

IEEE Region 8 newsletter



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
INCORPORATED

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PLEASE VOTE

Members will have received their ballot ticket in September, and I would like to join the President in urging you to vote. It is very unfortunate that usually only 35% of the membership takes the opportunity to vote, and it would be a disaster for the Institute, if a minority of 12% could lead it on the wrong way. This can only happen if the majority does not use its right to vote. See to it that your ballot reaches New York in time. If you are late please airmail!

You have also the opportunity to vote on three proposals to change the Bylaws. I agree with the Board of Directors that all these proposals should be rejected. At least one of them is unreasonable, quite unfair to the Region 8 Membership, and—if one agrees that the outside Regions give positive contributions—not in the best interest of the Institute as a whole.

The president has pointed out the care with which the Nominations and Appointments Committee prepares the nominations and the Board of Directors makes the final choice. I am a member of both and I agree fully. An Institute of some 180,000 members will have more than one candidate, who if elected, could be a good president. You will realize the dangers of a three way election, and vote, I hope, accordingly. At least some of the candidates will be able to serve the Institute in other ways, and perhaps have a second chance later on.

In any case use your right to vote. It is in your own interest and in that of the Institute.

F. LOUIS STUMPERS

REPORT FROM THE REGIONAL DIRECTOR



One of the more important privileges of Region 8 lies in the opportunity of organising the international Symposium of one of the societies or groups. I was able to attend ISCAS in Munich, last April, and it was a special pleasure to attend the International Symposium of the Information Theory Group in Ronneby Brunn in Sweden in June. Ronneby is a small town in beautiful southern Sweden, and Brunn refers to a source. The large hotel surrounds an olympic size swimming pool. Its 350 rooms comfortably housed most participants, though there were some who preferred camping. Professor Zetterberg was one of the two co-chairman of the Symposium (with Dr. Lucky of Bell Labs). He opened the Symposium on 21 June, and your Director addressed the meeting on behalf of Region 8 and of URSI, the International Union of Radio Science. A special invited lecture was given by Professor Harald Cramer, whose "Mathematical Methods of Statistics" has guided so many of us into this branch of science. From his long experience (starting at the end of World War one) he gave a very interesting survey of "Stochastic processes—the rise and development of a theory." In the afternoon five parallel sessions were held, each with ten papers. On Tuesday morning Professor Fano of MIT gave the prestigious Shannon lecture, reminiscing on the early days of information theory, and stressing its role in computer communications. He had many of his old students in the

audience. He was with Shannon one of the earliest workers in the field, but later his main interest was in the multi-terminal computer. Another special address was given by Professor Kailath of Stanford University "A return to input-output methods in statistical system theory." His lecture was clear as usual and covered a lot of ground. At the Symposium banquet the guest speaker was Dr. J. B. Wiesner, President of MIT (once President Kennedy's science advisor). He started as an assistant of Norbert Wiener, and later his courses at MIT were very popular. He was glad to be among so many old friends, and saw a revival of interest in information theory outside the limited circle of communication experts. From this development he expected interesting results. One evening was given to a discussion of the Swedish way of life, with an excellent introduction by Mr. Eskil Block, and many questions answered by him. Another evening had a quiz-barbecue. All the time during the day there was a choice of five or six sessions in parallel. The organisation of a symposium in such a relatively small place, where all participants are together almost all the time has many advantages. If I have given more attention to the festive occasions than to the technical sessions, the reason is that the list of authors has 442 names, and the conference digest is available from IEEE, catalogue no. 76CH1095-9IT. It was unfortunate that none of the several registered and invited information scientists from the USSR could make it.

Your Director was present at a meeting of the Nominations and Appointments Committee in Detroit, 29 and 30 July 1976. The discussion on the qualities of the candidates is very thorough indeed. It was decided to have a further meeting as soon as the results of the elections are known, to give the then elected president a chance to view the nominations and to have a second look at those available but not elected.

On 2 September the Director joined a very well attended session of the Benelux Section and NERG on the occasion of the opening of an integrated circuit workshop at the University of Delft.

