### THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS



Region 8 newsletter

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Regional Director:
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No. 6 March 1969

#### MESSAGE FROM THE REGIONAL DIRECTOR

At the beginning of this two year term of service as your Regional Director, I would like to express my views on the opportunities that participation in the life of the IEEE opens to each of us individually, opportunities which are available now because of the solid foundation laid by my predecessors and their committees since the formation of our Region. Not only do

Ir Sections and Student branches continue to grow as well as multiply but the Institute itself has been moved to modify within the Region we now have this Newsletter which brings our scattered community closer together, while our IEEE tie gives us an elegant means of identification.

But sheer growth of membership and Sections, although essential, is not the 'raison d'etre' of our professional society this can be found in the objectives of our Institute, which are centred on meeting the technically related needs of the individual engineer in the broad electrotechnical field over the wide range and depth of his technical interest and at all levels of his administrative responsibility by worldwide voluntary association and activities.

These activities centre mainly around the advancement of technology, the problems dealing with technical information, education in a broad sense, communication, and finally asserting the engineer's role in the world of today. Further we carry a large share of the responsibility for emphasising the non-national status of the Institute.

All in all this adds up to a formidable task and we must set priorities, deliberately choosing those activities which best meet

our own needs.

One suggestion which has been raised with me from several sources lies in the possibility of organising some common activity within Region 8 on the grounds that by working together we will get to know each other better, and this leads to the thought of a Regional seminar or a conference on one or more specialised subjects. Further, it frequently happens now that one of the smaller Sections has to forego a well planned seminar or conference because neither the funds nor the total membership of the Section are sufficient to cover the financial risk. We must find an answer to this sort of problem-if you have any good ideas or suggestions please inform your Section Chairman or write directly to me.

This broad problem will be our most important item of business at the next Regional Meeting, to be held in Montreux in May, where your representatives, the Section Chairmen, will decide on a course of action aimed at giving you the maximum benefit

from your IEEE membership.

Any activity on a Regional scale will require your full support and co-operation. I know that the Regional Committee wishes to do their best for the members they represent and to spare no efforts to serve their interests. We now rely on you, our members, to let us have your suggestions.

Roger P. Wellinger

## INSTITUTE NEWS

#### Section Co-ordinators of Groups:

The proposal from Region 8 that co-ordinators be appointed to provide for the free flow of information between Sections and Groups has been accepted. Each co-ordinator will strive to be, on request, any Group Chairman's correspondent and right-arm or Group/Section relations. An exception would be where there are actually established Chapters; their Chairmen will continue to correspond directly with the Group. *Initiative* lies with Group Adcoms. (Extracted from 'Electrical Engineering', December

# Interest Material for Meetings:



Robert C. Winton, Secretary UKRI Section and Member Educational Activities Board

First-rate supplements to meetings are available in the form of sound films, video tapes, and slide-tape lectures. Some make excellent 10 to 30-minute curtain-raisers, especially if followed by competent local leaders prepared to preview.

Ring-portfolios 'IEEE Educational Activities' have been circulated to Section and Group Chairmen and Branch Counsellors. Listed and described are films, slide-lectures, to to units; also, other loaned society, university, industry, govern-mental sources of films for loan. Some material extends to full-fledged seminars. (Enquiries to Jack Kinn, IEEE, N.Y.)

#### Nomination of Candidates for Fellow of IEEE:

The deadline date for completed nominations of candidates for Fellow grade of IEEE is 30 April 1969. Any IEEE unit, or member, other than the candidate, may submit proposals using standard forms, etc. obtainable from Miss Emily Sirjane at Headquarters. More complete particulars have been sent to Sections.

#### Standards Activity Evaluation:

Currently under way is 'a study of all IEEE standards activities instituted at high priority, which includes the work of the Standards Committee, personnel, group standards participation, and standards policies, with a view toward strengthening and expanding standards efforts to meet our members' needs, now and for the future, both nationally and internationally'. Mr. Ivan G. Easton, Senior Vice-President, General Radio Co., 22 Baker Avenue, West Concord, Mass. 01781, USA, will head the study. Interested members should send their comments and suggestions to Mr. Easton, copy to Dr. S. W. Herwald at IEEE, N.Y.

