

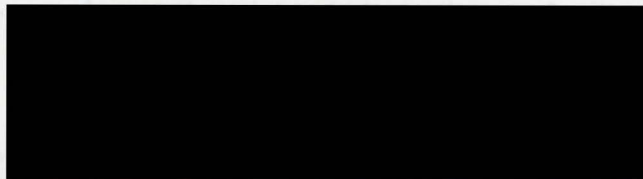


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TIME SENSITIVE MATERIAL

CALENDAR OF EVENTS

For reservations call the IEEE office 649-2800
(unless otherwise indicated)

Copy Deadline for December Scanfax is October 31, 1989

Oct. 31	APS/MTT Society	MMIC Technology and Its Applications	Atrium Restaurant 3223 Algonquin Rd. Rolling Meadows, IL	Social: 5:30 PM Dinner: 6:30 PM Talk: 7:30 PM
Nov. 4	Fox Valley Subsection	Deep Tunnel Tour	Metropolitan Pumping Station 6100 S. River Rd. Hodgkins, IL	Tour: 9:30 AM
Nov. 7	Northwest Subsection/ Election Rev. Soc.	High-Definition TV	Wilton Manor Main St. & Geneva Rd. Wheaton, IL	Social: 6:00 PM Dinner: 7:00 PM Talk: 8:00 PM
Nov. 8	Power Engineering Society	Electric Power Education in the American University	Carson Pirie Scott Monroe & Wabash (lower level) Chicago, IL	Social: 11:30 AM Lunch: 12:00 PM Talk: 12:30 PM
Nov. 8	Reliability Society	System Failure Rate Prediction Using Mil-Std Data	Wilton Manor Main St. & Geneva Rd. Wheaton, IL	Social: 6:00 PM Dinner: 7:00 PM Talk: 8:00 PM
Nov. 8	EMC Society	Medical Device EMC Testing	Baxter Travenol Lab Wilson Rd. Round Lake, IL	Social: 7:15 PM Talk: 7:30 PM
Nov. 9	Lasers & Electro- Optics Society	High-Capacity Coherent Optical Fiber Communications	Jerry Sharko's 2225 W. Ogden Ave. Lisle, IL	Social: 5:30 PM Dinner: 6:15 PM Talk: 7:30 PM

Continued on Page 6

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Unless otherwise specified, Chicago Section IEEE neither endorses nor sanctions any positions or actions espoused in SCANFAX.

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ISSUE	COPY DUE	MAILED ON
DEC	OCT 31	NOV 15
JAN-90	NOV 28	DEC 15
FEB	DEC 26	JAN 15-90
MAR	JAN 30-90	FEB 15
APR	FEB 27	MAR 15
MAY	MAR 27	APR 15
JUNE	APR 24	MAY 15

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IEEE ELECTRON DEVICES SOCIETY

NORTHWEST SUBSECTION

JOINT MEETING OF THE ELECTRON DEVICES SOCIETY AND THE NORTHWEST SUBSECTION

November 7, 1989

"High Definition Television (HDTV)"

by T. S. Rzeszewski
AT&T Bell Laboratories

High definition Television (HDTV) is an important emerging technology which has the potential of reviving the television electronics sector in the US. HDTV is characterized by a 2:1 improvement in both the horizontal and vertical resolution, a wide aspect ratio of at least 5:3, improved color rendition due to component signals, and stereophonic digital audio. Advanced Television (ATV) is a generic term for the three levels of improved quality television - Improved Definition Television (IDTV), Enhanced Definition/Quality Television (EDTV/EQTV), and HDTV. This talk will discuss the following topics relevant to the introduction of ATV in the US: present NTSC TV and its defects, the three categories of ATV, specific examples of ATV, market potential, standards, and delivery systems (DBS/terrestrially).

T. S. Rzeszewski received the BSEE and MSEE degrees from the University of Illinois, Urbana, and honorary Doctorate Degree from the Midwest College of Engineering, Lombard, IL. He joined AT&T Bell Laboratories in 1982 and his present research interests include Photonic Switching, Fiber Optic Communication Systems, High Definition Television, and Digital Video.

