

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
INCORPORATEDIEEE
Region 8
newsletter

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EUROCON 71

The meeting for Professional Growth



Dr. Roger P. Wellinger
Director, Region 8

experience in organising the excellent work done by national societies and specialised organisations within their respective boundaries by initiating EUROCON. The rapid advances of science and technology and its strong impact on society demand from the individual engineer both an intense participation in the development of his special field and an increasing survey over related disciplines. We all know from personal experience that even the best publications are only partially effective in this respect. To provide an opportunity to establish personal contacts a convention, where several areas are covered in depth and width and where engineers and scientists can exchange views with experts in other areas, is a powerful means. These fundamental ideas and guidelines will be carried out in co-operation with IEEE Sections, Groups and national Societies and Institutions in Region 8. The Section Chairmen have been asked to approach the Presidents of their national Societies

The motto for EUROCON 71—THE MEETING FOR PROFESSIONAL GROWTH—points out in short the motivation behind the Regional Committee's decision to organise a convention in Europe: EUROCON 71 is intended as the rendezvous for experts in different fields of electrical and electronic engineering and as a forum to pave the way for interdisciplinary contacts and continuing education. It is an important task of a professional institution to guide its members in their continuing education by providing technical literature and meetings. The Regional Committee felt that the IEEE, with its trans-national basis, broad technical spectrum and considerable conferences, could complement the

and invite them to join the Convention Supporting Committee. A number of acceptances have already been received.

The special fields selected by the Programme Committee will stimulate the presentation of new results from rapidly expanding areas of technology; there will also be demonstrations of European achievements in traditional fields while carefully avoiding duplication of existing specialist conferences. Lausanne, a well-known congress town in Switzerland, and the home of a Swiss Federal Institute of Technology, was chosen as the site of the Convention because of its central location within Region 8, its good convention and exhibits facilities at the Palais de Beaulieu, its adequate and world-famous hotels and its closeness to Geneva Airport, from where it can be reached by fast trains or a 45-minute drive on a modern highway.

The dates are set for 18-22 October 1971. English will be the official Convention language.

A formal survey just completed indicates great interest in exhibits and a number of companies have already reserved booth space. They consider EUROCON 71 a welcome opportunity to demonstrate new devices, products, systems and outstanding technologies to a large and competent engineering community. Other companies, unable to commit themselves at that date, have promised substantial cash donations to support the preparation of the Convention.

EUROCON 71 counts on your assistance in finding excellent papers, interesting exhibits and effective workshops. The Call for Papers is included in this issue of the Region 8 Newsletter as an insert; the second copy is intended for your friend or colleague who might not be an IEEE member. We are all invited to contribute to and participate in EUROCON 71 which, once it has become a regular event, will serve as the nucleus of a European electrical and electronic engineering community.

ROGER P. WELLINGER,
Director, Region 8, IEEE.

INSTITUTE NEWS

Report of the President to the IEEE Board of Directors :

The President expressed two points of personal philosophy with respect to the IEEE and commented briefly on each. The second is of particular interest in Region 8 and is reproduced below.

"Trans-national and National Environments :

The second area on which I would like to comment is the IEEE's national and trans-national characteristics. Our 'national' character is implicit in IEEE's historical background and is evidenced explicitly to-day by the involvement of IEEE (Regions 1 to 6) in such specifically national concerns as the Joint Technical Advisory Council, Engineers Council for Professional Development, National Academy of Sciences and National Academy of Engineering. It is natural and reasonable that IEEE be heavily involved in matters of a distinctly national flavour. After all, 87 per cent of our members reside in Regions 1 to 6, and there is no other strictly National society which could adequately serve the needs of that group. Our overseas members, for the most part at least, recognise that some of the primary values IEEE offers to its membership—its publications programmes, for example—are the result of effort expended within (and principally on behalf of) our particular national environment. We need not be embarrassed by our national character, but we must distinguish carefully be-

tween our role as a trans-national society and those situations in which our role is dictated by our specific national character. It is helpful, I believe, to picture IEEE's interests as falling in three general areas, which differ as regards the degree and substance of the national/trans-national dichotomy. Our interests and activities in *basic technology* (such as circuit theory, electrical noise, semi-conductor metallurgy) have no uniquely 'national' connotations. *Applications of technology* to devices and systems do, in contrast, involve national (or regional) considerations in the sense that any application implies a particular economic, social or cultural context which exerts a strong influence on the engineering alternatives involved. Familiar examples include—frequency allocations, power systems standards, and television standards. Matters of *public policy* are by definition specifically 'national', since they relate directly to legislation and regulation and considerations of national priorities.

