

# News from the International Union for Pure and Applied Biophysics

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At the Fifth General Assembly, held in Moscow from 10–11 August 1972, the retiring Secretary-General, Professor A. K. Solomon, submitted the following report.

## SECRETARY GENERAL'S REPORT

The International Union for Pure and Applied Biophysics had its origins in the confluence of two quite distinct streams. The first rose from a meeting of the International Union of Pure and Applied Physics in Rome in 1957 at which time a committee was set up to consider this Union's role in the promotion of biophysics. The committee's deliberations led to the convening of a conference on biophysics in Cambridge, England in 1959. A second source came from conversations between Arne Engström and myself, which were initiated in 1957 and led, among other things, to the commitment of the Biophysical Society of the United States (founded 1956) to encourage an international organization in biophysics. These two streams converged in Cambridge in 1959 and subsequently led to a conference in Amsterdam in 1960 which was hosted by the Stichting voor Biofysica (Netherlands, founded 1932). From this conference came a planning committee convened in Stockholm in late 1960 when for the first time we enjoyed the participation of the Soviet Union through the attendance of Professor Frank. I might add parenthetically that this association has led to the successful and fruitful meeting now taking place in the Soviet Union. At the 1959 meeting in Cambridge, there were representatives from sixteen countries. Now, IUPAB consists of 30 Adhering Bodies plus 5 whose adherence I hope will be confirmed today. In addition, there are three Affiliated Commissions.

I would now like to turn to IUPAB's achievements during this period since 1957. We have grown to maturity as an international organization and have been accepted by the International Council of Scientific Unions as the fifteenth member union, taking our place alongside older unions including mathematics, physics, chemistry, biology, astronomy, biochemistry and physiology.

The present Moscow meeting is IUPAB's fourth international congress. The Union has also sponsored many other meetings, small and large, private and public, all devoted to advancing science at its forefront and examining with our colleagues from many lands the promises and perils of new undertakings. These several activities have been brought about through the actions of five special commissions in the fields of cell and membrane biophysics, biophysics of communication and control processes, radiation biophysics, subcellular biophysics and macromolecular biophysics. There are also Affiliated Commissions, in medical physics, in engineering and medicine and biology, and in biorheology. These Special and Affiliated Commissions may be said to comprise those aspects of pure and applied biophysics that are of special interest to the Union.

We have formed our own journal, the Quarterly Reviews of Biophysics, and watched it grow to its present healthy state under the editorship of Professor Arne Engström.

In ICSU, our Union has played a significant role. We have been a leader in the struggle to liberalize the statutes so that this Council can take on responsibilities commensurate with the changing and growing role of science in world affairs. We have also been the moving spirit behind the formation of the Biosciences Group, a loose affiliation of all the unions concerned with biology in ICSU. This affiliation has greatly deepened and strengthened the position of biologists in international scientific organizations.

IUPAB has participated in several associations with other member Unions of ICSU and has played a significant role in CODATA (Data for Science and Technology), COSPAR (Space Research) and SCOPE (Problems of Environment). We have also recently formed an inter-union Bio-Thermodynamics Commission in collaboration with the Unions of Biochemistry and Chemistry.

Many of these achievements have been brought about by the action of the IUPAB Council and Executive Committee, and one of the most rewarding aspects of this association for me, in particular, has been the friendships with scientists all over the world engendered through the annual two-day Council meeting. The Executive Committee meetings forged particularly close bonds between a very small group of scientists who lived and worked together in a common cause for two-day periods twice each year in localities all over the world. Out of this grew a deep love and profound scientific respect for Professor Aharon Katchalsky

who, like me, would have completed eleven year's service today. Our close association had been strengthened by many visits of Professor Katchalsky to my laboratory and home so that I considered myself to be one of his closest friends. After he died, I realized from the heartfelt outpourings all over the world that I was but one of a large community of people who felt similarly. Professor Katchalsky's generosity of spirit and capacity to love was a precious human attribute unique to him.

Our retirement marks the end of an era, because we were the only two officers who had been continuously related to IUPAB since its formation in Stockholm eleven years ago.

It seems suitable, at the close of this long period of service, to look ahead and to try to discern those directions in which the Union can make significant contributions. Such an examination is all the more important because of the central position of biophysics in the biological spectrum. I think the Union's opportunities are greatest in two areas: the encouragement and development of young scientists and the promotion of science in the developing nations.

