

Pharmacology International

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The half-yearly newsletter from the International Union of Basic and Clinical Pharmacology

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The XVth World Congress of Pharmacology in Beijing, China is fast approaching. We will be publishing important dates, deadlines and highlights of the activities of the congress in this issue of Pharmacology International, and the next issue in June 2006.

Beijing 2006

The **IUPHAR General Assembly** will be held on Wednesday, July 05 from 16:00 to 18:00. All are invited to attend; official delegates will vote on IUPHAR matters.

From among those submitted for poster presentation, IUPHAR will select ten abstracts by first authors younger than 37 years of age, to be considered for **IUPHAR Young Investigator Awards**. There will be a special oral session on these ten topics during the congress. First, second and third-place winners will receive a certificate and monetary award, to be presented during the closing ceremony of the congress. Investigators wishing to participate should check the appropriate box in the Abstract Submission Form

The IUPHAR Working Group on Natural Products will select ten abstracts dealing with the pharmacology of natural products and submitted by participants younger than 37 years of age to compete for the **Natural Products Young Investigator Awards**. A special poster presentation session will be devoted to those abstracts and first, second and third-place winners will receive a certificate and monetary award. The awardees will be announced during the closing ceremony.

Prof. **Terry P. Kenakin** will give the **3rd IUPHAR Lecture in Analytical Pharmacology**, entitled "From Systems to Target to Systems: Can we Keep Caprice out of Pharmacological Numbers?"

EPHAR will hold a Mini-Symposium on the topic "Janus-Faced Enzymes: Generation of Reactive Oxygen Species by NO Synthases Pathophysiologic Role and Therapeutic Approaches".

The **British Pharmacological Society** will host a 75th Anniversary Plenary Lecture by Prof. Roderick John Flower.

ALSO:

Canada Award Lectures: Boehringer Ingelheim Postdoctoral Award, Merck-Frost Junior Scientist Award and Alta-Pharm International Senior Scientist Award

Danish Society Lecture: **Michael Mulvany:** The Pharmacology of Hypertension. What Now? ■

For more information on all of these activities, please see the congress website at www.iuphar2006.org or contact the congress secretariat at cccst@iuphar2006.org.



Ancient and modern China shine side-by-side in downtown Beijing.

Pharmacology International

Editor:

Dr. Sue Piper Duckles,
Secretary-General
IUPHAR
s.duckles@iuphar.org

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IUPHAR
Administrative Office
Department of Pharmacology
College of Medicine
University of California, Irvine
Irvine, CA 92697-4625
USA
Tel 1 949 824.1178
Fax 1 949 824.4855
l.hart@iuphar.org
www.iuphar.org

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We welcome contributions from member societies.
Please submit articles and photos to Dr. Sue Piper
Duckles.

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The members of IUPHAR are the national societies
from each country, regional societies and special
research interest organizations. If you are an
individual, please see the Members section on the
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organization that you can join, or contact us at the
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Having Trouble with the IUPHAR2006.org website?

We have received a few inquiries at the
IUPHAR Administrative Office from
people who were having trouble with the
congress website at www.iuphar2006.org.

If you have trouble, please try again in a few
minutes. Sometimes web servers are
temporarily off-line, or experiencing a large
volume of traffic. Occasionally a gateway
between you and the web server will be too
busy to allow you through.

If you still have trouble, please contact the
Beijing congress secretariat at the below
addresses:

Ms. Samantha Lee, Ms. Yvonne Yang and
Mr. Shuling Yan
China Consulting Center for Science and
Technology
86#, Xue Yuan Nan Lu
Haidian District
Beijing 100081
CHINA
Tel: (+86 10) 62137470
(+86 10) 62103318
Fax: (+86 10) 62184931
cccst@iuphar2006.org

If you must contact the IUPHAR
Administrative Office, please let us know
exactly what trouble you are having, and
how we can help you. Do you need a form
to register for the congress? Do you need
information about submitting an abstract?
We can help you more quickly if we know
what your specific needs are.

Many thanks! ■

MEMBERS

Welcome to the **Pacific Rim Association for Clinical Pharmacogenetics (PRACP)**, the newest member of IUPHAR.

PRACP was profiled in the June 2005 issue of Pharmacology International

The **Primer Congreso Internacional de Terapéutica 2005 y XVII Congreso de la Asociación Latinoamericana de Farmacología** was held in Caracas, Venezuela this past October. The Program and Scientific Advisory Committee included IUPHAR committee members Dr. **Patrick du**

MILESTONES

Please also welcome new members the **Cuban Society of Pharmacology / Sociedad Cubana de Farmacología (SCF)** and the **Spanish Clinical Pharmacology Society / Sociedad Española de Farmacología Clínica (SEFC)**.

see pages 16 and 18

Souich (Canada), Prof. **Luigi X. Cubeddu** (Venezuela), Dr. **Salomon Langer** (Israel), and Dr. **Margarita Dubocovich** (USA).

see page 10

MEETINGS

IUPHAR was represented at the ICSU 28th General Assembly in Shanghai and Suzhou, China by Prof. **Lin Zhi-bin** (China) and Prof. **Mohamed T. Khayyal** (Egypt).

more about this meeting in the next issue

"When you get a result that you expect, you have another result; but when you get a result that you don't expect, you have a discovery. "

-Frank Westheimer

IUPHAR Serotonin Receptor Nomenclature Committee

Graeme Martin, the chair of the NC-IUPHAR subcommittee on Serotonin Receptors, is soliciting nominations for people interested in serving on the nomenclature committee. Also, keep in mind that work is in progress on revising the serotonin receptor compendium. If interested please contact Graeme at graeme.martin@discovery-insight.com. You can find the NC-IUPHAR receptor Database at www.iuphar-db.org.

The British Pharmacological Society was founded in July, 1931. What that means of course is that during the IUPHAR Congress in Beijing in 2006, we will be celebrating our 75th anniversary!

