



IEEE Region 8 newsletter

Editor: W. H. Devenish, The Electrical Research Association,
Cleeve Road, Leatherhead, Surrey, England.

Regional Director : Dr. Robert C. G. Williams

No. 3 June 1968

INSTITUTE NEWS

Nominations for IEEE Awards :

The Awards Committee at Headquarters has suggested that each Section sets up a survey committee to originate nominations. Details of all awards were given in 'IEEE Spectrum', November 1967, pp. 16-7. All Section Chairmen were sent an Awards Board brochure and packet of forms on 1st November 1967, but further copies may be obtained from Una Lennon at Headquarters.

Long-Range Planning :

A Committee has been organised to be responsible for considering items on long-term planning. Such items are sought from *individual members* as well as from all IEEE Units. The Chairman of the Committee is Past-President MacAdam; its Secretary is Bill Keyes and Dr. Robert C. G. Williams is a consultant.

Bylaws Changes :

On 4th January 1968 the Board of Directors authorised a change in Bylaw 406 to clarify the relations between Sections and Chapters, and authorise *Joint Chapters* of two or more Groups, and Chapters or Joint Chapters in *contiguous Sections*. These changes are specifically said to include Regions 8, 9 and 10.

Voluntary Page Charges :

All voluntary page charges are to be allocated to the publishing Groups treasuries. For information, five publications have adopted voluntary page charges: Journal of Quantum Electronics, Transactions of the Antennas and Propagation, Aerospace and Electronic Systems, Electron Devices, and Information Theory Groups.

Information Services and Systems :

It was announced in 1967 that IEEE was to collaborate with the IEE in relation to Electrical and Electronics Abstracts (EEA, otherwise known as Science Abstracts—Series B.) Attention of

those interested is further drawn to 'Spectral Lines', by Willenbrock in 'Spectrum', January 1968, p. 43, in which they rationalise the relatively conventional, but international, abstracts approach to the glamour area of mechanised information retrieval, as well as disclose ultimate objectives.

Most of the subscribers to EEA in the Americas, with IEEE as circulation agent, undoubtedly will be industrial, Governmental, and public libraries, most of which have already been solicited for subscriptions at the standard price. During 1968, however, IEEE is following the established practice of IEE in relation to EEA (and of the American Institute of Physics in relation to 'Physics Abstracts') of offering one subscription of EEA, for personal use, to any IEEE member at a substantially reduced price. An IEEE advertisement on page 17 of the December 1967 'Spectrum' makes this personal-use offering definitive. Howard Tompkins, who heads this activity on the IEEE staff, now reports that Engineering Index (EI) is to participate with IEEE in the marketing of EEA under a sub-contract just negotiated. Also, details of EI's participation in the editorial work on EEA are still being worked out. The IEE will be the principal Editor of EEA, as in the past.

Directory of Headquarters Staff :

A list of 40 names giving staff function, who-handles-what and how to reach him or her by mail or phone for specific information, together with an organization diagram, is now available from Audrey van Dort in New York.

Section Manual :

A revised Section Manual was mailed to Section Officers at the end of January, together with a first draft of a new 'Section Public Relations and Publicity Guide'.

IEEE and Joint Conferences :

A quarterly schedule of conferences (latest mailed January) gives greater detail than 'Calendar' appearing monthly in 'Spectrum' and is projected further into the future. Copies may be obtained from Ed MacDonald in New York.

REGION 8 NEWS

Region 8 Student Paper Contest :

When the winner of the 1968 Region 8 Student Paper Contest, Mr. Ingemar Lundstrom, visited New York as part of his prize, he was presented with the award by President S. W. Herwald. Also in the photograph is Professor Russ, Chairman of Region 1 Student Activities and serving as Co-ordinator of the Region Student Prize Paper programme activity.

Mr. Lundstrom's paper was entitled 'Analysis of Current Spreading in Firing Thyristors'. He has now returned to his electrical engineering studies at Chalmers University of Technology.