Place:	The Wilton Manor 2200 North Main Street Wheaton, Illinois 60187
Time:	6:00 p.m. Social, Cash Bar 7:00 p.m. Dinner \$10.00 with reservation by November 3 \$11.00 without reservation
Reservations:	8:00 p.m. meeting - All welcome, no charge Call the IEEE Office at (312) 649-2800



COMPONENTS, HYBRIDS, AND MANUFACTURING TECHNOLOGY SOCIETY



NOTES FROM THE FORTHCOMING CHMT CHAPTER OF THE CHICAGO SECTION:

Congratulations!

- The petition for reinstatement was submitted with 20 signatures.
- It was submitted SEP 12 to the Chicago Section Executive Committee.
- A report was sent to the IEEE and CHMT administrators shortly after.
- Copy was sent to Dave Palmer for the CHMT Newsletter.
- Copy was sent to the chairs of the Chicago Section Technical Societies.
- Copy was sent to SMT and Hybrid Circuit Technology magazines.
- Copy was sent to ISHM, Chicago-Milwaukee Executive Committee.
- Our notices will be in SCANFAX.

The actual numbers for all the responses, including those not eligible, were:

Meeting time-place	Your work interest	Topics-Formats
0 Biweekly	4 Fundamental Research	11 Forums
11 Monthly	2 Teaching	7 Open Questions
6 Quarterly	10 Product Development	12 Tutorials
1 Surprise me!	8 Project Management	9 Failure Analyses
1M 4T 5W 6TH 2F	9 Process Controls	5 Ceramics/Metals
2 Lunch 6 Supper	8 Supplier Quality	2 One topic
8 After Supper	8 Product Applications	8 with ISHM/SAMPE
4 Lake County	7 Product Safety/Quality	4 with El. Devices
11 Schaumburg	9 Reliability Assurance	8 with Reliability
7 Naperville	3 Power/Sensor devices	6 with Matl Rch Soc.
2 at Schools	4 Spectro/Micro scopy	6 with ASM (Metals)
3 at Libraries	3 Semiconductor process	2 with Microwave
4 at Companies	6 Qualification methods	

The topic-format of interest was a Forum on Clean Water and No Solvents.

Further administrative details:

- **OFFICERS** Ballots for nominations of interim officers and appointments of operating chairs will be sent to the petition signers as a "quasi committee of the whole". Ballots will be sent to other members if they send in their petitions or call or write. As petition submitter, Jack Sherman unwittingly became the interim chair. John Stafford has verbally agreed to be nominated for pro-tem chair until elections. One of the questionnaire mailings include a list of needs—We will need a budgeteer very soon—any takers?
- **MEETINGS** Reliability and Electron Devices Societies are pleased at the prospects of joint meetings. Their meetings are announced in SCANFAX.

A number of CHMT members are also members of ISHM. ISHM spans a larger area than the Chicago Section. ISHM and other Professional group members may become Chicago Section CHMT Affiliates if they reside in the Chicago Section area, giving them closer access to Reliability and Electron devices. Methods for including CHMT members and others outside the area are being reviewed.

Many thanks for the response and the comments. We will see each other soon.

For the present, please respond to:

John Stafford
Motorola CMRC, Room 1014
1301 E. Algonquin Road
Schaumburg, IL 60196

Phone: 312 576 3626

Jack Sherman
Motorola AIEG
4000 Commercial Avenue
Northbrook, IL 60062

312 480 6832

MAIL TO:

Jack Sherman

1395 Highland Boulevard
Hoffman Estates, IL 60196

312 885-4189



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FOX VALLEY SUBSECTION

DEEP TUNNEL TOUR

EVENT: Guided Tour of the Mainstream Pumping Station, Metropolitan Water Reclamation District of Greater Chicago