The BPS started with just 21 members. Over the intervening years it has flourished and expanded and today we are proud to have 2400 members in 50 countries around the world. Our activities have also expanded. In 1970 the Clinical Section was founded to

major therapeutic drugs. We are especially proud that three of our members, Henry Dale, John Vane and James Black, have been awarded the Nobel Prize.

One of the objectives laid down by the founders of the BPS was 'to promote friendly relations between pharmacologists worldwide' and this has down the years been an important aspect of our activities through joint scientific meetings with other national pharmacological societies and through membership of

British Pharmacological Society 75th Anniversary

provide a forum for clinical pharmacological research. Today the BPS is involved, not only in organising numerous scientific meetings each year and publishing scientific journals, but also in promoting the disciplines of basic and clinical pharmacology, in developing the teaching of pharmacology, and interfacing with government agencies and regulatory bodies both in the UK and Europe. Since 1994 the society has had its headquarters in Angel Gate, London with a permanent administrative staff.

In the first half of the 20th Century leading British pharmacologists were invited to serve with their colleagues in the USA and Canada as editors of the *Journal of Pharmacology and Experimental Therapeutics* but as the new society gained momentum it was not long before the decision was taken for the BPS to publish its own journal, the *British Journal of Pharmacology and Chemotherapy*, which first appeared in 1946. Today we publish three journals, the *British Journal of Pharmacology (BJP)*, the *British Journal of Clinical Pharmacology* (the 'green' journal) and our e-journal *pA₂ Online*. Although our two main journals have 'British' in their titles they are truly international scientific journals: reflected both in the composition of their editorial boards and in the range of countries from which the published papers originate.

The BPS is very proud of the many famous pharmacologists who are or have been members of our society and of their important scientific discoveries. Members in the pharmaceutical industry have been responsible for the development of a large number of

IUPHAR, EPHAR and EACPT. The BPS is an active, enthusiastic supporter of IUPHAR. This is in part a 'legacy' from Bill Bowman, one of the doyens of British pharmacology, who served as the Secretary-General of IUPHAR from 1994 to 1998, helping to guide it to its current position as the major international organisation for pharmacologists throughout the world.

We intend to celebrate our 75th anniversary at several events during 2006 (see our web site at www.bps.ac.uk for details). One of the main celebrations will be a special lecture and reception at the IUPHAR Congress in Beijing to be delivered by our former President, Rod Flower, FRS. We hope that many members and friends from all parts of the globe will join us on that auspicious occasion.

See you in Beijing.
Graeme Henderson



*President Elect,
British Pharmacological Society*

Discounted BPS subscriptions for overseas members

To assist scientists in some overseas countries for whom the cost of Membership of the British Pharmacological Society represents a very significant investment we have introduced discounted membership subscriptions. Discounted membership is only available to scientists who are already members of their local pharmacological societies. The BPS does not wish to "poach" members away from their national societies.

BPS membership offers many benefits, including free online access to the Society's journals, British Journal of Pharmacology, British Journal of Clinical Pharmacology and pA2 Online; free registration for some BPS meetings and reduced registration fees for others; ability to apply for bursary funding to attend certain international meetings; access to the Members' section of the Society's web site; regular copies of pA2, the members' newsletter; opportunities to network with leading pharmacologists from many countries.

Discounted annual subscriptions are calculated on a sliding scale. Members of local pharmacological societies in 'low per capita' income countries will be eligible for a 75% discount on the membership subscription, in 'lower middle per capita income' countries 50% and in 'upper middle per capita income' countries 25%. Members of local societies in high income countries will not be eligible for a discount. The category into which a country has been placed is based on the World Bank's Gross National Income per capita classification. Further details are available on the BPS web site.

If you want to take advantage of this offer and become a BPS member, please contact us either through our web site at www.bps.ac.uk, by email to yn@bps.ac.uk, by fax to 44-207-4170114 or write to us at BPS, 16 Angel Gate, City Road, London, EC1V 2SG, UK.

The **American Society for Clinical Pharmacology and Therapeutics** will hold its 2006 ASCPT Annual Meeting, March 7-11, 2006 in Baltimore, Maryland, USA.

ASCPT is the largest society representing clinical pharmacology. The scientific program will focus on the continuum of Drug Discovery, Development, Regulation and Utilization.

You can now submit abstracts online at www.ascpt.org. The deadline for abstract submission is Friday, September 9, 2005. Questions about the ASCPT Annual Meeting can be directed to Bethany Oser at bethany@ascpt.org or 703.836.6981.

UPCOMING EVENTS

The **Indonesian Society of Gerontology** will hold the Collegium Internationale Geronto Pharmacologicum Congress 2006 on 10 - 13 August 2006, Balai Sidang Jakarta Convention Centre, Jakarta - Indonesia.

The chosen theme for this meeting is " From Traditional through Bio-Molecular to Nano-Technology Medication".

Congress Secretariat
PT. PHARMA-PRO Int
Taman Palem Lestari
Ruko Fantasi Blok W/29
Jl. Kamal Raya outer ring road
Cengkareng
Jakarta - Indonesia.
Phn : +62-21-55960180
Fax: +62-21-55960179
cigp@cigp.org

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International

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PLENARY LECTURES at the XVth World Congress of Pharmacology

The following distinguished scientists will lecture at the XVth World Congress of Pharmacology in Beijing. Please see www.iuphar2006.org for complete schedules.

