

# Pharmacology International

No. 75 December 2010 The semi-annual newsletter from the International Union of Basic and Clinical Pharmacology

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## WorldPharma2010

16th World Congress on Basic and Clinical Pharmacology  
17-23 July, 2010, Copenhagen, Denmark

### Bridging Basic and Clinical Pharmacology

Three thousand participants made WorldPharma2010, the first combined IUPHAR Congress of basic and clinical pharmacology, a memorable event. Like the meeting logo, the Øresund Bridge, WorldPharma2010 allowed people to experience both sides of pharmacology, with some interesting views along the way.

The Congress was preceded by satellite symposia, workshops and meetings, with the Opening Ceremony held on Sunday, July 17<sup>th</sup> at the Bella Center in Copenhagen. The standing-room-only crowd was welcomed to the meeting by the WorldPharma2010 organizers, Drs. Kim Brøsen and Michael Mulvany, and by Dr. Sue Piper Duckles, IUPHAR President. As unofficial representatives of Denmark, 'Hans Christian Andersen' and his troupe entertained the audience with a musical medley tribute to his famous stories. The Opening Ceremony keynote speaker, Prof. Jeffrey Aronson, shared his perspectives on basic versus applied pharmacology in a lecture entitled "Found in Translation". The evening concluded with a reception in the exhibition area to provide a preview of services and products that were being offered during the meeting.



The Bella Center in Copenhagen



Drs. Kim Brøsen (left), Congress President, and Michael Mulvany (right), Congress Secretary



IUPHAR 2006-2010 President, Dr. Sue Piper Duckles



A tribute to Hans Christian Andersen entertained Congress participants during the Opening Ceremony.



Opening Ceremony keynote speaker, Prof. Jeffrey Aronson  
Continued on page 2...

The subsequent four and half days were filled with symposia, brainstorming sessions, expert panels, workshops, and poster presentations. The formal sessions were organized to allow ample opportunity for meeting colleagues, informal discussions of new data, and mentoring of younger scientists. The schedule included Congress dinners in central Copenhagen, society-sponsored symposia, social events, and receptions. The unique program was composed of 18 focused conferences, each lasting a few days, to provide registrants the opportunity to experience either a diverse sampling of subjects or to concentrate solely on their area of interest. Besides the focused conferences, there were thirty-six workshops on selected topics of importance in contemporary pharmacology.

As space doesn't permit a complete review of all the lectures, symposia and workshops held during WorldPharma2010, readers are referred to [www.worldpharma2010.org/powerpoints.php](http://www.worldpharma2010.org/powerpoints.php) to view the slides displayed during these sessions. Outlined below are highlights of some IUPHAR-organized programs and events during WorldPharma2010.

The IUPHAR Education Section held a pre-Congress satellite meeting, including a Gala Dinner and awards, which are described in detail on page 7. The IUPHAR Gastrointestinal Pharmacology Section organized three symposia, beginning with a Sunday satellite on gastrointestinal nutrient chemosensing and continuing on Monday with presentations on functional and structural disease targets. Sir Salvador Moncada officially opened the WorldPharma2010 scientific sessions on Monday morning with a plenary lecture on vascular endothelium.

The first eight focused conferences, held on the Monday and Tuesday, covered a broad range of topics: ion channels, clinical pharmacology in emerging countries, cardiac function, data modeling in drug development, pharmacoepidemiology, metabolic syndrome, urogenitary pharmacology, and transmembrane transport. The ninth focused conference, immunopharmacology, was held from Monday through Wednesday.

On Monday evening the Copenhagen City Hall opened its doors to pharmacologists. After a greeting from Ms. Hanne Baastrup, Director of the Copenhagen Health



*Ms. Hanne Baastrup welcomed the pharmacologists to City Hall on behalf of the citizens of Copenhagen .*

*Continued on page 3...*

# WorldPharma2010 (continued)



This building (courtyard at right) is the fourth Copenhagen City Hall. Designed by the famous Danish architect, Martin Nyrop, construction began in 1892 and it was inaugurated in 1905.

Department, the group was treated to a buffet of Danish foods. The banquet and classical surroundings made for a memorable evening. The City Hall grounds were opened to the guests to encourage a casual exploration of the beautiful gardens and richly decorated building.

Tuesday featured a specialized workshop entitled “Translating the Human Genome: From Orphan G-protein Coupled Receptors to Novel Therapeutic Targets”. The program was organized by the IUPHAR Committee on Receptor Nomenclature and Drug Classification (NC-IUPHAR). Discussion centered on case studies of agents that have moved, or may move, rapidly from the bench to the bedside.

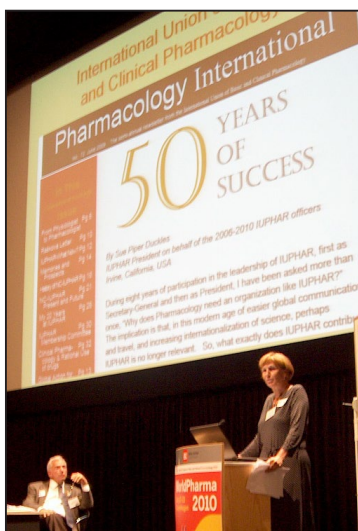
The IUPHAR initiative in Integrative and Organ Systems Pharmacology hosted a workshop on Tuesday afternoon. This session was aimed at identifying strategies for exposing young pharmacologists to *in vivo* techniques necessary for identifying and characterizing animal phenotypes and new drug candidates. Lessons learned from recent training sessions held in Africa and the British Isles were discussed.

