
U.R.S.I.

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URSI BOARD OF OFFICERS

The first annual meeting of the new Board was held in Brussels on 16 and 17 March 1976 with the President in the Chair. All the members were present. The main items of business are summarised below.

Obituary

The Board noted with great regret the death of Prof. Charles Manneback (Honorary President since 1969) and of Prof. Hidetsugu Yagi who were associated respectively with the Belgian and Japanese URSI Committees for more than 40 years.

Accounts for the year 1975

It was noted that the balance in hand at the end of 1975 was close to the balance, estimated in July 1975, which was used by the URSI Council in Lima during its discussions on the budget for the period 1976-1978. In accordance with the recommendation made to the Council by the Finance Committee, the accounts for 1975 are published elsewhere in this issue of the URSI Bulletin.

ICSU Grants to the Unions

The expected reduction of the basic grant to URSI, from \$11,375 to \$8,000, has been made, but no satisfactory explanation for the reclassification of the Unions by ICSU has been forthcoming. Informal discussions with the Chairman of the ICSU Standing Finance Committee are in progress, but it seems probable that the question of the classification of the Unions, and the grants made in each class, will be discussed at the ICSU General Assembly in October 1976 at which URSI will be represented by the President.

Relations between URSI and ITU

In accordance with Lima Resolution C.8, the Board asked Dr. J.A. Saxton to visit Geneva in order to discuss the formation of an URSI-ITU Committee. During his visit, Dr. Saxton met the Secretary General of ITU and the Directors of CCIR and CCITT, all of whom welcomed the possibility of closer contacts with URSI. Since this visit, URSI has been formally recognized by CCITT and the President, together with Dr. Saxton, will discuss the membership and terms of reference of the URSI-ITU Committee during an expected visit to Geneva in June 1976.

Relations with UNESCO

The UNESCO programme concentrates, to a greater extent than formerly, on stimulating research likely to lead to early results of practical value, especially to developing countries. The basic research programmes in physics and electromagnetism with which URSI is associated do not have, as their objective, immediate practical applications. On the other hand, recent advances in the development of systems of telecommunications are based on research of this kind carried out over many years.

The President proposes to establish contact with the departments in UNESCO which deal with communications and with education in order to stress the importance of providing support for fundamental research as well as for projects of a short-term character.

Representation of URSI

URSI will be represented at the IAU General Assembly in 1976 by Prof. W.N. Christiansen.

Prof. K. Rawer has already agreed to represent URSI at the COSPAR Meeting in 1976, but the President hopes that he also may find it possible to attend this meeting for part of the time.

URSI Brochure

The brochure (in French and English) outlining the origins and activities of URSI was printed early in 1976. As recommended by the Standing Committee on Membership, copies have been made available to the Academies of Science, and similar bodies, which adhere to ICSU but not to URSI. The Board decided that copies should be circulated also with the March issue of the URSI Bulletin.

XIX URSI General Assembly

A provisional timetable for the Assembly in Helsinki was agreed by the Board and has been sent to the Chairmen and Vice-Chairmen of Commissions for their comments. The dates proposed are as follows:

1976

29-31 July	URSI Council
1 August	Opening Meeting
9 August	Closing Meeting

It is expected that the scientific sessions of the Commissions, and also the open Symposia associated with

the Assembly, will be held during the periods 2-5 August and 8-9 August.

URSI Secretariat

On 29 January 1976, soon after the expiry of the lease of the offices at Place Emile Danco which URSI had occupied since 1957, the Secretariat was transferred to the new offices at Rue de Nieuwenhove.

The Board noted that, although considerably less space was available, it would be adequate for present needs and that the cost of the rent, heating and lighting would be reduced by about 50%. Moreover, the Secretary General no longer has any responsibilities other than those relating to URSI and is now working half-time, as envisaged by the URSI Council.

As a result of these savings, the total cost of administration will fall by about 25% in 1976.