Lorraine J. Gudas (USA)
Retinoid Pharmacology: Cell Growth, Differentiation and Cancer

Paul M. Vanhoutte (China)
Endothelial Dysfunction and Vascular Disease

Julia Buckingham (United Kingdom)
Annexin 1, Glucocorticoids and the Neuroendocrine-Immune Interface

Elaine Sanders Bush (USA)
Serotonin 5-HT₂ Receptors: Molecular and Genomic Diversity

Bente Klarlund Pedersen (Denmark)
Muscle-Derived Cytokines: Pharmacological Implications

Kenji Kangawa (Japan)
Discovery of Ghrelin: Its Structure and Physiological Significance

Richard M. Weinshilboum (USA)
Pharmacogenomics, Basic and Clinical Research

Masao Endoh (Japan)
Ca²⁺ Sensitizers: Characteristics, Classification and Potential Clinical Relevance

Patrick du Souich (Canada)
Modulation of Cytochrome P450 Activity by Reactive Species

Bevyn Jarrott (Australia)
Why Pharmacology Teaching and Research are Inextricably Linked

Bertil B. Fredholm (Sweden)
Targeting Adenosine Receptors

Salvador Moncada (United Kingdom)
Regulation of Hypoxia Inducible Factor, Cell Respiration and NO

Shuh Narumiya (Japan)
Prostanoid Receptors: From Physiology, Molecular Biology to Translational Research

Peter Agre (USA)
Discovery and Molecular Analysis on Aquaporin Water Channels

Helen Blau (USA)
Myoblast-Mediated Gene Transfer for Therapeutic Angiogenesis

Sergio Henrique Ferreira (Brazil)
A New Class of Peripheral Analgesics: Stimulators of the NO-cGMP-PKG-ATP K⁺ channel

Qi-de Han (China)
Adrenoceptor Trafficking in a Living Cell

John Miners (Australia)
Understanding Drug Glucuronidation-New Insights on an Old Enzyme

Hong-hao Zhou (China)
Ethnicity, Genetics and Tailored Pharmacotherapy

Tai-ping Fan (United Kingdom)
Angiogenesis: From Plants to Blood Vessels

Michel Bouvier (Canada)
Modular Assembly of G Protein Protein-Coupled Receptor Signalosomes

For more information on all of these activities, please see the congress website at www.iuphar2006.org or contact the congress secretariat at ccst@iuphar2006.org.



“Autumn Colors on the Qiao and Hua Mountains” (left half) by Zhao Mengfu (1254-1322), famous scholar, painter and calligrapher during the Yuan Dynasty of China. He is considered to have had a major influence on modern Chinese landscape painting.

Pharmacogenetics-Based Individualized Therapy

June 28-30, 2006 in Changsha , China
 Contact Person: Hong-hao Zhou
 iuphar2006cs@yahoo.com
 www.iuphar2006changsha.com

Serotonin Club Meeting

June 28-30, 2006 in Sapporo , Japan
 Contact Person: Mitsuhiro Yoshioka
 flute@med.hokudai.ac.jp, ya0664@nifty.ne.jp
 www.serotoninclub.org

Vascular Neuroeffector Interactions, Pharmacological Basis of the New Strategies for Cardiovascular Diseases

June 28 - July 1, 2006 in Shanghai , China
 Contact Person: Ding-feng Su
 dfsu@citiz.net

Pediatric Pharmacology Satellite Symposium

June 29-30, 2006 in Shanghai, China
 Contact Person: Zhi-ping Li
 lizhiping@shmu.edu.cn

Pharmacological Teaching: Facing New Challenges

July 1-2, 2006 in Beijing , China
 Contact Person: Xiu-mei Zhang
 zhangxm@sdu.edu.cn

Pharmacology of Adrenoceptors

July 7-9, 2006 in a Beijing , China
 Contact Person: You-yi Zhang
 zhangyy@bjmu.edu.cn

Bioregulation in the Gastrointestinal Tract: Seek the Hidden Gold in Homeostasis

July 7-9, 2006 in Osaka , Japan
 Contact Person: Tetsuo Arakawa
 arakawat@med.osaka-cu.ac.jp

From Molecular to Drug Discovery, From Technique Platform to Drug Development

July 8-10, 2006 in Xi'an, China
 Contact Person: Qi-bing Mei
 qbmei@fmmu.edu.cn

Official Satellite
 Meetings
 of the XVth
 World Congress
 of Pharmacology



Besides being a friend and mentor to many of us in the 5-HT field, John was also instrumental in providing a solid basis for the Serotonin Club's finances. Indeed, the 2nd IUPHAR satellite meeting on Serotonin in Basel in 1990, organized by John and Pramod Saxena, another distinguished member of the club, was such a success that we were able to send quite some money into the club's accounts. This was first cautiously managed by Danny Hoyer and Ewan Mylecharane, and then very professionally by Richard Green, making possible the organization of a number of excellent meetings under the club's auspices, also allowing students to attend these meetings at low cost and/or with substantial travel grants.

The symposium that took place in Horsham to celebrate John's achievements was highly successful and provided ample opportunities

Timeless Pharmacology: A Celebration to honour John R. Fozard, Ph.D.

for old and new friends (of which a number are members of the Club as can be seen from programme and the picture) to meet. The programme of the symposium and John's CV both illustrate if needed, that John is a man of many interests and a true friend indeed.

A symposium to mark the retirement of John R. Fozard, Ph.D., Novartis Institutes for BioMedical Research, Horsham UK, 9 September 2005

Session 1:

Chairperson: **Pramod Saxena**
Professor Emeritus, University of Rotterdam

Patrick Humphrey
Executive Vice President and Head of Research, Theravance Inc., South San Francisco, USA
Receptors, Agonists and Headaches

Michael Moskowitz
Professor of Neurology, Harvard Medical School, Boston, USA
Migraine Mechanisms: Novel Approaches, Novel Treatments

Daniel Hoyer

Novartis Leading Scientist, Novartis Institutes of BioMedical Research, Basel, Switzerland and Adjunct Professor, The Scripps Research Institute, San Diego, USA
A Brain-Wide Approach to Target Validation using RNA Interference and Behavioural Readouts.

