

IEEE Region 8 newsletter



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
INCORPORATED

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No. 30

APRIL 1975

MESSAGE FROM THE REGIONAL DIRECTOR



When the candidates for Director have given a contribution to the Regional Newsletter and to Spectrum upon their nomination, there remains little to be said when one of them is finally elected, all the more as there is very little difference between their proposals anyway. Again, about 20% of our membership sent in its vote. I thank them all for their interest in IEEE.

I attended my first Directors' meeting in Philadelphia in February. The problems of inflation with the consequent increase in the costs of paper, printing and

mailing are likely to affect those services most appreciated by Region 8 Members. The Board will try to arrange for this to have the smallest possible effect by economy measures elsewhere.

Short courses on current topics have been organized in other Regions, and we hope to organize some in September 1975 in those Sections interested. Section chairmen have received the first two names in the list of distinguished speakers, travelling from USA to Region 8 this Spring.

I had the pleasure of attending the Annual Meeting of the UKRI Section, our largest Section, and found quite a number of people very interested in IEEE matters.

Dr. F. W. de Vrijer has agreed to act as Secretary/Treasurer. I thank Mr. R. C. Winton for the services given to IEEE in this and other functions over many years.

Professor O. E. Memelink has agreed to act as Student Activities Chairman (Professor Bolinder was no longer available).

Dr. Rannestad has agreed to continue as Membership Development Chairman for Region 8.

Mr. Remy and Dr. Wellinger continue to represent our Region in educational activities and awards.

The first meeting of the Eurocon 77 Steering Committee took place in Milan, Italy, on March 15. Professor Gigli (AEI) is expected to act as its chairman and Professor F. Carassa (IEEE) as Programme Chairman. Other proposed IEEE members are Mr. Russell, junior past director, and myself.

The Regional Committee will act on this and other proposals in its meeting of April 18/19 in Venice, Italy, where a student contest and a meeting of nearby student counsellors will also be held.

There are several important symposia in our Region this year. You will have noted them in the Newsletter under "Meetings in Region 8". All these meetings call for a lot of effort by the people directly involved. Please help them and us by sending your contributions well before the deadlines.

You may also help your Institute by bringing in new members and discouraging resignations.

I thank my predecessors as Director, with most of whom I co-operated directly, for the healthy state in which they left Region 8. Most sincerely I thank the Junior Past Director for his work during the past few years, and for his words of welcome in the January issue.

F. LOUIS H. M. STUMPERS

REGION 8 NEWS

Field Awards in 1975

Two of the eight Field Awards are to be presented to members of Region 8.

The Mervin J. Kelly Award, recognizing outstanding contributions in the field of telecommunication, will be presented to Harold M. Barlow "For outstanding work in the measurement and properties of radio frequency waves, and their application to telecommunications".

Professor Barlow began his academic career as an Assistant Lecturer in Design of Electrical Machinery at University College, London. He was gradually promoted until he attained the position of Head of his Department. His work has been mostly concentrated on microwaves and the associated measurement techniques.

Beginning his engineering studies at the City and Guilds Engineering College, Finsbury, England, Professor Barlow completed his Ph.D. at University College. He is a Fellow of the Royal Society, the Institution

of Electrical Engineers (England) and has been made an Honorary Fellow of the British Institution of Radio Engineers (now IERE).

The IEEE Award in International Communication, for outstanding contributions in the field of international communication, will be given to Leslie H. Bedford "For his outstanding pioneering and development work in the fields of telecommunications and radar".

Mr. Bedford was Director of Engineering, the British Aircraft Corporation (GW) Ltd. Working primarily on the communications aspects of space, he sponsored the Geo-stationary Communications Satellite and had close contact with Hughes Aircraft. A BAC-Hughes agreement provided Mr. Bedford with an opportunity to work at Hughes on the design study which eventually led to Intelsat IV.

A Past President of the British Institution of Radio Engineers, Mr. Bedford is also a Fellow of that organization as well as the Royal Aeronautical Society, City and Guilds of London Institute, and the Institution of Electrical Engineers (England). He has earned degrees at City and Guilds Engineering College, London, and Kings College, Cambridge.