Next Meeting

The next meeting of the Board will be held in March or May 1977.

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URSI FINANCES

At each General Assembly of URSI, the audited accounts of income and expenditure, for the three-year period preceding the Assembly, are submitted to the URSI Council for approval and are subsequently published in the Proceedings.

At the Assembly in 1975, the budget for the years 1976-1978 was based partly on preliminary estimates of income and expenditure for the year ending 1975, prepared by the Secretary General, and partly on decisions made by the URSI Council regarding income and expenditure for the period 1976-1978. In view of the considerable changes in the budget for this period, the Finance Committee recommended a) that the URSI accounts should, in future, be made available annually to Member Committees, b) that the Board of Officers should be empowered to consult Member Committees by correspondence if it were considered necessary to vary the annual contribution in any year.

In accordance with this recommendation, the accounts for 1975 are reproduced in the following pages, following their approval by the Board of Officers in March 1976.

The Board noted, in particular that, on 31 December 1975, the Fund for Scientific Activities amounted to \$16,154 as compared with the estimate of \$14,000 quoted in the Supplementary Report on URSI Finances, dated 8 July 1975, submitted to the URSI Council in Lima. Since the situation at the end of 1975 was close to that forecast earlier in July, no further comment appears to be necessary.

With regard to expenditure on administration after 1 January 1976, the budget approved by the URSI Council assumed that cheaper office accommodation would be sought in Brussels after the expiry of the lease, in November 1975, of the offices at Place Emile Danco. The transfer to the new offices at 81 Rue de Nieuwenhove was completed by 29 January 1976. The budget assumed also that the Secretary General could work half-time after relinquishing his responsibilities as Secretary of the FAGS Council and of IUCAF by the end of 1975. As a result of the savings resulting from these two measures, expenditure on administration in 1976 is estimated at \$43,000 as compared with \$54,323 in 1975.

Since the Assembly in August 1975, the value of the US dollar has appreciated by about 2.6% relative to the Belgian franc. It is still about 22% below its 1971 value.

After taking into account the various matters discussed above, it may be concluded that no changes have occurred, since the URSI Assembly in 1975, which call for any modification in the annual contributions of our Member Committees.

INTERNATIONAL UNION OF RADIO SCIENCE (URSI)

INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31st DECEMBER, 1975

	U.S. \$	U.S. \$	U.S. \$
INCOME			
Subscriptions from Member Committees		53,506	
Special Contributions		<u>142</u>	53,648
Interest - Gross	7,494		
Less: Tax	<u>1,349</u>		
	6,145		
Add: Profit on Sale of Investment	<u>8</u>	6,153	
Less: Interest attributable to:			
Pension Fund - Secretary General	556		
Balth. van der Pol Gold Medal Fund	<u>221</u>	<u>777</u>	5,376
Sale of Publications:			
URSI Bulletin		253	
Review of Radio Science		<u>1,805</u>	2,058
Allocation from UNESCO Subvention to ICSU			<u>11,500</u>
			72,582
EXPENDITURE (for further details see schedule attached)			
Meetings		20,414	
Publications		8,963	
Scientific Activities:			
Symposia	22,643		
Grants	<u>1,150</u>	<u>23,793</u>	
TOTAL EXPENDITURE ON SCIENTIFIC ACTIVITIES			53,170
Administration:			
Salaries and Pensions	44,593		
Office and General Expenses	<u>9,730</u>		
TOTAL EXPENDITURE ON ADMINISTRATION			54,323
I.C.S.U.			
Dues for 1975		<u>1,338</u>	
TOTAL EXPENDITURE FOR THE YEAR			<u>(108,831)</u>
EXCESS OF EXPENDITURE OVER INCOME FOR THE YEAR			<u>\$ (36,249)</u>
BALANCE IN HAND AT 1st JANUARY, 1975			
As per Accounts in Belgian Francs at 31st December, 1974	F.B.	3,495,465	
Add: Manneback Presentation (unused balance)		<u>1,781</u>	
		<u>3,497,246</u>	
Loss on devaluation			
F.B. 3,497,246 @ 37.50		93,260	
Less: F.B. 3,497,246 @ 39		<u>89,673</u>	
Loss on devaluation		<u>3,587</u>	
BALANCE IN HAND AS PER ACCOUNTS AT 31st DECEMBER, 1974			\$93,212
Add: Manneback Presentation (unused balance)			
F.B. 1,781 @ 37.50		<u>48</u>	
		93,260	
Less: Loss on devaluation - as above		<u>3,587</u>	
Revised Balance in Hand at 1st January, 1975			89,673
Less: EXCESS OF EXPENDITURE OVER INCOME FOR THE YEAR - as above			<u>(36,249)</u>
BALANCE IN HAND AT 31st DECEMBER, 1975			<u>\$53,424</u>