Within the IEEE and its organisational structure, these differences tend to be submerged in the 'background noise' of Institute policies, budgeting, editorial practices, etc. From the standpoint of the non-member, or of the vast majority of members whose perspectives are not strongly influenced by personal involvement in our institutional affairs, the image IEEE presents in this regard is *not* a continuum, but rather a series of dis-

crete impressions which arise from the unique interface between the individual engineer and the IEEE. Each such interface is specific to the individual involved, reflecting his special interests and his particular environment. For this reason, IEEE activities and the positions taken by individual contributors to IEEE publications and technical meetings may (and frequently do) appear quite differently to the individual engineer who is our 'customer' than they do to those of us who sit nearer to the 'centre of things'. It is obvious, for example, that the ABM controversy which was dealt with (very objectively, I believe) in a recent issue of Spectrum has entirely different connotations for the US reader than for, say, the Japanese reader or for our members in the USSR. While balanced, accurate, discussion of the technical considerations involved and their implications for (US) national policy are unquestionably a real contribution in the public interest, we must never lose sight of the fact that for the IEEE, as a trans-national society, more than one public has a legitimate claim on our concerns and the 'interests' of these different 'publics' may be (almost always are, to some degree at least) quite different from those tacitly assumed by the author and editor.

The IEEE has chosen, of its own volition, to adopt a trans-national posture in some—but not all—of its affairs. In my opinion, this choice is a wise one and permits the IEEE to extend its institutional services into many important areas where our technical contributions may prove to be of great value. Having undertaken this task, however, we have a clear-cut and inescapable responsibility for carefully distinguishing between our national and our trans-national perspectives. We must be especially careful, I believe, to avoid the implication of international or trans-national applicability of IEEE policies or of material published in IEEE journals when, in fact, the material is specifically relevant to a particular national environment."

XXXVth IEC General Meeting in Washington :

In May the IEEE was one of the hosts to the largest International Electrotechnical Commission General Meeting ever held. It took place in Washington DC, with 1,225 delegates from 34 countries; 23 of these were in Region 8 and they provided 750 of the delegates. When it is noted that, of the remaining delegates, 390 came from the US, it becomes apparent how large a contribution to international standardisation is made from Region 8.

Significant progress was made at the meeting on many fronts and preliminary consideration was given to a long list of new items of work which IEC should undertake. New committees were set up to deal with four new areas of effort, with provision for yet another, to be concerned with methods of calculating short-circuit currents, provided a group of experts studying the matter reached satisfactory conclusions.

The Technical Committee dealing with household electrical appliances met under the Chairmanship of Past-Regional Director, Professor Robert C. G. Williams, and extended the general agreements already reached on the safety testing of appliances to six further items. Preparations were made to deal with another eight. A short discussion was held on the design for a plug and socket for world-wide adoption.

Well over 100 meetings of a formal or less formal nature took place in Washington and about 200 drafts made ready for formal voting procedures prior to publication. All those who took part were grateful to the American hosts for the effectiveness of the arrangements for so large a meeting.

Manager of Standards Operations for IEE :

Sava I. Sherr, former Vice-President of General Instrument Corporation's Signalite Division, has been appointed to the newly-created staff position of Manager of Standards Operations for the IEEE. Selection and appointment of Mr. Sherr are part of a programme to increase support and emphasis on standards work by the Institute, reflecting the importance attached to such activity by the membership. In his position, Mr. Sherr will have full staff responsibility for working with the IEEE Standards Committee in its efforts for encouragement and co-ordination of standards activities.

John J. Anderson, former Secretary to the Standards Committee, has been designated Standards Production Manager reporting to Mr. Sherr and will carry on his regular duties and assignments with respect to standards activities. Elizabeth Croce will continue her long association with the Committee.