Fellows Elected in 1975

Eight Sections in Region 8 have each one member honoured by elevation to Fellow.

Benelux Jean G. Van Bladel For contributions to electro-magnetic theory.

PUBLISHED QUARTERLY		JAN.	APRIL	JULY	OCTOBER
DEADLINES	News to Editor	Dec. 7	Mar. 7	June 7	Sept. 7
	Advertisements to County Secretarial Services	Dec. 15	Mar. 15	June 15	Sept. 15
	Delivery inserts to County Secretarial Services	Jan. 1	Apr. 1	July 1	Oct. 1

France	Armand Sarazin	For contributions to the advancement of nuclear instrumentation and particle acceleration techniques.
Germany (West)	Alfred L. M. Fettweis	For contributions to the theory of switched networks and digital filters.
Greece	John A. Tegopoulos	For contributions to electric machine design and in the investigation of eddy currents in conducting media.
Middle and South Italy	Raffaele Esposito	For contributions to communication theory and systems analysis.
Poland	Adam K. Smolinski	For achievements in research, development, and teaching of electronic engineering.
Sweden	E. Folke Bolinder	For contributions to microwave transmission line theory.
United Kingdom and Republic of Ireland	Ivanhoe J. P. James	For contributions and leadership in the development of television systems and colour television cameras.

Membership Development in Region 8

A summary of the membership statistics for the last three years shows the following development in Region 8.

	1972		1973		1974	
	TOTAL	STUDENT	TOTAL	STUDENT	TOTAL	STUDENT
Elected to membership	756	515	1055	665	977	581
Resigned membership	129	11	122	11	117	9
Failed to pay dues	727	309	694	190	652	205
Membership 31/12	5954	903	6448	1128	6863	1091
Increase in membership	-36		494	225	415	-37

Region 8 has a large number of electrical and electronics engineers and scientists that would benefit greatly from membership in IEEE.

A substantial increase in the Region's membership would also enable IEEE to increase the membership benefits and services in the Region. It is thus in your own interest to help in the membership development work.

There has been a gradual increase in the Membership in Region 8 resulting in an increase from about 5,000 to about 7,000 during the seventies. In 1974 the increase was 415 or 6.4% and this is not too bad but not satisfactory considering the large number of potential members in the Region, and is far below what can be expected.

The Region has started a membership drive and I am sure that you agree and would like to see a substantial larger increase in the Region 8 membership during 1975 but to achieve this we need your help. **Enclosed with this Newsletter is a letter and a membership brochure explaining some of the benefits of IEEE membership. Please give these to a fellow electrical or electronics engineer or scientist, or circulate them to your non-IEEE colleagues.** By this small effort you may help to spread information about the IEEE in Region 8 and thus help in the membership drive. **Let the goal for 1975 be that each IEEE member in Region 8 bring a member into the IEEE.**

Referendum Defeated

A proposition to establish the IEEE Presidency as a full-time three-year position was overwhelmingly defeated by the membership. The proposed change to the IEEE Constitution was voted down by 70% of the 43,431 voting members. A companion resolution to reduce the number of signatures required on nomination petitions was also turned down but by a slightly narrower margin—55% voted no.

Attention Authors

An editorial in December Proceedings of the IEEE describes a new policy for accepting papers to Proceedings whereby prospective authors may submit a proposal containing an outline for the article.

One of the greatest problems in increasing the total membership in the Region is caused by the great loss owing to resignations and members failing to pay their dues. The statistics show that the loss has been reduced from 15% in 1972 to 12% in 1974, and this is encouraging, but still much too great. I hope that we may have a substantial reduction in this loss in 1975. This is the last Newsletter that you will receive if you have not paid your dues for 1975, and I therefore request that you do so immediately to avoid interruption in publication and other IEEE services. **If you are not satisfied with the IEEE services, please pay the dues and take up your complaints with the Section Chairman, the Region 8 Director or with me, and we will do what we can to rectify the situation.** If you have paid your dues but know some of your colleagues that have not, please encourage them to do so. **Let's do our best to reduce the loss substantially in 1975.**

Region 8 Member, IEEE Membership Development Committee,
Dr. Andreas Rannestad,
13 A van Dycklaan,
B-1980 TERVUREN,
Belgium.