Correspondence was started on the foundation of sections in Turkey and Saudi Arabia, where the number of members would easily allow it. The possibilities in Austria are being further pursued. It would certainly be helpful if our members in those countries showed a little more

PUBLISHED QUARTERLY		JAN.	APRIL	JULY	OCTOBER
DEADLINES	News to Editor	Dec. 7	Mar. 7	June 7	Sept. 7
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interest, as the goal is to their benefit.

A five day course in microprocessors is foreseen for Leuven, Belgium. The well known Professor Imsong Lee, editor of the special issue of the Proceedings on Microprocessors last June, will be the main speaker. The apparatus will be available for hands on experience. The definite dates (November or December) should be known soon.

As Vice-Chairman of the Program Committee I have seen and read most of the over 250 abstracts submitted for Eurocon. In my opinion the quality of the papers should be quite good, and I would hesitate to refuse more than a few. However the decisions will be taken in Milano on 10 September. I hope also to be present at the meeting of the local Executive Committee on 11 September.

The International Broadcasting Convention in London will start on Monday, 20 September and as IEEE is one of the cosponsors, your

Director has been invited to attend the official opening session.

In the same week we have meetings of the Board of Directors, the Regional Activities Board, the Inter Society Relations Committee, the joint Regional and Technical Activities Board, the Long Range Planning Committee, all in New York, and the meeting of the EMC Symposium in Wroclaw, cosponsored by Region 8. It is very unfortunate that your Director does not have the gift of bilocation. Though he is convinced of the excellent preparations made by our Polish friends, their hospitality, and the quality of the programme. (He has seen some 125 papers), it will be impossible to be present in Wroclaw too. Professor Borgnis, member of the Council, and Mr. Kirby Vice-Chairman of the Program Committee will represent him well on different occasions in what is expected to be a very successful Symposium.

EUROCON 77 VENICE 3-6 MAY 1977



The Cini Foundation on the Island of San Giorgio Maggiore.

Courses, a student programme, an exhibition, social events, and parallel sessions are planned for EUROCON 77, to be held on 3 through 6 May on the island of San Giorgio Maggiore in Venice. As foreshadowed in the last Newsletter, the programme is now taking shape, and the expectations of the Steering Committee that this will be one of the major conferences in the European programme are being realised.

The following is the provisional programme at the time of going to press:

Section 1—communications in large power systems. Twenty-five papers have already been received; subjects covered include the design and development of telecommunication equipment in power systems, and applications in distribution networks and other fields.

Section 2—new developments in communications—will include sessions on radio communication; satellite communication; waveguide and optical systems; network exploitation and planning; speech

and visual coding; co-axial cable systems; data communications; communication devices; devices and components; local distribution; new customer services.

Section 3—communications and computers—will include the architecture of computer networks; software; access multiplex services; microprocessors for control; management of communication systems.

Section 4—communications and signal processing in medicine—will deal with aids for the handicapped; diagnostic methods in neurology; hospitals and rural community medicine; modelling techniques; telemetry and radiographic methods; ultrasonic applications; the E.C.G. and cardio-electromaps.

A whole day will be devoted to the subject of communications in the developing countries. Contributors include Mr. Mili, Secretary General of the ITU; Mr. Fobes, Deputy Director General, UNESCO; Mr. Kirby, Director CCIR; Mr. van den Brink of the Philips Experimental Factory; and by speakers from Arabia, Hungary, Italy, India, Libya, Nigeria, Saudi Arabia, Sierra Leone, Sri Lanka, Turkey, and Yugoslavia.

There will also be an evening panel discussion, chaired by Mr. Kirby, on the communication needs of the developing countries and the ways in which these might be met by developed countries.

Also included in the programme are two courses by Mr. John Mikulski (London) on "Techniques of industrial market research" and "Methods of technological forecasting."

The students' programme will include a meeting in which a panel will consider students' questions on the role of professional societies. Other attractions at EUROCON 77 include technical and social visits, a concert arranged by RAI (the Italian broadcasting organisation), a Venetian evening, and excursions for the ladies.

In addition there is to be an exhibition in which companies supporting EUROCON 77 may display photographs illustrating their activities and products.

