

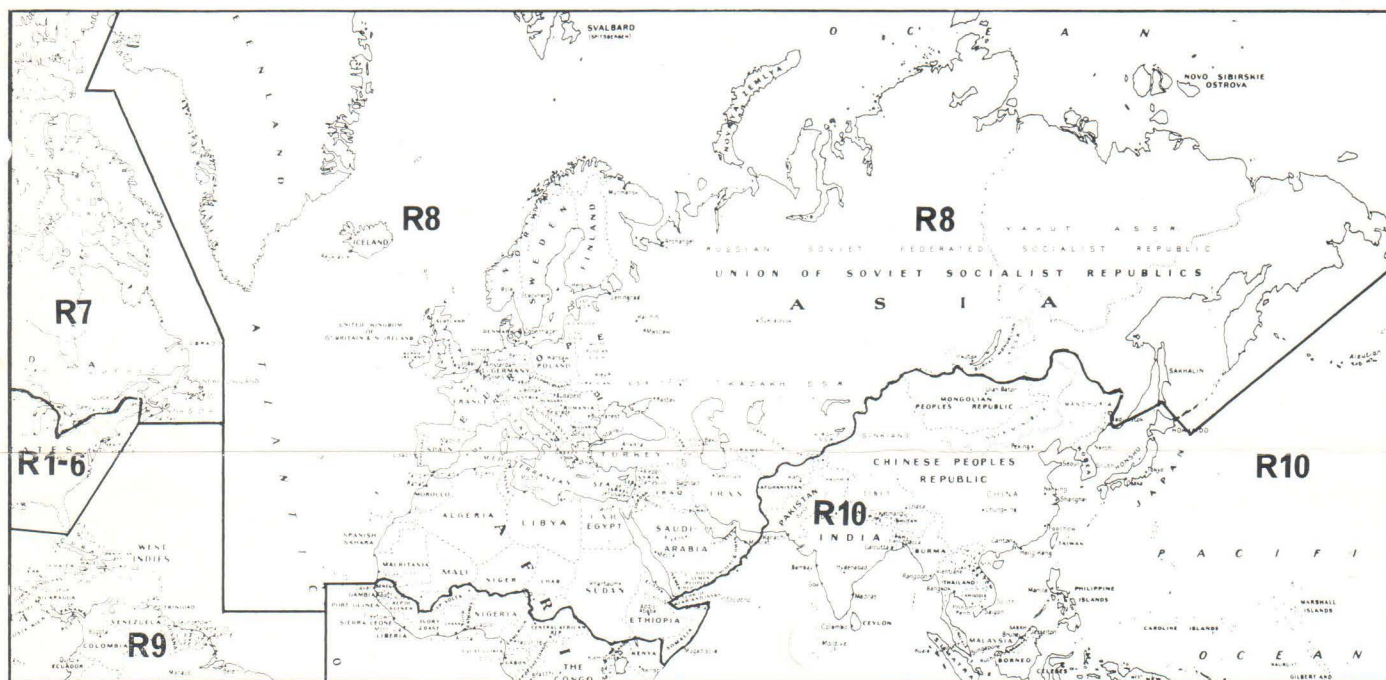


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Regional Director :
Dr. Roger P. Wellinger, Port-Roulant 50, 2003 Neuchatel, Switzerland

No. 10 April 1970

INSTITUTE NEWS



Boundaries between Regions :

At its meeting in November 1969 the Board of Directors agreed that Region 8 should consist of—

Greenland, Europe, USSR and the following countries in North Africa and the Near East : Aden Protectorate, Algeria, Bahrain, Chad, Eritrea, Ethiopia, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Mali, Mauritania, Morocco, Muscat, Oman, Niger, Qatar, Saudi Arabia, Somalia, Spanish Sahara, Sudan, Syria, Trucial Coast, Tunisia, Turkey, United Arab Republic and Yemen.

The map shows the area now covered by Region 8 as well as its boundaries with the adjacent Regions. Greenland has been added to the Denmark Section.

