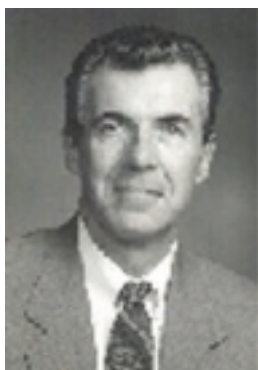


IUTOX NEWS-LETTER

OF THE INTERNATIONAL UNION OF TOXICOLOGY

Letter from the President

MAY 2000



By Glenn Sipes

By now you have been welcomed to the new millennium a number of times. It is and will continue to be an exciting and challenging time for toxicologists. As toxicologists, we should be proud of the accomplishments of our discipline during the latter part of the 20th century. These accomplishments have had a very positive impact on the health and welfare of humans and their environment. A variety of testing procedures are now in place that can be used to demonstrate the adverse effects that a chemical *can* produce. As a result of research on molecular and cellular mechanisms of toxicity, toxicologists can demonstrate *how* chemicals cause adverse effects. The challenge now and in the future is to use these descriptive and mechanistic approaches to better predict what effects a chemical *will* produce under various exposure situations and in certain populations/individuals. Such situations include long term exposure to low levels of a chemical and exposure to chemicals in combination with other chemicals and environmental factors (*i.e.*, the "real world" exposure scenario). In the real world those exposed have a diverse genetic background, range in age, consume different diets, live in different habitats and face different health problems. More emphasis will be placed on such host factors and how they affect the toxicological outcome. Fortunately, the new tools of molecular biology (genomics and proteomics) will facilitate research in predicting how the chemical will affect the host and how the host can influence the chemical. The tools will also provide biomarkers that can more accurately estimate exposure and assess susceptibility. Clearly, this is an exciting time for toxicologists. We have much to contribute to society and the opportunities for advanc-

es are plentiful. The future for the discipline is bright.

This is also an exciting and challenging time for IUTOX. This federation of societies of toxicology enters the 21st century representing over 20,000 toxicologists worldwide. IUTOX strives to be the voice for these toxicologists and for toxicology on a global stage. The mission of IUTOX is to foster international scientific cooperation among national and other groups of toxicologists, to promote worldwide acquisition, dissemination and utilization of knowledge in the science of toxicology, and to ensure the continued training and development of toxicologists worldwide. To fulfill this mission the Executive Committee has developed a number of long range goals as part of its plan. The key goals for IUTOX are:

- to serve as a scientific, international, non-governmental body that addresses global issues in the toxicological sciences.
- to broaden the geographical base of toxicology as a discipline and a profession.
- to assist in the career development of young toxicologists.
- to pursue capacity building in toxicology, particularly in developing countries.
- to promote the continued development and use of risk assessment to improve the evaluation of the hazardous potential of environmental agents.
- to assist in the dissemination of knowledge in toxicology worldwide, with particular emphasis on the transfer of such knowledge to developing countries.

In this newsletter you will learn of some of the specific objectives to enable achievement of these goals. These include sponsorship of the 9th International Congress of Toxicology and the 8th Risk Assessment Summer School as means of addressing global issues in the toxicological sciences, disseminating new scientific information, promoting the continued development and use of the scientifically based risk assessment process and providing for the continuing education of toxicologists.

A major new program for the coming years focuses on the dissemination of knowledge in toxicology worldwide, with a particular emphasis on transfer of such knowledge to developing countries. The Commission on Education has requested that various national and regional toxicology societies make continuing education courses available to developing

countries. IUTOX is supporting the translation of such courses into the most appropriate language for a developing society, and the presentation of these courses at the national meetings of developing societies. Funds for this activity are being solicited from the private sector and from various governmental organizations. In November 1999, two such courses were offered at the Mexican Society of Toxicology.

Over the past six years, IUTOX has assisted in development of a number of national societies of toxicology. IUTOX will continue this effort and will nurture the development of recently organized societies. At present, IUTOX is focusing its efforts on newly developed societies in Eastern Europe and in Latin America. Since toxicology is underrepresented on the African continent, IUTOX will assist interested groups in the development of various national societies and/or a regional African Society of Toxicology.

IUTOX also plans to expand its interactions with other national and international organizations concerned with environmental factors that affect the health and welfare of humans, animals and the environment. As a member of the International Council of Science (ICSU), IUTOX contributes to the development of scientific activities, promotes an interdisciplinary approach to solving toxicological problems and advances the interests of toxicology as a profession and as a discipline. Through its interactions with IUPAC and IUPHAR, IUTOX was instrumental in the development of a monograph on environmental estrogens. Using the monograph as reference material, IUTOX held a number of workshops around the world on environmental estrogens. IUTOX is exploring an expansion of its interactions with the WHO's International Program of Chemical Safety and with the Office of International Programs of the National Institutes of Environmental Health Sciences. By brokering our resources and talents with other major organizations, IUTOX can better serve its members and their discipline.

The Executive Committee is developing a process to assure the continued involvement of a strategic plan for IUTOX and for the resources to support the plan. Of particular concern is the financial health of IUTOX. Our major sources of revenue are profits from the International Congresses of Toxicology and from dues of

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member Societies. Frequently, these funds are not sufficient to support many meaningful activities. Therefore, the Finance Commission is exploring additional sources of income. To date ICSU, NIEHS and TERA have provided funds to support continuing education courses for developing Societies. IUTOX is grateful for this important and critical support.

It is an honor for me to serve as President of IUTOX. I have the good fortune to have an energetic and enthusiastic Executive Committee with which to work. These individuals are talented, dedicated toxicologists who volunteer their time to serve IUTOX. I thank them for their efforts on behalf of IUTOX and thank you, the world's toxicologists, for your efforts on behalf of our important discipline. □

EDITOR'S MESSAGE

By Kai Savolainen

Two years have passed since the previous IUTOX Newsletter that was published in conjunction with the ICT VIII held in Paris in July 1998. That Congress proved to be a major scientific, social and financial success, and thus it maintained the tradition of excellence that has become the landmark of the International Congresses of Toxicology, the flagship of IUTOX.

The Executive Committee, which was elected in Paris, has now worked for about one and a half years under the presidency of Dr. Glenn Sipes from the US. The Committee has initiated a proactive strategic plan that is published in this issue of the Newsletter. A perusal of that plan reveals that the Executive Committee has been working very hard, with great dedication. Educational activities, especially in the developing countries, communication between the Executive Committee and the IUTOX Member Societies, international relationships, the IUTOX website, and establishing new toxicology societies have been the focus of the work of the newly elected Executive Committee.

In the future, harmonization of hazard and risk assessment will become an increasing challenge for the international toxicology community, regulatory authorities, and decision and policy makers in the public and private sectors in different countries. Therefore, the establishment of the International Assembly for Recognition of Toxicologist is to be truly welcomed, and is likely to be an important means of achieving the goal of closer cooperation between those parties that either certify, recognize, or register toxicologists in different countries and continents. In this context I

want to remind everybody of the imminent RASS VIII that will be organized in Spain. It will again offer a great opportunity to study risk assessment under the guidance of a great international faculty. This activity has been organized for a number of years by Dr. Torbjörn Malmfors from Sweden. Information on the RASS VIII will be provided elsewhere in this Newsletter.

From a very personal point of view, it has been encouraging to see how effectively the Membership Committee, Chaired by Dr. Tetsuo Satoh has been working. The IUTOX umbrella covers an ever increasing portion of the globe. In its march to becoming a mature and global toxicology scientific organization, IUTOX needs to stretch out welcoming hands to our colleagues who do not yet belong to the IUTOX through a member society. By having a proactive strategic plan, and through active policies supporting its members, IUTOX can reach out to an increasing number of toxicologists around the world, and encourage them to attend the IUTOX flagship event, the International Congress of Toxicology.

The International Congress of Toxicology after the ICT IX, the ICT X, will be organized in Tampere, in Finland, in 2004. The best way of promoting of the growth of IUTOX, and especially the success of the IUTOX meetings, is to make each IUTOX Congress a great scientific and social event for IUTOX and all its members. This also helps in keeping the finances of IUTOX healthy and allows the IUTOX Executive Committee to develop programs from which all members of IUTOX Member Societies benefit. So, let's all meet in Brisbane in July 8-13 in 2001. □



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IUTOX STRATEGIC PLAN 1998–2001



By Meryl H. Karol

After twelve years of planning, on July 6, 1980, toxicologists from industry, academia and government founded the International Union of Toxicology (IUTOX). These toxicologists represented thirteen toxicological societies that included national as well as regional societies. Today, there are thirty-seven member societies of IUTOX that represent over 20 000 toxicologists worldwide. Collectively, they are a significant influence on the international stage, as demonstrated by IUTOX's links with international organizations dealing with the health of humans, animals and the environment.

IUTOX has official status as a non-governmental organization affiliated with the World Health Organization (WHO). It works with WHO's International Program of Chemical Safety (IPCS) training toxicologists and establishing capability in toxicology on a worldwide basis. IUTOX is also a member of the International Council of Science (ICSU), the premier international body that represents all scientific disciplines. Through ICSU, IUTOX contributes to the development of scientific activities, promotes an interdisciplinary approach to problem solving and advances the interests of toxicology as a profession and as a discipline everywhere. In recent years, IUTOX has de-

veloped joint projects with the International Union of Pure and Applied Chemistry (IUPAC) and the International Union of Pharmacology (IUPHAR), including development of a monograph and conducting workshops on environmental estrogens. These workshops are being held in five continents. With the National Institute of Environmental Health Sciences (NIEHS) IUTOX is sponsoring translation of scientific information from the original language into the native language of our member societies, such as into Spanish.