INTERNATIONAL UNION OF RADIO SCIENCE (URSI)

INCOME AND EXPENDITURE ACCOUNT
FOR THE YEAR ENDED 31st DECEMBER, 1975 (CONT.)
SUPPLEMENTARY SCHEDULE SHOWING FURTHER DETAILS OF CERTAIN ITEMS OF EXPENDITURE

	U.S. \$	U.S. \$	U.S. \$
<u>Meetings</u>			
XVIII General Assembly		17,814	
Board of Officers		2,533	
Miscellaneous		<u>67</u>	20,414
<u>Publications</u>			
URSI Bulletins Nos. 193-195		4,307	
INAG Bulletins Grant		650	
Review of Radio Science - 1975		<u>4,006</u>	8,963
<u>Scientific Activities</u>			
<u>Symposia, etc.</u>			
General Assembly (Lima)			
4 Symposia plus Scientific Sessions	21,711		
Ionosphere (London)	432		
Atmospheric Probing (Bournemouth)	<u>500</u>	22,643	
<u>Grants</u>			
IUCAF	1,000		
IUCRM	<u>150</u>	1,150	23,793
TOTAL EXPENDITURE ON SCIENTIFIC ACTIVITIES			<u>\$53,170</u>

Administration

<u>Salaries and Pensions</u>			
Salaries and Pensions (including Social Security)		41,814	
Supplementary Pension Provision		<u>2,779</u>	44,593
<u>Office and General Expenses</u>			
Office Rent, Heat, Repairs, etc.		5,855	
Stationery and Office Supplies		262	
Insurance		617	
Telephone		517	
Postage		572	
Bank Charges		218	
Entertainment		105	
Audit and Accountancy		1,090	
" " " - for special work on General Assembly		256	
Miscellaneous		65	
Losses on Exchange (Net)		<u>173</u>	9,730
TOTAL EXPENDITURE ON ADMINISTRATION			<u>\$54,323</u>

INTERNATIONAL UNION OF RADIO SCIENCE (URSI)

BALANCE SHEET

31st DECEMBER, 1975

	U.S. \$	U.S. \$	U.S. \$
ASSETS			
Bank Balances:			
On Deposit Account		17,949	
On Current Account			
In Belgian Francs	2,754		
In American Dollars	<u>3,131</u>	<u>5,885</u>	
			23,834
Belgian Government Securities			60,784
Petty Cash and Stamps			105
Sundry Debtors			<u>933</u>
			85,656
 Less: Creditors:			
IUCAR		6,402	
IUCRM		599	
IUWDS		2,374	
CIG		936	
Sundry		<u>7,196</u>	(17,507)
			68,149
 Special Funds:			
Balth. van der Pol Gold Medal Fund		3,939	
Pension Fund (Secretary General)		<u>10,786</u>	(14,725)
 NET TOTAL OF URSI FUNDS			 <u>\$53,424</u>

Represented By:

At at			As at	
<u>1st January, 1975</u>			<u>1st January, 1976</u>	
(Being the figures held in Belgian Francs at that date converted at B.F. 39.00 = \$1.00)				
<u>U.S. \$</u>	<u>U.S. \$</u>		<u>U.S. \$</u>	<u>U.S. \$</u>
	3,846	Reserve Fund:		
33,461	<u>29,615</u>	General	-	
		Closure of Secretariat	<u>36,923</u>	36,923
		Funds for Scientific Activities		
	38,461	XVIII General Assembly	4,487	
55,769	<u>17,308</u>	Meetings and Symposia in 1976	<u>11,667</u>	16,154
	<u>397</u>	Unallocated		<u>347</u>
<u>\$89,627</u>		Total URSI Balances		<u>\$53,424</u>

REPORT OF THE AUDITORS TO THE MEMBERS OF THE INTERNATIONAL UNION OF RADIO SCIENCE (URSI)

In our opinion the above Balance Sheet and attached Income and Expenditure Account give a true and fair view of the state of affairs of the International Union of Radio Science at 31st December, 1975, and of the excess of Expenditure over Income for the year ended on that date.

CHARTERHOUSE
London EC1M 6AR



CHARTERED ACCOUNTANTS

10th March, 1976

OPTICAL FIBRE COMMUNICATION

The 2nd European Conference on Optical Fibre Communication will be held in Paris from 27 to 30 September 1976 under the auspices of the French PTT. The organisation is in the hands of several French, British, German and Italian societies and is cosponsored by URSI.

The aim of the Conference is to review recent developments in the use of optical fibres in communication systems. In addition to formally presented papers (simultaneous translation in French and English), there will be several round-table discussions on specific topics.

The Presidents of the Organising Committee and of the Scientific Committee are respectively Monsieur Poitevin and Monsieur Tréheux (both of the Centre National d'Etudes des Télécommunications). Information and registration forms are available from

Secrétariat Général Colloque Fibres Optiques,
11 rue Hamelin,
F - 75783 Paris Cedex 16, France.

The principal subjects to be discussed are the technology of optical cables, the associated terminal devices, and the design of optical communication systems.

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PROPAGATION IN NON-IONIZED MEDIA
La Baule: 28 April - 6 May 1977

URSI Commission F is organising an open Symposium which will be held, at the invitation of the French URSI Committee, in the conference rooms of the Hotel Hermitage at La Baule (France), a seaside resort on the south coast of Brittany. The dates are 28 April - 6 May 1977.

The objective is to bring together the largest number of scientists and specialists interested in wave phenomena in non-ionized media. The topics for discussion were listed in the Call for Papers which appeared in URSI Information Bulletin No 197.

Instructions for Authors

Intending authors are invited to submit 5 copies of detailed one-page abstracts, not later than 15 October 1976, to the Chairman of the Scientific Programme Committee:

Mr. F. Eklund,
Radio Propagation Division,
Research Institute of National Defence,
S - 104 50 Stockholm 80, Sweden.

Authors whose papers have been accepted will be requested to submit the full text, in English or French, of their papers (maximum 6 pages including figures and references) not later than 1 January 1977. Special forms will be provided together with the necessary instructions. A volume containing these papers will be given to each registered participant at the beginning of the Symposium.

Ladies Programme and Social Events .

Ladies will be very welcome at the Symposium. Several social events in the evening, and also a week-end excursion, are being planned.

Registration

Participants other than authors are invited to request registration forms from:

Colloque URSI - Syndicat d'Initiative,
Place de la Victoire,
B.P.161,
F - 44504 La Baule, France.

Please note that these forms will not be available before November 1976.