The US and the Metric System :

Over the years, organisations within the United States have been involved in problems posed by standardisation on a world-wide system of units. Such standardisation will obviously revolve around the Metric System.

The latest co-ordination activity toward United States adoption of the Metric System has been under the auspices of the Engineering Foundation. A National Metric Study Conference is scheduled, in conjunction with a study by the National Bureau of Standards, to determine what action should be taken in the United States toward increasing domestic use of the Metric System. The Conference took place in August at Deerfield Academy in Massachusetts. Technical societies and industrial organisations presented position papers on the subject and IEEE was among them. A preliminary meeting was held at the United Engineering Centre in early June, at which background information and a progress report on the National Metric Study were presented to representatives of the technical societies.

Many organisations have been examining their position on this difficult subject. The Society of Automotive Engineers has



IEC Council in session. On the platform, from left to right: Mr. F. A. Sunter, President ISO; Dr. H. Osborne, Past-President IEC; Professor R. Radulet, immediate Past-President IEC; Mr. J. O. Knowles, Treasurer IEC; Mr. P. Ailleret, President IEC, (Fellow IEEE); Mr. C. J. Stanford, General-Secretary IEC, (Senior Member IEEE); Mr. L. Ruppert, previous General-Secretary IEC; and translation staff.

conducted a survey among the other technical societies on the implementation of metric units. Thirty-six societies responded and the general posture ranged from relative disinterest to complete conversion to SI units.

The IEEE position has been well defined since the appearance of an article prepared by Dr. Bruce Barrow in the March 1966 'Spectrum'. It is formalised in IEEE Standard No. 268 'Recommended Practice for Units in Published Scientific and Technical Work', which is available from Headquarters at \$1.50 per copy to members and \$3.00 to non-members.

Current Publications Bulletin :

As a new service to libraries and information centres, the 'IEEE Publications Bulletin' is to be released on a bi-monthly basis from the IEEE.

The Bulletin will give complete listings and ordering information for such items as new conference publications, special IEEE journal issues, new information services and new standards publications. Each issue will feature the most recent material which IEEE, one of the world's largest publishers of technical information, makes available for purchase.

In addition to featuring new products, the Bulletin will cumulate information over a one-year period, making each issue as easy-to-use as possible.

The Bulletin is offered as an answer to the much-expressed need of libraries for clear, timely and accurate publications' information. It is intended to become a 'one-step' notification and ordering vehicle for all of IEEE's many publications activities.

Special Issue on Microwave Integrated Circuits :

The 'IEEE Transactions on Microwave Theory and Techniques' plans to devote a special issue to microwave integrated circuits, to be published in July 1971. The purpose of this special issue is to focus attention on the applications of microwave integrated circuits in the design and development of active microwave components and systems.

Papers and correspondence items reporting new and significant developments in the field are solicited. In addition, several review papers will be invited to report the state of the art on research and development of microwave integrated circuits and related devices used in active microwave components and systems employing microwave integrated circuit technology. Contributions to this special issue should be concerned mainly with design techniques, device-circuit interactions, device characterisation, recent devices developed for microwave integrated circuits, the dependence of circuit performance on device design and measurable parameters, and recent circuit fabrication techniques for fabricating passive circuit elements such as resistors, capacitors, coils, biasing networks, etc.

Suggested topics for this special issue could include, but are not limited to, applications of microwave integrated circuits to small-signal low-noise transistor amplifiers, large-signal transistor amplifiers, transistor oscillators, avalanche- and Gunn-diode amplifiers and oscillators, mixers and upconverters, parametric amplifiers, tunnel-diode amplifiers, wideband components and systems, receiver and transmitter systems, techniques for achieving unilateral components such as circulators and isolators, and microwave switches. Papers dealing with slot-line and other topics related to microwave integrated circuits are considered to be appropriate to this special issue.

Length and style for the papers should be in accordance with 'Information for Authors' published in the Transactions. Four copies of each complete manuscript should be submitted for review not later than 15 November 1970, to the Guest Editor, Mr. J. B. Horton, MS-16, Texas Instruments Inc., Box 5012, Dallas, Texas 75222. Enquiries may also be sent to Professor G. I. Haddad, Editor, 'IEEE Transactions on Microwave Theory and Techniques', The University of Michigan, Department of Electrical Engineering, Ann Arbor, Michigan 48104.