Overall IUTOX seeks to increase the knowledge base of toxicological issues facing humankind and the environment and to extend this knowledge to developing societies and nations.

IUTOX organizes the largest and most prestigious International Congress on Toxicology (ICT), which is held every three years. These Congresses offer the opportunity to learn the latest developments in toxicological science and regulation. In addition, through continuing education courses at these Congresses, participants obtain basic and advanced knowledge in specific areas of toxicology such as clinical toxicology and natural toxins, and earn continuing education credits for obtaining or maintaining accreditation/registration. The next International Congress will be held in Brisbane, Australia in July 2001. IUTOX provides support to the Congress for Developing Countries. It sponsors training and educational courses at regional, national and international levels. In the past, these Congresses have been held in Buenos Aires, Argentina, in New Delhi, India, and in Cairo, Egypt. In 1999, the Congress was held in Antalya, Turkey.

Between international congresses, IUTOX sponsors several scientific training activities that include the Risk Assessment

Summer Schools (RASS). RASS provides advanced training for post-graduate toxicologists in risk assessment in an environment of close interaction between students and experts in different areas of toxicology including decision analysis and risk perception.

The leadership of IUTOX is held by the Executive Committee which changes every three years. Each new Executive Committee reviews and defines a strategic plan. The Committee establishes its mission and develops goals and objectives that will ensure that IUTOX continues to be the voice for toxicology on the global stage and a channel through which new ideas and existing knowledge can be spread throughout the international toxicological community.

MISSION

The purpose of the Union is to foster international scientific co-operation among national and other groups of toxicologists and to promote world wide acquisition, dissemination and utilization of knowledge in the science of toxicology and to ensure continued training and development of toxicologists worldwide.

LONG RANGE GOALS AND SPECIFIC OBJECTIVES FOR 1998–2001

To further its mission, IUTOX has established long range goals to guide the activities of the Executive Committee. A number of specific objectives have been formulated to assist in achieving these goals.

1. IUTOX will serve as a scientific, international, non-governmental body that addresses global issues in the toxicological sciences.

Specific objectives:

- Hold an international congress in 2001 to facilitate acquisition and transfer of knowledge in toxicology.

- Interact with WHO, ICSU, regulatory and national organizations and societies.
- Publish a Newsletter that discusses global toxicological issues.
- Strengthen other toxicologic societies, such as those in developing countries.

2. IUTOX will broaden the geographical base of toxicology as a discipline and a profession.

Specific objectives:

- Assist in development of new societies in areas of the world where toxicology is underrepresented.
- Work with existing societies to nurture continued development of Societies, such as those in Eastern Europe and Latin America, and development of new Societies in South Africa and Cuba.
- Recruit established toxicology societies in developed countries into IUTOX.

3. IUTOX will assist in the career development of young toxicologists.

- Sponsor attendance of young toxicologists at international meetings.
- Facilitate translation of technical material.
- Sponsor RASS workshops worldwide and provide material for expansion of the RASS concept.

4. IUTOX will pursue capacity building in toxicology, particularly in developing countries.

Specific objectives:

- Train toxicologists through continuing education courses, meetings and fellowships.
- Translate and present continuing education courses in non-English speaking countries.
- Continue the development of RASS.
- Provide translation of toxicological information into native languages.

5. IUTOX will promote the continued development and use of risk assessment to improve the evaluation of the hazardous potential of environmental agents.

Specific objectives:

- a. IUTOX will hold RASS VIII September 30–October 8, 2000.
- b. IUTOX will expand the RASS program by stimulating national/regional arrangements of similar courses.
- c. Publish a monograph of the RASS method.
- d. Hold workshops on risk assessment related to environmental estrogens.

6. IUTOX will assist in the dissemination of knowledge in toxicology worldwide, with particular emphasis on the transfer of such knowledge to developing countries.

Specific objectives:

- a. Hold the Ninth International Congress of Toxicology in 2001 (ICT IX) as well as local meetings.
- b. Publish the Proceedings of ICT IX.
- c. Publish a monograph of the RASS method.
- d. Provide toxicologic information through its Newsletter and website.
- e. Prepare and publish monographs with other organizations.

7. IUTOX will develop and lead the coordinated effort to achieve harmonization of an international process for accreditation/registration of toxicologists.

Specific objectives:

- a. Work with existing accrediting organizations and bodies worldwide.
- b. Assess the accreditation/registration requirements and needs of countries worldwide.
- c. Establish a procedure for international accreditation/registration of toxicologists.
- d. Evaluate the outcomes of the accreditation/registration procedure.

8. The Executive Committee will develop a planning process that assures continued development of a strategic plan for IUTOX and resources to support this plan.

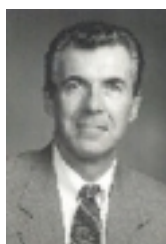
Specific objectives:

- a. Develop a procedure whereby each Executive Committee reviews the mission, past goals and objectives of the previous Committee, and redefines the strategic plan with specific goals and objectives.
- b. Develop stable income sources to adequately fund IUTOX programs.
- c. Develop administrative support for IUTOX programs to ensure continuity and corporate history. □

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Dr. Sipes earned a B.S. in Pharmacy from the University of Cincinnati (1965) and the Ph.D. in Pharmacology from the University of Pittsburgh (1969). After three years as a staff fellow at NIH, with Drs. B. Brodie and J. Gillette, he joined the faculty at the University of Arizona as an assistant professor in 1973. There he developed a research program with emphasis on the biotransformation of drugs and environmental chemicals and on mechanisms of chemical-induced liver injury. Dr. Sipes currently serves as Professor and Head of the Department of Pharmacology and Toxicology in the College of Pharmacy and of the Department of Pharmacology in the College of Medicine at the University of Arizona and Director of the Center for Toxicology. Dr. Sipes served as President of the Society of Toxicology and as Editor of Toxicology and Applied Pharmacology, is an associate editor of Life Sciences and is on the editorial boards of Quality Assurance and Annual Review of Pharmacology and Toxicology. Other professional activities include serving as a Councilor for the International Society for the Study of Xenobiotics; as a Councilor and as Chair of the Pharmaceutical Sciences section for the American Association for the Advancement of Science, of which he is also a Fellow; as a member of the NAS/NRC Committee of Toxicology and Board of Environmental Studies and Toxicology and as Chairperson of the NIH Toxicology Study Section. He was a Burroughs Wellcome Toxicology Scholar from 1985-1990. Recently, he served as an Editor-in-Chief of the 13 volume series entitled "Comprehensive Toxicology."

Remi Glomot
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Rémi GLOMOT, was born in France in 1934. He obtained in 1960 his Diploma in Pharmacy, at the Faculty of Pharmacy of Paris, in 1967 his Diploma in Industrial Pharmaceutical Legislation and his Diploma of Management at the Faculty of Law, both at the Paris University. Internal in Hospitals and Assistant to Faculty of Medicine of Paris from 1962 to 1966, he joined the Industry to be appointed as Director of the Department of Toxicology, Roussel-Uclaf Research Center, France (1967–1982), then Vice-President of International Center of Toxicology, main contract CRO in France (1983–1995).

Presently he is an Independent Expert and Consultant. Past-President with Honour of the French Society of Toxicology, he is also Vice-President, International Union of Toxicology since 1995 and O.E.C.D. Expert since 1989. He has been nominated early 2000, Expert of the European Commission, and continues his career as a member of several official Ministerial Committees in France. He is the author of more than 50 publications in Toxicology.

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Dr. Satoh received his M.S. and Ph.D. in Pharmacology and Toxicology from Hokkaido University in 1963 and 1966. After completing a visiting professorship (1971–1973) in the Toxicity Laboratory of Professor Kenneth P. DuBois at the University of Chicago, Dr. Satoh became an Associate Professor of Pharmacology and Toxicology at Chiba University before moving to the Tokyo University of Pharmacy and Life Sciences in 1984 where he has been Professor of Pharmacology and Toxicology. In 1988, Dr. Satoh moved to the Faculty of Pharmaceutical Sciences, Chiba University as a Professor of Pharmacology and Toxicology. He was retired from Chiba University in 1996 and became a Professor Emeritus, Chiba University. After retirement Dr. Satoh has been a Director of the Biomedical Research Institute, Chiba, Japan.

Dr. Satoh's major research area includes: metabolism and toxicity of drugs, pesticides and environmental pollutants and pharmacogenetics with a focus on genetic polymorphisms of enzymes catalyzing hydrolysis of drugs and other xenobiotics. He has published more than 300 scientific papers, invited review articles and book chapters. His updated review article entitled "The Mammalian Carboxylesterases: From Molecules to Functions" was published in the Annual Review of Pharmacology and Toxicology in 1998.

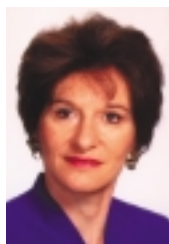
Dr. Satoh is a member of numerous national and international scientific societies including Japanese Society of Toxicology, Pharmacological Society of Japan, Japanese Society of Clinical Pharmacology, Society of Toxicology(USA), American Society of Pharmacology and Experimental Therapeutics, American Society of Clinical Pharmacology and Therapeutics, and International Society for Study of Xenobiotics. He has served on numerous committees of the national and international scientific organizations.