## Preparation of Manuscripts:

Source-book is the pamphlet 'Information for IEEE Authors', essential alike to writers of papers to be printed by letterpress or by photo-offset, but bearing particularly on manuscripts for letterpress. (For copies, apply Patricia Penick, IEEE, NY.) Authors asked by meetings and conference publications to supply author-typed manuscripts for photo-offset require further information and aids. These are furnished in an 'IEEE kit', often socalled by 'Spectrum' in Calls for Papers, under News of the IEEE. Kits cost 25c plus postage, billed by invoice, consisting of 15 sheets of 11" x 14" (28 x 35.5 cm.) 'model paper', having guide-lines in light non-photo blue for delimiting two-column typing areas, for photo-reduction to 77% in size, plus instruction for its use in preparing manuscripts including instruction for its use in preparing manuscripts, including illustrations, to meet special requirements for  $8\frac{1}{2}$ " x 11" (21.5 x 28 cm.) offset work. (Kits from Mr. Ed MacDonald, IEEE, NY.)

# Transactions in Microfiche:

Beginning in January 1969, Transactions on (1) Aero-space and Electronic Systems, (2) Computers, (3) Power Apparatus and Systems, are now available in 60-page microfiche. Group members and subscribers to these Transactions may subscribe to microfiche issues, which will be mailed about the same time as printed issues. Microfiche of other IEEE journals may come later.

A member of a concerned Group may receive microfiche instead of printed issues at no additional cost. Alternatively he may receive microfiche in addition to print by paying an additional fee of \$6 (\$5 for A & ES). Non-member subscribers have the same options, the in-addition fee being \$12 (\$10 for A & ES); reduced to \$9 (\$7.50 for A & ES) for public libraries, Government agencies, colleges.

Wait for renewal bills before ordering new service. Watch 'Spectrum' for extended announcement. (Information from Mr.

Reed Crone, IEEE, NY.)

# New Styling of Certificates:

IEEE has grown up with a hodge-podge of certificates and diplomas of all sizes, paper quality, aspect ratios, colours, typography and wording, adapted to a wide range of uses. Activities concerned have now agreed on advantages of uniformity and a modern look, more in keeping with IEEE's image. Watch 'Spectrum' for announcement of new recognition material. One item is a miniature—to be mounted in clear plastic as an office desk paper-weight or home conversation-piece.

# **REGION 8 NEWS**

#### Change of Regional Director:

Dr. Robert C. G. Williams circulated the following memorandum

to the Regional Committee on 1 January 1969 :—
'I find—somewhat to my surprise—that I remain Regional Director until 7 January, which is the date of the first Board meeting of the New Year, and hence am taking the opportunity of sending this last general memorandum with three messages. (1) To wish everyone an enjoyable and successful 1969, and to thank those Sections which sent me good wishes for Christmas and the New Year.

(2) All Section Chairmen and the SAC Chairman should by now have received a parcel of 20 Regional Directories. As arranged at the Tel Aviv meeting, these should be appropriately distributed at your discretion among those members of your committees who can make best use of them for purposes of membership,

up-grading, fellow nominations and awards.

'(3) I have been informed by New York that the Groups have enthusiastically endorsed the principle of Section Group Coordinators and correspondents and look forward to developing Section/Group relations during the coming year. New York intend to distribute an Organisational Roster early in the year and such appointments as have been made will be included. To date there has been only one appointment—in the UKRI Section—and, although I would deplore over-hasty appointments being made, I felt that you would like to know of this proposal and you may wish to take advantage of this opportunity to have your Section Group Co-ordinators included in the record. Any such appointments will, of course, require the approval of the new Director, Dr. Roger Wellinger.'



Dr. Robert C. G. Williams, Director, Region 8 (1967-68)

This communication is quite typical of many which Dr. Williams circulated during his term as Regional Director. It shows the friendly and understanding way in which he encouraged so many throughout the Region to contribute perhaps rather more than they had originally expected to the well-being of IEEE. Although in his message in the last Newsletter Dr. Williams quite rightly acknowledged the support from many members in the Region, this support could only have resulted in so much development as a result of quite outstanding leadership. It seems appropriate that the Newsletter, which was from the start very much his own idea, should record on behalf of members the gratitude that is felt by us all.

#### Members Elevated to Fellow Grade:

The announcement from the Board of Directors of the names of members elected Fellows effective from 1 January 1969 was received too late for inclusion in the last Newsletter. Everyone in Region 8 will be pleased by the following extracts from the complete list of 127 names :--

#### Benelux Section:

Schouten, Jan F.

For contributions to research in visual and auditory perception, and to telecommunications.

Verhagen, Cornelis J. D. M.

For contributions to the development of interest and education in the field of instrumentation and control.