The IUPHAR Section on Pharmacogenetics and Pharmacogenomics held a Tuesday symposium focused on the benefits of, and challenges to, implementing pharmacogenetics in a clinical environment. The topics included not only broad themes, such as national policies, but also more narrowly defined issues, such as ways to define phenotypes in a population of mixed heritage. See page 10 for a full description.

The IUPHAR 50th Anniversary Lecture was delivered by Prof. Paul M. Vanhoutte on Tuesday evening. He enlightened and entertained the audience with a summary of his work in vascular pharmacology. Dr. Vanhoutte’s lecture was followed by the IUPHAR General Assembly where the delegates voted on such important matters as a change in the IUPHAR statutes ([www.iuphar.org/meetings\\_reports.html](http://www.iuphar.org/meetings_reports.html)), election of a new Executive Committee ([www.iuphar.org/about\\_executive.html](http://www.iuphar.org/about_executive.html)), and selection of



Prof. Paul Vanhoutte presented “Regenerate to be Old” as the IUPHAR 50th Anniversary Lecturer.



*Secretary-General S. J. Enna looked on while President Sue Piper Duckles summarized recent IUPHAR activity for the delegates.*

the location for the 2018 IUPHAR World Congress. Because of the excellent presentations and outstanding venues offered, a series of votes was required to determine the sponsoring organization for the 2018 meeting. The Japanese Pharmacological Society was ultimately chosen. The meeting will be held in the Kyoto International Conference Center.



*Treasurer Urs T. Ruegg delivered the IUPHAR financial reports during the General Assembly.*

The second series of nine focused conferences was held on Wednesday, Thursday, and Friday mornings. These covered pediatric clinical pharmacology, G protein-coupled 7TM receptors, ion channelopathies, drug safety, addiction, endothelium, natural products, psychiatric pharmacology, and nuclear receptor targets. The Young Investigator Competition was held on Wednesday, with ten finalists chosen from over a thousand candidates. More information is provided on page 6. That afternoon, the Pharmacology for Africa (Phar/A) workshop speakers shared the latest approaches to medicinal plant research in Africa. A full description is found on page 12.

The IUPHAR Education (formerly known as Teaching) Section organized a workshop on pharmacology education for a sustainable future. The speakers highlighted strategies for developing and implementing on-line learning and assessment programs, ways to account for global trends when developing curriculum, and techniques to foster a productive teacher/student relationship. There was also a discussion of how clinical pharmacology defines graduate educational requirements.

What visit to Copenhagen is complete without a trip to Tivoli Gardens? On Wednesday evening the meeting participants wined and dined (photos below)



*Continued on page 5...*

# WorldPharma2010 (continued)

during the Congress dinner at this world famous amusement park, and afterwards took advantage of the mild summer weather to stroll among the picturesque flowerbeds, and to enjoy the carnival rides and live entertainment.

The IUPHAR Natural Products Section hosted symposia Wednesday, Thursday and Friday entitled, “Natural Products: Past and Future”. These featured some of the latest research aimed at defining the mechanisms of action plant products that display therapeutic activity. The program consisted of a diverse group of speakers from a variety of continents.



*IUPHAR 2010-2014 President Patrick du Souich thanked the organizers, speakers and participants for an outstanding Congress experience.*

WorldPharma2010 ended Friday at noon with the Closing Ceremony. Drs. Kim Brøsen and Michael Mulvany thanked

the many individuals who worked tirelessly over four years to make this meeting a success. Drs. Sue Piper Duckles and S.J. Enna announced the three winners of the Young Investigators Competition (see page 6 for details). The new IUPHAR President, Dr. Patrick du Souich, reminded the group of the importance of combining basic and clinical research to most rapidly and efficiently identify and test new therapies. Dr. Adam Vas then took the podium to invite the participants to attend

the European Association for Clinical Pharmacology and Therapeutics meeting on June 26-29, 2011 in Budapest, Hungary (see page 44). Dr. Douglas Oliver ended the Closing Ceremony with a short video on Cape Town, South Africa, the venue for the next IUPHAR World Congress, which will be held in July of 2014 (see page 14). Many of the registrants then proceeded directly to post-Congress satellite conferences that were held from Friday evening through Sunday.

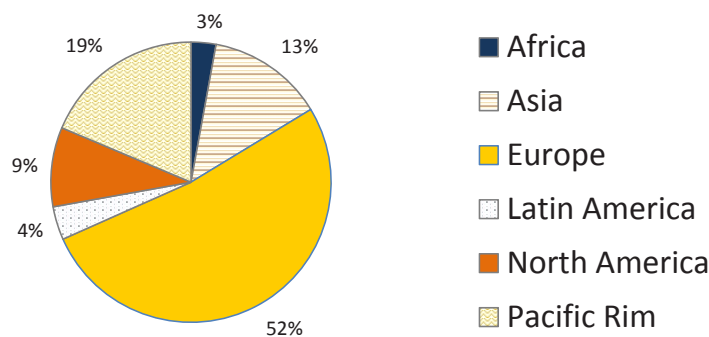
The registrants traveled to Copenhagen from 88 countries on six continents. In a subsequent poll, the respondents identified themselves as 58% basic pharmacologists, 26% clinical pharmacologists, and 16% as other. The majority of the responses, 82%, indicated that registrants felt the combined contents enhanced the quality of WorldPharma2010 and favored bridging basic and clinical pharmacology for future IUPHAR Congresses.