Transnational Speaker Tours

Dr. Stephen J. Kahne, Director, Hybrid Computation Laboratory (and Associate Professor of Electrical Engineering), University of Minnesota, Minneapolis, Minn. 55455, USA, will be available in Warsaw, Poland, June 10-23 (although he may leave by the 23rd to spend several days in Paris, France).

Titles of his lectures: (a) Trends in automatic control education; (b) Systems engineering applied to environmental design.

The address where he may be contacted in Europe—c/o Prof. Dr. W. Findeisen, Institute Automatyki Politechnike Warszawskiej, U1. Nowowiejska 15/19, Warsaw, Poland 00-665.

Invitations should be sent directly to the speaker by the Section Chairman, with one copy to IEEE Headquarters in New York, and one copy to the IEEE Region 8 Director, Prof. dr. F. L. Stumpers, N. V. Philips' Gloelampenfabrieken Research Laboratories, Eindhoven, Netherlands.

Mr. William Zettler (Harvard: North Eastern University) Manager Semiconductors Applications and Module Engineering, of Microwave Associates, Burlington, Massachusetts, USA, will be travelling in **Yugoslavia, Hungary and Poland** during the month of May.

He will be presenting a one-day seminar in Ljubljana on May 12, in Budapest on May 14 and in Warsaw on May 16. IEEE members in Yugoslavia and Poland who are interested should apply for further details to their local Section Secretaries. Members in Hungary should apply to Professor Dr. I. P. Valko, Technical University of Budapest, Goldmann-Ter 3, Budapest. Telephone No. 665011.

Dr. Jacob Klapper, Professor of Electrical Engineering, New Jersey Institute of Technology (Newark College of Engineering), Newark, New Jersey 07102, USA, will be available for two weeks during the period 29 May to 19 June 1975 (one week of this period is already committed to be spent in Oxford).

Dr. Klapper is a member of the IEEE Communications Society, Educational Services Committee of Comm. Soc., Advisory Board, Urban Sc. & Tech.

Title of Lecture: Some recent FM detection techniques.

Languages: English (also speaks Polish, German and Hebrew, but would give the lecture in English, because he is familiar with technology terminology in English).

Invitations should be sent directly to the speaker by the Section Chairman, with one copy to IEEE Headquarters in New York (for the attention of ROLT Co-ordinator, 15th floor). A copy should also be sent to the IEEE Region 8 Director, Professor dr. F. L. Stumpers, N. V. Philips' Gloelampenfabrieken Research Laboratories, Eindhoven, Netherlands.

INSTITUTE NEWS

The policy change is intended to open up the pages of Proceedings to more authors and to avoid the danger of Proceedings becoming an all-invited publication.

Publications

Just published by IEEE Press and edited by Fred Liguori of the Naval Engineering Centre is "Automatic Test Equipment: Hardware, Software, and Management." The 264-page illustrated volume contains 28 papers ranging from design concepts to staffing. It was sponsored by the Aerospace and Electronic Systems Group. Clothbound (PC 003644) costs \$8.95, paperback \$6.00.

IEEE Press 1974 Fall Catalogue has just been released. The 14-page brochure boasts five new titles among the 19 books in print. You may order a catalogue from Dudley Broderick, Manager, Marketing Services.

IEEE Addressing and Mailing Services

The 1975 schedule of charges for the various addressing services and mailing lists available from HQ has now been circulated to Section Chairmen. All requests must be accompanied by a statement as to the purpose for which the list will be used.

MEETINGS IN REGION 8

International Conference on Antennas for Aircraft and Spacecraft

Registration forms and programme details are now available for the international conference entitled "Antennas for Aircraft and Spacecraft", which is being held at the Institution of Electrical Engineers, Savoy Place, London WC2R 0BL, between 3 and 5 June 1975.

