO '83, the international electronics conference.

Just about everything new and significant in electronics will be there! Everything will be up-front and in-person.

This year ELECTRO '83 will be held in conjunction with Mini/Micro-Northeast and will utilize all four floors of the New York Coliseum plus the Sheraton Centre. It will consist of two conferences and shows in one!

The convention will feature the newest in electronics high technology.

ELECTRO '83 is for you! Come and meet outstanding engineers, learn about the latest discoveries, see the exhibits!

ELECTRO/83 TUTORIALS

April 18, 1983 -- Sheraton Centre, NYC

Tutorial: "ARTIFICIAL INTELLIGENCE AND ITS APPLICATIONS"

"Experts in artificial intelligence are being paid \$1000 a day as consultants" so said the president of an association for artificial intelligence (AI). The interest in AI is increasing at an accelerated pace. DOD considers this technology to be of the highest priority. This tutorial will cover the fundamentals of AI with special emphasis in the knowledge based system (KBS) and theorem proving approaches. Automated reasoning, machine learning, and problem solving will be covered more fully.

Applications of AI will be concentrated in the following areas: Automated programming and software development; Management decision-making; design automation of electronics; Automated testing of circuits/systems; Medical systems; Military systems, (command, control, communications, and intelligence) (C³I); Robotics; and Automated Manufacturing. Projection of future AI applications to robotics in military, space, and manufacturing will conclude the tutorial.

Program Speaker

Robert Hong, Technical Assistant to Grumman's Director of Systems Engineering will be the Program speaker. Previously, Mr. Hong was Director of Software Systems Analysis and Design and Section Head of Computer Equipment Design. Prior to joining Grumman, he was a Research Section Head to Sperry Univac Systems Management and has more than thirty years of experience in computer and system technology. Mr. Hong received a BAIE degree from Columbia University, a BSEE from the Cooper Union, and has completed his doctoral course requirements in System Science from PINY where he is an adjunct professor. Presently he is Chairman of the Long Island IEEE Computer Society.

Tutorial: WORKSHOP ON DBS (Direct Broadcast Satellites)

This session will provide an introduction and overview of all major aspects of this new and challenging broadcast technology. Topics to be covered will range from the business environment, system requirements and satellite hardware to home receiver design, encoding schemes and plans for enhanced video transmission.

The draft program includes the following topics:

1. Introduction (Overview, Definitions, Standards)
2. Business Environment
3. System Considerations (Equipment requirements, Path Loss/Ant Size/NF/CIR)
4. Satellite Systems and Hardware (Transponder, Control)
5. Uplink/Downlink Hardware
6. Home Receiver System (Antenna, Front End, TV interface Unit)
7. Enhanced Video Techniques
8. Encoding Systems
9. Future Possibilities

Tutorial: MANAGEMENT AND THE CREATIVE PERSON A WORKSHOP

This is an interactive workshop designed for managers of technical professionals who direct creative people. Goal of the workshop is to provide an opportunity to become a better manager through: (1) Awareness of the components of creativity and barriers to

creativity; (2) Awareness of the variety of ways that people can be creative and valuing these differences; (3) Understanding of the thinking process and its relationship to creativity. Participants will be provided an understanding of the creative process. They will experience creativity and learn about their own views of, and responses to, the creative person.

Program Leaders

George R. Craig, Jr. is currently Group Supervisor of career education at Bell Telephone Laboratories. Prior to assuming his present position in March, 1982, he served as an internal educator and consultant to Bell Laboratories. He has been a manager for five years.

Richard Greanier is currently a plant Education and Training Manager for Digital Equipment Corporation. He is responsible for all technical and professional development activity, EEO/Affirmative Action/Awareness program organization, Employee Planning Development and the Tuition Refund Program.

Carol Neadle Schnitzler is a consultant and trainer. Her area of specialty is facilitating attitudinal change. She is presently directing a special project for the New Jersey Department of Education and is doing private consulting in industry to facilitate the employment of people who are handicapped. IBM, the Epilepsy Foundation of America and the New Jersey State Development Disability Council are among the organizations who have made use of her skills.