From basic to clinical research, WorldPharma2010 spanned the divide between the major sub-disciplines of pharmacology. In so doing it increased awareness of the diversity of interests and expertise in this exciting field and fostered collaborations critical for making significant advances in medical research. Like the Øresund Bridge, the Congress linked two strong, but interdependent, entities, thereby facilitating the types of interactions between groups that are essential for success. By highlighting how basic and clinical research discoveries reinforce each other, WorldPharma2010 succeeded in its mission to unify the discipline. •



*The participants represented a wide range of countries.*

## Diversity of Participants



## 2010 YOUNG INVESTIGATORS COMPETITION

The Young Investigators Awards were instituted by IUPHAR in 1998 and have been an integral and exciting part of every subsequent Congress. There were over one thousand applicants for the 2010 competition. Ten individuals were invited to present before the panel of judges in Copenhagen:

Levi Blazer	University of Michigan	USA
Lusine Danielyan	University Hospital of Tübingen	GERMANY
Ana Paula Dantas	Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS)	SPAIN
Muhammad Huzaimi Haron	University of Malaya Faculty of Medicine	MALAYSIA
Shreena Joshi	University of Manchester	UNITED KINGDOM
Jacky T.C. Liu	The University of Hong Kong	PR CHINA
Azadeh Motavallian Naeini	Isfahan University of Medical Sciences	IRAN
Ana Carolina Pereira do Vale	Hospital São Teotónio, E.P.E.	PORTUGAL
Ernest Tambo	HNAUB - Houdegbe North American University	BENIN
Thor S. Thorsen	University of Copenhagen	DENMARK

The abstract presentations were on a broad range of topics including estrogenic therapy, diabetes, obesity, analgesia, malaria, addiction therapeutics, intranasal delivery, erectile dysfunction, and G protein coupled receptors. The judges carefully evaluated each contestant for organization, results and conclusions. IUPHAR is pleased to announce Ana Paula Dantas was awarded first place, Shreena Joshi was awarded second place and Lusine Danielyan was awarded third place. Please help IUPHAR congratulate these bright and upcoming young pharmacologists! ●



L → R: S. J. Enna (IUPHAR Secretary General), Ana Paula Dantas, Shreena Joshi, Lusine Danielyan, and Sue Piper Duckles (IUPHAR Past President)

## IUPHAR Education Section at WorldPharma2010

The IUPHAR Education Section (IUPHAR-Ed) held in July, 2010 an extremely successful two-day satellite meeting at the Faculty of Pharmaceutical Sciences in Copenhagen in advance of WorldPharma2010. The event was an enjoyable mixture of lectures, posters and small group workshops. It was attended by approximately 150 pharmacology educators from all over the world. It was particularly pleasing to see so many younger members in attendance who were eager to contribute energy, enthusiasm and ideas to the proceedings.

The meeting was opened by a keynote lecture by Ian Hughes (Leeds, UK) who drew on his many years of experience in bringing pharmacology education to students of medicine and other disciplines. The presentation included many amusing comparisons between past and present approaches to teaching. This overview of the field, and the challenges currently facing all, was followed by four workshops covering key topics in pharmacology education:

- **Workshop A - e-Learning and e-Assessment in Pharmacology** – was facilitated by David Dewhurst (Edinburgh, UK) and Paul White (Monash, Australia). It involved an examination as to how modern technology can be used most effectively to support pharmacology teaching. Areas covered included virtual patients, online resources to support lectures and promote autonomous learning, personal response systems to enhance interactive, innovative online assessment, and the use of technology to enhance student feedback.
- **Workshop B - Teaching Pharmacology in a Global Arena** – was facilitated by Tiaan Brink (Potchefstroom, South Africa), Roger Moni (Griffith, Australia), and David Bylund (Omaha, USA). This session included discussions as to how education in pharmacology can prepare for work in diverse environments. The facilitators presented a provoking discussion about the challenges of communicating discoveries in science to the public, how to discuss topics such as research programs and medical ethics, and how to facilitate the use of science in the development of coherent drug policies.
- **Workshop C - Active Learning** – was facilitated by P.K. Rangachari (McMaster, Canada), Elizabeth Davis (Monash, Australia), Ewen Macdonald (Kuopio, Finland), and James Ziogas (Melbourne, Australia). This group examined the promises and pitfalls of different approaches for promoting student centered learning.
- **Workshop D - Pharmacology Education for Clinical Students** – was facilitated by Simon Maxwell (Edinburgh, UK) and Francis Achike (Kuala Lumpur, Malaysia). These facilitators explored some of the challenges associated with providing clinical students with the knowledge and skills necessary to succeed in the modern clinical environment. They also addressed recent changes in medical curricula, how much pharmacology teaching is required, who should teach pharmacology/prescribing, how it should be taught, the minimum standards required for mastery of the subject, and how these should be assessed.



*The satellite meeting was well attended by delegates from a variety of backgrounds.*

## IUPHAR Education Section at WorldPharma2010 (continued)

The first round of workshops was followed by a poster session and an update by David Bylund (Omaha, USA) on the IUPHAR Integrative and Organ Systems Pharmacology training initiative.



The Gala Dinner on Saturday evening was held in the impressive Ceremony Hall of the University of Copenhagen (pictured above). It was a fitting occasion for the presentation of the Early Educator Awards to Suzanne Hansen and David Gurwitz (basic pharmacology), Robert Likic (clinical pharmacology) and De Wet Wolmarans (teaching pharmacology to wider audiences). This was followed by a brief presentation on the diversity of careers in pharmacology by Olé Bjerrum (Copenhagen, Denmark), by dinner and even the singing of national folk music by some of our delegates!