Session 2:

Chairperson: **Humphrey Rang**
Professor Emeritus, University College, London, UK

Manfred Goethert

Professor of Pharmacology and Toxicology, University of Bonn, Germany
Allosteric Modulation of 5-HT₃ Receptors by Cannabinoids: Evidence in vitro and Relevance in vivo

Arthur Weston

Leech Professor of Pharmacology, University of Manchester, UK
The Secret Life of an Old Friend: Is the Vascular Endothelium an Ion Sensor?

Ulrich Quast

Professor of Molecular Pharmacology, Department of Pharmacology and Toxicology, University of Tuebingen, Germany
ATP-Sensitive Potassium Channels as Drug Targets

Session 3:

Chairperson: **Brian Richardson**
Head of Disease Area, MSD Management, Novartis Institutes for BioMedical Research, Basel, Switzerland

Geoffrey Burnstock

Professor and Director, Autonomic Neuroscience Institute, Royal Free & University College Medical School, London, UK
Purinergic Signaling: Therapeutic Potential





From left to right: U Quast, C Page, D Hoyer, M Goethert, T Blackburn, A Weston, PPA Humphrey, J Fozard, M Spedding, B Richardson, P Saxena, S Holgate, H Rang, M Blackburn, M Moskowitz, J Westwick, and G Burnstock

Bertil Fredholm

Professor of Pharmacology, Department of Physiology and Pharmacology, Karolinska Institute, Stockholm, Sweden
Targeting Adenosine Receptors

Michael Blackburn

Associate Professor of Biochemistry and Molecular Biology, University of Texas, Houston, USA
Regulation of Endogenous Adenosine; Insights into Adenosine Signaling in Pulmonary Inflammation and Remodeling

Session 4:

Chairperson: **John Westwick**

Head of Respiratory Disease Area, Novartis Institutes for BioMedical Research, Horsham, UK

Stephen Holgate

Medical Research Council Clinical Professor of Immunopharmacology, Southampton General Hospital, UK
Adenosine: A New Therapeutic Target in Asthma

Clive Page

Professor of Pharmacology, King's College, University of London, UK

Heparin: an Endogenous Anti-inflammatory Agent - Implications for Treatment of Inflammatory Diseases

John Fozard

Novartis Distinguished Scientist, Novartis Institutes for BioMedical Research, Basel, Switzerland
Veterinary Misalliance and Other Missed Opportunities

Close: **John Westwick**

Head of Respiratory Disease Area, Novartis Institutes for BioMedical Research, Horsham, UK

JOHN R. FOZARD, Ph.D.

John Fozard obtained a degree in Pharmacy from the University of London in 1963 and a PhD in Pharmacology from the University of Bradford in 1968. From 1965 to 1977, he was Lecturer then Senior Lecturer in Pharmacology at the University of Manchester. In 1970 - 1971, he spent a sabbatical year with Professor Erich Muscholl in the Department of Pharmacology of the University of Mainz working on presynaptic cholinceptors. In 1977, he moved from Manchester to be Head of Pharmacology at the Merrell Dow Research Institute in



Continued on next page

Continued from previous page

Strasbourg. In 1987 he joined Sandoz, Basel, as Head of Hypertension Research and was Head of Asthma Research from 1993-1996. From 1996 to 1999 he was Head of Respiratory Disease Research at Novartis with the primary responsibility of building up a new Respiratory Disease Research Centre in Horsham. He last was a Novartis Distinguished Scientist in the Respiratory Disease research section of the Novartis Institutes for BioMedical Research.

His scientific achievements include the definition of the essential role of putrescine in early mammalian embryogenesis (publication in *Science*, nominated for the AAAS Newcomb Cleveland Prize), the identification of 8-hydroxy-2-(di-n-propylamino)-tetralin as a selective 5-HT_{1A} receptor agonist (8th most cited paper in the xenobiotics literature, 1981 - 1992) and the first demonstration of the powerful regional vasodilator effects of endothelin, "the most powerful vasoconstrictor yet described" (selected as a "Hot Paper" by *The Scientist*).

John Fozard discovered the first potent and selective antagonist at 5-HT₃ receptors (MDL 72222) which was used in proof-of-concept studies to provide support for a novel theory of the pain of migraine. He also identified a follow-up, MDL 73147 (dolasetron), which is marketed as Anzemet. His laboratory has

provided key data to support the clinical testing of many development compounds including eflornithine (ornithine decarboxylase inhibitor), WAG994 (adenosine A₁ receptor agonist), KCO912 (airways-selective K_{ATP} channel opener), DNK333 (NK₁/NK₂ receptor antagonist) QAF805 (adenosine A_{2B}/A₃ receptor antagonist) and QAB149 (long acting beta adrenoceptor agonist). He gave the 'Ariens Lecture' to the Dutch Pharmacological Society in 1986 and the 'Kenneth Brizzee Lecture' at Emesis '92. He was the British Pharmacological Society Australasian visitor in 1986. In 1992, he was designated Fellow of the Royal Pharmaceutical Society of Great Britain for "Distinction in the Science of Pharmacy" and in 2005 was elected a Fellow of The British Pharmacological Society for "Distinction in Pharmacology through Scholarship and Service to the Society".

John is currently an executive editor of *Pharmacology and Therapeutics*, an editor of *Naunyn-Schmiedeberg's Archives of Pharmacology* and *British Journal of Pharmacology* and is an editorial board member of several other journals including *Trends in Pharmacological Sciences*. John Fozard has published over 210 original research and review papers and according to the Institute of Scientific Information was ranked the 26th most cited scientist in *Pharmacology and Toxicology* covering the period 1993-2003. At the Winter meeting of the BPS, John will give the Paton lecture. ■

"Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less."

- Marie Skłodowska Curie, the first person to win a second Nobel Prize and the only person ever to win the Nobel Prize in two different sciences (physics, 1903 and chemistry, 1911)



The International Union of Basic and Clinical Pharmacology (IUPHAR) has announced a major update to its receptor database at www.iuphar-db.org. The database contains information for 149 G protein-coupled receptors (GPCRs), encapsulating the conclusions of some 12 years of work by the ~50 subcommittees who contribute to the work of IUPHAR's Committee on Receptor Nomenclature and Drug Classification (NC-IUPHAR).