The complete programme will be available soon, and may be obtained, together with details of registration and any other information, from the EUROCON 77 Office, c/o AEI, Viale Mona 259, 20126 Milan, Italy (Tel: 25.50.641).

INSTITUTE NEWS

Voting in Annual Election

Never in the history of IEEE has the number of voters casting ballots in the Annual Election exceeded 37 per cent of those eligible to make a choice. In a year when no less than three candidates of varying philosophies are running for President, two for Vice-President, and three Propositions with great potential impact on IEEE affairs are on the ballot, it would be tragic if a minority of the membership decided the election outcome. Every member in Region 8 is strongly urged to consider the issues and register a choice. It is even more important for us than for members in the US because the next Region 8 Director is to be elected and the Propositions affect us very directly. Your vote must be received before noon on 1 November 1976.

From the IEEE Press

From the IEEE Press are three new books: "Computer Networking" edited by Robert Blanc and Ira Cotton; "Solar Cells" edited by Charles E. Backus; and "Waveform Quantization and Coding" edited by Nugehally S. Jayant. A 376-page volume, "Computer Networking" contains 46 papers covering the fundamentals of the topic and complements "Computer Communications" edited by P. E. Green and R. W. Lucky and published by IEEE Press in 1975. The book, which is sponsored by the Computer Society, is priced at: \$8.95 paper-bound, and \$13.45 cloth-bound.

"Solar Cells," a 512-page collection of 42 papers, is sponsored by the

Electron Devices Society and is available for \$12.45 in paper and \$18.75 cloth bound. "Waveform Quantization and Coding," a compendium of 69 papers, is a 624-page book sponsored by the Acoustics, Speech and Signal Processing Society and the Communications Society. The price is \$14.95 paper-bound and \$22.45 cloth-bound.

The 1976 edition of the IEEE Standards Catalogue is now in print. Copies are available free of charge from the IEEE Standards Office, 345 East 47th Street, New York, NY 10017.

The new 32-page catalogue lists over 350 standards publications in numerical sequence and also provides a subject index to the standards. Many American National Standards published by IEEE are included in the catalogue.

Standards developed within the Institute of Electrical and Electronics Engineers, Inc. cover test methods, practices for electrical installations, units, definitions, graphic symbols, and application methods. The 1976 catalogue lists important new and newly revised publications on graphic symbols, metric practice, and instrumentation interfaces as well as the IEEE Colour Book Series on Industrial and Commercial Power Systems.

The metric practice document mentioned in the above list is the authoritative United States source book on the metric system of measurement. Developed at the request of the American National Standards Institute, the new document is expected to receive approval

as an American National Standard in the near future.

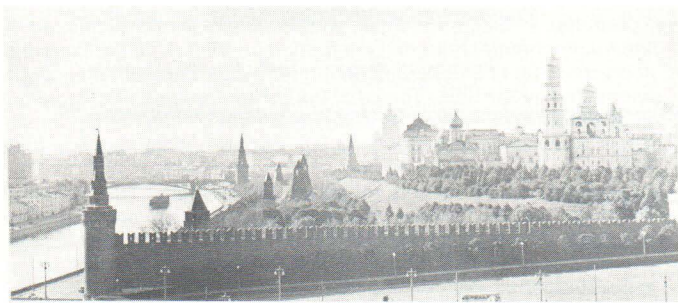
The new standard is expected to serve as the basic guide for the scientific and technical application and use of the modern metric system. The document includes the most recent developments in the International System of Units (SI) including the recently adopted prefixes and letter symbols for very large multiples of units, peta (10^{15} , P) and exa (10^{18} , E), and SI units used in connection with radioactivity (becquerel and gray). The standard includes listings of the base units, supplementary units, and units derived therefrom. Guidance is provided on application of prefixes, other units in use with metric units (including units accepted for limited use and units to be abandoned),

and unit selection. A section on style and usage covers the writing of unit symbols and names, pronunciation, and recommendations for numbers. Extensive guidance is provided on conversion of linear dimensions, also pressure and stress, along with an extensive table of conversion factors.

The document is available from both IEEE and ASTM, and the text is identical with the exception of the spelling of the words "meter" (metre) and "liter" (litre). The IEEE edition uses the -er spellings, while the ASTM version employs the -re spellings.