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*IUPHAR congratulates the recipients of the Education Section awards: L → R: Dr. Suzanne Hansen (University of Copenhagen, Denmark), David Gurwitz (University of Florida, USA), Robert Likic (University of Zagreb, Croatia) and De Wet Wolmarans (North-West University, South Africa).*

Having nearly recovered from the previous evening's entertainment the delegates reassembled for a second round of workshops and the Section General Assembly, where a number of important business matters were addressed. First, the Section agreed to change its name from 'Teaching' to 'Education' to reflect more modern terminology and the broader remit of its activities and interests. Second, a number of bylaw changes were approved to enhance the efficiency of Section activities. The Section bylaws and a presentation of the other business matters considered can be accessed on the Section website by visiting [http://www.iuphar.org/sections/teaching/sec\\_tecac.html](http://www.iuphar.org/sections/teaching/sec_tecac.html).



## IUPHAR Education Section at WorldPharma2010 (continued)

Finally, a vote was taken to elect a new set of officers and councilors. Congratulations to the following:

Prof. Christiaan Brink - South Africa (Chair)  
Prof. Chari Rangachari – Canada (Vice Chair)  
Prof. Simon Maxwell - United Kingdom (Secretary)  
Prof. David Dewhurst - United Kingdom (Treasurer)  
Prof. Joan Lakoski - USA  
Prof. Francis Achike - Malaysia  
Dr. Elisabeth Davis - Australia  
Prof. Thomas Griesbacher - Austria  
Prof. Suzanne Hansen - Denmark  
Dr. Robert Likic - Croatia  
Prof. Ewen Macdonald - Finland  
Dr. Lisa Tee - Australia  
Dr. Ragini Vaishnav - Oman  
Prof. Olinda Vilas Boas - Brazil  
Mr. De Wet Wolmarans - South Africa

The new team would like to express gratitude to all those who worked on behalf of the Section over the last four years, and particularly to Joan Lakosi (Pittsburgh, USA) who now steps down from a successful period as Section Chair. We wish Tiaan Brink every success as he takes up the reins of office. The whole Section is grateful to our local hosts, especially Bjarne Fjalland, for all their efforts in making our stay in Copenhagen so enjoyable.

The Education Section now looks to the future with a new team of officers and councillors. Plans are already underway to redevelop our website, to improve the communication between educators in different parts of the globe, and to facilitate multi-partner international projects. Although we look forward to another successful IUPHAR meeting in South Africa in 2014, we hope to build on the success of Copenhagen by arranging a meeting at some point in 2012. In the meantime, we urge anyone with an interest in (clinical or basic) pharmacology education to contact us at [IUPHAR@kumc.edu](mailto:IUPHAR@kumc.edu) with their ideas. ●

Simon Maxwell  
Secretary, IUPHAR Education Section

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# WorldPharma2010 Workshop of the IUPHAR Section of Pharmacogenetics Implementation and Obstacles of Pharmacogenetics in Clinical Practice



This meeting was co-chaired by Magnus Ingelman-Sundberg (Stockholm, Sweden) and Ingolf Cascorbi (Kiel, Germany). The aim of the workshop was for scientists from different countries and continents to share their experiences in attempting to incorporate pharmacogenetics into clinical practice. Although the session was held during the lunch hour in competition with several other workshops, more than 200 scientists participated in the discussions.



Deanna Kroetz (San Francisco, CA, USA - pictured at upper left) presented the US perspective.



Guilherme Suarez-Kurtz (São Paulo, Brazil - pictured at mid-left) outlined the problems of mixed populations and consequences of global implementation.

Adrián Llerena (Badajoz, Spain - pictured at lower left) spoke on the use and limitations of pharmacogenetics in clinical psychiatry.

# Implementation and Obstacles of Pharmacogenetics in Clinical Practice (continued)



Andrew Somogyi (Adelaide, Australia - pictured at upper left) discussed obstacles to implementing pharmacogenetic testing in Australia.

These candid presentations by renowned experts in pharmacogenetics fostered an open discussion of the reasons for the difficulties in implementing pharmacogenetics into clinical practice and possible ways to deal with these problems. A final, more philosophic, presentation on empiricism and ethics in pharmacogenetics was given by Vural Özdemir (Montreal, Canada - pictured at mid-left).



Overall, by the number in attendance, and the liveliness of the discussion, it is clear that this workshop on the challenges to implementing pharmacogenetics was a major success. •

Ingolf Cascorbi  
Chair, Section of Pharmacogenetics



*The audience was particularly engaged in the pharmacogenetic presentations. Folke Söqvist asks a question.*



## Successes for Pharmacology for Africa (PharfA) during WorldPharma2010 in Copenhagen

Pharmacologists from the African continent, in addition to numerous excellent individual presentations, impressed WorldPharma2010 delegates with exciting new developments and strategies in Africa and a view of the future of pharmacology on the continent.

### PharfA hosted two major events

#### Workshop

#### Approaches to medicinal plant research in Africa: Strategy towards 2014 and beyond

Discussed during this exciting and informative workshop, which was preceded by excellent presentations from delegates from several African countries, were opportunities, pitfalls, capacity building, and strategies for moving forward during next decade. It was clear that, apart from the wealth of indigenous knowledge in Africa, more research and training are needed to promote a more scientific approach in medicinal plant research and the clinical applications of this field. The recent Integrative and Organ Systems Pharmacology (IOSP) workshops held in several Africa countries are but one activity to achieve these objectives. Presenters amply demonstrated the depth of existing expertise in this area and explained different approaches for investigating the medicinal value of African plants. Collaboration and exchange programs between scientists and educators were identified as critical components for promoting the current activities and for developing novel programs. Establishing centers of excellence with focused research programs will foster the development of a critical mass of research initiatives to ensure success. Appropriate



*Some of the delegates attending the PharfA workshop.*



## 'Pharmacology for Africa' initiative Pharmacologie pour l'initiative de l'Afrique

### Successes during WorldPharma2010 in Copenhagen (continued)

regulatory control and management are required to ensure safety, quality and efficacy of medicinal plant products. Those countries that have made progress in this regard are poised to assist others. It was concluded that, in addition to its nature and wild life, Africa and its people have much to offer that will be of benefit to the health and wellbeing of its population. In the future, efforts must focus on establishing internationally acceptable scientific protocols that are employed by all investigators for identifying and exploiting clinically effective natural products in Africa and other parts of the world.