WHEN/WHERE

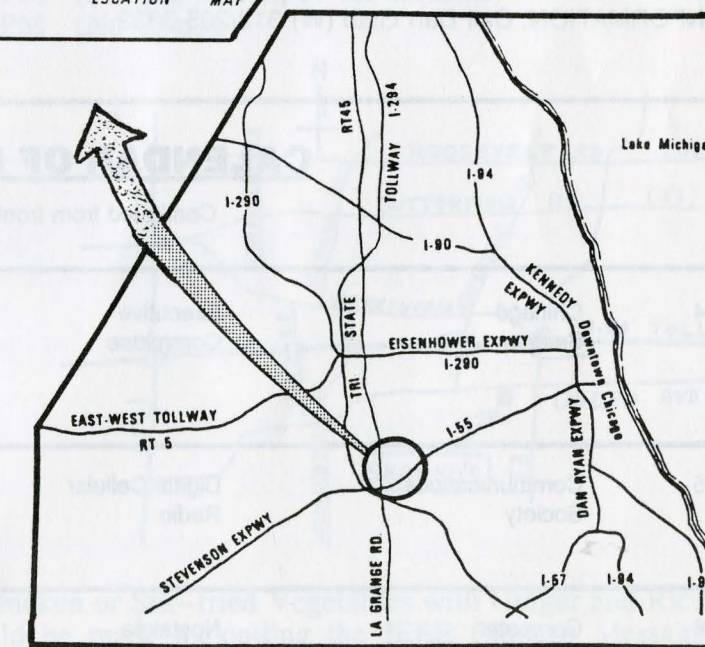
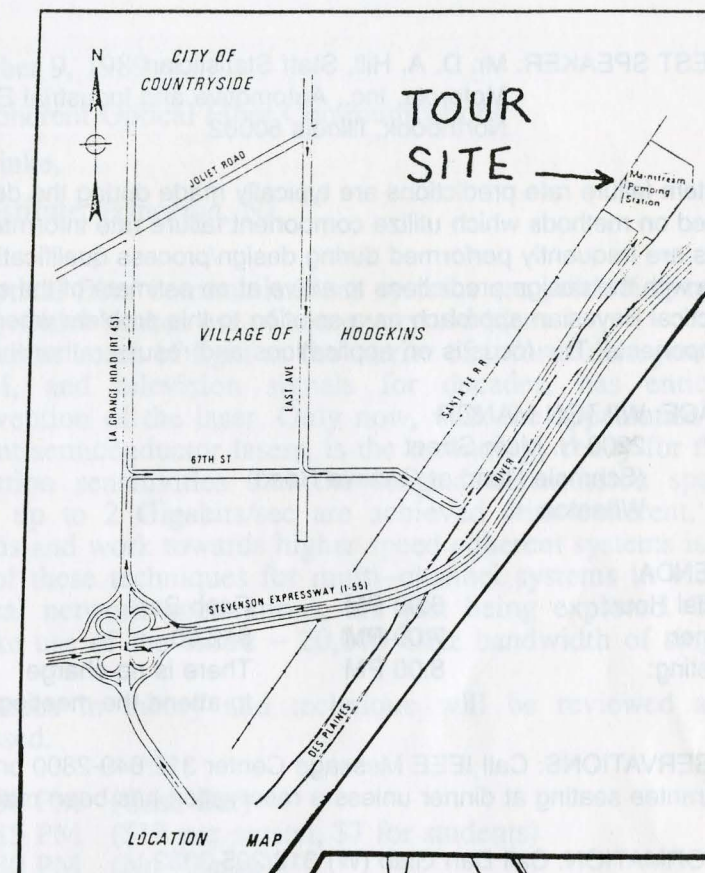
Saturday, November 4, 1989
9:30 a.m. - Noon
6100 S. River Road, Hodgkins, IL

RESERVATIONS: Call (312) 649-2800 to make reservations by **Monday, October 30, 1989**. Tour limited to 50 people.

TECHNICAL QUESTIONS: Direct questions about our tour to Dave Schumacher at (312) 510-6471.