Editor's Note: I have carried the corresponding BSI document for four years and now intend to carry the IEEE one as well.

MEETINGS IN REGION 8



Moscow Kremlin.

World Electrotechnical Congress

The Congress will be held 21-25 June 1977 in Moscow. The meeting is sponsored by the Ministry for Electrical Engineering Industries of the USSR and the USSR Academy of Sciences. The Congress is being planned with the assistance of the International Electrotechnical Commission (IEC). The IEC is being assisted by other scientific and technical organizations including the IEEE. Mr. Robert D. Briskman, IEEE Vice-President for Technical Activities has been named for the International Organizing Committee as IEEE representative.

It is anticipated that prominent specialists of the world in the field of electrical engineering and electronics will participate. The programme will emphasize current and developing challenges in the development of electrotechnology and electronics. Such topics include construction of electrical equipment for thermo-nuclear plants, utilization of superconductivity for generators and transmission lines, the application of new methods of energy conversion as well as the application of electronics in various branches of science and technology.

Sections will deal with Electrical energy generation, Scientific and technical problems in the design and construction of electrical equipment for large power systems, New materials for electrical engineering, Application of electricity in production processes, Methods of energy conversion, Problems of electrical and electronic engineering and new types of electrical equipment, Electronics and control systems, and Electricity in household and medical applications. Four copies of 300-word summaries of the papers should have been received by the Congress Organizing Committee by 1 September 1976. The authors submitting the summaries by the above date will be informed by the Organizing Committee of the decision to adopt the paper by 1 January 1977. Manuscripts of papers accepted must be submitted by 1 April 1977.

Russian, English and French are the official working languages for the World Electro-technical Congress.

Summaries to and further information from: Organizing Committee, World Electro-technical Congress, Kalinin Prospect 19, Moscow G-19, USSR.

Introductory Course on Microprocessors

The City University and the UKRI Section Circuits and Systems Chapter are co-sponsoring this two-day introductory course on Microprocessors by Mr. D. Wright and Mrs. D. Shipperlee (Standard Telecommunication Laboratories Ltd., Harlow), and Dr. A. C. Davies (The City University) on 4 and 5 October 1976 at The City University, London.

Outline Syllabus: Review of Digital Systems; Introduction to Programmed Machines, Basic Computer Architecture, Microprogramming; Basic Programming Methods, Programme and Data Structure, Software; Characteristics of Typical Microprocessors; System Design, Pitfalls; Applications and Microprocessor Selection, Future Developments.

Course Fee: £28 (includes course notes and luncheon on both days).

£13 will be charged for bona-fide full-time research students.

Applications and enquiries to Dr. A. C. Davies or Mrs. P. J. Adams, Department of Electrical and Electronic Engineering, The City University, St. John Street, London, EC1V 4PB (Tel: 01-253 4399, Ext. 425 or 431).

Euromicro

The Second Symposium on Microprocessing and Microprogramming will be held in Venice, 12-14 October 1976, and Tutorial on Bit Slice Microprocessor Systems on 11 October 1976.

The Symposium is sponsored by: EUROMICRO, European Research Office, IBM Italy, Olivetti Italy, THTWENTE with the co-operation of: ECI, AFCET, AICA, BCS, GI, NTG, NRMG, IEEE Computer Society. Further particulars from: Dr. Pierre Le Beux, UTC, BP 233, 60206 Compiègne, France.

International Conference on Millimetric Waveguide Systems

Organized by the Electronics Division of the Institution of Electrical Engineers in association with the Institute of Electrical and Electronics Engineers (United Kingdom and Republic of Ireland Section), the Institute of Physics and the Institute of Electronic and Radio Engineers, in London, 9-12 November 1976.

The Conference is to cover all aspects of the planning, design and installation of millimetric waveguide systems for trunk telecommunications with particular emphasis on experimental results achieved in various national field trials.