#### **PharfA Strategic Meeting** ***Taking Africa to the WCP2014 and beyond:*** ***Internationalization and active Participation***

This historic meeting of PharfA, only the second of which was held outside the continent, was highlighted by the participation of the South African ambassador in Denmark, Her Excellency Samkelisiwe Mhlanga, who welcomed all delegates to the meeting and assured them of the support of South Africa for the PharfA initiative. African delegates from across the continent attended and participated in the meeting, along with several members of the IUPHAR Executive Committee. The meeting focused on the implementation of PharfA initiatives. Particular emphasis was placed on discussing plans for establishing national pharmacology societies within African countries, hosting workshops such as Integrative Organ and Systems Pharmacology, promoting collaboration and exchange programs between pharmacologists in Africa, expanding the PharfA database, and participation of African delegates in the next World Congress of Basic and Clinical Pharmacology (WCP2014). Delegates were excited by the prospect of an African pharmacology congress that could be held in 2012 as a forerunner to the WCP2014 meeting in Cape Town. The importance of focusing on developing, young pharmacologists was emphasized by all in attendance. The Ambassador congratulated the African pharmacologists for their efforts in achieving these goals, and assured them that South Africa is honored to be hosting WCP2014 in Cape Town.



*The President of IUPHAR with delegates of the PharfA Strategic Meeting*

*Continued on page 14...*

## PharfA Successes during WorldPharma2010 in Copenhagen (continued)



*The exhibition booth promoting World Congress 2014 in Cape Town*

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### **17<sup>th</sup> World Congress of Basic and Clinical Pharmacology 2014 (WCP2014) Cape Town, South Africa**

PharfA will help ensure the success of WCP2014 by fostering significant participation by African scientists, and by highlighting their past and future contributions to the pharmacological sciences. The intent is to make the 17<sup>th</sup> World Congress of Pharmacology a truly memorable South Africa and African experience. PharfA is viewed on the continent and internationally as a great step forward in developing pharmacology in Africa and for ensuring its continued relevance globally. While PharfA views the 2014 meeting as critical for the development of pharmacology on the continent, the organization is intent on the sustainability of this initiative beyond the Cape Town meeting. To promote WCP2014, members of PharfA manned the South Africa booth during WorldPharma2010 exhibiton in Copenhagen. ●

Douglas Oliver  
President, World Congress of Pharmacology 2014



# Report from the IUPHAR Clinical Pharmacology Division

A full update on the activities of the Division of Clinical Pharmacology subcommittees and sections will appear in the next edition of *Pharmacology International*. A report on some recent notable activities of the Division appears below.

## Clinical Pharmacology within IUPHAR

Heading into the IUPHAR Executive Committee Meetings and General Assembly in Copenhagen, there were numerous discussions on the future structure of IUPHAR and its congresses. These partly were aimed at strengthening the role and representation of clinical pharmacology within IUPHAR, but also considered wider issues related to the IUPHAR sections, the Clinical Pharmacology Division subcommittees and better integration of clinical and basic pharmacology across the structure of IUPHAR. Following the General Assembly of IUPHAR in Copenhagen, there is fair representation of clinical pharmacology on the IUPHAR Executive Committee. It was decided that, as they matured, the Clinical Pharmacology Division subcommittees should become regular sections of IUPHAR, and this was formalized for the Subcommittee of Pediatric Clinical Pharmacology and the Subcommittee of Pharmacogenetics and Pharmacogenomics, which are now IUPHAR sections. To further integrate clinical and basic pharmacology, all IUPHAR sections and subcommittees will be encouraged to encompass both basic and clinical pharmacology in their activities.

## Division of Clinical Pharmacology Council and Subcommittees

In Copenhagen, Patrick du Souich, the Chair of the Clinical Pharmacology Division, was elected as President of IUPHAR and we warmly congratulate him on this honor. According to the Clinical Pharmacology Division statutes, the Vice Chair, Don Birkett, assumed the role of Chair until the next Division of Clinical Pharmacology General Assembly in 2014 in Cape Town. The Division Council voted in Quebec in July 2008 to extend the terms of office to 2014 given the rearrangement of IUPHAR congresses. Darrell Abernethy was elected Vice Chair in Prof. Birkett's place. The current councillors and subcommittee/section chairs are listed at the end of this report.

## Future IUPHAR Congresses

The Copenhagen WorldPharma2010 Congress was the first IUPHAR congress integrating basic and clinical pharmacology. It had been decided to combine the CPT and IUPHAR basic pharmacology congresses due to concerns about decreasing attendance at, and financial viability of, the separate congresses. The Clinical Pharmacology Division has been concerned about the resultant loss of identity and visibility of clinical pharmacology due to ceasing the CPT congresses, and, with the IUPHAR Executive Committee, conducted a survey of WorldPharma2010 participants to determine their reasons for attending, reaction to the integrated congress, and preferences for the future. The results of the survey are available on the IUPHAR website at [http://www.iuphar.org/meetings\\_past.html](http://www.iuphar.org/meetings_past.html). They generally indicate support from both clinical and basic pharmacologists for integrated meetings. Continuing discussions within IUPHAR indicate support for integrated congresses at four year intervals. There is, however, a strong perception that the four year hiatus between congresses is too long for maintaining the visibility of the organization. Consideration is being given to having IUPHAR supported regional and/or focussed conferences in the intervening years. The Clinical Pharmacology Division welcomes suggestions for such clinical pharmacology meetings.