Co-operation between IEEE and National Engineering Societies in various Countries :

Engineers and engineering managers throughout the world are finding it increasingly important to maintain contact with their rapidly changing technology and with professional associates working in their field of interest. Two avenues of communication and participation must be activated, however, to fulfill this need. The first involves keeping abreast of technical developments



Mr. Ingemar Lundstrom receiving his award in New York from President S. W. Herwald.

throughout the world, while the second is concerned with advances and applications, within an engineer's own country and the economic, social and Governmental aspects of engineering and the engineering profession on a national basis.

It is for this reason that full professional participation on the part of engineers is most often reflected in membership in the appropriate national engineering society, augmented by corresponding membership in a technical society such as IEEE, operating on a world-wide basis. The operations of such societies are not competitive; they are complementary, and through co-operative planning each brings to the individual engineer services not rendered by the other. In addition, many local activities can be made more effective and draw larger participation through joint sponsorship and co-operative planning.

For many years IEEE has had a specific policy favouring co-operation with national societies in serving the professional needs of individual engineers. In most countries, where there are a significant number of IEEE members, the activities are organised through local, regional or national organizational units known as 'Sections'. They provide services and secure administrative, technical and financial support not otherwise available to members and national societies. They serve as a focal point for co-operation with the national society.

Both IEEE and national societies bring to the engineer in combination much more than each society can provide individually. Areas of potential duplication of effort can best be handled by joint sponsorship by the IEEE Section and one or more national societies.

Meetings in the Region :

A second Conference on Semi-conductor Device Research will be held in Munich in April 1969. This Conference is sponsored by the German Section of the IEEE, the Deutsche Physikalische Gesellschaft (DPG), the Verband Deutscher Elektrotechniker (VDE) and the Nachrichtentechnische Gesellschaft im VDE (NTG).

Invited papers will be presented by recognised specialists in the field. Sessions are planned with submitted papers on the following topics :—

Effects using majority-carriers (Gunn-effect, ATT-diode, hot electrons, plasma-effects); Field effect and thin film transistors including interface and surface problems; High frequency junction devices (novel transistor systems, tunnel-diode, Scottky-diode, varactor); Opto-electronic devices (luminescence-, laser- and photo-diode, coupling elements, radiation detectors); Galvanomagnetic device; Piezo-electric semi-conductor devices, including phonon interactions; Semi-conductor problems in power electronics (thyristor, thermo-electric phenomena, sensors).

Included are material problems, special technologies, semi-conductor effects for microwaves and memories; excluded are applications and circuitry problems corresponding to the state of art, phosphorescence and related phenomena.

Prospective authors for short papers (unpublished results—15 minutes maximum) are invited to submit 10 copies of an abstract (10 lines) to Dr. W. Heywang, Siemens AG, Research Laboratory, 8 München 80, Balanstr. 73, F.R. Germany, before 15th December 1968. Authors will be notified of the Program Committee's decision in January 1969. Languages—English, French and German (no simultaneous translation). Only invited papers will be published in Conference Proceedings 'Halbleiter-probleme'.

Further information can be obtained from Dr. Ing. H. H. Burghoff, German Section IEEE, 6 Frankfurt/Main 70, Stresemann Allee 21, VDE-Haus, F. R. Germany, or Dr. Phil. K. H. Riewe, DPG, 645 Hanau, Heraeusstr. 12-14, F. R. Germany.

The Conference will be combined with the meeting of the Deutsche Physikalische Gesellschaft on Semi-conductors, Metals, Magnetics, Low Temperatures and Thermo-dynamics.

The IEEE is participating with the Royal Aeronautical Society, United Kingdom, in organising the Fourth International Simulation and Training Conference, to be held in London from 22nd-26th September 1969. The R.Ae.S. will be host to the Conference, and the Society of Automotive Engineers, Inc., will serve as co-sponsors.

A Summer Course on switching circuits is to be held at the Electronics Laboratories of the Louvain University, 94 Kardinaal Mercierlaan, Heverlee, Belgium, from 2nd to 13th September 1968 in Dutch, and from 9th to 20th September 1968 in French. The main topics of the Course are the theoretical aspects and the methods used in the synthesis of switching circuits (combinatorial and sequential). Emphasis is put on computer-aided analysis and synthesis methods. Technological aspects are treated under seminar form.