The Human Genome Project has sparked a huge effort by pharmaceutical and

Prof. Sue Piper Duckles, Secretary-General of IUPHAR, said "IUPHAR is proud to take a leadership position in organizing and supporting what has become a critical resource for international science. It is truly remarkable that so many leading scientists from around the world have voluntarily come together to work on this important project. The database currently being released represents an effort first started over 10 years ago, and we anticipate that this project will continue to produce ever more comprehensive syntheses of pharmacological information in support of the advancement of biomedical research."

Major Update to NC-IUPHAR Receptor Database

biotechnology companies worldwide to identify new drug targets, and much of this effort has focused on the GPCRs. As a result, our knowledge of this branch of science has advanced very rapidly, and it has been difficult for scientists to keep pace with the information explosion. The goal of the IUPHAR database is to provide information on all (~360) of the GPCRs, with information on the drugs that act on them, the targets in the body where they are found and the diseases in which they may be involved. The data will be freely available on the internet in a format suitable for browsing with unsophisticated web browsers without requiring a fast connection.

The database is hosted at the University of Edinburgh, where a team directed by Prof. Tony Harmar (Head of the School of Biomedical Sciences) assemble information gathered from over 300 scientists worldwide by the 17 international experts who are members of NC-IUPHAR. The database is funded in part by the International Council for Science (ICSU), through generous financial support from UNESCO. Incyte Pharmaceuticals, Servier, GSK, and Wyeth have also provided essential funding.

Prof. Michael Spedding, Chairman of NC-IUPHAR, commented "This database is already of great use, and will rapidly evolve to be a major knowledge base for students, health-workers, scientists of all classes and drug discoverers throughout the world. This knowledge is freely available to all scientists and has been collected by the voluntary efforts of committees of eminent scientists. It is thus a powerful tool for future research".

About NC-IUPHAR

NC-IUPHAR was initiated in 1987 at the Xth International Congress of Pharmacology. In 1989, the Executive Committee of IUPHAR named Paul Vanhoutte (France) as chairman of a revised and enlarged committee. This committee energetically expanded its activities and the number of subcommittees (to 33), eventually producing the first official compendium on the occasion of the XIIIth International Congress of Pharmacology at Munich in 1998.

Chairman

Michael Spedding, France

Vice-Chairmen

Franz Hofmann, Germany
Eliot H. Ohlstein, USA

Members

Tom I. Bonner, USA
William A. Catterall, USA
Philippe Delagrangue, France
Colin T. Dollery, UK
Steven M. Foord, UK
Anthony J. Harmar, UK
Salomon Langer, Israel
Vincent Laudet, France
Richard Neubig, USA
Jean-Philippe Pin, France
Richard W. Olsen, USA
David B. Searls, USA

Honorary Members

Paul Vanhoutte (France)
Sue Duckles (USA)
Bob Ruffolo (USA)

The "Primer Congreso Internacional de Terapéutica 2005 y XVII Congreso de la Asociación Latinoamericana de Farmacología" was held in Caracas the 27th to the 29th October 2005.

The Program and Scientific Advisory Committee included Luigi X. Cubeddu (Chair, Venezuela), Manuel Velasco (Vice-president, Venezuela), Alexander Giles Rae (Brasil), Patrick du Souich (Canada), Sergio Mora (Chile), Carlos Sanchez Ferrer (España) Salomon Langer (Israel), Ceferino Sanchez

Pharmacology to the organization of the Congress.

In summary, the scientific as well as the social programs of the Primer Congreso Internacional de Terapéutica 2005 y XVII Congreso de la Asociación Latinoamericana de Farmacología were excellent, and globally, the Congress was a success. The objective of the Congress, e.g. to expose Latin-American basic and clinical pharmacologists to new concepts in pharmacology, was fully achieved.

Report on the Primer Congreso Internacional de Terapéutica 2005 y XVII Congreso de la Asociación Latinoamericana de Farmacología

(Panama), Ariel Reyes and Jaime Monti (Uruguay), Margarita Dubocovich, William McKinney, Carmen Tamayo (USA) and Julio Acosta and Ana Maria Castejon (Venezuela). Local arrangements were the responsibility of Mrs. Gabriela Cubeddu. The scientific program included 29 plenary lectures, 18 symposia and poster sessions. The duration of the plenary lectures and symposia varied between 20 and 40 minutes, and 90 to 120 min, respectively. Posters were displayed throughout the day, and were presented three times a day.

The program was well balanced between topics of basic pharmacology and those related to clinical pharmacology. A special session on phytomedicine was held on one day. Emphasis was given to drug utilization, for a total of 16 sessions. The scientific program was presented by 33 national speakers and 51 international speakers. Attendance to the sessions was very high.

The Congress was attended by 876 delegates from 20 countries: Argentina, Brasil, Canada, Chile, Colombia, Cuba, Ecuador, España, France, India, Israel, Mexico, Panama, Peru, Portugal, Santo Domingo, Sweden, Switzerland, USA and Venezuela.

The opening ceremony on Thursday and the closing ceremony on Saturday were full of friendship, light and lively music. During the closing ceremony, the Organizing Committee offered a Diploma to IUPHAR in recognition of the support of the Division on Clinical

Taking into account the many difficulties encountered during the organization of the Congress, in the name of the Clinical Division of IUPHAR, I congratulate the Organizing Committee, and especially Luigi Cubeddu and Gabriela Cubeddu for their fabulous work.

The XVIII Congress of the Asociación Latinoamericana de Farmacología will be held in Santiago de Chile in November 2008. The president of the 2008 Congress is Dr. Juan Pablo Huidobro Toro of the Pontificia Universidad Católica de Chile, Santiago.