Dr. Satoh was elected the Founding Secretary-General of the Asian Society of Toxicology(ASITOX) in 1994. He has served as the 2nd Vice President of the International Union of Toxicology(IUTOX) since 1995 and a member of the Scientific Program Committee for the 8th International Congress of Toxicology(ICTVIII) in 1998. He was recently appointed a member of the International Advisory Board of the 9th International Congress of Toxicology in 2001. Dr. Satoh has served as the Associate Editor and review committee member for a variety of journals such as Regulatory Pharmacology and Toxicology(USA) and Toxicological Sciences (SOT, USA).

Meryl H. Karol **Secretary-General**

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Dr. Karol received her baccalaureate degree from Cornell University, NY, and the Ph.D. from Columbia University, NY, in Immunochemistry. Following post-doctoral studies in biochemistry, she joined the faculty of

the University of Pittsburgh, where she is currently Professor of Environmental and Occupational Health and the Associate Chair of the Department. Her research is focused on understanding the effects of chemicals, such as isocyanates on exposed populations. Her laboratory is engaged in studies that probe the mechanism(s) of chemical sensitization, both of the lung and the skin, and in identifying the biological macromolecules aducted by chemical allergens. She has pioneered use of structure-activity relationship models to study chemical lung sensitization. She was named an Outstanding Contributor to Public Health and an Outstanding teacher at the University, and is the recipient of the Rachel Carson Award and the Frank R. Blood award. She chairs several advisory boards to Universities and Foundations. She was the President of the Society of Toxicology, USA (1994-95), was a past Director of IUTOX and is currently serving as Secretary-General.

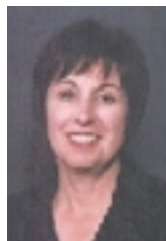
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Judith A. MacGregor was a Toxicology Fellow at the University of Rochester from 1968 to 1970 and received a Ph.D. in Toxicology from the University of California, San Francisco School of Medicine in 1973. From 1973 to 1992 she was at Chevron Corporation, where she served as Manager of Toxicology, Manager of the Environmental Group of Chevron Corporation and Vice President of the Chevron Environmental Health Center. She has 25 years of experience in industrial toxicology both in the USA and internationally. Special areas of expertise include petroleum toxicology, and product safety testing. She is currently a consultant in areas involving regulatory toxicology, risk assessment, and occupational and environmental health. Dr. MacGregor has served as President of the American Board of Toxicology, Treasurer of the Society of Toxicology, Trustee and Treasurer of the Toxicology Education Foundation, a councilor of the SOT Regulatory and Safety Assess-



ment Specialty Section, a member of advisory boards for the EPA, Cal EPA, CIIT and adjunct Professor of San Diego State University. She is currently on the editorial board of Human and Environmental Risk Assessment.

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Iain Purchase qualified in veterinary science and obtained a PhD in pharmacology. He was the Director at Zeneca (formerly ICI) Central Toxicology Laboratory from 1981 to his retirement in 1998. He was also the President of the International Union of Toxicology from 1995 to 1998 and is a member of the UK Committee on Carcinogenicity. His main areas of interest are mechanistic toxicology, including in vitro toxicology, leading to better methods of risk assessment. He is now a visiting Professor at Manchester University.

Peter N. DiMarco **Director**

IUTOX 1998-2001

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Dr. Peter DiMarco received a BSc (Hons) in biochemistry and a PhD in developmental biochemistry from the University of Western Australia. Currently he is a Principal Toxicologist in the Health Department of Western Australia. He has worked for some 13 years as a regulatory toxicologist and for ten years in research on various aspects



EXECUTIVE COMMITTEE...

of biomedical sciences. His current interests include risk assessment/communication and regulatory toxicology. Dr. DiMarco chaired the Organising Committee for ICT-IX, which will be held in Brisbane in July 2001. He served as IUTOX Director in 1995–1998, in which capacity he initially chaired the Commission on Developing Countries, and subsequently co-chaired the Commission on New and Developing Societies.

Alan Pintèr *Director*

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Alan Pintèr graduated from Semmelweis Medical School, in Budapest, Hungary, he then specialized in human pathology and histopathology. Since 1974 he has been working at the National Institute of Public Health, in Budapest, Hungary. His research has focused on chemical-viral interactions in activation of endogenous retroviruses in mice. Further research areas in experimental mutagenicity and pathology include cytogenetic studies in vitro and in vivo, short-term and long-term carcinogenicity studies, first of all thiocarbamates, chloroacetanilide- and triazine type pesticides. In 1992 he became deputy director of the Institute, then in 1998 Director of the newly formed National Institute of Environmental Health in Budapest.

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Rodolfo Paoletti is Professor of Pharmacology, Chairman of the Pharmacological Sciences Department and Dean of the School of Pharmacy at the University of Milan and President of Italian Society of Toxicology.

He is member of several international medical organizations, has been recognized and honored for his work and achievements in the field of medicine, pharmacology and toxicology. His main scientific interests are lipid metabolism, drugs affecting cholesterol synthesis and the role of cholesterol and lipoproteins in physiology and pathophysiology. His scientific publications include over 200 scientific papers published in international journals and 50 monographs. He is member of several editorial boards for medical journals and has edited nearly one hundred books.

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Dr. Bus holds the position of Science Policy Leader and Technical Director of Toxicology and Environmental Research and Consulting at the Dow Chemical Company in Midland, Michigan. Prior to joining Dow Chemical in 1989, he held positions of Associate Director of Toxicology and Director of Drug Metabolism at the Upjohn Company (1986–1989), Research Scientist at the Chemical Industry Institute of Toxicology (1977–1986), and Assistant Professor of Toxicology at the University of Cincinnati (1975–1977). Dr. Bus currently is Adjunct Professor of Pharmacology and Toxicology at Michigan State University.

Dr. Bus received Ph.D in Pharmacology from Michigan State University in 1975 and a B.S. degree in Medicinal Chemistry from the University of Michigan in 1971. His research interests have focused on mechanisms of chemical toxicity. In 1987 he was the recipient of the Society of Toxicology Achievement Award. In 1999 he received the Robert A. Scala Award from the Environmental and Occupational Health Sciences Institute (Rutgers University). He has authored or co-authored over 80 research papers, reviews, and books.

In 1996–1997 Dr. Bus served as President of the Society of Toxicology, and in 1986–1987 as President of the American Board of Toxicology. He is a current member of both the

US Environmental Protection Agency and the National Toxicology Program Boards of Scientific Counselors, and the ACGIH Chemical Substances TLV Committee. Dr. Bus also serves as a Director of the International Union of Toxicology (IUTOX) and is co-chair of the Chemical Manufacturers Association Long-Range Research Initiative. Since 1997, he has also been a member of the Board of the Chemical Industry Institute of Toxicology

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Dr. Dybing was born in Oslo, Norway. He received his MD from the University of Göttingen, Germany, and his PhD, in pharmacology, from the University of Oslo, followed by postdoctoral work in the United States. He has been affiliated with the National Institute of Public Health (NIPH), in Oslo, Norway, since 1974, and is now Director of its Department of Environmental Medicine. Dr. Dybing was appointed full professor in Environmental Medicine, at the Karolinska Institute, in Stockholm, Sweden, in 1987. Now he is an adjunct professor in Environmental Medicine, and Faculty of Medicine, at the University of Oslo. His research experience has been focused in cellular toxicology, xenobiotic metabolism/reactive metabolites, genotoxicity and mechanisms of organ damage. Dr. Dybing is a recipient of the Society of Toxicology's Frank Blood R. Award in 1982. He is also a member of numerous national and international expert committees on toxicology, risk assessment, and environmental health and research. Currently he is a member of the EC Scientific Committee for Toxicology, Ecotoxicology and the Environment. Dr. Dybing was also an officer of EUROTOX 1990–98, and President 1993–96. He has been a member of ICT scientific programme committees for Seattle (1995), Paris (1998) and Brisbane (2001).

REPORT OF THE TREASURER



By Judith A.
MacGregor

OVERVIEW

A strong financial position is essential to an active organization. Our ability to maintain continuity for IUTOX programs and expand them in the future will depend in large part on having sufficient dependable income sources. Our reserves have been enhanced in the recent past, due to the receipt of the profits from past Congresses especially ICT VII and VIII. The 1999 year end assets were \$283,206 compared to 1998 year end assets of \$276,646 USD and 1997 year end assets of \$308,190. While our reserves put us in a more secure position, annual expenses continue to increase. IUTOX dues currently provide the only regular annual source of income and total approximately \$30,000 USD. This sum is far too small to fund our existing programs and does not provide the necessary funds to expand them. The commitment of the Executive Committee to build IUTOX programs particularly for developing countries creates funding challenges. We also need to improve administrative, financial and accounting services. The IUTOX Executive Committee and the newly formed Finance Commission hope to make these improvements.

CURRENT ACTIVITIES

Our main emphasis is to obtain regular sources of income to support IUTOX programs. We have applied for several grants from the International Council of Scientific Unions and have been successful in obtaining funds for fellowships for ICT, the RASS handbook, the Oestrogen Workshops and most recently the Continuing Education Program. We have also received commitments from several other organizations including TERA (Toxicology Excellence for Risk Assessment) and the Society of Toxicology to provide funds for the Continuing Education Program in developing countries. We are now also seeking funds to support travel to ICT IX for scientists needing financial assistance. The Japanese Society of Toxicology has led this effort with a \$10,000 donation. We are very grateful for their generosity and their leadership. In addition, a Finance Commission has been formed to help consider financial issues. The following individuals have agreed to serve on the new Finance Commission: Dr. Leonard E. Lillie, Canada; Dr. Kyu-Hwan Yang, Korea; Dr. Takemi Yoshida, Japan; Dr. Beat Schmid, Switzerland; Dr. Gerry Oliver, England; Dr. Alfredo Salibian, Argentina.