Dr. Robert C. G. Williams,
Director, Region 8.

An International Symposium on Network Theory will be held in Belgrade, Yugoslavia from 4th-7th September 1968. The subjects to be discussed are as follows :—

Characterization of physical devices by means of mathematical models; Functional analysis and the theory of linear operations in system analysis and synthesis; Topologic network analysis and synthesis; State-space analysis and synthesis of linear and non-linear networks; Graph theory methods in the analysis and synthesis of communication nets; Broadband matching and optimization of network design; Filter synthesis; Computer-oriented techniques in network analysis and design; Synthesis of networks containing lumped and

distributed parameters; Design of active lumped and integrated networks.

Earth and Environmental Sciences :

Because of the ever-increasing interest of various communities in the field of aerospace exploration and exploitation of the earth's resources and related environmental sciences, the IEEE recently established a committee 'Earth and Environmental Sciences'. The Chairman is Dr. T. H. Chin, who may be contacted through Headquarters in New York. He is seeking to enhance international co-operation and professional participation, and would appreciate information (persons, organizations, addresses) of Government agencies, educational institutions and industries interested in or concerned with this field of technology so that communications and ideas may be exchanged.

Directory of Members in Region 8 :

At the meeting of the Region 8 Committee in April it was agreed that a list of all members in the Region should be circulated with a future copy of the Newsletter. The various ways in which this could be arranged, within the capabilities of the computer at Headquarters and the budget for Region 8, are being explored and it is hoped that the Autumn Newsletter will include this information.

Neck-ties with IEEE Emblems :

Also at the meeting in Paris, the U.K. and R.I. Section was asked to make further enquiries about neck-ties incorporating IEEE emblems. It was hoped that these could be ordered and delivered by letter-post, so minimising Customs difficulties. More information will be provided as soon as it becomes available.

NEWS OF THE SECTIONS

FRANCE SECTION

(a) The General Assembly of the France Section was held on 12th March at the Ecole Nationale Supérieure d'Aéronautique. Certificates were presented to the following members who had been elected to the grade of Fellow :— Mrrs. E. Aisberg, P. David, H. Gutton, F. Nouvion and J. P. F. Voge. Through the courtesy of C.N.E.T. and N.A.S.A., the following films were shown: 'Economic View of Reliability', 'Electric Power Generation in Space' and 'Lunar Landing'.

(b) On 28th May, Mr. Leenders, General Manager of Westinghouse Electric Corporation in Arvens-Bierset, Belgium, gave a talk on 'New Technical Developments in Passenger Elevators'.

(c) A meeting of the Region 8 Committee was held in Paris on 1st and 2nd April, when it was our pleasure to have a visit from President Seymour Herwald and IEEE General Manager Don Fink.

In addition to the visit to the Electronic Components Exhibition, the members of the Committee were invited to visit the Research

Centre of the Compagnie Générale d'Electricité at Marcoussis. The Regional meeting activities concluded with a dinner at the Maison des Polytechniciens, with Dr. P. Aigrain, Délégué Général à la Recherche Scientifique et Techniques près le Gouvernement Français, as guest of honour.

(d) French Electronic and Electrical Engineering Student Activities :—

Twenty students of the Institut Supérieur d'Électronique de Paris have formed a Student Branch, of which Professor Magne is Counsellor.

A Student Branch is also being set up at the Ecole Supérieure d'Electricité in Paris, with Professor Hebenstreit as Counsellor.

ISRAEL SECTION

The Section will have its Sixth Annual Convention from 20th-22nd October 1968, in Tel-Aviv. The meeting is co-sponsored by the Technion (Israel Institute of Technology) and the Ministries of Posts, Commerce and Industry and Defence. It will include technical sessions, an equipment exhibit and social events. Guests are cordially invited, and any request for further information should be directed to the Contributing Editor.

The Section held a technical meeting on 21st April 1968, devoted to the subject of the state of the art in micro-electronics. Dr. Barry Cohen of Bell Telephone Laboratories and the Technion lectured and moderated the discussion.