## IUPHAR Liaison with WHO

Folke Sjöqvist has for the past several years been the IUPHAR liaison to WHO. He has been very active and successful in this role. At the IUPHAR Executive Committee meeting in Copenhagen it was decided to form a small IUPHAR group to liaise with WHO. This comprises Folke Sjöqvist as Chair, Kalle Hoppu and Gabrielle Hawksworth. This liaison group will report through the Division of Clinical Pharmacology.

# Report from the IUPHAR Clinical Pharmacology Division (continued)

A notable activity with IUPHAR has been to update the 1970 WHO Technical Report entitled “Clinical Pharmacology in Teaching, Research and Health Care”. Together with Lembit Rågo of WHO, Folke Sjöqvist and Michael Orme have done a huge amount of work in revising this document. This report, entitled “Clinical Pharmacology in Research, Teaching and Health Care - Considerations by IUPHAR, the International Union of Basic and Clinical Pharmacology”, was published in *Basic & Clinical Pharmacology & Toxicology* (Volume 107, pages 531–559, July 2010) for the Copenhagen WorldPharma2010 congress. A large number of clinical pharmacologists world-wide contributed to this effort. All are listed as authors on the publication. The WHO Expert Committee for the Selection and Use of Essential Medicines will review the document at the 18th Expert Committee Meeting in early 2011 to consider whether it can be endorsed for inclusion as an annex in the official report of the WHO Expert Committee 2011. The WHO Secretariat for the Expert Committee for the Selection and Use of Essential invited interested parties to submit comments on the current version, with the aim of making the final document as globally relevant and applicable as possible. The document and comments received can be seen at

[www.who.int/selection\\_medicines/committees/expert/18/agenda/en/index.html](http://www.who.int/selection_medicines/committees/expert/18/agenda/en/index.html).

Three additional sections were proposed by WHO - Traditional Medicines (Andrew Walubo), Geriatric Clinical Pharmacology (Darrell Abernethy), and Pediatric Clinical Pharmacology (Kalle Hoppu). Draft copies of two of these are posted on the same website.

The document has provoked considerable discussion on clinical pharmacology as a multi-disciplinary activity and on the definition and roles of clinical pharmacologists. Some appropriate amendments are being made to the document to take the various comments into account.

## Some Other Initiatives

The Division of Clinical Pharmacology has a number of activities in planning or under way. Some of these are listed below. Suggestions and comments are welcome.

- Survey to understand better the ways in which clinical pharmacology is structured and developed, especially in developing countries
- Further development of the Geriatric Pharmacology Subcommittee including producing a list of drugs preferred in elderly patients
- Collaboration with NC-IUPHAR to develop a translational pharmacology database and include other clinical parameters in the existing databases
- Working with the Education Section to produce appropriate learning resources in clinical pharmacology





# Report from the IUPHAR Clinical Pharmacology Division (continued)

## Current Officers, Councillors and Subcommittee and Section Chairs

**Chair**, Donald J. Birkett  
Sydney, Australia

**Vice Chair**, Darrell R. Abernethy  
Food and Drug Administration  
Maryland, USA

**Secretary**, Petra Thürmann  
HELIOS Klinikum Wuppertal  
Wuppertal, Germany

**Treasurer**, María Isabel Lucena  
University of Malaga  
Malaga, Spain

**Past Chair**, Patrick du Souich  
Université de Montréal  
Montréal, Canada

### WHO Liaison Committee

Folke Sjöqvist (Chair)  
Stockholm, Sweden  
Gabrielle Hawsworth  
Aberdeen, UK  
Kalle Hoppu  
Helsinki, Finland

### Chair, Subcommittee of Geriatric Pharmacology

David Le Couteur  
Concord RG Hospital  
Sydney, Australia

### Chair, Subcommittee for Clinical Pharmacology in Less Developed Countries

Lars L. Gustafsson  
Karolinska Institutet at Huddinge University Hospital  
Huddinge, Sweden.

### Chair, Section for Pediatric Clinical Pharmacology

Kalle Hoppu  
University of Helsinki  
Helsinki, Finland

### Chair, Section for Pharmacogenetics and Pharmacogenomics

Ingolf Cascorbi  
Christian Albrechts University of Kiel  
Kiel, Germany

### Councillors

Guilherme Suarez-Kurtz  
Instituto Nacional de Câncer  
Rio de Janeiro, Brazil

David Le Couteur  
Concord RG Hospital  
Sydney, Australia

Gilberto Castañeda-Hernández  
Centro de Investigación y de Estudios Avanzados  
del Instituto Politécnico Nacional  
Mexico D.F., Mexico

Mahmoud Khayyal  
Al Azhar University  
Cairo, Egypt

Hiroshi Watanabe  
Hamamatsu University School of Medicine  
Hamamatsu, Japan

Wim du Plooy  
University of Limpopo  
Medunsa, South Africa

Hyung-Keun Roh  
Gachon University Gil Hospital  
Incheon, South Korea

David Webb  
University of Edinburgh  
Edinburgh, UK

Wei Wei  
Anhui Medical University  
Anhui, P.R. China

For more information, to share your comments and suggestions, or to become a member of the Clinical Pharmacology Division, please contact [IUPHAR@kumc.edu](mailto:IUPHAR@kumc.edu). •

Donald J. Birkett  
Chair, Clinical Pharmacology Division



## HAPPY 70<sup>th</sup> BIRTHDAY PAUL M. VANHOUTTE

The 70<sup>th</sup> birthday of Professor Paul M. Vanhoutte, pictured above with his wife, Jacqueline, was recently celebrated at the Fourth Scientific Meeting of the Asian Society for Vascular Biology (ASVB) in Hong Kong. The ASVB meeting was held at the Li Ka Shing Faculty of Medicine of the University of Hong Kong in Hong Kong SAR, China from November 20-21, 2010. An excellent scientific program, including oral presentations, poster sessions and the Servier Young Investigator Competition, was presented. This was followed by a special Paul M. Vanhoutte Research Symposium. The organizing committee was made up of Professor Yu Huang, Chinese University of Hong Kong; Professor David D. Ku, University of Alabama at Birmingham; and Professor Ricky Y.K. Man, University of Hong Kong.