1971 IEEE International Solid-State Circuits Conference :

The 1971 IEEE International Solid-State Circuits Conference will be held on the campus of the University of Pennsylvania and at the Sheraton Hotel, 17-19 February 1971. Papers, not previously published or presented, describing significant contributions in the following or related areas, are invited :

Integrated electronics: monolithic and hybrid; digital, including logic and switching; linear, low frequencies through microwaves; testing; reliability; LSI; compatible packaging; Circuit Techniques—new and novel circuits for analogue and digital signal processing and information transmission; power conditioning; environmental monitoring and control; Memories—semiconductor; magnetic; electro-optical and others; access circuitry: New Device Applications—circuits using new junction or bulk-effect devices; phonon or photon-coupled devices, and praeteronics: Optoelectronics—sensing, emitting and coupling of photons; detector and display arrays; scanning, access and processing circuitry; storage and information processing; Microwave Electronics—power generation and amplification; bulk, avalanche and acoustic wave devices; and other sources: Computer Aids to Design—device modelling; circuit analysis and

optimisation; mask layout; test generation; fault diagnosis: Medical Electronics—transducers; power sources; prosthetics.

Authors must submit *both* a 35-word informative abstract and a 300-500 word summary, appropriate to a 20-minute paper. Abstracts and summaries from Region 8 should be mailed to the following secretary, as early as possible, to facilitate review by overseas committee members: Mr. O. G. Folberth, IBM Laboratories, IBM Deutschland, Boeblingen, Germany. The 35-word abstract, suitable for publication in an advance programme, should be typed on a separate sheet and include title of talk, author's name, affiliation, complete return address and telephone number. Abstracts longer than 35 words will be shortened arbitrarily by the Programme Committee. Summaries must be submitted in single-side, double-spaced type-written form suitable for immediate reproduction and review purposes. The author's name, affiliation, complete return address and telephone contact should appear on the first page, and the author's name and paper title on each subsequent page. A limited number of late news items (suitable for 10-minute papers) reflecting important new developments, will be considered if 100-word abstracts and 300-500 word summaries are received by 15 January 1971.

1971 Symposium on Reliability :

The planning for the 1971 Annual Symposium on Reliability is well under way. The Symposium, to be held in Washington DC, from 12-14 January, promises to be an excellent exchange of technical information in the field of reliability. The theme, 'Reliability Meeting the Demand', will place emphasis on how reliability technology is responding to the demands of progress. Technical sessions have been structured to provide exchange in the areas of specifications, assurance techniques, mechanical reliability, design and analysis, management, transportation, marine products, prediction, cost, case histories, space simulation and statistical techniques.

A special highlight of the Symposium will be two sessions, called mini-forums, divided into several small discussion groups each of which will consider one of the controversial and important problem areas of to-day. Further information from Carl M. Bird, IBM Corporation—Department 942, 8600 N. Astronaut Boulevard, Cape Canaveral, Florida 32920, USA.

1971 IEEE Winter Power Meeting :

The 1971 Winter Power Meeting of the Power Group of the IEEE is scheduled to be held from 31 January-5 February 1971 at the Statler Hilton Hotel in New York City. The technical programme will encompass all subjects falling within the power field. Transactions quality papers dealing with the relationship of electric power systems to environment will be especially welcome. Authors should advise the Technical Conference Services Offices of IEEE Headquarters without delay if they expect to submit a paper.

New Model Paper for Authors :

A new 75 per cent model paper is available for future Conference and Transactions Papers. Authors are required to use the new paper. Please write to IEEE Headquarters for a supply. The reason for the introduction of this new model paper is to reduce costs by enabling the authors to use more of the page for his printed text. It is expected that authors now can present as much material in 8.5 pages with 75 per cent model paper as was previously presented in 10 pages with the 77 per cent model paper. This is partly due to the increase in the size of the printed page. As a result of the introduction of this new model paper, a new *nine-page limit* has been placed on future papers. All authors are expected to conform to this new nine-page limit. Please note that a substantial number of papers which had been presented for the Summer Power Meeting have been returned to authors because they exceeded the stipulated limit. Authors can further help by submitting papers with photographs and graphs inserted in the text at the appropriate places—not at the end of the paper. This will enable them to present more material in their paper and, furthermore, it will help reduce costs substantially.