IUPAB has always made special efforts to identify young scientists of promise and to find funds to insure their participation in IUPAB meetings. This emphasis should continue as a cornerstone of our policy. We should now make a special effort to increase the commitment of younger scientists by nominating them to our Special and Affiliated Commissions and by seeking their participation in IUPAB enterprises in less developed nations.

Active encouragement of scientific progress in developing nations is a very satisfying endeavor because it is an intellectual goal which links the deepest achievements of science to the advancement of peoples and nations. IUPAB's contributions can come about through synergistic actions of its several Special Commissions and its Education Committee. Such co-ordinated steps in the several fields of biophysics can reinforce each other and make an important impact that could lead to significant internal intellectual advances in a selected country. Our expertise can bring the best and most experienced biophysical scientists into contact with young colleagues in developing nations. This programme can use both individual selected lecturers and symposia which draw on the resources of more than one Commission. The opportunity to attend outstanding lectures and to participate in fine symposia would provide a most effective stimulus to promising investigators in these countries and should lead to genuine intellectual achievement. IUPAB can also promote

scholarships to enable young people in developing nations to get advanced instruction in laboratories outside their home countries. Though IUPAB's finances do not permit it to support a large scale world-wide enterprise, I am confident that well thought-out and developed proposals can attract financial support from international agencies.

Though ICSU's ambitions to achieve the same end have been great, its achievements have been small, probably because it is very difficult for a confederation of scientific unions to coordinate steps in this area. A successful programme by IUPAB will provide an example to show ICSU how to coordinate its unique facilities in so many diverse sciences as a contribution to first one and then another of the developing countries.

In the past IUPAB has exercised responsible leadership in international science. A determined and sustained effort now to promote the interests of younger scientists and to provide intellectual opportunities in the developing countries would be a further definitive stride in the same direction.

A. K. SOLOMON

*Cambridge, Massachusetts*

*September 1972*

The General Assembly also approved the appointment of Officers and Members of the special Commissions for 1972-75 as follows:

#### OFFICERS

F. Lynen (Federal Republic of Germany) <i>President</i>	L. Kayushin (U.S.S.R.)
B. Chance (U.S.A.) <i>Vice-President</i>	E. Kellenberger (Switzerland)
J. C. Kendrew (United Kingdom) <i>Vice-President</i>	O. Maaløe (Denmark)
R. D. Keynes (United Kingdom) <i>Secretary General</i>	F. Oosawa (Japan)
A. Ehrenberg (Sweden)	B. Pullman (France)
A. R. Gopal-Ayengar (India)	W. Reichardt (Federal Republic of Germany)
F. Hutchinson (U.S.A.)	M. Sela (Israel)
	J. Tigyí (Hungary)
	C. A. Tobias (U.S.A.)

MEMBERS OF THE SPECIAL COMMISSIONS

*Biophysics of Communication and Control Processes*

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|----------------------------|---|
| F. W. Campbell (U.K.)      | D. MacKay (U.K.)                        |
| E. DeBoer (Netherlands)    | J. Naqumo (Japan)                       |
| K. G. Götz (F.R.G.)        | R. W. Rodieck (Australia)               |
| V. S. Gurfinkel (U.S.S.R.) | J. Scholes (U.K.)                       |
| A. Hugelin (France)        | W. M. Siebert (U.S.A.) <i>President</i> |
| D. Kennedy, (U.S.A.)       |   |

*Cell and Membrane Biophysics*

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|---|--------------------------------------|
| F. Conti (Italy)                          | P. Läger (Germany)                   |
| G. Frank (U.S.S.R.)                       | F. Morel (France)                    |
| B. Frankenhauser (Sweden)                 | E. Rojas (Chile)                     |
| N. Gabelova (U.S.S.R.)                    | A. Rothstein (U.S.A.)                |
| D. A. Haydon (U.K.)                       | L. Stryer (U.S.A.)                   |
| N. Kamiya (Japan)                         | J. Szentagothai (Hungary)            |
| O. Kedem (Israel)                         | S. Weidmann (Switzerland)            |
| P. G. Kostyuk (U.S.S.R.) <i>President</i> | D. R. Wilkie (U.S.) <i>Secretary</i> |