The Director and all members already in Region 8 welcome those now included and hope that they will benefit from, and contribute to, the activities which are well established in the Region.

Changes for Two IEEE Groups :

The IEEE Executive Committee at its meeting on 12 November approved the following changes in the 'fields of interest' statements :—

Information Theory :

The field of interest of the Group encompasses—the fundamental nature of the communication process; the transmission and utilisation of information; the coding and decoding of digital and analogue communication transmissions; the study of random interference and information bearing signals; and the development of information theoretic techniques in diverse areas including communication systems, detection systems, pattern recognition, learning and automata.

Vehicular Technology :

(a) Vehicular communications shall include all land, airborne and maritime mobile services as well as portable or hand-carried and citizens' communications services, when used as an adjunct to a vehicular system.

(b) Vehicular electrical and electronic engineering shall include equipment and systems ordinarily identified with automotive industry, excluding systems associated with public transit.

Next Year's Awards :

The call for nominations for Medal of Honour, Major Annual Field and Prize Paper Awards will be found in 'Spectrum', November 1969, pp. 130-131. *Note various deadline dates.* Sections, Groups, other units, individual members, are all urged to nominate qualified candidates. Information and forms should be requested. When writing, *name the Award*, since forms are tailored for each one. Apply to Una Lennon at New York headquarters.

National Roles for IEEE :

An as-yet unnumbered Statement of Policy was adopted by the January Board of Directors—'When the IEEE, or any of its organisational element, engages in an activity which is specifically *national* in character, that is to say, an activity which by its nature reflects an intrinsic relationship to a specific national environment, the guiding policy should be that undertaking such an activity should not preclude IEEE action on the corresponding problem in *any other* national environment. It should be noted that this policy contemplates the possibility that the IEEE might adopt *differing* positions relative to a particular problem area, in its different national environments.'

Exchange Member (Exch.Mem.IEEE) :

A new grade of membership was established in January. The applicant must be certified to be in good standing in a technical society *recognised* by the Executive Committee for this purpose, with proviso for reciprocity. Rights, privileges, dues, fees, are those of Member Grade IEEE; no right to vote or hold any IEEE office; term limit 3 years. In January the Executive Committee recognised the Nigerian Institute of Engineers for Exchange Members.

Overseas Remittances to IEEE :

Spain has been added to England, France, Germany, Italy and Japan as a country where IEEE has an account with a correspondent of Chase Manhattan Bank, to the credit of which IEEE members or membership applicants, may deposit personal checks in local funds at prevailing exchange, accompanied by an IEEE bill or membership form. Formerly US dollars had to be bought from a bank before a postal money order could be obtained to remit. (All enquiries to Bill Keyes, Headquarters).

Section Meeting Reports :

The requirement of reporting names of speakers and titles of papers after every meeting has been dropped. All 1970 Section and Chapter meetings will be caught up in a single report due next December. Secretaries will be well advised though to maintain records currently against 'that day'.

REGION 8 NEWS

Election of Regional Director :

The term of office of the present Director of Region 8, Dr. Roger Wellinger, expires on 31 December and preparations are in hand to elect his successor for the two-year period 1971-1972.

The Region 8 Committee, at its meeting in Brussels, proposed that a Nominating Committee be set up and that it be given the job of submitting one or more names of suitable candidates to the Region 8 Committee. The Region 8 Committee in its turn will use this list as a basis of its discussion and then submit the result of its deliberations to the 5,400 members of the Region to vote on. It was agreed that the Nominating Committee should consist of the present and past Directors of the Region since they had the best knowledge of the qualities and facilities needed for the job and further would be able to preserve impartiality since they would not of course be candidates themselves.

As well as the procedure described, there is another way, provided by the bylaws, of putting forward candidates. This is a route from the membership itself and requires a petition by $\frac{1}{3}$ per cent of the members of the Region (or a minimum of 100). The candidate put forward by this petition would then be added to the others and put to vote.