# France Section:

For contributions to the development of radio-communication systems, and for management of research laboratories and production facilities.

Havens, Byron L.

For outstanding technical contributions to modern digital computers, and for sustained leadership in developing technical capabilities of European data processing laboratories.

Langlois-Berthelot, Richard

For contributions to research, production, education and international activities in electrical engineering.

Libois, Louis J.

For contributions to the application of computers to telecommunications and to the progress of microwave links.

#### United Kingdom and Republic of Ireland Section:

Carter, Geoffrey W.

For contributions to the application of electro-magnetic theory and mathematics to electrical engineering design and analysis, and for particular success in electrical engineering education. Laithwaite, Eric R.

For outstanding work on electrical machines and especially for development of the linear induction motor.

Willheim, Raoul

For extensive contributions, major achievements, and leaders! in all areas of high-capacity and high-voltage power engineering.

#### Meetings in the Region:

#### Computer Courses at Intermag:

For the practising electrical engineer who would like to use digital computer programmes as an aid in solving day-to-day problems, or who would benefit from knowing how to use time shared computers to solve practical electrical engineering prob-lems, two new two-day IEEE tutorial courses are to be held on 14 and 15 April 1969, in Amsterdam in conjunction with the Intermag Conference. The courses are developed for the IEEE by Oyer Professional Computer Services, New York, N.Y., subsidiary of Computer Age Industries, Inc. Paul D. Oyer, Bradley Bealle, Dr. Monroe M. Newborn and John T. McAuley will serve as course instructors.

The Intermag Conference (International Conference on Magnetics, 15-18 April 1969) and the courses will both be held in the RAI International Congrescentrum at Amsterdam.

Full information about the courses and registration for members and non-members can be obtained by writing to the Education Registrar, IEEE, 345 East 47th Street, New York, N.Y. 1C017, U.S.A.

Further information about the Intermag Conference can be obtained by writing to Dr. Th. Holtwijk, Executive Secretary 1969 Intermag, Philips Research Laboratories, Eindhoven, The Netherlands.

#### 1969 Conference on Microelectronics, Eastbourne, Sussex, England, 3-5 June 1969:

A Conference on Microelectronics will be held in Eastbourne and is being sponsored by The Institution of Electrical Engineers (Electronics Division), The Institution of Electronic and Radio Engineers, The Institute of Physics and The Physical Society, and The Institute of Electrical and Electronics Engineers Engineers (United Kingdom and Republic of Ireland Section).

The Conference aims to provide an opportunity for the discussion of significant advances in the design, manufacture, measurement, assembly and application of all forms of microelectronics. It will embrace such topics as semi-conductor and film integrated circuits, microwave and opto-electronic devices, sub-systems, e.g., integrated stores and iterative logic arrays, assembling and packaging, design methods, testing and reliability.
Particulars can be obtained from The Conference Department,

The Institution of Electrical Engineers, Savoy Place, London, W.C.2, England.

#### 1970 Conference on Dielectric Materials, Measurements and Applications, Lancaster, England, 20-24 July 1970:

Sponsored by The IEE Joint Professional Group J2, which is concerned with the Properties and Testing of Materials (Solids and Liquids), together with the IEEE (UKRI Section), a four-day Conference is being arranged on Dielectric Materials, Measurements and Applications, to be held at the University of Lancaster from 20-24 July 1970.

The Conference is planned to interest those engaged in research on solid and liquid dielectrics and their application in the power and communications industries, including in its scope all aspects of dielectrics and insulation which are of scientific and general

interest.

Specific topics which it is hoped to cover include permittivity, conduction and loss, high field behaviour, breakdown ('intrinsic and 'non-intrinsic'), discharges associated with solids and liquids, properties at low temperatures, impregnated systems, influence of environment on properties, materials for high temperatures, materials with new characteristics, evaluation of thermal stability, evaluation of mechanical properties (e.g., creep and fatigue), new systems of insulation of equipment, methods of measurement associated with any of these topics. Papers are invited: intending contributors should submit preliminary synopses (not for publication) as soon as possible, and not later than 30 May 1969, to the IEE Conference Section: the full texts of contributions (not exceeding 1,500 words) will be required by 1 January 1970. Further details may be obtained from the Conference Department, IEE, Savoy Place, London, W.C.2, England.

# NEWS OF THE SECTIONS

Many Sections have been pre-occupied with the appointment of officers for 1969 and the news from them consists only of these appointments. It was hoped to include with this Newsletter a separate sheet giving names and addresses for all officers throughout the Region but, as this is being written, the necessary information it too incomplete to justify publication. Should the remaining information arrive in time, the list will be inserted, but otherwise it will be prepared for a future issue.