Paul Schnitzler has been using participative management techniques in engineering research and development with measurable success for the last six years. After completing his PhD in Electrical Engineering at the Polytechnic Institute of Brooklyn, he has taken various courses, workshops, and laboratories relating to human interaction and management techniques. He is particularly interested in the application of creativity to the needs of the organization. He is presently Head, Broadcast Systems Research, for RCA Laboratories.

REGISTRATION—ELECTRO/83 TUTORIALS

- ☐ Artificial Intelligence (\$165 members, \$190 non-members)
- ☐ Direct Broadcast Satellite (\$170 members, \$195 non-members)
- ☐ Management Of The Creative Person (\$180 members, \$205 non-members)

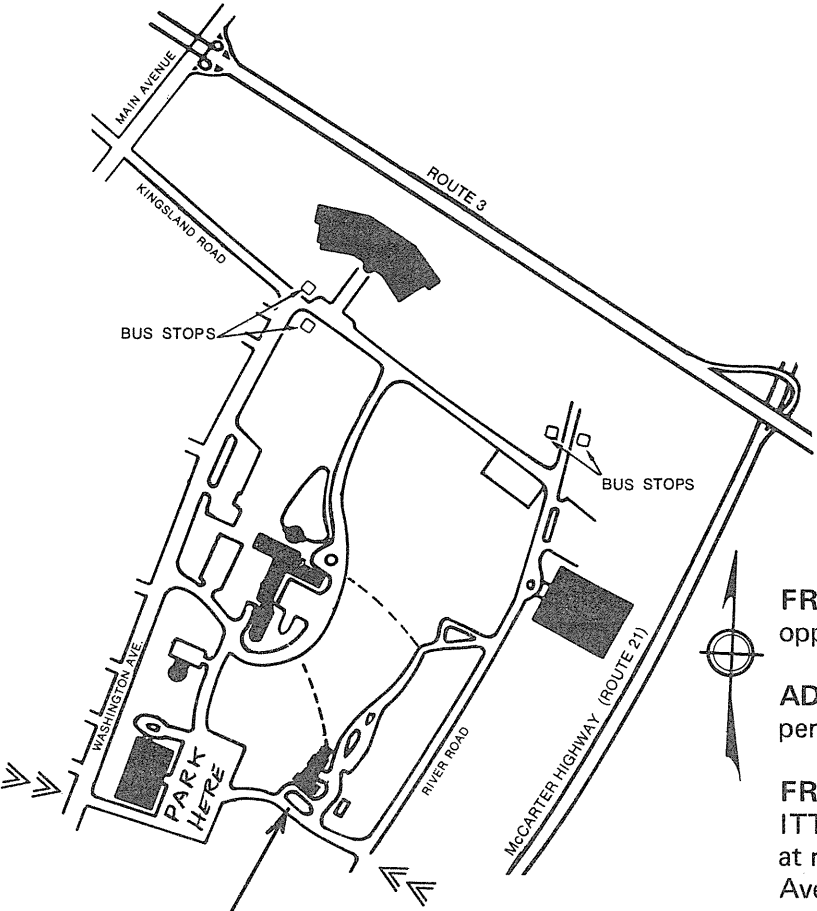
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Please enclose required fee made payable to "METSAC"



ITT
CLUBHOUSE
417 River Road, Nutley, N.J. 07110

Distinguished Lecturer On Microstrip Antennas

Distinguished AP-S Lecturer Keith R. Carver of New Mexico State University will address the May 11 meeting of the North Jersey Chapter of MTT/AP. Dr. Carver will discuss analytical and practical empirical techniques used in the design of microstrip antennas.

About The Talk

Microstrip antennas are attractive as a means of satisfying performance criteria for low profile, lightweight, conformable narrow-band radiators for use as individual radiators or as unit elements in either planar or conformable arrays. In the past five years there has been an enormous growth of interest in the microstrip antenna, particularly by the theoretical community which has produced so much literature on the subject that it is difficult to separate those analytical techniques which are currently useful to the designer from those which are of strictly academic interest. In this same period of time, a great deal of practical design experience

has been accumulated including a better understanding of the tolerance constraints placed by etching techniques and substrate dielectric constant variability, along with many practical approaches to the design of microstrip patches for specialized applications. Microstrip arrays are now used routinely in aerospace systems applications.