*Macromolecular Biophysics*

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|------------------------------------|--------------------------------|
| N. Andreeva (U.S.S.R.)             | V. Luzzati (France)            |
| E. R. Blout (U.S.A.)               | D. C. Phillips (U.K.)          |
| H. Buc (France)                    | G. M. Ramachandran (India)     |
| J. Edsall (U.S.A.)                 | H. A. Scheraga (U.S.A.)        |
| A. Ehrenberg (Sweden)              | <i>President</i>               |
| W. Gratzer (U.K.) <i>Secretary</i> | M. Volkenstein (U.S.S.R.)      |
| W. Hoppe (B.R.D.)                  | A. Wada (Japan)                |
| A. Klug (U.K.)                     | O. Hayaishi (Japan) <i>IUB</i> |
| S. Lifson (Israel)                 | <i>Representative</i>          |

*Subcellular Biophysics*

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|-------------------------|---|
| T. Anderson (U.S.A.)    | A. Monroy (Italy)                         |
| W. Arber (Switzerland)  | M. Sela (Israel) <i>Secretary</i>         |
| P. Berg (U.S.A.)        | J. Tomizawa (Japan)                       |
| F. Bonnhoeffer (F.R.G.) | R. Tsanev (Bulgaria)                      |
| J. A. V. Butler (U.K.)  | R. C. Williams (U.S.A.)                   |
| J. P. Changeux (France) | H. T. Witt (F.R.G.)                       |
| A. Engström (Sweden)    | J. Wyman (U.S.A.) <i>President</i>        |
| L. Ernster (Sweden)     | Y. Vladimirov (U.S.S.R.)                  |
| O. Maaløe (Denmark)     | A. Sols (Spain) <i>IUB Representative</i> |

### *Radiation Biophysics*

G. W. Barendsen (Netherlands)	B. Larsson (Sweden)
J. Boag (U.K.)	H. Markovitch (France)
C. Caldas (Brazil)	S. Okada (Japan)
H. Glubrecht (B.R.D.) <i>Secretary</i>	R. Setlow (U.S.A.)
D. Kanazir (Yugoslavia)	W. Sinclair (U.S.A.)
Z. Karpfel (Czechoslovakia)	B. Singh (India)
L. P. Kayushin (U.S.S.R.) <i>President</i>	G. Whitmore (Canada)
K. Kruglyakova (U.S.S.R.)	

### *Corresponding Members*

M. Errera (Belgium)	A. M. Kuzin (U.S.S.R.)
A. R. Gopal-Ayengar (India)	B. Latarjet (France)
S. Kondo (Japan)	C. A. Tobias (U.S.A.)

## Forthcoming Meetings

1973

### *June*

- 4-8 Symposium on Rapid Methods and Automation in Microbiology. Stockholm, Sweden. Write: Miss S. Olsen, Department of Applied Microbiology, Karolinska Institutet, S-104 01 Stockholm 60, Sweden.
- 17-22 The 2nd International Symposium on Cytopharmacology, Venice. Write: Secretariat 2nd International Symposium on Cytopharmacology, Department of Pharmacology, University of Milan, Via Vanvitelli 32, 20129 Milan, Italy.
- 20-24 3rd International Symposium on Biological Medicine, Lausanne, Switzerland. Write: G. Fisch, Chemin du Frene 11, CH-1004 Lausanne, Switzerland.
- 20-24 ISSOL 4th International Symposium on the Origin of Life, Barcelona, Spain.
- 25-30 XV International Conference on Coordination Chemistry, Moscow, USSR. Write: Organising Committee of XV-ICCC, Department of Chemistry, Moscow State University, Lenin Hills, Moscow, USSR.

### *July*

- 1-7 9th International Congress of Biochemistry, Stockholm. Sec: Dr G. Aulim-Erdiman, Svenska Kemistsamfundet, Wenner-Gren Center, 6ts S-113, 46 Stockholm, Sweden.
- 4-6 IV Canadian Wood Chemistry Symposium, Quebec, Canada. Write: Dr D. W. Clayton, c/o Pulp and Paper Research Institute of Canada, 570 St John's Boulevard, Pointe Claire 720, Quebec, Canada.