#### BENELUX SECTION:

On 10 January a full-day technical conference was held in Eindhoven on 'Electronics in Traffic Engineering'. The papers will be published in the Journal of the Dutch Society of Radio and Electronics (N.E.R.G.); this organisation acted as a joint sponsor. The attendance was around 100. After the meeting a Section meeting was held. The members of the Executive committee were elected—Dr. F. L. Stumpers: Chairman, Mr. E. Reygaerts: Vice-Chairman, Ir. F. Valster: Secretary/Treasurer, Professor P. Jespers: Junior Past Chairman, Ir. W. Lulofs: Chairman of Meetings and Papers Committee.

On 24 January an evening meeting was held, jointly with S.I.T.E.L. in the Fondation Universitaire in Brussels. Mr. Stoefs and Mr. Hansen introduced the speaker, Monsieur Pierre Blancheville, Chief Engineer of the 'Service des Etudes de l'O.R.T.F.' He treated the subject 'On Some Aspects of Direct Broadcasting by Satellites'. Perhaps in 1975 all difficulties will have been solved, and then this will be our normal television system. 70 people attended.

On 21 February the Benelux Section was the guest of E.S.T.E.C. (European Space Research and Technology Centre) in Noordwijk. After an introduction by Professor Kleen, Director, lectures were given by Dr. Ing. Toussaint: 'Telecommunications Support for given by Dr. Ing. Toussaint: 'Telecommunications Support for Esro Missions', by Ing. M. Pellet: 'Space Technology Applied to Telecommunications Equipments', by Ir. R. Okkes: 'Coherent Detection Methods for Space Communications' and by Dr. R. Collette: 'The Project Eurafrica, Proposals for an European T.V. Distribution Satellite'. Ing. W. King guided the members through a visit of testing and telemetry facilities.

On 21 February the IEEE Student Branch in Louvain organised a study day on 'Recent Developments in Semi-Conductor Tech-

niques'. Speakers were Professor Memelink, Dr. Francois, Ir. Nienhius, Dr. van de Steen and Ir. van Heuven.
On 22 May 1969 the IEEE Section will join the Dutch Physical Society in organising a Symposium on 'Integrated Circuits, Possibilities and Difficulties' in the Technological University of Delft, Speakers are :

Professor Tummers, Opening, introduction, survey;

Dr. A. Schmitz, Technological limitations;

Dr. N. de Troye, The structure of Integrated digital circuits; Ir. C. Eversdijk, Application of digital circuits; Ir. van Kessel, Developments in analogue integrated circuits;

Professor Memelink, Integrated MOST circuits; Professor Tummers, Expectations for the future.

#### FRANCE SECTION:

At the meeting on 24 January 1969 the officers of the Section for 1969 were elected and afterwards Dr. Gurney L. Godwin of the Westinghouse Electric Corporation, East Pittsburgh, Pa., gave a lecture on 'The Use of Electronic Computers for Orders Processing and Optimising the Design of Rotating Electric

#### **DENMARK SECTION:**

Approval of the Section's Bylaws was given at a meeting on 7 January 1969, when the Executive Committee was also elected. The meeting ended with a paper entitled 'The Scandinavian-Belgian Communication Satellite Experiment' and was presented by Mr. M. Gronlund, M.Sc., from the Danish Research Centre for Applied Electronics, which is a part of The Danish Council for Scientific and Industrial Research. The lecture was attended by an audience of 60, including members, students and guests.

# NORTH ITALY SECTION:

The Sixth International Show of Electronic Components and Instrumentation (VI Salone Internazionale Componenti, Strumenti di Misura Elettronici e Accessori) and the Seventh Technical Meeting on Electronic Components will be held in Milan in September 1969. The technical programme will be as follows: LC, RC, active crystal, ceramic-piezoelectric, mechanical, digital, lumped and distributed constant filters;

Design methods:

Computer aided design;

Technology;

Application fields; 6.

Prospective developments; Manual and automatic measurements.

Papers will be accepted following this schedule—30-line abstract must be sent to Segreteria del Convegno (via L. Manara, 1, 20122 Milano, Italy)—the complete paper must be sent before 30 April 1969.