At the recent meeting in Gothenburg the Region 8 Committee followed the procedure described and the names of the candidates, including any put forward by the membership petition, will be circulated to all members in due course, together with the necessary voting papers.

Meetings in the Region :

The International Summer School on Mathematical System Theory and Economics has organised a school on 'Mathematical models of Action and Reaction' for 15-27 June at the Villa Monastero, Varenna, Italy.

The purpose of the school, which is to be directed by Professors H. W. Kuhn (Princeton University) and G. P. Szego (University of Milan), is to review the state of the art in the field of mathematical systems theory, to review the state of the art and the prospects for the application of mathematical methods to the study and solution of dynamic economic problems, and to encourage a meaningful dialogue between mathematicians and economists.

Prospective authors were to submit two copies of a 500-1,000 word summary by 1 March; complete manuscripts are due by 1 May. These should be sent to Professor G. P. Szego, Via Crocefisso 5, 20122 Milan, Italy, from whom further information is also available.

On 3-14 August the NATO Science Committee will sponsor an International Summer School on *Information Systems—Techniques and Management* at the Technical University of Denmark. The school will include lectures on computer networks, data base structures, data collection and reduction, data transmission, engineering techniques, design and operating system concepts, management considerations and performance measurement and evaluation.

Further information is available from Hans Jorgen, Northern Europe University Computing Center, Technical University of Denmark, 2800 Lyngby, Denmark.

Conference on Trunk Telecommunications by Guided Waves :

The Conference is organised by the IEE Electronics Division, in association with the IERE and the UKRI Section of the IEEE.

Magnetic Tape Services :

Machine-readable, magnetic tapes containing indexing and abstracts of papers in the fields of electronics, computers and control, and applied physics will be available on a monthly basis from the IEEE. This service, called IEEE REFLECS (Retrieval From the Literature on Electronics and Computer Sciences), will be delivered by IEEE's Information Services to initial subscribers in April 1970.

The tapes will be produced in a variety of character codes and tape formats to suit a variety of customer requirements. Customers will also be able to select their areas of interest from 8 broad subject categories including 'Electronic Devices and Materials' and 'Computer Science and Technology'.

Under a joint project with IEE of London, more than 1,200 journals, conferences, patents and books are surveyed to produce a total coverage of an estimated 66,000 scientific and technical papers for 1970.

Another tape service, the IEEE Annual Index Tapes, will also be produced and delivered in 1970. This once-a-year service will contain cumulative indexing of IEEE's own publications for the years 1968 and 1969. The two tapes will cover roughly 16,000 papers from the various IEEE publications.

Enquiries should be sent to Thomas H. Hogan, Information Services, at Headquarters.

Previously scheduled for 1969 and subsequently postponed, it will now be held from 29 September to 2 October 1970 in London.

The aim of the Conference is to survey and to assess current achievements, problems and prospects in regard to the development of trunk telecommunications systems by guided waves at millimetric and optical frequencies with special reference to the following aspects:—

- (a) Systems aspects and modulation and multiplexing techniques.
- (b) Guiding structures including transmission imperfections and fabrication and installations.
- (c) Terminal and repeater equipment.
- (d) Measurement techniques.
- (e) Components.

Conference on Earth Station Technology :

The Conference is organised by the IEE Electronics Division, in association with the IERE and the UKRI Section of the IEEE. It will be held in London on 14-16 October 1970.

It is envisaged that the Conference will cover operational experience with existing stations; the planning for Intelsat IV and military, regional and domestic systems of the future; and will deal specifically with such matters as the interrelation between satellite parameters and earth station characteristics; earth station configuration; electrical, mechanical and structural aspects of earth station aeriels; tracking and servo control systems; aerial feed systems; high-power transmitters; low-noise amplifiers; modems, frequency conversion equipment, monitoring and control; operation and reliability aspects.

Signal Processing Methods for Radiotelephony Conference

The Conference is organised by the IEE, in association with the IERE and the IEEE, and will be held in London from 19-21 May 1970.