*July (continued)*

- 9-11 IUCr Symposium on Structure of Biological Molecules, Stockholm, Sweden.
- 15-20 International Meeting on 'New Trends in Photobiology' Brazil. Write: Dr L. E. Caldas, Instituto de Biofisica, Universidade Federal do Rio de Janeiro, Av. Pasteur, 458 Rio de Janeiro, Brazil.
- 16-21 IUPAP 13th International Conference on the Physics of Electronic and Atomic Collisions, Belgrade, Yugoslavia.
- 23-28 Fourth International Conference on Global Impacts of Applied Microbiology, Sao Paulo, Brazil. Write: Dr J. S. Furtado, Caixa Postal 4005, Sao Paulo, Brazil.

*August*

- 4-11 IUBS Congress of Systematic and Evolutionary Biology, Colorado, U.S.A.
- 12-17 IUPAP Meeting on Charge Momentum and Spin Densities. Minsk, USSR.  
VI International Conference on Organometallic Chemistry, Amherst, Massachusetts, U.S.A. Write: Professor M. D. Rausch, c/o University of Massachusetts, Amherst, Mass. 01002, U.S.A.
- 19-24 International Symposium on Microchemical Techniques, Pennsylvania State University, U.S.A. Write: Mr H. J. Francis jr. Pennwalt Corpn. 900 First Ave. King of Prussia, Pennsylvania 19406, U.S.A.
- 20-29 XIIIth International Congress of Genetics, Berkeley, U.S.A. Write: Dr S. W. Brown, Department of Genetics, 345 Mulford Hall, University of California, Berkeley, Calif. U.S.A.
- 21-31 XXVII International Conference on Pure and Applied Chemistry, Munich, Germany. Write: Executive Secretary, IUPAC Secretariat, 2/3 Pound Way, Cowley Centre, Oxford OX4 3YF, U.K.
- 22-28 IUPAP International Conference on Magnetism, Moscow, USSR.
- 28-1 Sept. IUPAP Colloquium Ampere, Cracow, Poland.
- 29-31 IUPAC-IUFoST Symposium on Contribution of Chemistry to Food Supplies, Hamburg, Germany. Write: Dr A. J. Collings, Environmental Safety Division, Unilever Research Laboratory, Colworth House, Sharnbrook, Bedford, U.K.

*September*

- 3-8 IUPAC 24th International Congress on Pure and Applied Chemistry, Hamburg, Germany. Write: Dr W. Fritsche, Gesellschaft Deutscher Chemiker, Carl-Bosch-Haus, Varrentrappstrasse 40-42 Postfach 119075, D-6000, Frankfurt/Main 8, Germany.

*September (continued)*

- 3-6 III International Conference on Chemical Thermodynamics, Baden, Austria. Write: Professor F. Kohler, Institut für Physikalische Chemie der Universität Wien, Währingerstrasse 42, A-1090, Wien, Austria.
- 6-10 International Symposium on Plasma Chemistry, Kiel, Germany. Write: Professor H. Suhr, Chemisches Institut der Universität Tübingen, Wilhelmstrasse 33, Lothar-Meyer-Bau, D-7400 Tübingen, Germany.
- 10-14 IUPAP 3rd International Meeting on Ferro-Electricity, Edinburgh, U.K.
- 10-14 International Symposium on Macromolecules, Aberdeen, U.K. Write: Dr J. F. Gibson, c/o The Chemical Society, Burlington House, Piccadilly, London W1V 0BN, U.K.
- 10-14 VI International Mass Spectrometry Conference. Edinburgh, U.K. Write: Mr C. H. Maynard, Institute of Petroleum, 61 New Cavendish Street, London W1M 8AR, U.K.
- 17-22 International Biological Programme, Edinburgh, U.K. Write: Dr A. J. Holding, Department of Microbiology, School of Agriculture, University of Edinburgh, West Mains Road, Edinburgh EH9 3JH.
- 18-21 International Symposium on Pore Structure and Properties of Materials, Prague, Czechoslovakia. Write: S. Modry, c/o Building Research Institute, Technical University of Prague, Solinova 7, Praha 6-Dejvice, Czechoslovakia.