The efficiency of antennas mounted on aircraft and spacecraft is especially challenging because of the difficulty of meeting the radio frequency requirements within the limits of size, weight, drag, and environment. This conference will consider the problems of such design work, illustrating them by the consideration of many antennas. There will be ten sessions where papers will be given on the following topics—airborne radar antennas; radomes, environment; calculation of antenna performance; ESRO studies of antennas for space systems; airborne antennas for satellite links; antennas for spacecraft; antennas for helicopters and light aircraft; HF antennas for aircraft and integrated antennas, and antenna rationalization.

The conference will include contributors from the USA, the UK, Germany, Denmark, the Netherlands, Italy, Canada, France and Poland.

The conference is being organized by the Electronics Division of the Institution of Electrical Engineers in association with Elettrotecnica ed Elettronica Italiana, the Institute of Electrical and Electronic Engineers (United Kingdom and Republic of Ireland Section), the Institute of Mathematics and its Applications, the Institution of Electronic and Radio Engineers and the Royal Aeronautical Society. Registration forms and programme details are available from the IEE Conference Department, Savoy Place, London WC2R 0BL.

Workshop on the Microarchitecture of Computer Systems

To be held in Monte-Carlo June 23-25 1975, this workshop will review the micro-architecture of computer systems. The scope of interest includes: microprogramming techniques and applications; micro-processor design and technologies; microcomputer applications; configuration of systems based on microprocessors; hardware—firmware—software—trade offs; specialized architectures; high performance designs; new modules and structures; description and simulation of architectures: synchronization of multi-processors; theory of concurrent "micro" processes.

Programme chairman is Professor Hartenstein—University of Karlsruhe, organizing committee chairman is Professor R. Zaks—University of Compiègne, and conference chairman is Professor F. Anceau.

Conference on Dielectric Materials, Measurements and Applications

Registration forms and programme details are now available for the conference entitled "Dielectric Materials, Measurements and Applications" which is being organized by the Institution of Electrical Engineers to take place between 21-25 July 1975 at Churchill College, Cambridge.

The conference will have sessions covering all the fields where there is active industrial interest in dielectrics, but there will also be sessions devoted to those embryo fields which are still at the stage of laboratory development. In the former category, the important areas of discharges and "treeing" in dielectrics, insulation technology, conduction and breakdown in dielectrics and the practical applications of dielectrics will be discussed. In the latter category there will be sessions on biological investigations on electret phenomena and on the theory and practice of dielectric investigations at high frequency. In addition to these formal sessions there will be an informal, but guided discussion session on the evening of the third day of the conference.

Representatives from eminent academic institutions and organizations in the UK, South Africa, USA, Japan and major European countries, will present some ninety papers at the nine sessions on the following: discharges and treeing in dielectrics; biological materials; thermally stimulated currents and trapped charges; permittivity and loss angle; permittivity and loss angle—methods of measurement; insulation technology; conduction and breakdown in solids; conduction and breakdown in liquids.

The conference is being organized by the Science, Education and Management Division of the Institution of Electrical Engineers (IEE), in association with the Institute of Electrical and Electronics Engineers

(United Kingdom and Republic of Ireland Section), the Institute of Physics and the Institution of Electronic and Radio Engineers. Registration forms and programme details are available from the IEE Conference Department, Savoy Place, London WC2R 0BL.

ITU World Telecommunications Symposium

This symposium, October 6-8 1975 in Geneva, Switzerland, is organized under the auspices of the International Telecommunications Union. It will treat human and economic aspects of telecommunications; integration of world communications (the world network); new developments in sound and television broadcasting; new telephone and telegraph techniques; information processing, teleprocessing of data, data lines; mobile communications.

During the same week a large telecommunications exhibition is organized in Geneva.

Several organizations have agreed to co-sponsor this symposium: IEEE Communications Society, IEEE Region 8, VDE, AEI (Italy), Société des Electriciens, Radioélectriciens et électroniciens, Japanese ITU Society, Australian Society of Electrical Engineers. Several other societies still have the project under consideration, and a more complete list may be expected later.