ABOUT OUR TOUR: TARP is considered one of the most ambitious feats of engineering ever attempted. TARP - Tunnel and Reservoir Plan - is a series of gigantic tunnels hundreds of feet below Chicagoland that will eventually be 131 miles long. Work began in 1976 and the final part of Phase I, for controlling pollution, came on line in 1985. The pump house, located some 350 below ground contains 6 pumps on line with a capacity of some 710,000,000 gallons of water per day. This a a fascinating tour! If you've ever driven towards the city on I-55 and wondered what the huge mounds of dirt, the strange circular gates and tubular towers are near Stickney, this is your chance to find out.

DETAILS: This tour is limited to 50 people. The District does not normally give Saturday tours. However, because Fox Valley membership is so widely scattered, we made special arrangements to better accommodate our membership. Thus, it's important to **SHOW UP** if you've signed up! Sign-up will be on a first-call, first-served basis. You will be asked to sign a release form when you arrive on site. The tour will begin promptly at 10 a.m.



IEEE RELIABILITY SOCIETY CHICAGO CHAPTER MEETING NOVEMBER 8, 1989

SYSTEM FAILURE RATE PREDICTION USING MIL-HANDBOOK AND TEST DATA

GUEST SPEAKER: Mr. D. A. Hill, Staff Statistician
Motorola, Inc., Automotive and Industrial Electronics Group
Northbrook, Illinois 60062

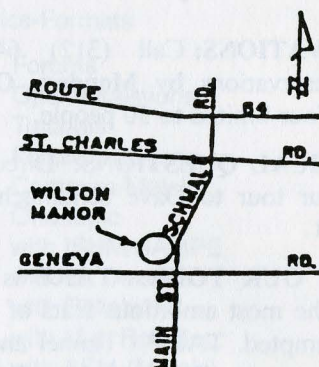
System failure rate predictions are typically made during the design phase. These predictions are often based on methods which utilize component failure rate information (e.g., MIL-HANDBOOK 217). Also, life tests are frequently performed during design/process qualification. The problem is to combine the (life test) data with the design predictions to arrive at an estimate of the system failure rate. This presentation offers a practical Bayesian approach as a solution to this problem when the system is a series configuration of the components. The focus is on applications and results rather than theory.

PLACE: WILTON MANOR
2200 N. Main Street
(Schmale Road at Geneva Road)
Wheaton, IL

AGENDA:
Social Hour: 6:00 PM Cash Bar
Dinner: 7:00 PM \$12.00
Meeting: 8:00 PM There is no charge
to attend the meeting only

RESERVATIONS: Call IEEE Message Center 312/649-2800 on or before November 6, 1989. We cannot guarantee seating at dinner unless a reservation has been made.

INFORMATION: Call Dan Glab (W) 312/205-3332



CALENDAR OF EVENTS

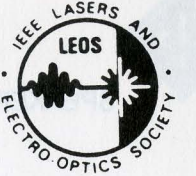
Continued from front cover

Nov. 14	Chicago Section	Executive Committee	Contemporary Controls 2500 Wisconsin Downers Grove, IL	Meeting: 7:15 PM
Nov. 15	Communications Society	Digital Cellular Radio	Wilton Manor Main St. & Geneva Rd. Wheaton, IL	Social: 6:00 PM Dinner: 7:00 PM Talk: 8:00 PM
Nov. 16	Computer Society	Nostalgia Night	Wilton Manor Main St. & Geneva Rd. Wheaton, IL	Social: 6:00 PM Dinner: 6:30 PM Talk: 7:30 PM



IEEE Lasers and Electro-Optics Society

CHICAGO CHAPTER



Date: Thursday November 9, 1989
Topic: High Capacity Coherent Optical Fiber Communications
Speaker: Dr. Richard A. Linke,
NEC Research Institute, Princeton, NJ.

ABSTRACT: Advances in coherent optical fiber communications systems are producing new transmission records using a technology which makes use of some very old ideas.