GOALS

- Improving our banking services.
- Propose ways of increasing revenue.
- Fund raising.
- Help to identify partnering opportunities for IUTOX programs.

We would be interested in your input regarding these goals and our activities. Email comments to jmacgregor@erols.com or phone or fax me in the USA at 301 530 4188. □

IUTOX WEBSITE REPORT

By Meryl H. Karol

The new IUTOX website <http://www.toxicology.org/iutox/> is an exciting feature of IUTOX operations. The website is operated under the auspices of the Society of Toxicology, USA. The Website is a major activity of the Commission on Communication and is continuously updated and revised in order to provide our Members with the most current and accurate information.

The homepage of the Website is shown here.



The **MEMBER SOCIETIES** link contains a listing of each Member Society along with information on how to contact the Society Executives. Links are also present to connect you with the homepages of individual Member Societies.

The IUTOX Executive Committee can be viewed under the **EXECUTIVE COMMITTEE** section, along with information on how to contact each officer or director.

Important information regarding the dates and venues of future toxicological meetings is listed under **MEETINGS & ANNOUNCEMENTS**. Contact information is also provided for those interested in obtaining further details about the different meetings.

New Societies will find it helpful to refer to the **ABOUT IUTOX** section. The Strategic Plan, the IUTOX Constitution, reflections from the President and Past President, travel grant news, and other interesting information about IUTOX are given here.

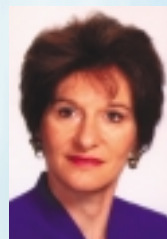
News of the upcoming International Congress of Toxicology (ICT IX) is located under the **INTERNATIONAL CONGRESS OF TOXICOLOGY IX** heading. Look here for information regarding how to bid for an ICT.

Exciting activities of IUTOX, such as the Environmental Oestrogens Workshops, are located at the **IUTOX EVENTS & WORKSHOPS** icon.

All IUTOX publications, such as the Strategic Plan, and a model Constitution can be found within the **DOCUMENTS & PUBLICATIONS** section. The IUTOX Newsletter and additional toxicology reading materials can also be found online at this site.

The Website can also be used to access other sites of interest to the Members of IUTOX, such as IUPAC and ICSU.

Exciting changes are constantly being made to the Website. In the coming months, we anticipate the addition of a bulletin board to enable Societies to post information concerning their activities. Individuals will also be able to post questions and receive prompt replies.



To keep this Website as current and utile as possible, we encourage feedback from our Members about their activities and any suggestions for new features that you would find helpful. □

IX INTERNATIONAL CONGRESS OF TOXICOLOGY BRISBANE 8-13 JULY 2001

The preparation for the 9th International Congress of Toxicology (ICT-IX) to be held in Brisbane, Australia, during the week of 8-13 July 2001 has entered a very active and busy phase.

Both the Australian and New Zealand Scientific Advisory Committee (ANZSAC) and the International Scientific Advisory Committee (ISAC) are working hard to develop the scientific programme for ICT-IX. ISAC met in Philadelphia in March 2000 in conjunction with the 39th Annual Meeting of the Society of Toxicology to review the draft programme developed by ANZSAC. ANZSAC developed the draft programme from the many suggestions submitted by member societies and individual members of member societies. By the time this Newsletter goes to print, the scientific programme will be finalised and the speakers formally confirmed in time for publication and distribution of the preliminary programme and call for abstracts around June 2000. The programme covers the following broad themes:

- Chemical sensitivities
- Chemicals/pollutants management in developing countries and countries in economic transition
- Clinical toxicology
- Complementary (herbal) medicines evaluation
- Ecotoxicology
- Endocrine disruptors
- Forensic toxicology
- Innovative analytical methods
- International harmonisation of chemicals management
- Molecular toxicology
- Naturally occurring toxicants
- Regulatory toxicology and toxicity testing
- Risk assessment methodologies
- Target organ toxicity

In addition, a number of continuing education courses and satellite meetings will be offered.

The Finance Committee is also working hard to raise the necessary sponsorship funds and at-

tract exhibitors to ICT-IX. Sponsors and exhibitors are vital to the success of scientific meetings, ensuring outstanding science at an affordable price.

If your organisation would like to sponsor, or exhibit in, ICT-IX 2001, please contact Dr. Mick Mc Manus, Manus@McManuspiqk.uq.edu.au.

The ICT-IX Organising Committee is also developing an exciting and comprehensive social programme for delegates and accompanying persons, including pre- and post-congress tours, to ensure that your visit to Australia will be an enjoyable and memorable one.

PLEASE NOTE THESE KEY DATES IN YOUR CALENDAR:

June 2000

Distribution of Preliminary Programme and Call for Abstracts

17 November 2000

Deadline for IUTOX Fellowship Applications

31 January 2001

Deadline for Abstracts

and Early Bird Registrations

8-13 July 2001
ICT-IX in Brisbane

To ensure you receive a copy of the preliminary programme and the call for abstract please complete and mail the expression of interest.

See you all in Brisbane in July 2001



Peter N. DiMarco
PhD,
Director,
IUTOX

SPONSORS NEEDED FOR ICT-IX BRISBANE JULY 2001

IUTOX appreciates the generous support of its Sponsors for the International Congresses of Toxicology (ICT) held every three years. Sponsorship ensures that the ICT provides outstanding science at an affordable price.

If your organisation would like to sponsor the ICT-IX 2001, please contact Dr. Peter DiMarco at **Peter.DiMarco@health.wa.gov.au** or by fax on #618 9388 4902



PHILIP L. CHAMBERS, 1931–1999

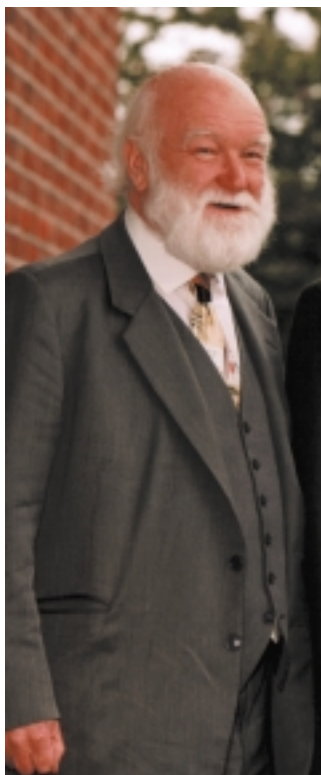
By Michael Pugh,
Iona Pratt,
John Moriarty

Dublin, Ireland, 1999

Philip Leo Chambers died unexpectedly in Bologna, Italy, on August 30th, 1999. Requiescat in pace. To repeat the words of Bert Jan Baars “European toxicology will not be the same now that we will not meet Philip at EUROTOX Congresses any more, and have no further discussions with him about EUROTOX and numerous other subjects”. For all of us who knew him, however, these discussions will leave a lasting memory. They will be in our minds for many EUROTOX meetings and other scientific fora in which we had the privilege of working with Philip and experiencing his formidable intellect, breadth of vision and social charm. His enormous range of interests meant that conversation never wilted and all were pressed to their limits of invention and capability to stay the pace.

It is perhaps not widely known that Philip's initial training was in the religious life. His early years in a seminary perhaps explains his devotion to the strict observation of the rules, whether of college, cricket, conduct or convention. It brought him at times into conflict with those with a preference for the pragmatic solution, whether on the Board of Trinity College, Dublin, where he was a Fellow or on one of the many Committees, national and international on which he served with his customary impish humour, tenacity, rigour and distinction.

Philip graduated as a Bachelor of Science from the University of Sheffield in 1957 and began his career as a physiologist, working on the physiological activity of a lipid-soluble fatty



acid present in human endometrium, later identified as prostaglandin. His interest in toxicology began in 1961, when he joined the Royal Dutch Shell Group to establish a research team dedicated to the investigation of the toxic effects of pesticides and industrial chemicals at the physiological level.

In 1964 he was seconded to the Milford Laboratory, directed at that time by Professor G. J. Popjak, FRS and Professor J. Cornforth, FRS, later Nobel Laureate. His interest in the use of *in vitro* and *in vivo* models, including the isolated central nerve cord of the cockroach, to investigate the neurotoxicological and other effects of chemicals began in this prestigious laboratory.

He moved to Trinity College Dublin as Lecturer in Pharmacology in 1965 and was appointed Senior Lecturer in Pharmacology in 1971. Following his period of office as Head of the Department of Pharmacology (Acting) from 1979 to 1983, he was appointed Senior Lecturer in Toxicology in the Department of Pharmacology and

Therapeutics in 1983, a position he held until his death. He published actively over the period of his career in toxicology, with over 200 papers, books and conference proceedings edited as principal Editor, together with his wife Claire, and scientific reports for the European Commission, the Irish Government and related bodies.

His services to toxicology, as evidenced by his membership and leadership of national and international Societies and Committees, were prodigious and legendary. *Inter alia*, reflecting his position as one of the first generation of toxicologists in Europe, he was an early Committee Member of the European Society of Toxicology (EST) and served as its Editor from 1978–1989. He was subsequently appointed to the Committee of EUROTOX from 1989 to 1991, and again served as Editor of the Congress Proceedings. He was also extremely active in IUTOX affairs and in SETAC, serving as Director of IUTOX from 1983 to 1989 and as a Council member of SETAC-Europe from 1989–1991. His memberships of other Committees are too numerous to be mentioned here, but to all of these he brought enthusiasm, knowledge and an always challenging and analytical perspective.