In this presentation by the AP-S Distinguished Lecturer, Keith Carver, a balanced approach toward the design of microstrip antennas is offered, emphasizing those analytical techniques which are truly useful to the designer along with a survey of a variety of practical empirical techniques. The extension of this approach to planar arrays is discussed, with particular emphasis on the problems and pitfalls in the design of monolithic feed systems for microstrip arrays. Several practical microstrip designs and arrays are presented which are currently in use. The intent of the presentation is to provide some design approaches which would be helpful to the antenna engineer.

**TIME AND PLACE TO BE ANNOUNCED
IN THE NEXT ISSUE**



NORTH JERSEY SECTION SOCIAL

FREE— Beer, Wine, Soda, Coffee, Cheese, Snacks and the opportunity to relax and meet with friends and associates.

ADMISSION: FREE to IEEE MEMBERS, and one guest per member.

FRIDAY, MARCH 18, 1983, 6:00 PM to 10:00 PM at the ITT CLUB HOUSE, 417 River Road, Nutley, N.J. Parking at rear of ITT AVIONICS DIV. BLDG., 390 Washington Ave., Nutley, N.J.

About The Speaker

Keith R. Carver received the BS degree from the University of Kentucky in 1962 and the MS and PhD degrees from The Ohio State University in 1963 and 1967, respectively, with all the degrees in electrical engineering. He was on the faculty of the University of Kentucky from 1967-69 and joined the faculty of New Mexico State University in 1969 where he is Professor of Electrical Engineering. He has recently finished a 16-month assignment at NASA Headquarters, where he was Program Manager for Radar Remote Sensing Systems. He is currently Director of the Engineering Research Center at New Mexico State University.

Dr. Carver is the author of numerous articles on microwave antennas, microwave, remote sensing and wave propagation. He is the co-author of the textbook "Electromagnetics," 2nd ed. with Dr. John Kraus. He is President of the IEEE Geoscience and Remote Sensing Society, is on the National Research Council's Committee for U.S. Army Basic Research, and is a member of URSI Commission F.

SECTION BANQUET--APRIL 13, 1983

Banquet Menu

Reception
Tart Shells Portuguese
Stuffed Mushrooms Graham
Broiled Chicken Livers Monticello
Aubergine Supreme
Pastries Hors d'Oeuvres Assorte
Cantonese Egg Rolls - Sauce Anglaise
Frankfurter Puffs
Veal Souffles a la Oscar
Danish Liver and Potato Souffles
Quiche Lorraine
Shrimps Soto Mayer - Sauce Romanoff
Miniature Pizzas
Baked Clams Crosettie
Clams on Half Shell
Oysters on Half Shell
Veal Scallopini a la Tiberius
Chicken Montmartre
Petite Stuffed Cabbage - Hungarian Style
Baked Stuffed Shells - Sauce Marinara
Rice Pilaf
Fresh Chinese Vegetables
Baked Sugar Cured Ham
Petite Party Breads
Unlimited Cocktails
Wine and Beer

Dinner
Salad Valencia
Assorted Imported Cheeses Passed
Imported Flat Breads
Roast Prime Ribs of Beef - Sauce Naturale
Stringbeans Almondine
Glazed Belgian Carrots
Potato Chanticler
Petite Dinner Rolls/Butter
Coffee/Cream
Chocolate Mousse
(Liquor during and after dinner — individual responsibility)

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 five years, we are returning to the Chanticler in Millburn. The affair is scheduled for Wednesday evening, April 13, 1983. Each ticket is \$19.50 and includes a complete prepaid Cocktail Hour preceeding dinner. Spouses and guests are welcome.

Reservations required by April 2, 1983. Complete the reservation form below and return it with your payment. If any additional information is required concerning the Banquet, contact Anne Giedlinski at 377-3175 (evenings).

Use this form for Banquet reservations enclosing a stamped self-addressed envelope. Reservations required by April 2, 1983. Mail reservation request to:

Anne Giedlinski
299 Brooklake Rd.,
Florham Park, N.J. 07932

Enclosed is _____ Please forward _____ tickets (make checks payable to North Jersey Section IEEE) to:

Name: _____

Address: _____

_____ Zip: _____

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

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High Density Electronic Packaging Techniques
Computer-Aided Thermal, Stress & Vibration Analysis

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