The emphasis will be on progress towards operational systems rather than on papers of a purely theoretical nature. Contributions are invited on the following topics: Network requirements for millimetric waveguide systems; Waveguides—types, design, materials, production, mechanical/electrical measurement; Route selection and laying technology; Influence of and limitations imposed by digital/PCM hierarchy, high-speed digital technology, coding and regeneration; Band utilization—band-branching and channel-filter networks; Terminal/repeater equipment—general design and performance; Millimetric wavelength devices and components; Hybrid and monolithic integrated circuit techniques for mm wavelengths; Modulation/demodulation technologies; Power, supervisory and control systems; Test equipment and methods; Reliability and economic aspects; Field trial installations—details and performance; Operational systems proposals and prospects.

An important feature of the Conference is a visit to the Post Office Research Centre, Martlesham Heath, Ipswich, Suffolk. There will be a special exhibition of interest to delegates and the programme for the day will include a demonstration of a field-trial waveguide system. Registration forms and further information and programme details from IEE Conference Department, Savoy Place, London, WC2R 0BL.

7th International Mikroelektronik Congress

The main objective of the Congress, to be held in Munich 29 November-1 December 1976, is to provide a forum for inter-disciplinary discussions on all aspects of semi-conductor devices, solid state circuits, and integrated circuits relevant to their use in practical applications.

The various available technologies will be treated only from the users point of view. Special emphasis will be placed on the question of when and where these various technological approaches such as LSI (including micro-processors), hybrid techniques, and discrete devices can be applied in an economical and useful way. Some topics of current interest will be reviewed by a number of invited speakers.

Abstracts: Prospective authors must submit by 11 October 1976 a 30-word abstract in English and/or German and an extended comprehensive abstract of approx. 500 words. For reviewing purposes the abstract must state in which way the work advances the state of the art and what new results have been obtained.

Abstracts are to be single sided, double spaced, typewritten pages in

reproducible form suitable for printing in the proceedings. Preferably five copies for the committee and the translators. Please state name of author(s) and underline speaker (speaker must be author or co-author), company affiliation with full address, telephone and/or telex contact.

The extended abstracts with the important illustrations will be printed and included in the Congress Package. This does not preclude later publication elsewhere by the author.

Languages: English or German with simultaneous translation.

Topics: Components, Applications and Systems Aspects, Micro-processors including Interfacing and Support Systems, and "Science Fiction" (A scenario of our world under the influence of micro-electronics beyond 1984). We are looking for papers of individuals or groups depicting a vision of our world at the end of this millennium in the light of possible developments of microelectronics. These contributions should not cover results or developments but should be open to the technical imagination in the sense of futurology.

Address for submitting the abstracts and obtaining further information: Münchener Messe- und Ausstellungsgesellschaft mbH Kongresszentrum, 7 Internationaler Kongress Mikroelektronik, Postfach 12 10 09, D-8000 München 12.

The final programme and the registration form will be available early in October. The Congress fee will be DM 285 incl. VAT and includes the Proceedings as well as the entrance fee for the electronica 76 trade fair from 25 November to 1 December 1976.

NTG Conference on Digital Storage

The Germany Section is co-sponsoring this conference which will be held in Stuttgart from 22 to 24 March 1977. Summaries of 30-50 words

by 1 October 1976 to Professor Dr. W E Proebster, IBM Deutschland GmbH, Postfach 80 08 80, D-7000 Stuttgart 80.

The goal of this conference is to provide an overview on the wide-spread and revolutionary developments in the field of digital storage and memory. This overview will span the broad spectrum from storage cell design and operation to storage hierarchy design and will cover (1) the underlying physical principles, in particular recent progress toward the understanding of modern technologies, (2) design, construction and performance criteria of present and future storage elements and assemblies, (3) the correlation between memory design and systems architecture.

In order to reach this goal, emphasis of the conference will be on technical overview papers. (Conference language is German).

Progress in the Field of Electronic Tubes and Devices of Similar Technology.

Committee 4 "Electronic tubes and devices of similar technology" of the Nachrichtentechnische Gesellschaft im VDE (NTG) will organize a conference on 17 and 18 May 1977 in Garmisch-Partenkirchen which is sponsored by the IEEE. Topics of the conference are: electronic tubes of all kinds, including X-ray tubes and hybrid tubes (e.g. electronic tubes with semiconductor targets), electro-optical displays except LED.