#### NORWAY SECTION:

The relationship with the Electrical Engineering Group of the Norwegian Engineering Society (NIF) and the Norwegian Electrotechnical Society (NEF) has been very good and we have decided to hold joint meetings. Last autumn four joint meetings were held. On 25 September 1968 Inspector K. Reyter, NSB, and Chief Engineer P. Hauan.



Professor R. T. Segovia, Chairman Designate Spain

Chief Engineer NEBB, talked about the electrical systems in the new suburban train sets (NIF-IEEE). On 21 October 1968 Chief Engineer H. Stenvig, Norsk Hydro, talked about the electrical power system for ALNOR (NIF-NEF-IEEE). On 4 November 1968 Director H. Hveding, Norwegian Norwegian Bower Board talked. Hydro-Electric Power Board, talked about power generation in Norway 1970-1980 (NIF-NEF-IEEE), and finally on 25 November 1968 Chief Engineer P. Mortensen, Norwegian Telecommunication Board, talked about Intelsat (NEF-IEEE). The first meeting this year was held on 29 January, when Chief Engineers T. Asvall and S. Vikanes, Norwegian Hydro-Electrical Power Board, talked

about the mechanical and electrical system in connection with generation of electricity from heat (NIF-IEEE). On 10 February Research Engineer T. Endresen, NDRE, talked about computer aided design (NEF-IEEE). On 26 February, Chief Engineer A. Krogstad, Tandberg Radio, and Chief Engineer A. Bjorntvedt, Norwegian Telecommunication Board, talked about the use of telecommunication in connection with conferences, teaching telecommunication in connection with conferences, teaching, etc. (NIF-IEEE), and on 26 March Chief Engineer I. Hoivold, Norcontrol-Noratom, talked about use of computers on ships. All meetings are held at 19.45 in the Norwegian Engineering Building in Oslo. The Norwegian Section of the IEEE have joined the Norwegian Engineering Society, the Polytechnical Society and the Norwegian Electrotechnical Society in sponsoring the and the Norwegian Electrotechnical Society in sponsoring the yearly conference on radio technology and electro-acoustics. This year's meeting will be held at Park Hotell, Sandefjord, 19-22 June. The IEEE member on the Conference Committee will be Andreas Rannestad, with Knut Melby as alternate. The Section membership is slowly increasing and is now 81 (5F, 22SM, 48M, 3A, 3S). Many members, however, do not hold the proper grade and we hope that the drive for up-grading and membership will give an increase in both membership and

and membership will give an increase in both membership and grading level.

#### UNITED KINGDOM AND REPUBLIC OF IRELAND SECTION :

In the absence of any further nominations to the Executive Committee, those named in the circular letter dated 26 September 1968 were declared by the Chairman to be elected from 1 January 1969.

A Chapter on Engineering Writing and Speech has been provisionally approved. Members interested in joining are asked to write to Mr. J. A. Lawrence, G.P.O. Telecommunications Headquarters, Proctor House, 110 High Holborn, London, W.C.1,

Since the last Newsletter was published the Section has arranged to co-sponsor a Conference on Man Machine Systems organised by the Ergonomics Research Society on behalf of the IEEE Group on Man Machine Systems. The Conference is also being sponsored by the IERE and the IEEE. It will be held from 8-12 September 1969.

The Section is also co-sponsoring Conferences on Microelectronics from 3 to 5 June 1969, and on Reliability in Electronics from 10 to 12 December 1969.

# STUDENT ACTIVITY NEWS

#### REGION 8 STUDENT BRANCHES AND COUNSELLORS

Prof. A. Millan Escuela Tecnica Superior de Ingenieros de Telecommunicacion

Prof. V. Cimagalli University of Rome Universita di Padova

Prof. G. Cariolaro Prof. A. Vander Vorst Prof. F. Bolinder Catholic University of Louvain Chalmers University of Technology

(Gothenburg) Prof. B. Enander

Royal Institute of Technology

(Stockholm)

Prof. P. A. Tove Prof. M. Tiuri University of Uppsala Technical University of Helsinki Dr. F. Eggimann Prof. E. A. Ash Prof. P. Magne Switzerland Section Student Branch **UKRI Section Student Branch** Institut Supérieur d'Electronique de Paris

Prof. L. Stigmark Lund Institute of Technology and Lund University

Mr. D. C. Poortvliet Technische Hogeschool Twente (Enschede)

UNOFFICIAL STUDENT BRANCHES AND COUNSELLORS

Prof. Companys

Escuela Tecnica Superior de Ingenieros Industriales (Barcelona)

Prof. Cappuccini

Universities of Napoli, Bari and Palermo

POTENTIAL STUDENT BRANCHES

France: Ecole Supérieure d'Electricité (Paris).