He is in particular a huge loss to Irish toxicology and to Irish scientific life as a whole. He was the foundation President of the Irish Society of Toxicology and has been the face of Irish toxicology for over 30 years. His role in the increasing recognition of the importance of the science in the minds of government officials, his academic colleagues in other fields and not least successive generations of medical and science students cannot be over-emphasised. He served as Ireland's representative on the EU Commission's Scientific Committee for the Toxicity and Ecotoxicity of Chemical Com-

pounds for all 20 years of its existence. One of the achievements of which he was most proud in recent years was his appointment as Vice Chair of that Committee when its role was strengthened on its move to DG XXIV, the Directorate responsible for Consumer Policy and Public Health.

Known by his students as mini-Jesus, more for his appearance than their knowledge of his years in a seminary before diverting into science, he was a devoted and inspirational teacher, who triumphed not only at the podium, but also at the bench. In addition to his teaching of pharmacology to medical students, he ran successful postgraduate diploma and degree courses in toxicology at Trinity. He fought long for their establishment, a fight which did however greatly achieve his goal of contributing to the development of the discipline in Ireland. It was, perhaps, his way of showing the error of an earlier Governmental Report which concluded that Ireland had no need of training in toxicology.

A true devotee of the grape, his competence was widely sought among Dublin wine merchants long before he was appointed Honorary Cellarer of the Common Room at Trinity College, an office that he never left. His industry, competence, contacts and patience were invaluable in restoring the depleted stocks and threadbare finances that he inherited back in 1971. Today Trinity's cellars are among the very best in Europe. Always with a keen awareness of style and etiquette, both in appearance and conduct, he sometimes railed at what he saw as a lowering of standards and a fashionable destruction of tradition. A campaign by those who advocated quantity over quality of the wines served at Common Room dinners was one such. For Philip himself, as many will tes-

tify to their cost, quantity allied to quality seemed never to be a problem. He had an astonishing ability to rise after a night of indulgence fresh, alert, pink and charming as ever. To those in his circle, the danger sign was often an innocent-sounding "and now let's taste this one", for no reason at all. Dining with Philip was an experience to be savoured, provided one could last the pace!

Over the last few years, his health was not the best, with a succession of ill-defined problems. Even then, however, he viewed retirement as a very unattractive option, preferring, as he said, to remain a thorn in the side of the establishment for as long as possible. He died just short of achieving his ambition not to retire until age 70, in a way that he would in all probability have identified as the best for him.

It is unforgivable to have reached this point in a tribute to Philip with only one small mention of Claire. It was rare to see them apart, and one of the best descriptions of their partnership expressed over the last sad weeks has been that "they were joined at the hip". Claire was a key supporter of all his endeavours, and who can forget the sight of the joint Editors of the EUROTOX Congress Proceedings, slaving over piles of manuscripts, both with spectacles placed in characteristic positions on the top of their heads? Our deepest sympathies go out to Claire, Benedict, Catherine, Rachel and Veronica in the suddenness of their tragic loss.

Wherever you are, Philip, we will all miss you. You no doubt will be raising a glass to us! □

IUTOX FACILITATES INTERNATIONAL RECOGNITION OF TOXICOLOGISTS



By Tetsuo Satoh

The mission of IUTOX is to "foster international scientific co-operation among national and other groups of toxicologists...and to ensure continued training and development of toxicologists worldwide." As part of this mission, IUTOX has committed to leading efforts to establishing a coordinated process that will work towards improved inter- and intranational recognition of public and occupational health scientists engaged in the practice of toxicology. Starting with discussions held at the 1992 International Congress of Toxicology in Rome, and continued at additional workshops held the 1998 ICT in Paris and the 1999 4th Congress of Toxicology in Developing Countries in Antalya, Turkey, IUTOX engaged in dialogue with various international toxicology organizations to address this important issue.

Using information and feedback gained from these earlier dialogue workshops, IUTOX-sponsored a full-day workshop held at the Society of Toxicology 2000 Annual Meeting with the purpose of developing definitive working plans to formalize international coordination in this arena. Under the leadership of IUTOX Executive Committee members Dr. Tetsuo Satoh (Ja-

pan) and Dr. James Bus (USA), representatives from organizations engaged in activities that support accreditation and/or registration of toxicologists gathered to discuss and develop plans that would result in enhanced recognition of toxicologists around the world. In addition to IUTOX, representatives from the following national and international organizations participated in the workshop: Academy of Toxicological Sciences, ALFA-OMET, American Board of Toxicology, American Board of Veterinary Toxicology, EUROTOX, International Academy of Toxicologic Pathology, Japanese Society of Toxicology, Korean Society of Toxicology, and the Society of Toxicologic Pathologists.

As a result of discussions held during the workshop it was decided to create an international forum, the "**International Assembly for the Recognition of Toxicologists**" (IART). The need for such an international collaborative body was based on the recognition that toxicologists play a significant role in evaluating the potential health effects of chemicals in the workplace and environment at large. Because the work of toxicologists is vital to the maintenance of public health in the various media in which people work and live, toxicologists must be recognized by both the public and national and international governing bodies as highly trained and appropriately experienced. In order to support these important objectives, the mission of IART was defined as threefold: **1)** to establish a forum for development of criteria for recognizing qualified experts in toxicology; **2)** to assist "recognizing organizations" in establishing these criteria; and **3)** to promote identification and training needs to enhance expertise in toxicology. The overall strategy of IART is to serve as an international working group whose

task will be to develop an action plan supporting future coordination of activities. The membership of IART is open to all organizations (e.g., registries, boards, academies, etc.) whose purpose is the recognition of expertise in toxicology.

To move the efforts of IART forward, the workshop participants created a working subteam to draft the principles of an action plan. These principles will be incorporated into a Memorandum of Understanding (MOU) that can be endorsed by both IUTOX and IART at the International Congress of Toxicology in Brisbane, Australia in 2001. The purpose of the MOU will be to define mutually complementary and supportive activities for both IART and IUTOX in accomplishing their respective missions of enhancing the international practice of toxicology. The representatives from the IART working subteam were designated as: Drs. T. Satoh (Japan) and J. Bus (USA) representing IUTOX, Dr. A. Craigmill (USA, American Board of Toxicology); Dr. J. Fowler (UK, EUROTOX); Dr. K. Horii (Japan, Japanese Society of Toxicology); and a to be named representative from a developing country. □

For additional information on the activities of IART, please contact Dr. Tetsuo Satoh at satohbri@plum.ifnet.or.jp, or at the mail address: Biomedical Research Institute, 2802-1 Hiratsuka, Shiroy, Inba, Chiba 270-1402 JAPAN

COMMISSION ON NEW AND DEVELOPING SOCIETIES



O' sole mio

By Peter N. DiMarco

The Commission on New and Developing Societies, created in the triennium 1995–98 by amalgamating the Commission on Developing Countries and the Commission on Central and Eastern Europe, continues to work towards the goal of IUTOX to bring toxicology to all for the benefit of all mankind. The Commission is co-chaired by Director Alan Pinter, from Hungary, who has responsibility for Central and Eastern Europe, and Director Peter Di Marco, who has responsibility for the remaining regions.

The focus of the Commission is to encourage and support the formation of new toxicology societies and to ensure their sustainability and growth. The IUTOX Executive believes that this, as well as ensuring sustainability and growth of existing societies, is the most effective way of promoting the development of toxicology and specifically for capacity building and self reliance in toxicology and risk assessment in developing countries and countries in economic transition.

As the finances of IUTOX are limited, we need to explore new and creative ways of spending the limited resources and providing cost effective support to as many societies as possible.

The IUTOX has developed and is implementing a financial plan for the triennium 1998–2001 to raise additional funds for these activities. IUTOX believes that to support once-only activities, eg, a workshop or a symposium, without first establishing adequate infrastructures and support for the organisation to grow and flourish is not cost effective and not the best way to spend its funds. The importance of ensuring viable and sustainable societies cannot be overemphasised.

IUTOX will provide advice, support, and expertise and will participate, as far as possible, in the scientific activities of new societies, eg, inaugural meetings, as well as other activities in developing countries and countries in economic transition. A model constitution, which can be used as a template when starting a new society, is available from the IUTOX home page on <http://www.toxicology.org/iutox/> Currently IUTOX is actively supporting the establishment of two toxicology societies in Africa: one in South Africa, the other for the northern and central Africa region (AFRICA-TOX). Dr Christo Botha from the University of Pretoria, and Dr Abdel Rahim Ghazal, from Alexandria University and a member of the Egyptian Society of Toxicology, are providing valuable support on the ground. They are to be commended for their commitment, enthusiasm and efforts.

The IUTOX has reaffirmed its

Support from Different Organisations for the 4th Congress of Toxicology in Developing Countries

Sponsors	Co-Sponsors
IUTOX	IBRO
IUPAC	EUROTOX
NIEHS	TUBITAK
Procter & Gamble (Turkey)	EISAI
	SANKYO
	GLAXO-WELLCOME
	SOT



A toast to the Chinese Society of Toxicology who will hosting the 5thCTDC in 2003. (LR) Professor Hua-Qiong Han, China, Professor Sameeh Mansour, Egypt (Past President 3rd CTDC), Professor Ali Karakaya, Turkey (President 4th CTDC), Professor Jose Castro, Argentina (Past President 1st CTDC) and Professor Semra Sardas, Turkey (Secretary General 4th CTDC).