Power Group Newsletter :

The Editor of the Power Group Newsletter is looking for ways to keep improving the content and appearance of the Newsletter and he asks any Power Group member in Region 8 to look and listen for comments on the good and poor features which it contains. He would welcome constructive suggestions at any time and would place particular weight on any received from Region 8 as he feels that, as one-third of authors of technical and conference papers are from outside the US, these authors and their associates should be heard in planning and policy-making. His name and address is Mr. E. W. Morris, 4050 Valente Court, Lafayette, California 94549, USA.

Students Notes :

A periodic Newsletter to Counselors from the Co-ordinator of Student Activities, Mr. Bob Loftus, has been inaugurated. With the early-Fall mailing of supplies to Branches will go a special form to simplify student application remittances, for use of

Counselors who prefer to remit by 'blanket' cheque rather than by individual students' cheques. Previously this method was discouraged.

The Student Activities Committee (SAC) reports to the Educational Activities Board (EAB). EAB feels that SAC might well

be transferred to RAB but, if so, its Chairman should be a member of EAB and there should be a formal liaison between SAC and TAB. The matter came up at Los Angeles in August. (Suggestions promptly to Vice-President Mulligan at New York H.Q., please.)

REGION 8 NEWS

The most important item of Region 8 news is so outstanding that it has been transferred to the front page, to take precedence over Institute News! The organisers of Eurocon 71 hope that you will read the inserted Call for Papers and pass the second copy on to someone who might not otherwise receive one.

INSPEC Topics :

INSPEC, the IEE's information service in physics, electro-technology, computers and control, which is based on collaboration between IEE and IEEE, launched INSPEC TOPICS on 1 August as part of the integrated INSPEC information service. Over 118,000 items of information are processed each year by INSPEC's team of qualified information scientists. These items are extracted from some 2,000 journals, reports, patents and conference papers, solely in the field of physics, electro-technology, computers and control. For each item, an abstract is prepared together with full bibliographical details of author's name, affiliation and journal references. These data are, at the rate of more than 2,000 items a week, entered into the INSPEC computer data base, the largest data base of its kind in the world. From this data base a series of services are produced, which include computer-typeset journals, magnetic tapes, selective dissemination of information, and now the INSPEC TOPICS service.

INSPEC TOPICS will provide a low-cost comprehensive service designed to meet the scientist's need for fast dissemination of information on advances in his field. Initially the TOPICS user will be able to choose from the following list of 21 subject-areas: 10. Colour centres in alkali halides; 20. Computer-aided design; 30. Electron optics; 40. Electronic reliability; 50. Ferrites and garnets; 60. Gas lasers; 70. Gunn effect devices; 80. Holography; 90. Ionisation and breakdown in gases; 100. Ionospheric propagation and the ionosphere; 110. Luminescence; 120. MOS devices; 130. Medical electronics; 140. Memory devices; 150. Microwave integrated circuits; 160. Pattern recognition; 170. Photoemission; 180. Piezoelectrics and ferroelectrics; 190. Semiconductor fabrication; 200. Thin film devices; 210. Thin magnetic films.

From the initial coverage of English-language electronics publications, the list will be extended in 1971 to cover the whole INSPEC subject field.

The INSPEC TOPICS service will provide the scientist with weekly sets of 6in. x 4in. cards, containing, for the Topics subjects he selects, individual information on every item received on that subject. The Topics user can thus build up his own personalised card index system of articles that are vital to his work. Further information can be obtained from INSPEC Marketing Department, The Institution of Electrical Engineers, PO Box 8, Southgate House, Stevenage, Herts, England.