Leading experts in vascular biology and pharmacology from Europe, Asia and North America attended the conference to honor the contributions of Paul Vanhoutte. The special symposium featured many former students and fellows of Professor Vanhoutte. Besides describing exciting new scientific discoveries, many of the participants emphasized the qualities of Professor Vanhoutte that make him such a successful mentor. These include his strong commitment to each trainee, high scientific standards, unwavering kindness, the gift of making scientific research fun and exciting, and lifelong friendship. It is hoped that some of the material presented at this symposium will make its way into a new edition of "PMV: Quotes, Jokes and Thoughts".

Besides his many scientific, academic and industrial accomplishments, Professor Vanhoutte has been a stalwart supporter of IUPHAR through much of his career. Professor Vanhoutte chaired the IUPHAR Committee on Receptor Nomenclature and Drug Classification for 10 years (1989-1998). In 1998 he was elected Secretary-General of IUPHAR. In 2002 he became President of IUPHAR and served as Past President from 2006-2010. Thus Professor Vanhoutte provided invaluable service to IUPHAR for more than 20 years. It is a measure of the man that this service continues today, as Chair of the IUPHAR Nominating Committee.

Professor Vanhoutte is currently Professor and Head, Department of Pharmacology and Pharmacy, Li Ka Shing Faculty of Medicine, Hong Kong SAR, China. ●

Sue Piper Duckles  
Past President, IUPHAR



*Professor Paul M. Vanhoutte pictured here with some of his former trainees*

## *Database status*

The database has developed into a popular online reference resource for several important classes of human drug targets and receptors. There are ~126000 visits from 162 countries per year. The database covers 616 human and rodent genes from four protein families: G protein-coupled receptors (GPCRs), voltage- and ligand-gated ion channels (VGICs and LGICs) and, in a recent addition, 49 nuclear hormone receptors (NHRs).

## *Recent developments*

Significant progress has been made in the gene coverage, ligand presentation and database searchability. Along with the 356 non-sensory GPCRs, the database now includes 141 VGIC subunits, 52 LGIC subunits and 49 NHRs. The database includes 6531 interactions between these proteins and 2716 distinct ligand molecules. Receptors are now linked to 3D structural information on the Protein Data Bank. A few receptor pages are still awaiting completion; place-holders containing basic information are provided. **Please contact us if you can help with annotation.**

Ligand molecules now have dedicated data pages displaying information such as structural information, electronic descriptors, physchem properties, systematic names, biological activity and similar compound lists. Links are provided to other databases such as DrugBank, ChEMBL, PDB, etc. An example of a ligand page can be seen on <http://www.iuphar-db.org/DATABASE/LigandDisplayForward?ligandId=5>.

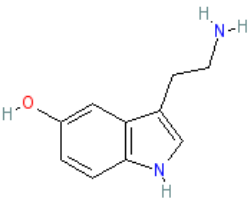
The official database of the IUPHAR committee  
on receptor nomenclature and drug classification

Free fully curated data, submitted by world experts

- ▶ Comprehensive ligand lists
- ▶ Links to genomic and structural data
- ▶ Tissue distribution
- ▶ Functional and pathophysiological data

IUPHAR-DB Ligand: 5	
Ligand name	5-HT

2D Structure <sup>?</sup>	
	

Calculated Physical-Chemical Properties <sup>?</sup>	
Hydrogen bond acceptors	2
Hydrogen bond donors	3
Rotatable bonds	2
Topological polar surface area	62.04
Molecular weight	176.09
XLogP	0.55
No. Lipinski's rules broken	0

Molecular properties generated using the [CDK](#)

Summary	Biological activity	References	Structure	Similar compounds
---------	---------------------	------------	-----------	-------------------

Selectivity at human GPCRs						
Key to terms and symbols						
Click column headers to sort						
Receptor	Type	Action	Affinity	Units	Concentration range (M)	Reference
<a href="#">5-HT<sub>2A</sub></a>	Agonist	Full agonist	8.9	pK <sub>d</sub>	-	<a href="#">27</a>
<a href="#">5-HT<sub>4</sub></a>	Agonist	Full agonist	8.4 – 8.8	pK <sub>d</sub>	-	<a href="#">45</a>
<a href="#">5-HT<sub>7</sub></a>	Agonist	Full agonist	8.1 – 9.0	pK <sub>d</sub>	-	<a href="#">67,71</a>
<a href="#">5-HT<sub>1D</sub></a>	Agonist	Full agonist	8.2 – 8.6	pK <sub>d</sub>	-	<a href="#">9,13,16</a>
<a href="#">5-ht<sub>1e</sub></a>	Agonist	Full agonist	8.1 – 8.2	pK <sub>d</sub>	-	<a href="#">11,19</a>
<a href="#">5-HT<sub>1F</sub></a>	Agonist	Full agonist	8.0	pK <sub>d</sub>	-	<a href="#">20</a>
<a href="#">5-HT<sub>1B</sub></a>	Agonist	Full agonist	7.5 – 8.4	pK <sub>d</sub>	-	<a href="#">9,11</a>
<a href="#">5-HT<sub>1A</sub></a>	Agonist	Full agonist	9.1 – 9.7	pK <sub>i</sub>	-	<a href="#">1-6</a>
<a href="#">5-HT<sub>7</sub></a>	Agonist	Full agonist	8.1 – 9.6	pK <sub>i</sub>	-	<a href="#">7,69-72</a>
<a href="#">5-HT<sub>1D</sub></a>	Agonist	Full agonist	8.0 – 9.0	pK <sub>i</sub>	-	<a href="#">3,9,12-13,15,17-18</a>

A screen shot from <http://www.iuphar-db.org/DATABASE/LigandDisplayForward?ligandId=5>.