*October*

- 15-20 13th International Congress on Radiology, Madrid. Write: The Secretariat, Decimotercio, Congreso Internacional de Radiologia, Lagasca 27, Madrid I.
- 21-27 IUB Symposium 54. Recent Advances in Chemistry, Biology and Immunology of Gonadotrophins. Bangalore, India.  
International Congress on Improvement of Chemical Education, Warsaw, Poland, Write: Dr H. Foecke, Division of Science Teaching, UNESCO, Place de Fontenoy, F-75, Paris 7<sup>e</sup>, France.

1974

*March*

- 24-29 IV International Conference on Crystal Growth, Tokyo, Japan. Write: Conference Secretariat, Organizing Committee of ICCG-IV, Science Council of Japan, 7-22-34 Roppongi, Minato-Ku, Tokyo 106, Japan.



*April*

- 1-5 7th International Symposium on 'Molecular Pharmacology', Jerusalem, Israel. Sponsored jointly by the Hebrew University, Jerusalem and the Institut de Biologie, Physico-Chimique (Foundation Edmond de Rothschild), Paris. Write: Professor E. D. Bergmann, Department of Organic Chemistry, The Hebrew University, Jerusalem, Israel AND Professor B. Pullman, Foundation Edmond de Rothschild, 13 rue P. et M. Curie, Paris 5e, France.

*June*

- 14-20 5th International Congress of Radiation Research, Seattle, Washington, U.S.A. Write: Dr W. Sinclair, Argonne National Laboratory, Argonne, Illinois 60439, U.S.A.
- 24-28 IX International Symposium on Chemistry of Natural Products, Ottawa, Canada. Write: Professor J. W. ApSimon, c/o Department of Chemistry, Carleton University, Ottawa, Ontario, K1s 5B6, Canada.

*July*

- 3-9 III International Pesticide Chemistry Congress, Helsinki, Finland. Write: Dr J. Larinkari, c/o Fabianinkatu 7B, POB 13028, SF-00130, Helsinki 13, Finland.
- 8-22 (within this period) 1st International Symposium on Protein Metabolism and Nutrition, Nottingham, U.K. Write: Dr D. J. A. Cole, Department of Agriculture and Horticulture, School of Agriculture, Sutton Bonington, Loughborough, U.K.
- 22-26 Second International Congress of Immunology, Brighton, U.K. Write: The Secretariat, Second International Congress of Immunology, Institute of Biology, 41 Queens Gate, London SW7 5HU.
- 26-31 International Symposium on Macromolecules, Rio de Janeiro, Brazil. Write: Professor E. B. Mano, c/o Academia Brasileira, de Ciencias, Caixa Postal 229, 20,000 Rio de Janeiro, G.B. Brazil.
- IV International Conference on Nonaqueous Solvents Vienna, Austria. Write: Prof. V. Gutmann, Institut für Anorganische Chemie der Technischen Hochschule Wien, Getreidemarkt 9, A-1060 Wien, Austria.

*August*

- 19-24 XVI International Conference on Coordination Chemistry, Dublin, Ireland. Write: Dr W. J. Davis, c/o Department of Chemistry, Trinity College, University of Dublin, Dublin 2, Ireland.

*August (continued)*

- 25-31 Second International Symposium on the Genetics of Industrial Microorganisms, Sheffield, U.K. Write: Assistant Secretary (G1M 74) Society of Chemical Industry, 14 Belgrave Square, London SW1X 8PS.

*September*

- 9-13 Ninth European Congress of Allergology and Clinical Immunology. Write: Secretariat, Institute of Biology, 41 Queens Gate, London SW7 5HU.  
International Symposium on Macromolecules, Madrid, Spain. Write: Dr S. Gonzalez-Babé, Instituto de Plasticos y Gaucho, c/o Juan de la Cierva, No. 3, Madrid 6, Spain.  
II Symposium of Inorganic Phosphorus Compounds, Prague, Czechoslovakia. Write: Dr M. Waněk, Lehrstuhl für Chemie der Pädagogischen Fakultät České Mládeže 8, Usti Nad Labem. Czechoslovakia.
- 15-20 IUPAC International Symposium on Macromolecules, Madrid, Spain. Write: Professor Dr J. G. Fatou, Juan de la Cierva, 3, Madrid 6, Spain.

*October*

- 20-26 XXVI International Congress of Physiological Sciences, New Delhi, India. Write: Secretariat, International Congress of Physiological Sciences, Physiology Department, All-India Institute of Medical Sciences, New Delhi 11006. India.