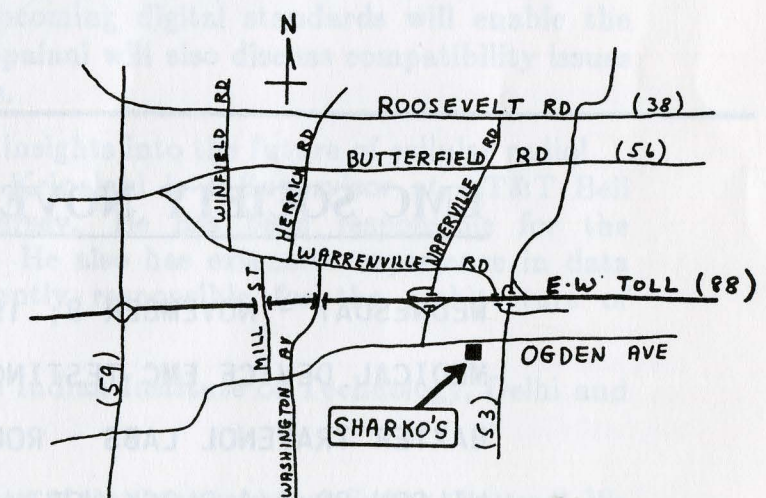
The goal of using a coherent beam of light as the carrier of information, just as radio waves have carried AM, FM, and television signals for decades, has enticed communication engineers since the invention of the laser. Only now, with the appearance of low loss optical waveguide and coherent semiconductor lasers, is the technology ready for this step. Already, the best optical detection sensitivities and the longest transmission spans obtained in the laboratory at bitrates up to 2 Gigabits/sec are achieved with coherent, or heterodyne, optical transmission systems and work towards higher speed coherent systems is in progress. In addition, the advantages of these techniques for multi-channel systems in video distribution as well as broadband local network applications, are just being explored. The potential exists for systems which make use of the entire ~ 20,000 GHz bandwidth of single mode optical fiber.

Recently reported advances in theory and technique will be reviewed and current problems and limitations discussed.

Social/Business Meeting: 5:30 PM (Cash Bar)
Dinner: 6:15 PM (\$13 per person, \$7 for students)
Technical Presentation: 7:30 PM (No Charge)

Location: Jerry Sharko's
2225 Ogden Avenue
Lisle, IL (852-4500)

Directions:
Exit at 53 South from E-W tollway (88)
Take 53 South to Ogden Avenue
Right (West) onto Ogden Avenue
Left into Sharko's Parking Lot



Entree choices are Char-grilled Chicken or Stir-fried Vegetables with Ginger and Rice Pilaf. Advance dinner reservations should be made by calling the IEEE Chicago Message Center at (312) 649-2800 by 5:00 PM on Tuesday November 7, 1989. For additional information, contact David Naylor at UIC, (312) 996-6010.

IEEE POWER ENGINEERING SOCIETY

IEEE



SPEAKER: Dr. Richard Saeks
Dean of Armour College of Engineering
Illinois Institute of Technology

TOPIC: Electric Power Education in the American University

ABSTRACT: The Ivory Tower myth notwithstanding, modern academic programs are inextricably intertwined with the economics of the industry they support. Indeed, 50 years of defense related research has directed the interests of three generations of college students and their professors towards the problems of the defense industry; a trend which the power industry, operating under restrictive regulatory constraints, has been unable to stem. To the contrary Canada's provincially owned power companies have a major presence on her university campuses as do some of our publicly owned utilities.

BACKGROUND: As Dean of IIT's Armour College of Engineering, Dr. Saeks is responsible for the administration of the educational and research programs in the various engineering disciplines. Dean Saeks received his B.S., M.S., and Ph.D. from Northwestern University, Colorado State University, and Cornell University, respectively. All degrees were received for Electrical Engineering. Dean Saeks has held faculty positions at the University of Notre Dame, Texas Technological University, and Arizona State University before joining IIT in August of 1988. Dr. Saeks has published over 70 articles and a half dozen books. He is a Fellow of the IEEE, a member of the AMS, SIAM, ASEE, WSE, and Sigma Chi.