The Conference will review the techniques applicable to radio telephony systems and it is hoped to illustrate their relationship both with the communication problem and to one another. In addition to contributions relating to specific techniques, lectures have been arranged which will conduct review and comparison surveys.

Problems arising from increasing pressures on the bandwidth available for radiotelephone communications will be discussed. The Conference will review the available methods for processing signals to suit the particular path the signal will take and to match the method of transmission to the type of information the signal is composed of. Techniques for the conservation of bandwidth will be considered, including digital transmission and also techniques for power conservation. Digitisation as related to system characteristics will be considered, also ancillary problems such as speech quality standards.

Further information and registration forms for each of the above three Conferences may be obtained from the Conference Department, IEE, Savoy Place, London, W.C.2, England.

Communication Workshop to be held in Italy in June :

An opportunity for scientists from Italy and other European countries to discuss the latest developments in communication theory with US scientists will be afforded by a Workshop on Communication Theory and Some Applications, which is scheduled to be held at the Hotel Parco dei Principi, Sorrento, Naples, Italy, from 22-27 June.

The following topics will be covered by invited speakers from the US: information theory, detection and estimation theory and applications, error-control techniques for reliable data transmission, modelling and error rate prediction for time variant communication channels, signal design for reliable communication, and communication satellite systems. English will be the official language.

Persons wishing to attend the Workshop should write to Dr. E. Corti, Istituto Elettrotecnico, via Claudio 21, 80125 Naples, Italy, who will supply application forms and detailed informa-

tion concerning the programme. The participation fee for the Workshop is \$50, and the closing date for applications is 30 April.

First Region 8 Convention :

Plans are being prepared with increasing speed for this Convention, which has been given the name 'Eurocon 71'. It will be held at the Palais de Beaulieu at Lausanne, Switzerland, from 18-24 October 1971 (and NOT 1970 as stated in Newsletter No. 7). Further news will be given in the next Newsletter.

INTERNATIONAL MEETINGS

Conference on Precision Electromagnetic Measurements :

The Seventh Biennial Conference on Precision Electromagnetic Measurements will be held from 2-5 June 1970 at the Boulder Laboratories of the National Bureau of Standards, Boulder, Colorado. The aim of the Conference is the advancement of electromagnetic measurements at levels of precision and accuracy appropriate to national standards laboratories. The traditional fields of dc, lf, hf and microwave measurements, together with related physical studies provide the core of the conference subject-matter. For 1970, emphasis will be placed on the rapidly developing field of precise measurements at very low temperatures. Methods for automated measurements will also receive special attention. International participation is encouraged and a special session will be devoted to international comparison of standards. Information can be obtained from George Goulette, Bureau of Continuation Education, University of Colorado, Boulder, Colorado, 80302, USA.

IEEE Eastern Electronics Packaging Conference :

The first Eastern Electronics Packaging Conference will be held from 8-9 June 1970 at Massachusetts Institute of Technology, Cambridge, Massachusetts. Papers describing significant contributions, or having tutorial value in the following or related areas are invited: Interconnections (wire wrap, multi-layer, woven-wire, etc.); Design, production and testing automation; Packaging of hybrid microelectronics; Encapsulation and conformal coatings; Thermal management; Connectors and connections; Cases (hermetically sealed or others); Commercial, military and space packaging; Structural dynamics. Information can be obtained from Mr. E. Witschi Jr., IEEE, 31 Channing Street, Newton, Massachusetts, 02158, USA.

IEEE International Conference on Communications :

The 1970 IEEE International Conference on Communications (ICC 70) will be held at the San Francisco Hilton Hotel in San Francisco, California, from 8-10 June 1970. Featuring the theme 'Communications in the Development of Nations', the Conference will concentrate on key areas in communications such as wire, radio, space, telemetering, data, communication theory, switching and systems and communication antennas and propagation.

Information can be obtained from the IEEE San Francisco Section, Suite 2210, 701 Welch Road, Palo Alto, California 94304, USA.