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WAVES AND INSTABILITIES IN PLASMAS

The next International Congress on Waves and Instabilities in Plasmas will be held at the Ecole Polytechnique near Paris (France) from 27 June to 1 July 1977. The Congress is sponsored by the French Physical Society, the European Physical Society, and URSI. The goal of the Congress is to promote interactions between specialists on waves, turbulence, and related non-linear phenomena in fusion, laboratory, and space plasmas. The programme includes invited papers (to be published in collected form) and short communications. Subjects to be dealt with are:

- Linear waves: electrostatic, electromagnetic, magneto-hydrodynamic. Unstable modes. Boundary-value problems.
- Waves in inhomogeneous media.

- Coherent wave-wave and wave-particle interactions.
- Specific non-linear effects (solitons, cavitons, BGK modes...).
- Fluctuations and transport coefficients.
- Plasma turbulence (theories, numerical simulations, observations).
- Diagnostics and experimental tools.

New contributions to these fields will be welcomed.
Information can be obtained from:

Third International Congress on Waves and
Instabilities in Plasmas,
Laboratoire P.M.I.,
Ecole Polytechnique,
F - 91120 Palaiseau, France.

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INTEGRATED OPTICS AND OPTICAL FIBRE COMMUNICATION

An International Conference on Integrated Optics and Optical Fibre Communication will be held in Tokyo from 18 to 20 July 1977. A further meeting on some related topics will be held in Osaka on 22 July 1977.

The Conference is cosponsored by several Japanese, British, French, German and American Societies and by URSI.

The programme will consist of about 100 20-minute papers which will be selected on the basis of summaries submitted in advance. The Call for Papers will be issued in July 1976 and intending contributors are invited to write for further information to the Chairman of the Conference

Professor H. Yanai, Chairman, IOOC'77,
Department of Electronic Engineering,
University of Tokyo,
7-3-1, Hongo, Bunkyo-ku,
Tokyo, 113 Japan.

The main subjects to be discussed are as follows:
optical planar waveguides; optical fibres and fibre cables;
physical phenomena associated with guided optical waves;
passive and active devices for optical fibre transmission;
integration of optical circuits, optical fibre trans-

mission systems and their applications in various fields.

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RELIABILITY IN ELECTRONICS

The 4th Symposium on Reliability in Electronics will be held in Budapest in October 1977. About 100 papers will be presented (in English or in Russian) on the theory of reliability and maintainability, and on the reliability of electronic components, integrated circuits and electronic systems. Further information is available from the Chairman of the Organising Committee

Professor G. Almassy,
Scientific Society for Telecommunication,
P.O.Box 451,
H - 1372 Budapest, Hungary.

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WORLD ELECTROTECHNICAL CONGRESS

The World Electrotechnical Congress will be held in Moscow from 21 to 25 June 1977 under the auspices of the Ministry of Electrical Engineering Industries and the Academy of Sciences of the USSR, in association with the International Electrotechnical Commission. The working languages will be Russian, English and French.

The theme of the Congress is: The Present and the Future of Electrotechnical Engineering. Although telecommunications science will not be a major topic for discussion, related matters are included under the Sections dealing with:

New materials for electrical engineering;
Problems of electrical and electronic engineering;
Electronics and control systems.

Further information is available from:

Secretariat Orgkomitet,
WELC,
Kalinina Prospekt 19,
Moscow G-19, USSR.

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SCIENCE IN THE SERVICE OF BASIC HUMAN NEEDS

The ICSU Committee on Science and Technology in Developing Countries (COSTED) is organising a seminar on the above subject. It is pointed out that science and technology have led to increases in the standard of living in the developed countries but that, in spite of the best efforts of scientists, the economies of many developing countries remain stagnant. COSTED is making efforts to study this situation and to suggest remedies and the Seminar is designed to stimulate discussion of it.

Among the 20 topics for discussion the following may be of interest in URSI:

1. Science policy for developing countries;
2. Technological education in developing countries;
5. Satellite technology as an effective means of mass education in developing countries;
15. Rôle of basic research in developing countries.