Deadline for five copies of 200-300 word abstracts is May 1. If a fuller survey can already be given, it will help the decision. It is expected that you will be able to send in the full paper before August 1, if your abstract is accepted.

It is planned to have one session for all participants during the mornings. For this session only invited speakers will be asked, but suggestions are welcome.

Further information is available from the CCIR Secretariat, rue de Varembe 2, Geneva, Switzerland. Programme chairman is Prof. Dr. F. L. Stumpers, Philips Research Labs, Eindhoven, Netherlands, or Ruhr University, Abt Ingenieurwissenschaften, 463 Bochum, Germany, Postfach 2148.

International Conference on Conversion of Refuse to Energy (Second bulletin and last call for papers)

The first international conference on Conversion of Refuse to Energy will be held in Montreux, Switzerland, from November 3-5 1975. Specific topics of interest include, but are not restricted to, those listed in Newsletter No.27. Deadline for papers—March 31, 1975 for 35 word Abstract and 300-500 word Summary for review by acceptance committee. Mail to W. K. MacAdam, P.E., Chairman, US Programme Sub-Committee, Suite 500, 299 Park Avenue, New York, New York 10017.

Registration application, together with choice of hotel accommodation will be available shortly. Reduced rate group transportation and hotel packages are being organized.

International Zurich Seminar on Digital Communications

The IEEE Switzerland Chapter on Digital Communication Systems is planning its fourth International Zurich Seminar on Digital Communications for March 9-11, 1976. As in the previous seminars, certain selected topics within the field of Digital Communications are treated in more detail, while additional invited papers and panels on the themes of the past conferences round the programme so that a recapitulation of the state of the art as well as excursions into new areas will be possible. The main themes of the 1976 Seminar have been chosen as follows: interaction between circuit implementation and system design; planning, operational and user aspects.

Contributions within this field are sought by the organizing committee. The deadline for submission of a 300-500 word summary is September 2, 1975. A more detailed Call for Papers will be mailed with this Newsletter. The rediscussion themes to be covered at the Seminar are: digital signal processing; digital transmission; digital switching. Moreover, a workshop on the main theme "Interaction between Circuit Implementation and System Design" is planned. A record with the full text of all contributions will be available before the Seminar.

The conference is co-sponsored by different IEEE Groups and Societies, national professional societies as well as various industrial organizations.

Further information on the Seminar may be obtained from Dr. A. Kündig, Chairman 1976 Zurich Seminar on Digital Communications, Technisches Zentrum PTT/V 907, CH-3000 Bern 29, Switzerland.

International Symposium on Circuits and Systems

The IEEE International Symposium on Circuits and Systems will be held in Munich, Federal Republic of Germany, April 27-29, 1976. It will be devoted to all aspects of the theory and design of circuits and systems in the widening field of electrical engineering science. Particular emphasis will be placed on links between theory and practice, novel approaches to analysis and synthesis, circuits involving newly emerging technologies, and computer oriented methods for design, layout and manufacturing.

The conference will feature contributed and invited papers, in regular and special sessions. Papers should be suitable for a 15 or 30 minute presentation.

All contributions will have to be submitted in fourfold not later than October 15, 1975. They should be prepared in accordance with the standards set by the IEEE Transactions on Circuits and Systems. Each paper will be reviewed by an international panel of experts in the respective field.

Authors whose paper has been accepted will be invited to submit a short version for publication in the Proceedings of the symposium, to be distributed at the beginning of the conference.

The preferred language for the conference is English, but papers in German will also be accepted. Short versions for publication in the Proceedings, however, must be written in English.

Papers should be sent to Alfred Fettweis, Lehrstuhl für Nachrichtentechnik, University of Bochum, Postfach 2148, D-4630 Bochum, F. R. Germany.