Patrick du Souich, MD, PhD
Chair, Division on Clinical Pharmacology
of IUPHAR



Dear Colleagues:

It is my pleasure to invite you to participate in the International Conference on Pharmacogenetics, which will be held in Changsha, China this June 28-30, as a satellite meeting of the 15th World Congress of Pharmacology.

International Conference on Pharmacogenetics, Changsha

The Conference is being organized under the auspices of the Pacific Rim Association for Clinical Pharmacogenetics (PRACP), the IUPHAR Section on Drug Metabolism and the Southeast Asian / Western Pacific Regional Federation of Pharmacologists (SEA/WP), and will serve as the 13th Annual Scientific Meeting of the PRACP. The Conference Organizing Committee has prepared a high quality scientific program in collaboration with the Scientific Committees of the PRACP and the IUPHAR Section on Drug Metabolism. Together with Prof. Toshiyuki Someya, MD, PhD, President of PRACP, and Prof. John Miners, PhD, DSc, Chair of the IUPHAR Section on Drug Metabolism, we are committed to hosting an outstanding meeting, scientifically, educationally and socially.

The Conference will be held at the Preess Resort and Hotel, a five-star hotel in beautiful surroundings offering numerous recreational activities as well as an excellent venue for meetings. Conference themes include (but are not restricted to): Racial and ethnic diversity in drug response and disposition, Pharmacogenetics in international drug development and clinical trials, Pharmacogenetics in patient care, and New technologies in drug discovery and development. Our keynote address and invited speakers are comprised of internationally recognized experts in pharmacogenetics.

We are certain that your attendance and participation in the conference will be professionally and personally rewarding and allow exchange of scientific expertise with key leaders in the field of pharmacogenetics, personalized medicine and regulatory science. This will also be an excellent opportunity to establish interdisciplinary collaborations in pharmacogenetics. The scientific program was prepared to achieve a balance of

pharmacogenetic theory, practical applications in the clinic, advances in pharmacogenetic technology platforms and considerations for public health and policy.

Changsha, one of China's provincial capital cities, is the industrial, transportation, and cultural center of a rich agricultural region. First time visitors to Changsha are usually overwhelmed by the sheer beauty of the city. Changsha is a city that manages to surprise and enthrall in equal measure, with reminders of a rich history.

We welcome you to our historical city and wish you a pleasant stay. We are looking forward to your active participation in the 2006 International Conference in Pharmacogenetics and we thank you for your support.

See you in June 2006!



Hong-Hao Zhou, MD
Chairman
Organization committee



Toshiyuki Someya, MD,
PhD
Co-chairman
Organization committee



John Miners, PhD, DSc
Co-chairman
Organization committee

If you want more information, see our website at www.iuphar2006changsha.com. If you have any questions or comments about our conference, please send a message to us at iuphar2006cs@yahoo.com.cn.



Treatment of diseases or therapeutics was recorded more than 5000 years ago with the use of magical potions and herbal remedies. The study of those remedies has led to modern pharmacology, which is the discipline that deals with the fate and action of drugs in the body. Pharmacology is both a basic and a clinically applied science with boundaries not precisely defined, that change with the progress of our knowledge on diseases and

'PRIMUM NON NOCERE'

drugs. The ultimate goal of pharmacology is to treat diseases and/or to improve quality of life of patients with the use of drugs. To treat a disease optimally requires a profound knowledge of the drugs and their utilization.

Since the success of the treatment of a disease and its costs are directly associated to the proper use of the drugs, it is pertinent to ask the following question: Are the drugs used optimally? There is strong evidence that this is not the case. Although pharmacotherapy for the elderly can treat diseases and improve well-being, its benefits are compromised by drug-related problems. For instance, the prevalence of potentially inappropriate medications, defined as drugs with risks that outweigh the potential benefits, in the elderly population is around 25%¹. Adverse drug events (ADEs) are very frequent at all ages but mostly in the elderly². ADEs are the fifth leading cause of death in the US³⁻⁶. The rate of ADEs-related hospital admissions is 2.1% in the paediatric population⁷, between 2.4 and 11.3% in adults⁸⁻¹³, and 30.4% in the elderly¹⁴. Life threatening ADEs range between 24% to 78%^{6,7,15} and account for 5% of deaths in the hospital^{12,15}. ADEs prolong the patient's hospital stay by 6.1 to 10 days^{6,9,12,16,17}.

Costs entailed by ADEs are tremendous, e.g. costs for ADEs-related hospital admissions average \$847,000,000/year in the UK¹², \$644,066,480/year in Germany⁹, \$13,625/bed/year in France¹⁰, and \$6,300,000/hospital in the USA¹⁸. It is noteworthy that around 50% of ADEs are preventable^{6,9,14,16,18,19}. The incidence of ADEs is primarily associated with the underlying disease and comorbidity, which account for 80% of preventable ADEs²⁰. Most preventable ADEs are due to a decrease in activity of cytochrome P450 isoforms (P450),

reduction in drug clearance, and high plasma concentrations of the causal drug^{5,6,11,21}.

This striking review highlights that the suboptimal use of drugs has a tremendous impact on the patient's well-being and on the costs of health care. The high incidence of ADEs allows also to reach the conclusion that the aphorism "PRIMUM NON NOCERE" is far from being accomplished. In addition, it

emphasizes the importance of the discipline of pharmacology, since it is the cornerstone to the solution.

How have we reached this situation? We have access to useful and potent tools to treat diseases, but these are poorly used. The causes underlying the suboptimal utilization of drugs are diverse but are associated to the prescriber, to the provider, to the consumer, to the manufacturer, and to the lack of effective post-marketing surveillance.

The prescriber does bear a great part of the responsibility. Can the physician's habits of prescribing be improved? It is easy to identify that the time allowed to learn pharmacology is disproportionately short compared with the time used prescribing or adjusting a treatment, e.g. in general, physicians will spend 60% of their time establishing a diagnostic and 40% of the time prescribing or adjusting the dosages of the drugs, and in most curricula, the teaching of pharmacology rarely exceeds 90 hours during the 4-6 years duration of medical studies.