It might be of interest to members in the Region that the Faculty of Electrical Engineering, Technion-Israel Institute of Technology, announces a Summer Seminar that will be held at the Technion City, Haifa, Israel, from Monday, 19th August to Wednesday, 28th August 1968 (totalling 8 study days). The Seminar will consist of a series of lectures and panel discussions on recent research results and trends in network theory. The central topics are (1) computer-aided techniques; (2) integrated networks; (3) state space and topological methods. The lectures will be given by guests from abroad and by Faculty members, and scientists of international repute will participate as guest-lecturers. All lectures will be given in English. For information on participation and accommodation, please write to: The Organising Committee, Summer Seminar on Network Theory, Faculty of Electrical Engineering, Technion, Haifa, Israel.

NORTH ITALY SECTION

The Bylaws of the Section were approved by the IEEE Executive Committee at its meeting on 15th March 1968.

The student activity has been considerably increased and extended to the Politecnico di Milano and to the Institute 'Beltrami' of Milano. In September 1967 the number of students in the Section was about 80, today this number is about 210. As a consequence of this increase, the North Italy Section has passed from 298 members on 31st December 1967 to 311 members on 30th April 1968 (Members and Transfer Committee document of 8th May 1968), which is the highest increase of all Sections recorded.

SPAIN SECTION

The IEEE Executive Committee accepted the proposal to establish a Spain Section and sent all the necessary documents to assist in getting the activities of the Section underway to: Dr. Rogelio T. Segovia, Arturo Soria 98, Madrid, Spain.

IEEE membership application forms are now available printed in Spanish and a small supply of these new forms has been forwarded to Dr. Segovia. Supplies can also be furnished promptly from Headquarters in New York.

SWEDEN SECTION

The two most important national Societies in Sweden are Svenska Teknologföreningen in Stockholm (16,500 members, of

which about 4,000 are electrical engineers), and Tekniska Samfundet i Göteborg (1,900 members, of which about 300 are electrical engineers). It appears that a breakthrough has occurred in the relations between the Section and the national Societies.

Besides the two meetings already reported in Newsletter No. 2, a third meeting was held on 26th March in co-operation with Tekniska Samfundet i Göteborg. Mr. Stig Larsson of the L. M. Ericsson Telephone Company, Mölndal, gave a lecture on 'Automatic Testing'. Also, on 4th April the Section and Svenska Teknologföreningen held a joint meeting in Stockholm. Professor Samuel Seely (F) spoke on 'Digital Computers in Engineering Education'. On 16th April the IEEE Executive Committee approved the Bylaws of the Section.

SWITZERLAND SECTION

The Switzerland Section was extremely gratified to learn of the nomination of its Junior Past-President, Mr. R. Wellinger, for the post of Regional Director for 1969/70. Mr. Wellinger has shown great initiative, both in society matters and in his professional capacity as Director of the Electronic Laboratory of the Swiss Watch Industry.

The very successful Student Branch was able to increase its membership to over 90, mainly due to a canvassing effort at the Swiss Federal Institute of Technology in Zurich. There is no doubt that engineering students constitute the most promising membership quota in the long run.



Mr. J. D. Lebel, Chairman,
Newsletter Editorial Board.

Our series of lectures and symposia again proved very successful and included amongst others :—

a two-day cycle on thick-film hybrid integrated circuits, with the assistance of several foreign authors and a participation exceeding 200; synthesis of non-linear systems; session on reliability, organised by Ecole Polytechnique de l'Université de Lausanne, comprising seven papers by various authors. All lectures and symposia were organised on a reciprocity basis with the relevant national engineering society. The Switzerland Section was pleased to learn that one of its student members, Alessandro Birolini, won second prize in the Regional Student Contest.

The pre-summer vacation programme foresees an average of three lectures per month, lasting from one to two hours and encompassing the full range of subjects from heavy current engineering to computer components.

UNITED KINGDOM AND REPUBLIC OF IRELAND SECTION

The Section's Annual General Meeting will be held on Friday, 28th June at the IEE, Savoy Place, London, W.C.2, at 6 p.m. (tea at 5.30 p.m.). It will be followed by a talk on the organization of the IEEE.