North Italy: Genova, Politecnico di Milano, Bologna and (associ-

ate level) Institute A. Beltrami.

Turkey: Ankara.

CONTACTS ARE ESTABLISHED WITH THE FOLLOWING SCHOOLS

Alger, Belgrade, Ljubliana, Haifa, Gent and Brussels.

**REGION 8 STUDENT COUNSELLORS** AND THEIR ADDRESSES

E. A. Ash (UKRI Section Student Branch)

Dept. of Electrical Engineering

University College Torrington Place London WC1-England

G. Biorci (Genova)

Istituto di Elettrotecnica Facolta di Ingegneria Viale Cambiaso 6 16145 Genova-Italy

E. F. Bolinder (Chalmers Student Branch)

Chalmers University of Technology Div. of Network Theory

Gibraltargatan 5 T Gothenburg S-Sweden

F. Borgnis (Zurich)

Institut für H.F. Technik

E.T.H.

Sternwartstrasse 7

8000 Zurich-Switzerland

G. Bruun (Lyngby)

Dean of Electrical Eng. Dept. Technical University of Denmark

Lyngby—Denmark

H. J. Butterweck (Eindhoven)

Technische Hogeschool Eindhoven

Afd. Elektrotechniek Eindhoven-Netherlands

F. Cappuccini (Napoli)

Universita degli Studi di Napoli

Facolta di Ingegneria Piazzale Tecchio 80125 Napoli-Italy

G. L. Cariolaro (Padova Student Branch) Universita di Padova

Istituto di Elettrotecnica e Elettronica

Via Gradenigo 6/A 35100 Padova-Italy V. Cimagalli (Roma Student Branch)

Universita di Roma Istituto di Elettronica Via Eudossiana 18 00184 Roma-Italy

R. Companys (Barcelona)

Avenida José Antonio 617 Barcelona 7—Spain

F. Eggimann (Switzerland Section Student Branch)

Abt. H.K. Brown Eoveri Co. A.G. 5400 Baden—Switzerland

B. Enander (Stockholm Student Branch)

Royal Institute of Technology Stockholm 70—Sweden

D. Ferrari (Polit. di Milano)

Istituto di Elettrotecnica e Elettronica Politecnico Piazza L. Da Vinci

20133 Milano-Italy

J. Hebenstreit (Supelec, Paris)

Chef du Centre de Calcul Ecole Supérieure d'Electricité 10 Av. Pierre Larousse 92 Malakoff—France

P. Magne (ISEP, Paris, Student Branch)

C.S.F. 55 Rue Greffuhle

92 Levallois-Perret—France

A. Millan (Madrid Student Branch)

Goya 143 Madrid 9—Spain

V. A. Monaco (Bologna)

Universita degli Studi di Bologna Istituto di Elettronica

Viale Risorgimento 2 Bologna-Italy

V. Mosca (Beltrami, Milano)

Istituto Radiotecnico 'A. Beltrami'

Via Circo 4 20123 Milano-Italy

D. Poortvliet (Twente Student Branch)

Afd. Elektrotechniek

Technische Hogeschool Twente

Enschede-Netherlands

N. A. Selseth (Trondheim)

Norwegian Institute of Technology

Trondheim NTH-Norway

L. Stigmark (Lund Student Branch)

Dean of Electrical Engineering Dept Lund Institute of Technology

Lund-Sweden

M. Tiuri (Helsinki Student Branch)

Institute of Technology Albertinkatu 40 Helsinki 18-Finland

P. A. Tove (Uppsala Student Branch)

Institute of Physics Uppsala—Sweden

A. Vander Vorst (Louvain Student Branch)

Electronic Research Laboratories Louvain University 94 Kardinaal Mercierlaan Heverlee-Belgium

G. Zoldan (Trieste)

Istituto di Elettrotecnica Università 34100 Trieste-Italy

STUDENT LIAISON OFFICERS

Benelux Section :

Dr. F. M. L. Stumpers (Eindhoven)

Denmark Section: France Section: North Italy Section:

Prof. G. Bruun (Lyngby) Prof. P. David (Paris) Prof. G. Biorci (Genova)

Norway Section: Sweden Section:

**UKRI Section:** 

Dr. A. Rannestad (Kjeller) Prof. F. Bolinder (Gothenburg) Switzerland Section: Dr. F. Eggimann (Baden) Prof. E. Ash (London)