Not only the time dedicated to learning pharmacology has to be increased, but also the focus of the teaching. Effectively, teaching of pharmacology emphasizes the effect of drugs but does not insist enough on the risk entailed with the prescription of drugs, e.g. the ADEs. The effect of a drug has to be assessed as a function of the benefit versus risk ratio. To predict and avoid ADEs, it is essential to know the potential ADEs of each drug but also to understand how physiology, genetics, the presence of other drugs and natural health products, and the presence of pathology influence the kinetics and dynamics of the drugs, so as to adjust the dosages appropriately. In addition, to predict and avoid

drug interactions, it is necessary to know the kinetics and the dynamics of the drugs administered concomitantly. Predicting ADEs is not enough; the prescriber has to inform the patient about the eventual ADEs associated with the drug prescribed, to ensure that ADEs are detected in time and so the adverse consequences are avoided. Preclinical or basic pharmacologists as well as clinical pharmacologists have to work hand in hand to accomplish this teaching task.

New and potent drugs are regularly introduced in the market and therapeutic approaches are often changed or adapted to new knowledge. This new information has to reach the practitioner, the pharmacist, the nurse and the consumer unbiased by means of continuous medical education. Clinical pharmacologists in concert with specialists in the diverse areas of medicine have to expose the physicians and the pharmacists regularly to new and old concepts in drug utilization. Evidence based medicine allows us to discern between effective therapies but it is less helpful to individualize therapy.

It will be difficult to achieve continuous medical education in absence of good post-marketing information, including pharmacoepidemiology and pharmacovigilance. Post-marketing information is necessary to define how drugs are used, and to detect the ADEs potentially associated with these drugs in a specific environment. This information is of utmost importance to focus continuous medical information.

Continuous education of the patients is also extremely important. When drugs with a narrow therapeutic range are prescribed, clinical pharmacologists, pharmacists and nurses have to collaborate with the practitioner to inform the patients about the importance of compliance, about potential drug-drug interactions, drugs-natural health products interactions, about ADEs and how to detect and prevent them. Education of the patients on how to use drugs and remedies of any kind should be as important as the education the population receives about healthy life styles, since the goal is the same, e.g. to improve quality of life.

Industry has to play a role in the education of the prescriber, the provider and the consumer. Indeed, the contribution of industry has to be

done in concert with regulatory agencies and clinical pharmacologists to avoid conflicts of interest and biased information.

The analyses of drug utilization raises many questions. Knowing the costs entailed by the suboptimal utilization of drugs, why are the above mentioned measures not adopted? Why are the medical schools reluctant to increase the teaching in pharmacology and therapeutics? Why does at least every teaching hospital not have access to clinical pharmacologists? Years ago, with the improvement and increase in the knowledge of diseases affecting a system, specialties were recognized and created. Facing the complexity of drug utilization, why in many countries, is clinical pharmacology not recognized as a specialty? It has frequently been argued that specialists know very well the drugs they use and so can supplant clinical pharmacologists. The reality demonstrates that this is not the case. Why are pharmacists, clinical pharmacists and nurses not more deeply involved in the control of drug utilization? Why are nurses not better trained in pharmacology? Why do governments, besides restricting the access to costly drugs, make little effort to improve drug utilization?

The solution to many of the problems discussed above lies in more teaching by competent teachers. The potential benefits of increasing the teaching of pharmacology at all levels and of having more well-trained clinical pharmacologists could be tremendous, not only to improve the quality of life of patients, but also to reduce the costs entailed by the utilization of drugs. Indeed, these measures are essential to respect the principle of PRIMUM NON NOCERE.

Patrick du Souich, MD, PhD

Chairman of the Division on Clinical Pharmacology of IUPHAR
Professor and Director,
Department of Pharmacology
Université de Montréal, Canada

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The Cuban Pharmacological Society / Sociedad Cubana de Farmacología (SCF) was founded in 1995 with the objective of uniting all of the professionals who work in this field. Our society includes colleagues in preclinical pharmacology, clinical pharmacology, pharmacoepidemiology, pharmacovigilance and professors who focus on education.

New IUPHAR Member: Cuban Pharmacological Society

The contributions and support of our colleagues has allowed the rapid development that Cuba has experienced in recent years with obtaining and evaluating new medicines.

Eventually, the Cuban Society of Pharmacology will have chapters in all the provinces of the country, and five National Sections:

Experimental Pharmacology
Clinical Pharmacology
Pharmacoepidemiology
Chronopharmacology
Education in Pharmacology

SCF is in the process of identifying objectives of short, medium and long-term plans to allow Cuban scientists to participate in this important Branch of Biomedical Sciences, both in Cuba and on the world stage.

Our Objectives

- To use pharmacological science to help raise the level of health of the Cuban people.

- To collaborate with other scientists and share scientific and technological advances, in the scope of each specialty, by means of interchange and frequent discussion of

individuals and groups in events and scientific activities.

- To help in the development and application of philosophical, methodologic and ethical knowledge of scientific and medical work.

Functions

SCF organizes congresses, conferences, seminars, colloquia, round tables, panels and symposia according to our objectives. We collaborate with the Direction of Health at all levels, in the development of programs and the introduction of scientific and technological processes. We offer advice on request of the Ministry of Public Health or the Ministry of Superior Education. We are invited to and participate in many scientific events within Cuba. We seek to establish bonds with foreign pharmacological societies and scientists in order to have scientific, technical and cultural interchanges in our field.

For more information, please see the SCF website at www.scf.sld.cu.

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In Spain, Clinical Pharmacology was recognised as a medical speciality in 1978 (RD 2015/78), creating the National Commission of the Speciality which established a 3-year training programme. However, what was then the Marqués de Valdecilla National Medical Centre, the first Clinical Pharmacology hospital department, had already been created in 1974.