IEEE International Conference on Engineering in Ocean Environment :

The first IEEE International Conference on Engineering in the Ocean Environment will be held from 21-24 September in Panama City, Florida. A forum for the advancement of the application of the theory and art of electro-technology in the water-covered areas of the earth, its technical scope will embrace communications, control, data processing, detection, instrumentation, remote sensing, life support, navigation, power, signal processing and underwater sound; all in their specific application to the ocean or ocean environment. Information can be obtained from Richard M. Emberson at IEEE Headquarters, New York.

IEEE Conference on Electron Device Techniques :

The 1970 IEEE Conference on Electron Device Techniques (formerly Conference on Tube Techniques) will be held from 23-24 September 1970 in the United Engineering Center Auditorium, 345 East 47th Street, New York City. The programme will cover all phases of materials, processes and techniques applicable to those classes of electron devices that use electrons or ions in a vacuum or gaseous environment. It will also include techniques from solid state and other disciplines that are potentially applicable to tubes; and conversely, tube techniques relevant to the fabrication of other electron devices. It will encompass, but not be limited to, the following devices: pickup, storage and display; plasma; laser; grid control; microwave; thermionic conversion; x-ray, and electron multiplication.

The deadline for abstracts is 15 May 1970. Prospective authors must submit a comprehensive abstract, approximately 200 words long, appropriate to a 20-minute paper including discussion. Late news papers will be considered if 75-word abstracts for 10 minute papers are received before 15 August. Abstracts should be sent to Hayden Gallagher, Hughes Research Laboratories, 3011 Malibu Canyon Road, Malibu, California 90265, USA.

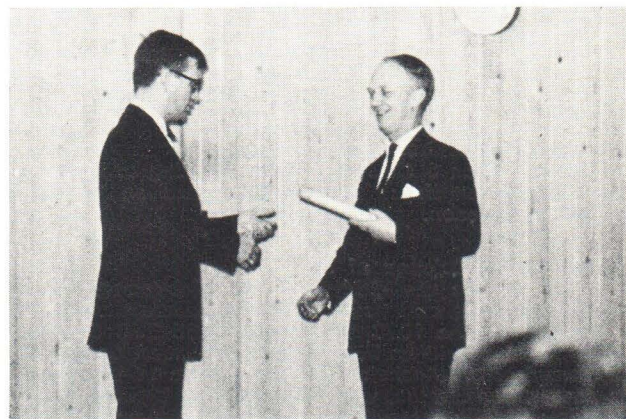
NEWS OF THE SECTIONS

DENMARK SECTION :

The Denmark Section has had two meetings since the last Newsletter. The first took place on 15 December 1969 at the Technical University of Denmark. During the first part of the meeting Professor E. V. Sorensen from the Circuit Theory Laboratory read a paper entitled 'Some Computer Programs for the Analysis of Circuits and Systems'. At the second part of the meeting the Annual Meeting of the Section was opened for the election of the Section's Executive Committee for 1970. The Executive Committee for 1970 was elected by majority of vote as follows:—

- Chairman: Associated Professor Mr. Per Martin Larsen, Power Engineering Department, The Technical University of Denmark, 2800 Lyngby, Denmark.
- Vice-Chairman: Chief Engineer Mr. G. Frorich Hansen, GNT-Automatic A/S, Telefonvej 6, 2860 Soborg, Denmark.
- Assistant Secretary/ Secretary: Associated Professor Mr. Preben E. Gudmansen, Laboratory for Electromagnetic Field Theory, Technical University of Denmark, 2800 Lyngby, Denmark.
- Secretary/Treasurer: Mr. Otto Ring, Eldok, Onsgaardsvej 1, 2900 Hellerup, Denmark.