Conferences :

The Section is co-sponsoring conferences on international broadcasting, tropospheric wave propagation, solid-state devices and electronics design, all of which will be held next September.

Circuit Theory Chapter :

Professor A. Nathan, of the Israel Institute of Technology, Haifa, will give a talk on 'Slow Graphs', at the IEE on 19th June at 5.30 p.m. (tea at 5 p.m.). All members of the IEEE are welcome to attend.

STUDENT ACTIVITY NEWS

Student activities have expanded on a very large scale during the last few months. We now have eleven Student Branches, instead of five in July 1967. Another Branch is expected very soon in France, and contacts have been made with several universities in the Netherlands, Italy and Turkey. Two Section

Student Branches have been founded—(1) United Kingdom and Republic of Ireland, (2) Switzerland. The number of IEEE student members increased this year by a factor of about two. The following table shows the student membership per section or per country when there is no section :—

	<i>Student Membership</i>	<i>Branches</i>
Benelux	76	1
Denmark	6	
Egypt	8	
Finland	39	1
France	43	1
Germany (West)	4	
Israel	6	
Middle and South Italy	66	1
North Italy	120	1
Norway	1	
Spain	134	1
Sweden	91	3
Switzerland	92	1
Turkey	8	
United Kingdom and Republic of Ireland	31	1
TOTAL	725	11

627 students out of 725 are involved in Student Branch activities. On 31st December 1967 the total student membership was 314, to compare with 725 in May 1968. Of course, this is not only due to an increase in membership, but also to the fact that, because of the sometimes long delay for the registration processing, some students were not officially recorded in December 1967.

A new registration procedure was set up at the Student Activity Committee meeting in Paris in April 1968 to avoid such a time-consuming delay. From now on, students will receive IEEE news and journals much sooner than before.

Second Region 8 Student Paper Contest :

The second Student Paper Contest was held in Paris, France, on 1st April 1968. The local organization was by Professor P. David, Chairman of the French Section, and was excellent. We had again five contestants (as last year); they came from Finland, Italy, Spain, Sweden and Switzerland.

The first prize was won by Lars Odman from Chalmers Institute of Technology, Gothenburg, Sweden, for his paper on 'Analog Computation of Surface Field at p-n Junctions'. The IEEE will pay for a trip by Mr. Odman to the New York Convention in March 1969. He also won \$50.00 and his paper is competing in the final contest in New York.

The second prize was awarded to Alessandro Birolini, Swiss Federal Institute of Technology, Zurich, Switzerland, for his paper on 'Simulation d'une installation hydroélectrique en marche isolée sur charge ohmique symétrique'. He won \$25.00 and his paper is also competing in the final contest in New York.

The third prize was awarded to Hannu Marsalo, Technical University of Helsinki, Finland, for his paper on 'Device for Recording of Diaphragm Movements During Breathing'. He won \$15.00.

All contestants, and especially the three winners, are congratulated on their performance.

Awards :

The Madrid Student Branch of the Escuela Técnica Superior de Ingenieros de Telecomunicación, Spain, was again this year the winner of a Vincent Bendix Award. The students received \$476.00 to purchase parts to be used in the construction of a full size model to study some problems involved in the design of equipment for communication and telemetry satellites. This project will include a relay station, telemetry and telecommand systems.

This year, six branches received such an award, with an average amount of about \$400.00 per branch.

Student Convocation in New York, March 1968 :

For the first time in 1968, a 'Student Convocation' was held in New York; two Student Branch Chairmen were invited from each Region 8 delegates were J. A. Ambrosio, Chairman Madrid Student Branch, and A. Ronconi, Chairman Padova Student Branch. Mr. Ronconi made a report on this Convocation, from which the following excerpts are made :—

This year, along with the IEEE 1968 International Convention and Exhibition, held in New York from 18th-21st March, for the first time there was a Student Convocation, with the participation of two Student Branch Chairmen from each Region. I attended this Convocation as Chairman of the Student Branch of the university of Padova, Italy.

The main object was that of finding a solution to the many organization problems of the Student Branches, to try to improve the relations between Headquarters and the Branches, and for us of Region 8 this was an opportunity to speak up among the preponderance of the U.S.A. Branches.