PLACE: Carson Pirie Scott - Chicago (Monroe and Wabash)
Corporate (lower) Level

DATE: November 8, 1989

TIME: 11:30 Cocktails (Cash Bar)
12:00 Lunch (\$9.00)
12:30 Presentation

Reservations may be made by calling the IEEE Chicago message center at 649-2800. Please leave name(s) and company name(s) for those wishing to attend.

EMC SOCIETY NOVEMBER MEETING

WEDNESDAY - NOVEMBER 8, 1989 - 7:15 P.M.

MEDICAL DEVICE EMC TESTING - 7:30 P.M.

BAXTER TRAVENOL LABS - ROUND LAKE

WILSON RD 1/4 BLOCK NORTH OF ROUTE 120 (BELVIDERE RD)

Route 53 north to Dundee Road, left on Dundee to Highway 12, north on Hiway 12 to rt 120 (Belvidere rd). East on rt 120 (1 mile) to Wilson rd. Left on Wilson (north) 1/4 block to main entrance.



IEEE Communications Society Chapter, Chicago Section MEETING NOTICE

AGENDA:

- Appointments to Chapter Committees

- Technical Presentation: "DIGITAL CELLULAR RADIO"

DATE: Wednesday, November 15, 1989

GUEST SPEAKER: Anil Kripalani, AT&T Bell Laboratories

PLACE: Wilton Manor, Schmale Rd., Wheaton

TIME/COST: Social: 6:00 PM - Cash Bar

Dinner: 7:00 PM - \$10.00 (Complete) if you reserve by November 13. Otherwise, the price is \$11.00.

Speaker: 8:00 PM - FREE

RESERVATIONS: Call (312) 649-2800 to make reservation for Dinner and/or Meeting by Monday, November 13, 1989.

FURTHER INQUIRIES: For further questions call either Dick Jaeger at 231-7898 or Ken Smolik at 713-4789.

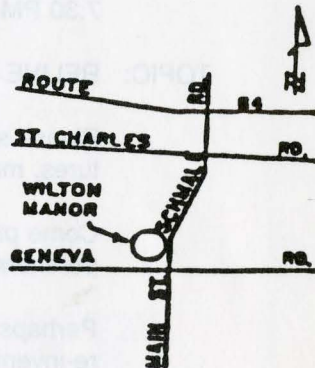
ABOUT THE TOPIC: "DIGITAL CELLULAR RADIO" will present an update on standards surrounding digital cellular radio for the United States. Present cellular systems in service utilize analog transmission to the automobile. Digital transmission techniques offer a number of advantages such as spectrum efficiency and user privacy. The upcoming digital standards will enable the upgrade of existing systems. Mr. Kripalani will also discuss compatibility issues concerning analog and digital systems.

This meeting should offer interesting insights into the future of cellular radio!

ABOUT OUR SPEAKER: Anil Kripalani is a Supervisor at AT&T Bell Laboratories in Whippany, New Jersey. He has been responsible for the software design of AT&T's cell site. He also has extensive experience in data networking. Mr. Kripalani is currently responsible for the architecture of AT&T's digital cellular equipment.

Mr. Kripalani holds a BSEE from the Indian Institute of Technology, Delhi and a MSEE from UCLA.

We encourage both members and non-members of the Communications Society to attend! We need your support to maintain the strength of the Chicago Chapter of this most vital society.



THE CHICAGO CHAPTER OF THE IEEE COMPUTER SOCIETY

invites you and your friends to our NOSTALGIA NIGHT

DATE: Thursday, November 16, 1989

PLACE: Wilton Manor, Main Street & Geneva Road, Wheaton, IL

TIME: 6:00 PM - Social Hour (cash bar)

6:30 PM - Dinner (\$12 for members, \$14 for non-members)
(Reservations required by 9/13/89 - call 649-2800)

7:30 PM - Presentation (no charge - no reservations needed)

TOPIC: RELIVE THE "GOOD OLD DAYS" OF THE COMPUTER AGE

Please show off your old artifacts: vacuum tube circuits, punch cards, old program listings, pictures, manuals, sales brochures, newspaper and magazine articles, books, etc!