The General Health Act (Organic Law 14/1986) and the Medicinal products Act (Law 25/1990) defined the framework for Clinical Pharmacology activities, both in hospitals and in primary care. Clinical pharmacologists

other healthcare professionals, the Society will promote and develop Clinical Pharmacology, ensuring its scientific, technical, ethical, social and economic enhancement”.

Its objectives can be summarised as “improving the use and research of drugs, fostering the development of Clinical Pharmacology as a medical speciality and strengthening its activities in all areas of the health system in which any of such activities take place”.

The Spanish Clinical Pharmacology Society is currently a member of the EACPT (European

New IUPHAR Member: Spanish Clinical Pharmacology Society

therefore work in hospitals, primary healthcare centres, universities, the administration, the pharmaceutical industry and other institutions.

In 2002, the Spanish Clinical Pharmacology Society published the clinical pharmacology resident's manual, with the collaboration of specialists and residents from all accredited hospital Clinical Pharmacology departments, primary healthcare centres, the Spanish Agency for Medicines and Medical Devices, medical schools and pharmaceutical laboratories. An excellent aid, nearly six hundred pages long, the manual defines the scope of the speciality.

The Spanish Clinical Pharmacology Society (Sociedad Española de Farmacología Clínica - SEFC), as the body representing the speciality, was established in the mid-eighties under the name of the Spanish Hospital Clinical Pharmacology Society. In order to enable specialists in other environments to join, the original name was amended in 1990. Membership is now open, therefore, to all doctors of medicine accrediting that they perform Clinical Pharmacology activities, and other healthcare professionals accrediting that they are associated to Clinical Pharmacology Units.

The by-laws identify the Society's fundamental objective as “helping to improve the quality of pharmacological therapy and patient care in general. By collaborating with

Association for Clinical Pharmacology and Therapeutics) and the FACME (Federation of Spanish Medical Scientific Societies) and IUPHAR.

The SEFC publishes a newsletter “Investigación Clínica y Bioética” (ICB, Clinical Research and Bioethics), the content of which is related to clinical trials. The Society organises a biennial congress (the next one is in 2006) and an annual General Assembly.

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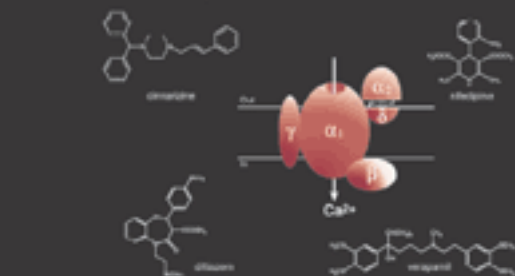


Milestones in Drug Therapy

Michael J. Parnham
Jacques Bruinvels
Series Editors

Calcium Channel Blockers

T. Godfraind



Birkhäuser

Calcium Channel Blockers
Godfraind, Théophile
In: Milestones in Drug Therapy
2004, XIV, 262 p.
ISBN: 3-7643-6435-1
A Birkhäuser book



In the Series "Milestones in Drug Therapy", edited by the Series Editors Michael Parnham and Jacques Bruinvels, and published by Birkhäuser (Basel, Boston and Berlin), Professor Théo

Godfraind has published a very much-needed book, entitled Calcium Channel Blockers, a domain of pharmacology to which he has contributed immensely for almost half a century.

The first chapter sets the stage by describing the historical evolution leading to the concept of the entry of calcium into cells as a key event in their activation, and how this could eventually be prevented by drugs, as demonstrated by two giants in the field, Professor Albrecht Fleckenstein and Professor Théo Godfraind himself. The second massive but elegant chapter, written in collaboration with Dr. Eric Ertel, provides the reader with a most up-to-date description of the calcium channels, their function, and the pharmacological means to interfere with them. It constitutes a beautiful and timely review of the topic. The next chapters focus on the effects of calcium entry blockers first on isolated blood vessels, their differences among vascular tissues, and their increasingly more complex impact on hemodynamic parameters, in health and disease, in particular hypertension. The long-term effects as well as the blood pressure-independent effects of the calcium entry blockers are described thoroughly. A final chapter summarizes the effects of those intriguing compounds on non-cardiovascular tissues.

This monograph is a must for all basic and clinical cardiovascular pharmacologists, indeed for every scientist or practitioner interested in the cardiovascular system.

Book review by

Paul M. Vanhoutte, MD, PhD

Distinguished Visiting Professor

University of Hong Kong; Hong Kong

Calcium Channel Blockers

From the contents:

- Historical perspective: from early steps in calcium research to the identification of calcium antagonist prototypes and of the signaling functions of Ca^{2+} Calcium channel blockers and calcium channels
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- Blood pressure-independent effects of calcium antagonists

For ordering information, please see the Birkhäuser website at www.birkhauser.com.

PHARMACOLOGY
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December 2005

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Chinese Pharmacological Society
No. 1 Xian Nong Tan St.
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Tel: (+86 10) 62175100 Fax: (+86 10)
62184931
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Contact Information for Beijing2006

LOCATION

Beijing International Convention Center
Registration desks will be located in the
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July 1-5 (Monday) 09:00-20:00

SOCIAL ACTIVITIES

July 2 (Sunday)
17:00-18:00 Opening Ceremony (free)
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19:00-20:30 Welcome Reception (free)
July 6 (Thursday)
18:00-19:30 Farewell Banquet (optional)
USD35/person

IUPHAR 2006 SECRETARIAT

Ms. Samantha Lee, Ms. Yvonne Yang and
Mr. Shuling Yan
China Consulting Center for Science and
Technology
86#, Xue Yuan Nan Lu, Haidian District
Beijing 100081, China
Tel: (+86 10) 62137470, (+86 10) 62103318
Fax: (+86 10) 62184931
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IMPORTANT DEADLINES

Submission of abstracts: January 31, 2006
Early registration: March 31, 2006

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