Professor Hua-Qiong Han, China (Chinese Society of Toxicology) and Professor Semra Sardas, Turkey (Secretary General 4th CTDC)

policy to hold Executive meetings, as far as possible, in areas of the world where it can meet with, and learn from, scientists or societies first hand about

their needs in toxicology. Two of the last three meetings have been held in these regions. The Executive met in Guadalajara in November 1998 and in Antalya Turkey in November 1999 at the time of the 4th Congress of Toxicology in Developing Countries (4th CTDC).

IUTOX has supported a number of activities in developing countries and countries in economic transition so far this triennium (see also other reports elsewhere in this newsletter). Financial support and expertise was provided for workshops in Mexico and Argentina and the 4th CTDC. The major focus of activity has been the 4th CTDC held in Antalya Turkey on 6–10 November 1999. The Commission for developing countries (1995–1998) and the Commission on New and Developing Societies have been advising and supporting the Organising Committee and the Turkish Society of Toxicology during the organising of this Congress. In addition to providing financial support, each member of the IUTOX Executive presented one or more papers at the congress. This allowed more of the scarce congress funds to be used for supporting delegates from develop-

ing countries to attend.

The IUTOX Executive participated in two formal activities with representatives of developing countries. One, a meeting between the IUTOX Executive and representatives of developing countries, the other a workshop on educational needs for developing countries, which was also linked to a workshop on global accreditation of toxicologist. The latter was identified as a high priority by some developing countries at previous meetings. Both were very successful in improving communications and strengthening relations between IUTOX and Developing Countries. IUTOX will take on board the outcomes of the meetings and develop strategies to achieve mutually beneficial outcomes. One suggestion was to explore the possibility of having ICT and CTDC meetings every four years and synchronised so that there would be one major toxicology meeting every two years – one in developing countries and one in developed countries.

Overall, the 4th CTDC was very successful. Around 280 delegates from 35 countries attended (cf, 400 delegates from 30 countries for the 3rd CTDC). Unfortunately, the devastating effects of the earthquakes in Turkey earlier in the year also had repercussions on the number of delegates attending the congress. IUTOX extends its deepest sympathy to the Turkish people for their loss.

IUTOX congratulates the Turkish Society of Toxicology for organising such a successful meeting. In particular, it acknowledges the hard work of the organising committee ably lead by Professor Ali Karakaya, President of the Congress, Professor Semra Sardas, the Secretary General, and Professor Nursen Basaran, the Treasurer, and the local organising committee. Delegates were treated not only to a sound and interesting sci-

entific programme, but also a very enjoyable social program in a beautiful setting on the Mediterranean and the warm, friendly and generous Turkish hospitality. IUTOX also acknowledges the generous financial contributions of other organisations towards the success of the 4th CTDC (see table page 11).

The 5th CTDC will be hosted by the Chinese Society of Toxicology in Beijing, China, in 2003. The CTDC Steering Committee awarded the Egypt Cup to Professor Huaqiong Han, representing the Chinese Society of Toxicology, at the congress dinner on Tuesday 9 November. Professor Mansour inaugurated the Egypt Cup for contributing to the development of toxicology in developing countries at the 3rd CTDC in Cairo in 1995, when it was awarded to Professor Semra Sardas from Turkey. The venue and host for the 5th CTDC was chosen by the Steering Committee for the CTDC, consisting of past presidents, Professor Jose Castro (Argentina), Professor Sameeh Mansour (Egypt) and Professor Ali Karakaya (Turkey), together with Professor Semra Sardas and Dr Peter Di Marco, representing IUTOX. South Africa and China had both expressed an interest to host the next congress.

The next major activity for the triennium will be the 9th International Congress of Toxicology (ICT-IX) to be held in Brisbane Australia in July 2001. The IUTOX Executive has developed, and begun to implement, a financial strategy to raise funds for supporting junior and senior toxicologist from developing countries and countries in economic transition to attend the ICT-IX. (See separate article on page 18 this newsletter for details of application). □

COMMISSION ON EDUCATION



By Erik Dybing

REPORT ON ACTIVITIES 1998–1999

Under the able leadership of Torbjörn Malmfors, the 7th Risk Assessment Summer School (RASS) was arranged in Sweden on the largest island in the Baltic sea, Gotland, on 22–30 August 1998. Twentyeight students from 18 countries participated together with eight faculty members. An analysis of the future of RASS has been performed and it is agreed that RASS will be converted into a long-range educational programme of IUTOX. The overall objective is to support worldwide training of young toxicologists in chemical risk assessment. This will be done by arranging annual/biannual master classes in risk assessment for young toxicologists from different IUTOX member countries in various parts of the world. A RASS Training Manual has been produced as an aid for those who are planning to organise similar courses.

A workshop "Educational Needs for Developing Countries" was included in the programme of The 4th Congress of Toxicology in Developing Countries, held in Antalya, Turkey, 6–10 November, 1999. The aim of this workshop was to explore needs for training in toxicology in developing countries and how

the international organisations could stimulate education of toxicologists all over the world. The workshop was well attended and had a lively discussion. The participants in the audience presented a number of important views. These views will be considered in future planning of IUTOX educational activities.

With the aim to pursue capacity building in toxicology, particularly in countries where toxicology is under development, the Commission on Education has embarked on a programme to provide English or translated versions of continuing education courses held in English at toxicological meetings (SOT, EUROTOX, IUTOX). The first activity of this programme has been to translate two courses presented at the Annual Meetings of the Society of Toxicology USA, into Spanish. The courses "Effective Risk Communication: Avoiding the Pitfalls" and "Advanced Metal Toxicology" were presented in conjunction with the congress of the Mexican Society of Toxicology in Ciudad Obregón, 1–2 November 1999. A call for expression of interest to participate in this programme for 2000 and 2001 has been sent to all member societies. For the year 2000, the annual meetings of the Polish Society of Toxicology and of the Union of Hungarian Toxicologists have been selected for continuing education course presentations.

Under the auspices of EUROTOX, the education course "Principles of Risk Assessment" has been held for the second time in Pula, Croatia, 26–30 September 1998 and for the third time in Varna, Bulgaria, 18–23 September 1999, each time for some 40 students.

PLANNED ACTIVITIES FOR 2000 AND BEYOND

The Risk Assessment Summer School (RASS) VIII will be arranged in Pueblo Acantilado

WORKSHOP ON EDUCATIONAL NEEDS FOR DEVELOPING COUNTRIES

near Alicante, Spain, 30 September–8 October 2000. The application deadline will be 15 April 2000. An information brochure with application form will be distributed to the IUTOX Member Societies. They should actively recruit and support candidates to this important educational activity.

The programme on transfer of continuing education courses from SOT, EUROTOX and IUTOX meetings to member societies where toxicology is under development, will continue. Financial support to this programme is sought from a number of sources. In addition to Spanish, translation of courses into Russian and French may be a possibility. Anyone interested in participating in this exciting programme and helping out with translation and presentation should contact the Commission on Education.

An attractive continuing education programme for ICT IX in 2001 in Brisbane, Australia is being developed. Proposals should be directed to the chair of the International Scientific Advisory Committee, Sarah Roberts-Thomson. □



By
Torbjörn Malmfors

The main aim of the workshop held in Antalya, Turkey, on November 6–10, 1999, during the 4th Congress of Toxicology in Developing Countries, was to collect ideas for educational activities directed towards training toxicologists in the developing countries by international toxicology societies. Besides introductory lectures about the situation in the developed countries and two lectures solicited from representatives from the developing countries (Mansour and Castro) the rather large audience took part in the general discussion and submitted its points of view.

There was no ambition to document the lectures or discussions in detail and this report would not have been written if everything had developed mainly as the organizers had expected. The contribution from Drs. Purchase, Sipes and Dybing were according to plan, up-to-date, well presented, thoughtful and in agreement with the common view in the developed countries. Thus, there was nothing that remarkable that it would motivate the effort to write a report.

However, from the contributions by Drs. Mansour and Castro and the discussion there are

a few ideas which I think should be highlighted and seriously considered. The following points are worth mentioning in a condensed form:

1. Toxicology as a profession of its own was seriously questioned by Castro. Instead, toxicology should be included in other professions as that of chemists, biologists, physicians etc. The reason for that is probably that in the developing countries it is more important to solve practical problems than to make decisions about preventive measures. Toxicology does not offer practical skills like engineering, medicine or chemistry. Besides toxicological knowledge, toxicologists normally do not offer anything extra when handling risks and damages from chemicals.

2. The knowledge “infrastructure” in the developing countries is radically different from that in the developed countries, partly because the crisis of illiteracy in its different forms. Thus, teaching of toxicology must start at a level adapted to the knowledge infrastructure, conducted in a way adjusted to the traditions and circumstances and focussed on the practical problems on hand.

3. Despite the rather critical views of the representatives from the developing countries, there was a clear desire to collaborate internationally in educational matters. Besides exchange of information and experience, strengthening the relationships between toxicologists in the developing and developed countries was proposed. The theme: “Together for integrated education in developing countries” was proposed by Dr. Mansour.

CONCLUSIONS AND VIEWS

We must accept that there are different views on toxicology, particularly between the developing and developed countries.

Critical issues are for example what does toxicology include, how and by whom should it be conducted and how should it be promoted in education, research and as a profession. If the toxicology societies in the developed countries want to contribute to the development of toxicology in developing countries, they need to involve and to learn from appropriate representatives from the developing countries. Furthermore, if they decide to embark on an international mission for toxicology, they must ensure that sufficient and long-term financial and personnel resources will be available.