Come prepared to tell your anecdotes, amusing stories, embarrassing situations, and any other pertinent recollections!

Perhaps we'll hear about some tried and true techniques which we should rediscover instead of re-inventing them!

Alan Nellis and Joe Feitler will try to lead off, but can our audience top them? Don't be bashful!

Please call Joe Feitler at 505-9100 (X277) for more information and detailed travel directions, as well as for volunteering as an additional speaker.

Please read the future SCANFAX issues to hear about our special 1990 meetings.

ENDORSEMENT

The Chicago Section is fortunate to have one of its outstanding members running for Region 4 Vice Chairman. The Region 4 Vice Chairman position is an elected office whose holder will become the Region 4 Director in the following year.

The Region 4 Director is the Section and Members voice to the Board of Directors of the Institute. The Region 4 Director is a voting member of the Board of Directors.

The importance of this position makes it imperative that an individual be elected who has leadership capability and knowledge of the workings of the IEEE. Howard Wolfman has been active in IEEE since 1966. He has served in various positions locally and nationally, including Chairman of the Chicago Section. His work responsibilities included various management positions with major corporations in our industry.

I would like to endorse Howard Wolfman for Region 4 Vice Chairman. He is uniquely qualified to hold this position. It is important that all members vote in this upcoming election and I encourage you to vote for Howard Wolfman.

Dennis W. Lamont



IEEE

JOINT CHICAGO CHAPTER OF THE ANTENNAS & PROPAGATION SOCIETY

AND MICROWAVE THEORY AND TECHNIQUES SOCIETY

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

OCTOBER MEETING OF THE APS/MTT SOCIETY

TUESDAY OCTOBER 31, 1989

DR. SANJAY B. MOGHE

MMIC TECHNOLOGY AND ITS APPLICATIONS

Dr. Moghe is currently Director, Advanced Microwave Technology at Northrop Defense Systems Technology in Rolling Meadows. He is responsible for Advanced Microwave and Monolithic Microwave Integrated Design including active and passive components and subsystems.

Prior employers include Pacific Monolithic Corporation where he was Manager of GaAs Monolithic Microwave Integrated Circuit Development. At Avantek he was Manager of Monolithic Microwave Integrated Circuitry Development. He started Avantek's MMIC Group.

Dr. Moghe has served on the Technical Program Committee of the International Microwave and Millimeter wave Monolithic Circuits Symposium. He has also served on the Technical Program Committee of the GaAs IC Symposium.

Dr. Moghe is the author of 25 papers on state-of-the-art MIC's and monolithic microwave circuits.

Location: The Atrium Restaurant
3223 Algonquin Rd.
Rolling Meadows, Illinois
1st exit north of I90 off Rt 53. 1/4 mile east
of Rt 62, Algonquin Rd.

Time: Cocktails 5:30
Dinner 6:30
Speaker 7:30

Reservations: 312-649-2800 by October 27.

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IEEE Lasers and Electro-Optics Society



CHICAGO CHAPTER PROGRAM - 1989/90.

Thursday November 9, 1989.

Richard A. Linke, NEC Research Institute.
High Capacity Coherent Optical Fiber Communications.

Thursday December 7, 1989.

Charles K. Rhodes, University of Illinois at Chicago.
Recent Advances in High Power Short Wavelength Lasers.

Thursday January 18, 1990. (Joint meeting with Optical Society of Chicago)

Two speakers from EG&G, Reticon and Electrooptics divisions.
Photodetectors and Photodetector Arrays.

Thursday February 8, 1990.

Gopal K. Shenoy, Argonne National Laboratory.
An Overview of the Advanced Photon Source at Argonne National Laboratory.

Wednesday March 28, 1990. (Joint meeting with Fox Valley Subsection)

David H. Auston, Columbia University.
Ultrafast Optoelectronics.

Thursday April 12, 1990.

Robert D. Burnham, Amoco Research Center.
Characterization of AlGaAs / GaAs Quantum Well Lasers.

Friday May 18, 1990

Annual Chapter Banquet and Awards Ceremony.
Speaker to be Announced.