1976 European Conference on Circuit Theory and Design

Following the success of the 1974 European Conference on Circuit Theory and Design held in London it was decided to continue the series at two-yearly intervals in different European centres. Arrangements have now been made to hold the next conference in Genoa, Italy from September 7-10, 1976. The Conference will be held under the auspices of the Consiglio Nazionale della Ricerche of Italy and the Associazione Elettrotecnica ed Elettronica Italiana. The organising committee is under the chairmanship of Professor G. Biorci, with Professor P. P. Civalieri as Co-Chairman.

The scope of the conference will embrace all aspects of the analysis, synthesis and design of lumped, distributed and digital networks, with a particular emphasis on the application of modern theoretical methods to engineering design. Papers on network modelling of devices and systems (including the biological and the economical ones) will also be welcomed.

The conference should hopefully point out the present needs and opportunities of inter-action between theoretical research and engineering practice and the inherent possibilities of network concepts and techniques to solve problems in broader areas.

Intending Authors and participants are invited to write to "1976 European Conference on Circuit Theory and Design", Institute Elettrotecnico Nazionale Calilco Ferraris, Corso Massimo d'Azeglio 42, 10125 Torino, Italy, in order to ensure that they will receive future announcements and particulars.

NEWS OF THE SECTIONS

North Italy Section

On the occasion of the centenary of Marconi's birth, the Marconi Foundation has awarded the "International Guglielmo Marconi Prize" recognition for outstanding contributions to the development of radio communications, to three eminent men who well represent the fundamental aspects of the development of space telecommunications systems: John R. Pierce, Joseph V. Charyk, and William H. Pickering. John Pierce was responsible for organizing preliminary studies, at the Bell Laboratories, on the utilization of artificial satellites, such as microwave relay links; Joseph Charyk, was, from the very outset, the guiding light at the Communication Satellite Corporation, which within the framework of Intelsat, organized the first worldwide satellite communications systems; William Pickering has, since 1954, directed the Jet Propulsion Laboratory, responsible for developing all U.S. activities in the field of the exploration of space in depth by means of automatic space probes.

The prize was presented on October 14, 1974, "Marconi Day", at Villa Griffone, Pontecchio, where the great scientist carried out his first experiments and on the same day, the University of Bologna conferred on the three prizewinners the "honoris causa" Doctor degree in Electronic Engineering.

United Kingdom and Republic of Ireland Section

Professional Communication Chapter. For some time the UKRI Section Committee has been trying to set up an active chapter on Professional Communication, but has failed because a Chairman and Secretary cannot be found.

The Section Annual General Meeting suggested that before the attempt is abandoned I should circulate all members in the hope that this might find someone willing to assist.

Would you help?

Professional Communication covers the whole area of verbal and written communication between engineers, namely the study, de-

velopment, improvement and promotion of the various means of preparing, organizing, processing, editing, collecting, storing and disseminating information by, and to, individuals and groups by any communication method, as well as the scientific, technical, and industrial techniques, and the equipment used in this field.

Professional Communication does not cover electronic data processing, information theory, nor man/machine systems. Nevertheless it has a very wide scope which is not directly catered for by any other organization, and which should be of interest to every engineer.

A chapter is a virtually independent group covering the same field as one of the IEEE Groups and Societies, operating in a particular geographical area of a Section. The Chapter we hope to set up would be expected to arrange not less than two meetings a year, not necessarily confined to IEEE members but open to anyone interested. The Section Committee would be prepared to meet the costs of meetings and of a certain amount of publicity.

If you would like more information before deciding whether you are prepared to help, please get in touch with me (address in newsletter heading). Alternatively, if you feel able to help, please let me know, telling me at the same time if you would be prepared to serve as Chairman, Secretary, or member of the Chapter Committee.

W. H. Devenish

Secretary, UKRI Section, IEEE.

E. A. Bromfield

Members will be saddened to hear of the death of Alex Bromfield, Secretary of the Institution of Electrical and Electronics Technician Engineers since its formation in 1965 and previously General Secretary of the Association of Supervisory Electrical Engineers. Alex was well known in the industry particularly for his active interest in the work of the Electrical and Electronics Industries Benevolent Association and as Chairman of the Technician Engineers Section of the Engineers Registration Board.