PROPOSAL

Instead of supporting various educational activities particularly in the developing countries without a careful cost-benefit analysis, IUTOX should investigate, in collaboration with its member societies, the status of toxicology as a science and a profession in academia, authorities and industry, and as an educational activity at different educational levels both in the developing and developed countries. With this information IUTOX and its member societies would be able to propose a plan for the future development of toxicology. □

COMMITTEE FOR DEVELOPING COUNTRIES – CENTRAL AND EASTERN EUROPE



By Alan Pinter

One of the goals of the International Union of Toxicology is to increase its membership in order to facilitate scientific communication. It was a great pleasure that the General Assembly of IUTOX granted membership for two societies from the Central and Eastern European region, namely, the Polish and the Russian Societies of Toxicology. We hope that these Societies will benefit from the membership and further Societies from the region will consider the applying. One such candidate is the Croatian Society of Toxicology, which is in the process of submission of an application.

Activities among the Toxicological Societies in the region are restricted to communication via letters and electronic mails. A letter of inquiry was sent out to the Polish and Russian Societies of toxicology, as new member of IUTOX for to assess their needs and requests for help from IUTOX.

The first World Conference on Science was held in Budapest, Hungary, 26 June–July, organized by UNESCO and ICSU and hosted by the Hungarian government. It was a unique, prominent event on science: covering a wider variety of topics, including equity, equal opportunity in science, role of women in science, responsibility

of scientists towards the society, moral of science, funding scientific research in developing countries, etc..

High level government officials from 142 countries from all over the world, further international scientific communities, non-governmental organizations expressed their views on the most pressing issues. On behalf of the IUTOX, Alán Pinter, Director participated in the Conference.

The conference dealt with a variety of scientific topics in the forms of Workshops, satellite meetings. Three days were spent expressing government and organizations's statement on burning issues of science and these interventions contributed to the formulation of the two official documents of the Conference: **Declaration** and the **Action Plan**. The Draft Declaration and the Draft Action Plan were amended and modified in the light of the interventions and as a result of negotiations between representatives. In the end, both documents were accepted by consensus.

A Trilateral Meeting was held in Balatonföldvár, Hungary, on 19–23 September, organized jointly by Central and Eastern European Section of SECO-TOX, NIEHS, USA and the Hungarian Union of Toxicologists on Organochlorine Compounds: Hazard and Risk for Humans and the Environment. 140 scientists from the region and from Western European countries, further from USA participated.

The conference topics included assessment of the present situation in Central and Eastern Europe with regards of organochlorine pollution, analytical aspects and exposure assessment, effects on wild life and human being, endocrine disruption and other biological effects. Regulatory aspects of organochlorines and other persistent organic pollutants were also dealt with. The meeting had high scientific

standard and the most pressing problems in Central and Eastern Europe were discussed.

Apart from the scientific results, it provided excellent opportunity to communicate with members of the Bulgarian, Latvian, Croatian, Polish, Romanian Societies of Toxicology. These discussions were fruitful and will

hopefully lead to more close communication and relation between these Societies and the IUTOX.

Since this conference is held annually, a joint organization with IUTOX might be a possibility to create another forum for toxicologists from the region. □

RASS VIII

*On behalf of IUTOX
the Eighth Risk Assessment Summer School
(RASS VIII)
will be held September 30–October 8, 2000
at Puelbo Acantilado, Alicante, Spain*

The objectives are to offer young toxicologists unique opportunities to broaden their knowledge and experience in the field of chemical risk assesment and to achieve a better understanding of the data evaluation process.

The school is an exclusive training conference with few formal lectures and ample time for discussion of study cases, prepared by the students in advance.

Applications are welcomed from students who:

- Are scientifically qualified in toxicology at a doctoral level
- Have practical working experience
- Are not more than 35 of age
- Have a working command of conversational English

The faculty will consist of inspiring and highly qualified scientists in major areas like *general toxicology and risk analysis, organ toxicology, immunotoxicology, reproduction toxicology, mutagenicity, carcinogenicity and risk evaluation.*

Jack Dean, USA
Elaine Faustman, USA
Wallace Hayes, USA
Bo Lambert, Sweden,
Torbjörn Malmfors, Sweden
Paul Peters, The Netherlands
Iain Purchase, UK
Paul Slovic, USA

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THE RASS PROGRAMME



By
**Torbjörn Malmfors
and
Birgitta Lewander**

Another RASS course, number VII, has been achieved. This time it took place in Sweden on the largest island in the Baltic Sea, Gotland, on August 22–30, 1998. Twenty eight students from 18 countries participated together with eight faculty members, Jack Dean, Elaine Faustman, Wallace Hayes, Bo Lambert, Torbjörn Malmfors, Paul Peters, Iain Purchase and Paul Slovic. The procedure of RASS VII was almost the same as that of earlier courses. We have now established a mode of action which we think is running smoothly and we do not see any reasons to make any marked changes. Furthermore, we have documented the procedure in a



Faculty and students of RASS VII



Faculty of RASS VII

manual which soon will be available for those who are planning to organize similar training courses. According to the main theme of RASS most of the time was spent on discussions between the faculty and the students mainly in small groups. The topics for the discussions were the study cases, either prepared by the students themselves or by the fac-

ulty members. The faculty members tutored the students on how to critically evaluate scientific data, assess and evaluate risks of chemicals and how to convey their view to other people. The students had to work hard and complained somewhat over the load of paper they had to read in the evenings.

However, two afternoons were used for excursions when the students and faculty could enjoy the culture and nature of the medieval town of Visby followed by a Viking feast in the Viking village close to the venue. At the farewell dinner Professor Emeritus Bo Holmstedt handed over certificates to the students.

There were many appreciative comments about RASS VII. Many students specifically mentioned the friendly atmosphere and the engagement and helpfulness of the faculty.

A more detailed report is available from the IUTOX Secretary General. □

WORKSHOPS ON ENVIRONMENTAL OESTROGENS



By Iain Purchase

Do synthetic and natural chemicals with oestrogenic activity pose a risk to human health and to wildlife?

That is the question that has been discussed widely over the last 5 years. With the help of a grant from the International Council of Science (ICSU), IUTOX and two other International Scientific Unions have prepared a multi-authored book on the subject (Wright and Fischli, 1998). The conclusions by three International Scientific Unions (Fischli et al., 1998) summarise the issues well: 'For the majority of scientists and the average member of the public, the first time that the issue of disruption of the endocrine system from chemical exposure became a subject of public discussion was in 1993. Richard Sharpe and Nils Skakkebaek had published a paper in *Lancet* (Sharpe and Skakkebaek, 1993) proposing that the decrease in sperm count and the increase in testicular cancer and hypospadias believed to have occurred in humans could be due to a mechanism involving the exposure of individuals very early in life to chemicals which perturbed the endocrine system. This paper was the focus of a television programme ('Assault on the Male' transmitted by BBC in the UK on 31 October 1993 and subsequently interna-

tionally), which provided the public with an insight into the hypothesis put forward by Sharpe and Skakkebaek. The public debate on the link between oestrogenic chemicals found in the environment with these reproductive diseases in humans and with a variety of diseases in wildlife (alligators, birds and frogs) had begun. The common link was that the diseases were all potentially caused by perturbation in the endocrine system, but particularly by disruption of hormones controlling sexual reproduction and the development of sex organs. As is common with such programmes, attention was focused on the **hazard** (that is the observation of adverse effects) without proper attention being paid to proof of causation and **risk** (which together provide an assessment of the probability that these effects were due to chemical exposure). Paracelsus' observation in the 16th century is still relevant today: 'All things are poisons; it is only the dose which determines safety'.

These events fuelled a debate about whether the epidemiological observations could be considered proven and about the likelihood that chemicals, such as pesticides and industrial chemicals which might enter the food chain thorough con-

tamination, were the cause of the events. These concerns were the subject of a book 'Our Stolen Future' by Theo Colborn which asserted that the presence of oestrogenic chemicals was affecting humans and wildlife to the extent that the future of the human species was at risk. The question of whether such chemicals (and particularly polychlorinated biphenyls and DDE) were the cause of breast cancer was also the subject of debate particularly in the USA.

On the other hand, there were reports of beneficial effects of oestrogens – particularly naturally-occurring oestrogens (phyto-oestrogens) from sources such as Soya – on human health. That chemicals with the same oestrogenic activity could be both harmful and beneficial is puzzling.

Inevitably with an issue as important as this, there was and continues to be considerable media and public interest. Much of the scientific understanding of the cause of these symptoms was in its infancy. Thus there was uncertainty and controversy. In the face of this situation actions were taken at the national and international level to provide framework within which the scientific understanding of these issues could be expanded. A prime example

was that in the USA legislation was passed which required the development of a testing strategy to identify chemicals which might have endocrine disrupting activity. This resulted in the appointment of the Endocrine Disrupter Screening and Testing Advisory Committee (ED-STAC) by the Environmental Protection Agency which has prepared a draft report with recommendations for testing.'

IUTOX has been heavily involved in ensuring that scientists around the world are informed about the issues and have the basis for contributing to the debate in their countries. With the help of a grant from ICSU, we have been organising workshops in conjunction with societies of toxicology for scientists attending the scientific meetings of those societies.

The workshops are aimed at informing those attending about the issues and are not organised to obtain consensus on the many issues discussed. Each registered participant received a copy of the book and, after a technical introduction¹ and, sometimes the opportunity for syndicate work (break out groups) discussed the following topics:

1. Can we rely on animal methods to predict potential human effects?
2. Should we differentiate between the risks posed by natural and synthetic chemicals?
3. Can we predict the likely long-term effects of environmental oestrogens on sperm count and cancer in humans?
4. List and evaluate the proposed methods for testing chemicals for oestrogenic hazard
5. On the basis of the effects identified in wildlife, what is the best method of identifying adverse effects of oestrogens in the environment?
6. What are the implications of changing susceptibility at different ages?