Papers should be limited to about 20 minutes. The conference language will be German, but papers in English and French are accepted. Summaries of papers covering about one page should be submitted to Mr. Dipl.-Ing. Werner Golombek, VALVO Röhren- und Halbleiterwerke der Philips GmbH, Stresemannallee 101, 20 Hamburg 54, before 29 October 1976.

NEWS OF THE SECTIONS

The Editor feels strongly that it is undesirable for only one Section to be included here but, in the total absence of news from any other, there was no alternative possibility. Section Chairmen are asked to try to prevent a recurrence.

UNITED KINGDOM AND REPUBLIC OF IRELAND SECTION

Members are reminded that the Bylaws allow any five members to propose another, with his written consent, as a member of the Executive Committee. Any names for submission in this way must reach the Secretary (who is also Editor of this Newsletter) before 17 November 1976.

Is the Growth of Technology Compatible with the Growth of Civilization? Discussion meeting jointly with IEE opened by Mr. A. R. Cooper, CBE, FIEE, Fellow IEEE, CEng, at the Department of Electrical Engineering, Imperial College, on Wednesday, 3 November at 6p.m. (tea 5.30).

Non-Sinusoidal Periodic Electromagnetic Waves

The Circuits and Systems Chapter has arranged a meeting in Room U316, The City University, St. John Street, London EC1V 4PB, at 5.30 (tea at 5.00) on Tuesday, 12 October 1976.

Professor Henning F. Harmuth (The Catholic University of America, Washington DC) will speak on this subject using the following abstract: Transmitters and receivers for non-sinusoidal electromagnetic waves have been developed during the last five years. The first radar using such waves for the detection of metallic or non-metallic objects underground has been successfully demonstrated. The waves consist typically of pulses of about 1 ns duration and a period of about 100 ns. In order to obtain the same resolution with sinusoidal waves one would have to modulate a sinusoidal carrier with a frequency of 20 GHz or more with pulses of 1 ns duration. The resulting attenuation in the ground would make this impractical. Very similar considerations apply to high resolution radar operating in air, since waves with a frequency of 20 GHz and more are produced with

low efficiency but absorbed with high efficiency by rain and clouds. In over-the-horizon radar one has a bandwidth of about 20 MHz to operate in. The requirement of the sinusoidal technology that the relative bandwidth be small makes it impossible to use signals with such a large bandwidth and the resolution that comes with it, without losing the power through the ionosphere. Non-sinusoidal waves offer an alternative which has not yet been used.

Confirm by telephoning Dr. A. C. Davies (01-253 4399, Ext. 425 or 420) prior to attending.

Professional Communication Chapter

On 23 November 1976 at a Joint Meeting with the Scottish Centre of the IEE in Edinburgh Mr. P. H. Walker will repeat the Lecture he recently gave in London on "Introducing Empathy into Electrical Engineering." The Lecture will take place at Heriot-Watt University at 6p.m. in the Mountbatten Building in the Grassmarket. It is hoped that any members resident in Scotland will make a special effort to attend this meeting as it is the first to be held outside London by the UKRI Section. Visitors from other organizations will, of course, be very welcome.

A joint one-day Colloquium is to be held in Edinburgh on 2 March 1977 on "The Challenge of Communication." This has been arranged in conjunction with the Scottish Centre (SEM Section) of the IEE and will be held in the University of Edinburgh (King's Buildings). The colloquium will be opened by Professor Sir Hugh Robson, MB, FRCP, FRCPed, FRACP, Principal and Vice-Chancellor of the University.

Various aspects of the subject will be introduced by a team of eight speakers drawn from the fields of politics, telecommunications broadcasting, the Press, education, industry and economics. Full details will be given in the January Newsletter.

GERMANY SECTION

See Meetings in Region 8 for information on the Congress Mikroelektronik being held in Munich 29 November-1 December 1976.

ADVERTISING AND INSERTS

Enquiries to County Secretarial Services, P.O. Box 7, Guildford, Surrey, England GU2 5HH. Telephone 0483 77777. Cable address Cosoc Guildford. Delivery address 8 The Flower Walk, Guildford. Deadline dates in box on front page.

ADVERTISING RATES

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INSERT RATES

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