STUDENT ACTIVITY NEWS

Employment Workshops

Employment Workshop Handbooks are available from Student Services consisting of three guides: "How to Organize a Student Employment Workshop," "Instructor Handbook," and "Student Handbook." The programme provides training in resume writing, interviewing, and developing a personal data bank, among other

things. For information on how to run a Workshop call Bob Asdal.

IEEE Ham Network

Net co-ordinators sought for IEEE Ham Network to organize Student Branches on a Regional basis. Requirements: Interested individual who can regularly contact several Branches and increase participation in the Net across North America. Contact Bob Asdal. (-.-.-.-)

ADVERTISING RATES

Display — \$350 per full page. \$200 per ½ page. \$125 per ¼ page.

Special Section for Appointments/Professional Services/Publications — \$75 per 1/8 page to include setting.

Inserts supplied by advertiser — charges based on page rate.

CONFERENCE INSERT CHARGES. Service available for professional meetings contributing to the IEEE learned society programme.

For full Region 8 coverage copies required 7,500. Size A5 max or folded to A5 (148mm x 210mm).

Weight <21 g (¾ oz.) \$550. Weight <50 g (1¾ oz.) \$650. Lower charges for part region or section coverage.

Enquiries to County Secretarial Services, P.O. Box 7, Guildford, Surrey, England GU2 5HH. Telephone Guildford (0483) 77777.

Cable address Cosc Guildford. Delivery address for inserts 8 The Flower Walk, Guildford, Surrey GU2 5HH.

INTERNATIONAL COLLEGE ON APPLIED PHYSICS

SUMMER SCHOOL ON THE PHYSICS AND TECHNOLOGY OF HIGH POWER GAS LASERS CAPRI (Napoli-Italy) September 22, October 4, 1975

Directors of the College:

Prof. A. Mancini, Università di Catania
Prof. I. F. Quercia, Lab. Naz. di Frascati

Directors of the School:

Prof. S. Martellucci, Laboratorio Gas Ionizzati,
C.N.E.N., Frascati (ITALY)
Prof. S. Solimeno, Istituto Elettrotecnico, Univ. di
Napoli, via Claudio 21, 80125 Napoli (ITALY)

Secretary:

Prof. G. Gianquinta, Istituto di Fisica, Corso Italia
57-1 95129 Catania (ITALY)

Scientific Advisory Committee:

M. Barrère, O.N.E.R.A. (FRANCE)
M. Bertolotti, Univ. of Rome (ITALY)
A. N. Chester, Hughes Research Laboratories
(U.S.A.)
G. Franceschetti, Univ. of Naples (ITALY)
L. G. Napolitano, University of Naples (ITALY)
R. Pike, Royal Radar Establishment (U.K.)
R. Werner, Lawrence Livermore Laboratory
(U.S.A.)

Sponsoring Agencies and Scientific Institutions:

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(ITALY)
F.I.A.T. (ITALY)
Associazione Elettrotecnica Italiana (ITALY)
Associazione Italiana di Meccanica Teorica ed
Applicata (ITALY)
The Institute of Physics (U.K.)
Comitato Nazionale Energia Nucleare (C.N.E.N.)

Preliminary List of Lectures:

Yu. A. Anan'ev, Moscow State University
(U.S.S.R.)
M. L. Bhaumik, Northrop Corporation Research
Laboratories (U.S.A.)
R. Borghi, O.N.E.R.A. (FRANCE)
L. Bradley, Lawrence Livermore Laboratories
(U.S.A.)
A. N. Chester, Hughes Research Laboratories
(U.S.A.)
A. De Maria, United Aircraft Research Laboratories
(U.S.A.)