The workshops have been organised as follows:

Date	Location, Host	Number of participants
Dec 98	Canberra, Australia Australasian Society of Toxicology	40
March 99	New Orleans, USA Society of Toxicology	120
April 99	Keele, UK British Toxicology Society	40
June 99	Oslo, Norway EUROTOX	55
Nov 99	Turkey 4th International Congress of Toxicology in Developing Countries	57
July 00	Korea Asian Society of Toxicology	?

7. How do we deal with hormesis and low dose effects in risk assessment?
8. What are the best measures of exposure to environmental oestrogens?
9. Is there good evidence of reducing sperm counts?
10. Is there good evidence of increased cancer due to environmental oestrogens?
11. Do phytoestrogens have beneficial or adverse health effects?
12. How widespread are the effects on wildlife?
13. Are proposed testing methods adequate?
14. Is there widespread exposure of the human population to oestrogens?
15. Is the current risk assessment methodology adequate for oestrogenic effects?
16. Should there be specific legislative action to control oestrogens in the environment?
17. How do we deal with the international dimension of this problem?
18. What are the priority research needs?

Comments solicited from the participants suggest that the workshops held so far have been well received. In particular, having the opportunity to read the book before the workshop gave many of the participants the confidence to participate in the debate. □

References:

Fischli, AE, Godfraind, T and Purchase, IFH. (1998) Conclusions and Recommendations. In Wright and Fischli, *ibid*.

Sharpe, RM and Skakkebaek, NE. (1993). *Lancet*, 341, 1392-1395.

Wright, AN and Fischli, AE. (1998) Natural and anthropomorphic environmental oestrogens: the scientific basis for risk assessment. *Pure and Applied Chemistry*, 70, 1617-1865.

¹ IUTOX wishes to thank the following for help in the organisation of the workshops: Drs. Les Davies and Kevin Buckett and Prof. Michael Moore (President of ASCEPT) in Canberra, Dr Jim Bus and Prof Jay Goodman (President of the SOT), in New Orleans, Dr Nigel Brooks and Dr Frank Bonner (Chairman of the BTS) in Keele, Dr Jan Hongso and Prof Erik Dybing (President of EUROTOX '99) in Oslo.

COMMISSION ON INTERNATIONAL RELATIONS



By Remi Glomot

The Commission on International Relations is involved in fostering relations between IUTOX and International Scientific Bodies and Official Organizations. The goal is to serve Toxicology through the needs of IUTOX and to benefit at the same time from the support of eminent other organizations. These relations are in continuous progress and the number of potential partnership institutions is increasing.

Since the IUTOX General Assembly in Seattle in 1998, actions have been taken with WHO/IPCS, ICSU, EMEA and OECD. I would like to stress that all these organizations are expressing the wish IUTOX be more actively involved in the process of decision making in Toxicology.

With WHO/IPCS (World Health Organization/International Programme on Chemical Safety) several goals have already been proposed.

- To offer IPCS assistance in addressing issues of international concern by having IUTOX form a committee of experts to address the issue and/or to recommend experts to IPCS for staffing their committees.

- To offer IPCS the possibility of having IUTOX sponsor workshops or symposia on topics that

IPCS believes are internationally important. This type of collaboration is running well at IUTOX congresses.

- To offer IPCS the option of holding regional meetings to address issues IPCS believes are important to a region (for example South America, Pacific countries); IUTOX would do this by working with member societies in the region.

I receive regularly documents from WHO/IPCS and am invited to participate to meetings as an observer. IPCS will participate actively to Risk Assessment Summer School (RASS) meetings organised by IUTOX and supervised by Dr. Erik Dybing.

With OECD (Organization for Economic Cooperation and Development), discussions have been already set up. The scientific credibility of IUTOX is well recognised. This organization needs to be helped by experts to support various documents they are preparing or they will have to prepare.

With EMEA (The European Agency for the Evaluation of Medicinal Products), recent discussions with Pr. Rolf Bass, Head of Human Medicines Evaluation Unit, in London expressed his strong will to cooperate with IUTOX and proposed IUTOX be officially involved in the setting of Guidelines in the future.

With ICSU (International Council for Science, formerly International Council for Scientific Unions), two recent events took place in 1999:

- The World Conference on Science – Science for the Twenty-First Century, A New Commitment – Budapest Hungary, 26 June to 1 July 1999. This conference was co-sponsored by UNESCO and ICSU.

- The 26th. General Assembly of the ICSU: International Council for Science and Associated Meetings - Cairo, Egypt, 26 to 30 September 1999, where a new Committee has been

elected.

When ever IUTOX participates those meetings, there are always strong opportunities to develop collaborations for the benefit of all the toxicologists.

Several other types of actions have been pushed ahead. A letter has been prepared and mailed to President/Secretary-General of each IUTOX Member Society to press them to conduct a survey of their members to determine individual areas of expertise, and thus to make an inventory of such expertise. Each member would identify a primary and a secondary area of expertise including classes of main topics. This inventory would be maintained by each society and by IUTOX.

When IPCS, OECD, EMEA or other official group contacts IUTOX for the name of experts, this can be readily supplied and would include the expert's address so that geographical consideration could be addressed. This last point is also of real importance to be more efficient in combining the expertise of specialists in Toxicology of an increasing number of countries. IUTOX needs the help and suggestions of every toxicologist.

That is a stimulating goal for the period 2001–2003 addressed to the next Executive Committee that will be elected at Brisbane, Australia, during ICT-IX.

I should be very grateful if you do not hesitate to contact me by phone, fax or E-mail. □

IUTOX FELLOWSHIPS FOR ICT-IX BRISBANE 2001

A major initiative by IUTOX in the triennium 1995–98 was the introduction of a sponsorship programme to promote the science of toxicology. The programme provides financial support, in the form of grants, fellowships and awards, to toxicological societies and individual scientists for activities consistent with achieving the goals and policies of IUTOX.

The fellowships programme of IUTOX will benefit individuals and organisations who would not normally be in a position to participate in IUTOX activities and provide opportunities for education and capacity building in toxicology. It will also provide IUTOX with the opportunity to promote the development of new toxicological societies as well as improving links with established ones.

Junior Fellowships are intended to support young scientists, from developing countries and countries in economic transition, embarking on a career in toxicology. Senior fellowships are to support Councillors from IUTOX member societies from developing countries and countries in economic transition and representatives from Toxicological Societies from these countries considering membership of IUTOX. Guidance on eligibility and the selection process is available from the Secretary General or from the IUTOX Web Site on <http://www.toxicology.org/iutox/>.

Fellowships were first offered in 1998 for ICT-VIII in Paris, when 40 Junior and 18 Senior fellowships were awarded.

IUTOX will again provide junior and senior fellowships for attending the ICT-IX in Brisbane in July 2001. The number to be awarded will depend on the funds available and the number of applicants. As the fellowships will only partially fund expenses for attending ICT-IX, applicants will need to find additional funds from other sources or meet the balance of expenses themselves.

A fund raising campaign is under way to ensure that the fellowship programme for ICT-IX is adequately funded to support as many toxicologists as possible from developing countries and countries in economic transition.

Completed applications are to be sent to the Secretary General, IUTOX and to be received no later than Friday 17 November 2000. Successful applicants will be notified in sufficient time to submit their abstract by 31 January 2001, the deadline for early registration and submission of abstracts for ICT-IX.



Peter N. DiMarco
PhD,
Director,
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REPORT OF THE MEMBERSHIP COMMITTEE



By Tetsuo Satoh

1. Application of the new societies.

Since July 1998, the Membership Committee has received the applications from five societies, Hellenic Society of Toxicology, Russian Society of Toxicology, Turkish Society of Toxicology, Polish Society of Toxicology and Israeli Society of Toxicology for the IUTOX membership. The Membership Committee recommended the acceptance of all of those applications to the Executive Committee and the applications of Hellenic, Russian, Turkish and Polish Societies of Toxicology were unanimously supported. Executive Committee has tentatively approved the application of Israeli Society of Toxicology (IST) because the number of members of IST was smaller than 50 members which was lower limit of the application. Afterwards, the application of IST was formally approved after the amendment of the By-Laws A-1 at the IUTOX General Assembly in 1998 in Paris. Application of those five member societies were finally approved by the results of the mail ballots to all member societies on acceptance. The number of the member societies of IUTOX is 37 as of November, 1999. The following societies are now under consideration for application of

IUTOX membership. Croatian Society of Toxicology, Czech Society of Toxicology, Iranian Society of Toxicology, Rumanian Society of Toxicology, Georgian Scientific Association of Toxicologists (GSAT), England Association of Veterinary Pharmacology and Toxicology (EAVPT) and International Neurotoxicology Association (INA). I would like to strongly encourage all member societies to encourage new society applications.

2. Deletion of lower limitation of societies for application for IUTOX membership in the By-Laws A-1.

The Executive Committee of IUTOX has discussed the amendment of the Membership A-1 in the By-Laws and concluded that the lower limitation of the number of members of the society for application was deleted at the ICT-VIII in 1998 in Paris. This has solved the problem of having unnecessary limitations in the number of individual members in IUTOX member societies, and smaller society than 50 members are, therefore, eligible for application for membership.

3. Reduction of Membership Dues.

Polish Society of Toxicology has submitted a reduction of the membership dues to the Secretary General according to Point G-6 of the IUTOX By-Laws and the application was formally approved at the Executive Committee meeting on, 1998. The reduction of membership fee based on the By-Laws should be beneficial for new application of smaller societies in developing countries. □

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