The Seminar will be held at Hyderabad, India, at the invitation of the Andhra Pradesh Academy of Sciences, from 10 to 13 August 1976. Those interested in participating, as observers or as speakers, are invited to write to:

Scientific Secretary, COSTED,
Indian Institute of Science,
Bangalore 560 012,
India.

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TRAVEL FELLOWSHIPS

The ICSU Committee on Science and Technology in Developing Countries (COSTED) is prepared to receive applications for Travel Fellowships from scientists in developing countries.

Candidates must be under 35 years old and should already have received acceptance for participation at the scientific meeting they wish to attend. Applications must include:

- (i) Bio-data;
- (ii) Academic particulars including research/industrial experience and present employment;
- (iii) Details of the Scientific Meeting;
- (iv) Details of sources of support for covering

expenses during the stay abroad;

(v) Letters of assessment and recommendation from the Convener of the Meeting and from a senior scientist of the home country working in the candidate's field of specialisation;

(vi) An explanatory note (200 words) on the likely benefit to the candidate, with specific reference to the development of future research and development work to be carried out by him in the same field and its relevance to the country's development.

Completed applications should be mailed so as to reach, at least 3 months before the starting date of the proposed programme, The Scientific Secretary, COSTED Secretariat, Indian Institute of Science, Bangalore 560 012, India.

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IAGA-IAMAP ASSEMBLIES 1977

The 3rd General Scientific Assembly of IAGA and the 2nd Special Assembly of IAMAP will be held at the University of Washington, Seattle, USA from 22 August to 3 September 1977. A second circular containing information about these events will be issued in September 1976. Copies will be available on application to:

American Geophysical Union,
1909 K Street, N.W.,
Washington D.C. 20006,
USA.

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URSI COMMISSIONS

URSI Information Bulletin No 197 (March 1976) included the names and addresses of the Presidents, Secretaries and Official Members of URSI Committees according to information received up to 25 March 1976. The names and addresses given below represent additions to this earlier list. Further additions will appear in Bulletin No 199 (September) and a comprehensive list will be published in Bulletin No 200 (December).

Secretaries are kindly requested to check the information already published, or to provide the URSI Secretariat with information regarding their Committees which has

not yet been made available.

Commission A - Electromagnetic Metrology

Official Members:

Sweden: Mr Per Olov Lundbom, Chief Engineer, Research Institute of National Defence, Dept. 3, S-104 50 Stockholm 80.

Taiwan: c/o Prof. H.C. Fang, Directorate General of Telecommunications, P.O.Box 84, Taipei.

United Kingdom: Mr. A.E. Bailey, Superintendent, Division of Electrical Science, National Physical Laboratory, Teddington TW11 0LW.

USA: Dr. George E. Schafer, Electronics Proving Ground, US Dept. of Defense, US Army, Ft. Huachuca, AZ 85613.

Commission B - Fields and Waves

Official Members:

Sweden: Dr. Henry Scheffe, Telefon AB LM Ericsson, DtF, S - 126 25 Stockholm.

Taiwan: Prof. Jih-Chen Ma, Department of Electrical Engineering, National Taiwan University, Taipei.

United Kingdom: Prof.E.A. Ash, Electrical Engineering Department, University College London, Torrington Place, London WC1E 7JE.

USA: Dr. Thomas B.A. Senior, The Radiation Laboratory, Department of Electrical and Computer Engineering, The University of Michigan, Ann Arbor, MI 48104.

Commission C - Signals and Systems

Official Members:

Sweden: Dr. Henry Scheffe, Telefon AB LM Ericsson, DtF, S - 126 25 Stockholm.

Taiwan: Mr. Ting-I Ho, Director, Telecommunication Labs, P.O.Box 71, Chung-Li.

United Kingdom: Prof. K.W. Cattermole, Department of Electrical Engineering Science, University of Essex, Wivenhoe Park, Colchester CO4 3SQ.