C. Fenstermacher, Los Alamos Scientific Labora-
tories (U.S.A.)
R. Gross, Aerospace Corporation (U.S.A.)
L. Henry, Université de Paris (U.S.A.)
A. Hertzberg, University of Washington (U.S.A.)
H. Hutchinson, Imperial College of Science and
Technology (U.K.)
D. James, University of Hull (U.K.)
O. P. Judd, Los Alamos Scientific Laboratories
(U.S.A.)
S. N. B. Murthy, Purdue University (U.S.A.)
R. D. Sharma, MIT-Avco Everett (U.S.A.)
C. Webb, Oxford University (U.K.)
T. Zuev, Lebedev Institute (U.S.S.R.)

The Course is devoted to scientists and graduate students interested in lasers and their applications. The Course will provide coverage of the wide scope of activities in the field of high power lasers with emphasis on those areas where the most promising developments are taking place.

Main topics:

Visible and UV high-pressure e-beam lasers
CO₂ lasers. High pressure CO₂ laser amplifiers
Chemical lasers. Iodine lasers
Gas-dynamic lasers
Fluid dynamic of high power lasers
Physics of electrical discharges in gas laser
mixtures
Diagnostics of gas laser mixtures
Energy transfer mechanisms
Electro guns for pulsed lasers
Physics of short pulse lasers and related diag-
nostics
Unstable resonators-Design of oscillator-amplifier
systems
New approaches to high power lasers

In connection with the Course, a workshop on CO₂ lasers will be organized under the direction of Dr. Charles Fenstermacher. Participants to the workshop are requested to submit to the Directors of the Course a copy of their contributions. Persons wishing to attend the Course should write to the Secretary before May 31. The total fee, including full board and lodging is 250,000 Liras (about 400 dollars).

Second Announcement
NATO ADVANCED STUDY INSTITUTE
on
SOLID STATE IMAGING

Université Catholique de Louvain, Louvain-la-Neuve
September 3 to 12, 1975

Programme

History of Solid State Imaging
Solid State Imaging Applications
Organisation of sensor arrays (X-Y) with shift register address switches
Organisation of sensor arrays with charge transfer signal registers
Physics of photosensors (absorption, reflection, quantum efficiency and spectral response)
Charge integration and storage in diffused junction sensors
Charge integration and storage in M.I.S. photosensors (field induced junction)
Bulk trapping phenomena
Surface trapping phenomena
MOS address switches and shift registers
Charge transport without traps
Charge transport with traps
Photodiode arrays
Phototransistor arrays
Surface channel CCD's
Buried channel CCD's
Peristaltic CCD arrays
Charge injection devices
Noise considerations in solid state imagers
Fixed pattern noise and cooled photosensor arrays
Switching noise in photosensor arrays
Amplifier and noise considerations
Distributed floating gate amplifier (D.F.G.A.)
Time delays and integration (T.D.I.)
Interlacing in photosensor arrays
Aliasing and M.T.F. effects in photosensor arrays

Design of solid state imaging arrays
Low light level resolution and performance criteria in solid state imaging arrays
Solid state I.R. imaging sensors
Comparisons of solid state imagers and electron beam scanned imagers with applications

Lectures will be given by: J. F. Amelio (Fairchild, Stanford, U.S.A.), D. Barbe (Naval Research Lab., U.S.A.), L. J. M. Esser (Philips, Netherlands), A. Goetzberger (Institute fur angew. Festkorperphysik, Freiburg, West Germany), J. A. Hall (Advanced Technology Lab, Westinghouse, Baltimore, U.S.A.), P. Jespers (Université Catholique de Louvain, Belgium), C. Sequin (Bell Telephone Lab, U.S.A.), F. Van de Wiele (Université Catholique de Louvain, Belgium), M. H. White (Advanced Technology Lab, Westinghouse, Baltimore, U.S.A.).

Application forms are available upon request from:

Prof. Paul Jespers
Batiment Maxwell,
Université Catholique de Louvain,
1348 Louvain-la-Neuve, Belgium.

The number of participants is limited. Accommodation comprising dinner, bed and breakfast is available at the University for the duration of the course. A limited number of grants will be awarded to cover partially lodging expenses and travelling costs, but the benefit is restricted to citizens of NATO countries only.

Deadline for applications: May 15.