The organization of the IEEE was first described by Don Fink, the IEEE General Manager. The Chief Editor of the Student

Journal then dealt with the editorial arrangements, when I pointed out the actual Student Journal is of no interest to



Mr. W. H. Devenish, Editor,
Region 8 Newsletter.

European Students since it is full of news for U.S.A. Students. I suggested that if we want the Student Journal read by all the student members, it should report more news of international interest. The Chief Editor has promised that something will be done in this direction. After this I pointed out another big problem which is particularly felt by my Branch's members—the delay in receiving the technical publications to which we subscribe. The answer that not much can be done was because, beside the normal organization and print delays, the publications sent to Europe are sent via sea mail, so a delay of at least 4-5 weeks must be expected. To this I replied that, at least in my case, this delay is never shorter than two months.

A good thing has, however, been accomplished: they will send the first copy of 'Spectrum' to new subscribers by air mail, so that the new members will not feel themselves forgotten. This, I think, is not a bad idea.

A very interesting visit was made to the Engineering Society Library, the largest engineering library in the free world. There I asked for information about the possibility of extending to Europe the library facilities available to U.S. citizens, but I received no clear answer. I believe that the problem of library facilities and research ought to be discussed at Regional level.

The final day was completely dedicated to discussion. Everyone spoke about all the problems of general importance but, as a general suggestion, Professor Russ, who directed the debate, said that Headquarters will do all it can, but we should not forget that many of the organization problems can be more effectively solved at a Regional level. Very interesting during this session was the talk about the educational facilities available from IEEE, particularly the 'slide-tape lecture', of which the first series about microelectronics is already available.

Now I think it necessary to suggest making the 'Student Convocation' a periodical meeting. I personally believe that it is very useful to meet together once a year, but I do believe that the organization of this meeting could and should be improved.

This year's Convocation was just an experiment, now we must work in such a way to change this experiment into a profitable chance to do something effective. To do this I would suggest that all the Branches of a Region discuss all the topics that could be debated at an international level, then send all their suggestions through their Region to the Headquarters which could elaborate a plan for the discussion. The delegates would then know in advance what they will be talking about and they will not lose any time discussing problems of no general interest.

CONTRIBUTING EDITORS

BENELUX : Dr. F. L. Stumpers, Chief Physicist, Philips Research Laboratories, Eindhoven, Netherlands.

EGYPT : Eng. Ahmad Md. A. Elmoety, Egyptian Society of Engineers, 28 Ramsees Street, Cairo, U.A.R.

FRANCE : Mr. R. Baudry, 26 rue de l'Yvette, Paris XVI, France.

GERMANY (West) : Dr. L. Rohde, Rohde & Schwartz, Muhlendorfstrasse 15, 8 Munich 8, West Germany.

ISRAEL : Mr. M. Weissenstern, Elta Electronics Industries Ltd., P.O. Box 127, Lod Airport, Israel.

MIDDLE AND SOUTH ITALY : Mr. D. Solimini, University of Rome, Electronics Department, 00184 Rome, Italy.

NORTH ITALY : Professor G. Cariolaro, University of Padova, Via Marzolo 9, Venetia, Italy.

NORWAY : Mr. M. M. Brady, A/S NERA Oslo, Pilestredet 75 C, Oslo 3, Norway.

SPAIN : To be appointed.

SWEDEN : Professor E. F. Bolinder, Division of Network Theory, Chalmers University of Technology, Gibraltargatan 5 T, Gothenburg S, Sweden.

SWITZERLAND : Mr. H. Laett, Radio Schweiz AG, Viktoriaplatz 1, 3000 Bern 25, Switzerland.

UNITED KINGDOM AND REPUBLIC OF IRELAND :

Mr. R. C. Winton, Mullard House, Torrington Place, London, W.C.1, England.

STUDENT NEWS : Professor A. Vander Vorst, Electronic Research Laboratories, Louvain University, 94 Kardinaal Mercierlaan, Heverlee, Belgium.

CHAIRMAN OF THE EDITORIAL BOARD : Mr. J. D. Lebel, CLES, 6 avenue Daniel Lesueur, Paris 7, France.