USA: Dr. William F. Utlaut, Institute for Telecommunication Sciences, Office of Telecommunications, US

Department of Commerce, Boulder, CO 80302.

Commission D - Physical Electronics

Official Members:

Sweden: Prof. Lennart Stigmark, Institute of Technology
Lund, Box 725, S - 220 07 Lund 7.

Taiwan: Mr. Pao-Huang Kong, Director, Electronic Indus-
trial Research Center, Industry Technology Research
Institute, No 1021, Kuang-Fu Rd., Hsin-Chu.

United Kingdom: Prof. A.L. Cullen, Department of Electric-
cal Engineering, University College London, Torrington
Place, London WC1E 7JE.

USA: c/o Dr. James R. Wait, Secretary USNC/URSI, Room 242,
RB 1, NOAA/ERL, US Dep ment of Commerce, Boulder,
CO 80302.

Commission E - Interference Environment

Official Members:

Sweden: Prof. Stig Lundquist, The Institute of High
Tension Research, S - 755 90 Uppsala.

Taiwan: Prof. Chun-Ming Huang, Department of Electrical
Engineering, National Taiwan University, Taipei.

United Kingdom: Dr. F. Horner, Appleton Laboratory, Ditton
Park, Slough SL3 9JX.

USA: Mr. George H. Hagn, Stanford Research Institute, 1611
North Kent Street, Rosslyn Plaza, Room 404, Arlington,
VA 22209.

Commission F - Wave Phenomena in Non-ionized Media

Official Members:

Sweden: Mr. Folke Eklund, Chief of Research, Research
Institute of National Defence, Dept. 3, S - 104 50
Stockholm 80.

Taiwan: Prof. Mei-Hwa Wang, Director, Engineering Dept.,
Directorate General of Telecommunications, P.O.Box 84,
Taipei.

United Kingdom: Dr. P.A. Watson, Department of Electrical
and Electronic Engineering, The University, Richmond
Road, Bradford BD7 1DP, West Yorkshire.

USA: Dr. A.H. LaGrone, Department of Electrical Engineering, Engineering Science Building, 634, University of Texas, Austin, TX 78712.

Commission G - Ionospheric Radio and Propagation

Official Members:

Sweden: Prof. Bengt Hultqvist, Kiruna Geophysical Observatory, S - 981 00 Kiruna.

Taiwan: Prof. Kwang-Hong Pai, Department of Electrical Engineering, National Taiwan University, Taipei.

United Kingdom: Dr. J.W. King, Appleton Laboratory, Ditton Park, Slough SL3 9JX.

USA: Dr. Thomas E. VanZandt, Scatter Radar Studies Prog., Aeronomy Laboratory, NOAA/ERL, US Department of Commerce, Boulder, CO 80302.

Commission H - Waves in Plasmas

Official Members:

Sweden: Prof. Carl-Gunne Fälthammar, Royal Institute of Technology, S - 100 44 Stockholm 70.

Taiwan: Dr. Yinn-Nien Huang, Chief, Department of Planning and Programming, Telecommunication Labs., P.O.Box 71, Chung-Li.

United Kingdom: Dr. J.O. Thomas, Department of Physics, Imperial College, Imperial Institute Road, London SW7.

USA: Dr. Frederick W. Crawford, Institute for Plasma Research, Stanford University, Via Crespi, Stanford, CA 94305.

Commission J - Radio Astronomy

Official Members:

Sweden: Prof. Bertil Höglund, Chalmers Institute of Technology, S - 402 20 Göteborg 5.

Taiwan: c/o Prof. H.C. Fang, Directorate General of Telecommunications, P.O.Box 84, Taipei.

United Kingdom: Prof. J.G. Davies, Nuffield Radio Astronomy Laboratories, Jodrell Bank, Macclesfield, Cheshire SK11 9DN.

USA: Dr. K.I. Kellermann, National Radio Astronomy Observatory, P.O.Box 2, Green Bank, WV 24944.