MEETINGS IN THE REGION

European Semiconductor Device Research Conference :

A Third European Conference on Semiconductor Device Research will be held in Munich, from 30 March to 2 April 1971, by the Deutsche Physikalische Gesellschaft. Invited papers will be presented and sessions are being planned around the following topics: (a) Novel Device Technologies; (b) Single Devices, Diodes (e.g., avalanche and Gunn), Transistors, Optoelectronic Devices, Externally Controlled Devices (e.g., galvanomagnetic, piezoelectric devices), High Power Devices; (c) Integrated Devices. Material problems surface and interface phenomena, device modelling, computer aided design are included, but applications and circuitry problems corresponding to the state of art, phosphorescence and related phenomena will be excluded.

Specialists on these topics are invited to submit 10 copies of 10-line abstracts representing short 15-minute papers describing unpublished results to Professor W. Heywang, Siemens AG, Research Laboratories, Balanstr. 73, D-8 München 80, FR

Germany, by 10 December 1970. The Conference language is English. Authors will be notified of the Programme Committee's decision in January 1971. Invited papers will be published in Conference Proceedings ('Festkörperprobleme'). Further information can be obtained from Dr. F. Coers, German Section IEEE, Stresemann Allee 21, VDE-Haus, D-6 Frankfurt/Main 70, FR Germany, or Dr. K. H. Riewe, DPG, Heraeusstr. 12-14, D-645 Hanau, FR Germany.

ESDRC Munich 1971 will follow the German Spring Meeting of the DPG on Solid-State Physics to be held at Munster/Westfalen, 22-27 March 1971.

1971 European Microwave Conference, August 1971, Stockholm :

A preliminary announcement concerning this Conference was included in the last issue of the Newsletter. The detailed call for papers has now been issued and an inserted sheet in this present issue provides this information.

NEWS OF THE SECTIONS

ISRAEL SECTION :

The Convention dates of the Israel Section are 22-23 April 1971. The Exhibition will extend one more day. Also, we plan to hold two meetings as follows: 1. 15 September 1970 on 'The Integration of Israel into the Ground-Satellite Communications'. 2. In November on 'Applications of New Microelectronic Techniques'.

Mr. Arie Eichenbaum, who was elected Secretary-Treasurer, asked to be relieved of these duties and the Executive Committee asked Mr. Efron Gunders to serve in his place. Mr. Gunders is employed by Telrad Ltd., PO Box 50, Lod. His home address is 10 K.K.L. Street, Rehovoth.

SPAIN SECTION :

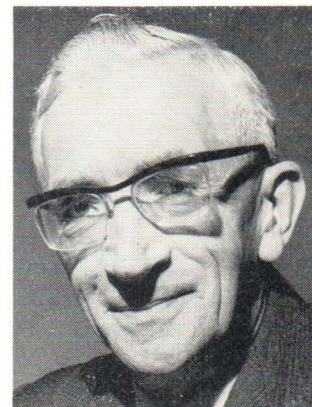
On 22 May 1970 the Spanish Government approved the bylaws of the Spanish Section. The promoting team held a meeting on 9 July and the following was agreed: (1) All IEEE members living in Spain to be informed by letter about the birth of the Section. (2) To nominate an Electoral Committee according to bylaws for the election of the Executive Committee of the Section. (3) To distribute some informative material about the Section to companies, national institutions, etc. The Electoral Committee is at present active in its business.

SWEDEN SECTION :

The following meetings were arranged jointly by the IEEE Sweden Section and the Engineering Society of Gothenburg during 1970: (1) On 9 April 1970 Messrs. Lippestad, Olso, and Hansson, Gothenburg, spoke on 'Power Transformers with Dry Insulation' at the Engineering Society of Gothenburg. (2) On 15 April 1970 The President of IEEE, Dr. John Granger, gave a talk 'The Role of the Professional Society—A Search for Relevance' at Chalmers University of Technology. (3) On



Mark Weissenstern
Past Secretary/Treasurer
Israel Section



F. John Lane
Past Chairman,
UK and RI Section

12 May 1970 Mr. H. Jahnsson, Stockholm, lectured on 'Integrated Electronic Components' at the Engineering Society of Gothenburg.

UNITED KINGDOM AND REPUBLIC OF IRELAND SECTION :

At the last meeting of the Section Committee consideration was given to providing some financial guarantee towards the funds for Eurocon 71. After discussion of a number of aspects it was agreed to seek further information from the organisers before reaching any decision.