The second meeting was held on 22 January 1970, also at the Technical University of Denmark. The first event of this meeting was the presentation of the IEEE Fellow Diploma awards to two of the Section's senior members. The first to receive the Fellow Diploma was Professor Fritz Ingerslev for his contributions to electroacoustics and noise control. Dr. Ingerslev was appointed as Professor in Lightpower Electrotechnology at the Technical University of Denmark in 1954 and was leader of the



Prof. Dr. Fritz Ingerslev receiving the Fellow Diploma from Mr. Per Martin Larsen, Chairman of the Denmark Section.

Laboratory for Telegraphy and Telephony from 1954-1963 and has been Head of the Acoustics Laboratory since 1963. The second to receive the Fellow Diploma was Mr. Sv. A. Chr. Pederson for his contributions in the development of measurement methods applicable to radio receivers, and for leadership in international standardisation. Mr. Pederson graduated from the Technical University of Denmark in 1928. From 1947-1955 he was a Factory Director at Philips A/S in Copenhagen and from 1955-1963 a Technical Director. Since 1950 Mr. Pederson has been a member of many committees on standards and terminology for radio and television in Denmark and also within the International Electrotechnical Commission.

Professor George Bruun, the Head of the Electronic Laboratory at the Technical University of Denmark, and the Section's Chairman for 1969, was presented with the IEEE Certificate of appreciation for his activities in the Denmark Section. The next event of the second meeting was a paper read by Mr. Pederson entitled 'International Electrotechnological Standards and How they Come to Existence'.

GERMANY (WEST) SECTION :

Two Conferences are being held:—Conference on Structure of Computers and Operating Systems, 5-7 October 1970, Erlangen, F.R. Germany, sponsored by the Germany (West) Section of the IEEE, Nachrichtentechnische Gesellschaft im VDE (NTG), German Chapter of the Association for Computing Machinery (ACM), Deutsche Arbeitsgemeinschaft für Rechenanlagen (DARA).

Conference on Code Problems, 7-9 October 1970, Braunschweig, F.R. Germany, sponsored by the Germany (West) Section of the IEEE and Nachrichtentechnische Gesellschaft im VDE (NTG). Programmes and application forms may be obtained from Dr. H. H. Burghoff, D-6 Frankfurt/M.70, Stresemann Allee 21 (VDE-Haus), Germany.

IRAN SECTION :

The formal establishment of a Section in Iran was authorised by Headquarters on 12 February 1970. The petition for its formation was submitted by Professor A. Tchamran, Arya-Mehr University of Technology, P.O. Box 3406, Tehran, Iran.



Prof. G. L. Cariolaro
Counsellor Padova Student
Branch.



Mr. J. Lavi
Past Chairman,
Israel Section.

ISRAEL SECTION :

Preparations are under way for the seventh bi-annual Conference and Exhibition of the Israel Section, to be held during the last week of October 1970. Attendance of about 1,600 is expected, which is 30 per cent more than the 1968 figure, and the floor space for technical exhibitions is to be 1,500 m² compared with 700 m² in 1968. Complying with a request

STUDENT ACTIVITY NEWS

New Student Branch :

In February 1970 the IEEE Headquarters approved the formation of an IEEE Student Branch at the University of Liege, Belgium. The Counsellor is Professor A. Danthine.

Meeting in Gothenburg :

The Eighth Region 8 Student Activity Meeting and the Fourth Region 8 Student Paper Contest were held on 17 April in Gothenburg, Sweden.

The Expanding Science of EMC :

For the first time the IEEE Group on Electromagnetic Compatibility (G-EMC) will host an Undergraduate Student Paper Competition for the 1970 International IEEE-EMC Symposium. This Symposium will be held at the Convention Center (opposite Disneyland) in Anaheim, California, from 14-16 July 1970. The competition awards, which are denoted by industry, are—first prize: \$1,250; second prize: \$750; third prize: \$500; fourth prize: \$250; fifth prize: \$250. The first, second and third prize-winning students will be required to present their papers orally at the Symposium. Transportation and expenses will be paid for these three students and their Branch Counsellor or faculty advisor. Each of the five prize-winning papers will be published in the Symposium proceedings or Group Transactions.

Electromagnetic Compatibility (EMC) is concerned with the identification and control of undesired electromagnetic interactions among electrical or electronic equipments, or between equipments and the man-made or natural electromagnetic environment. These interactions must be analysed, protective methods developed and results evaluated. Electromagnetic compatibility among equipments is achieved through control of the electro-

of the 1968 conference exhibitors, this year's Exhibition will remain open for an extra day following the close of the Conference. The first call for papers will be mailed shortly. A Symposium on Engineering Applications of Lasers will be held at the Hilton Hotel, Tel Aviv, Israel, from 29 June-1 July. Lasers, holography, communications, metrology, machining and medical applications are among the topics that will be discussed at the meeting. Contributed papers are invited and abstracts should be sent to Dr. U. Shimony, Department of Electrical Engineering, Technion, Haifa, Israel.

NORTH ITALY SECTION :

The Seventh International Show of Electronic Components and Instrumentation and the Eighth Technical Meeting on Electronic Components (Hybrid Circuits) will be held in Milan in September 1970. The technical programme will be as follows: (a) Technology of thick and thin film circuits; design methods also by computers; realisation and test techniques, especially by automatic systems; (b) Examples of actual applications in the industrial and professional fields, with particular consideration to the collaboration between manufacturer and user during the several stages of design and realisation. Papers will be accepted following this schedule—30-line abstract must be sent to Segreteria del Convegno (Via L. Manara, 1-20122 Milano, Italy), and the complete paper must be sent before 30 April 1970.

SWEDEN SECTION :

On 2 December 1969, Dr. T. Fjallbrant, Mr. I. Jonsson and Mr. U. Henriksson lectured on 'Digital Signal Processing', and on 24 February 1970, Messrs. S. Haal, H. Falkenberg, H. Johanson and N. Onnheim spoke on 'Electric Heating'. Both events took place at the Engineering Society of Gothenburg.

UNITED KINGDOM AND REPUBLIC OF IRELAND SECTION :

Relations with National Institutions :

Officers of the Section recently discussed with officers of the IEE the possibility of active recruitment to the Section. The IEE representatives felt this would not be in the best interests of their Institution and recruitment to the IEEE will, therefore, continue to be done indirectly and on a personal basis.

Chase Manhattan Bank :

The address of the Chase Manhattan Bank is now Woolgate House, Coleman Street, London, E.C.2.

Addresses :

A large number of replies were received to the enquiry checking members' addresses. Headquarters have been advised of the changes.

magnetic interference (EMI) generated by equipments as well as their electromagnetic susceptibility to EMI.

Electronic systems are becoming more complex, finding application to many fields and requiring greater use of the electromagnetic spectrum. As a result of this growth, EMC has become an interdisciplinary science. The theme which has, therefore, been selected for the 1970 Symposium is 'The Expanding Science of EMC'. Papers are solicited in support of this theme.

The topics of all accepted papers should fall into one of the following categories, with consideration of the EMC aspects in the selected category:—

(1) **Interdisciplinary Topics:** (a) EMC applications in astronomy, physics, oceanography, space exploration, etc. (b) Science of management as related to EMC in value judgements, allocation of resources, spectrum utilisation, economic considerations, etc. (c) 'Electromagnetic smog'—sociological and medical aspects of electromagnetic energy usage and electromagnetic by-products of electrical and other forms of energy release. (d) Hazards of natural sources of electromagnetic energy. (e) Electrical and electronic equipment trends affecting EMC research and developments.

(2) **EMC Specialities—State-of-the-Art:** (a) New developments in EMC techniques, including circuit development, instrumentation, analysis and suppression techniques. (b) Trends in EMC research and development, and new EMC problem statements.

The Contest is open to all foreign and domestic students who will obtain a Bachelor Degree or equivalent after 1 January 1970. Requests for information should be sent to the Student Paper Competition, P.O. Box 1970, Anaheim, California 92803, USA, for the attention of Mr. J. A. Spagon.