Ligand searches can be conducted using names, chemical identifiers and chemical structures (see <http://www.iuphar-db.org/DATABASE/chemSearch.jsp>).

### Other useful features

A traffic-light system has been introduced to allow curators and contributors to easily keep track of the receptor annotation status and to encourage our audience to get involved in the curation process. For further details on other new features look out for our update paper in the upcoming Nucleic Acids Research Database Issue 2011.

# Receptor Database Update (continued)

**LIGAND SEARCH TOOLS**

Click [here](#) for receptor and literature search tools

---

**Ligand name search** ?

Enter name to search:

Include searching receptor-ligand interaction comments

---

**Search by chemical identifier** ?

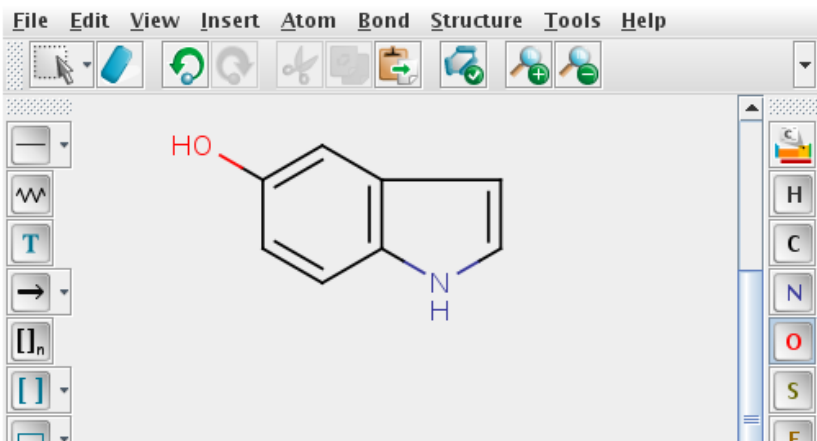
Enter identifier to search:

Select source:

---

**Chemical structure search** ?

1. Load or draw a structure into the box below



2. Choose type of search to perform

3. Limit results by chemical class

To return all relevant hits please ensure that your input structure **does not** include chiral specification.

Search powered by Pinpoint from  
**dotmatics**  
knowledge solutions

A screen shot from <http://www.iuphar-db.org/DATABASE/chemSearch.jsp>.

## Future

To further enhance the database for pharmacologists NC-IUPHAR proposes to introduce an expert recommended “gold-standard” ligand experimental tool set. This will consist of compounds with suitable properties for *in vivo/in vitro* work. We are also planning to set up an online NC-IUPHAR expert directory which will include profile pages for database contributors and facilities for community networking and discussion around items such as Hot Topics (issues of current interest in the general field). We welcome any comments and suggestions. •

# IUPHAR Welcomes New Member

*Editor's Note: At its meeting during WorldPharma2010, the IUPHAR Executive Committee approved for full membership the Serbian Medical Society Section on Clinical Pharmacology. The article below provides an overview of the history and objectives of the Serbian Society and its Section on Clinical Pharmacology.*

## The Serbian Medical Society (SMS) Section on Clinical Pharmacology (SCP)

The Serbian Medical Society (SMS) was founded in Belgrade in 1872, making it one of the oldest medical societies in the world. In 2010, it celebrated its 138<sup>th</sup> anniversary. St. George's Day is the Patron Saint's Day of SMS. The first issue of the Serbian Archive was published in 1874, and the first congress of the physicians of Serbia was held in Belgrade in 1904.



*The Serbian Medical Society seal*

The SMS is a non-governmental organization financed exclusively by membership and registration fees for symposia and congresses. Only medical school graduates can become members of the SMS. The Legal Department, headed by Suzana Bjelogrić, has 15 employees working on administrative-technical transactions for the doctors-members of the organization. In addition, this department provides logistical support to all SMS activities.

The Ethics Committee within the SMS grants licenses for the projects coming to Serbia through the SMS, and considers ethical issues pertaining to medical activities in Serbia. If asked, this Committee also provides objective opinions on matters brought forth by members, either individually or through a Section affiliate.



*Headquarters of the Serbian Medical Society in Belgrade.*

There is a very active center for continuing medical education within the SMS, which certifies attendance at accredited educational courses to meet licensing requirements. The SMS also houses the Academy of Medical Sciences, which recognizes those who have made exceptional contributions to science and the medical profession.

Within SMS, there are 80 specialist sections with a total membership

*Continued on page 23...*

# The Serbian Medical Society (SMS)

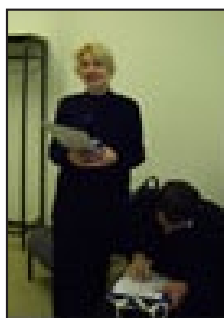
## Section on Clinical Pharmacology (SCP) (continued)

of 10,000 professionals. Individuals may belong to more than one section depending upon their interests. All SMS sections work together to host joint scientific meetings. In recent years these gatherings have been more multidisciplinary than in the past because, by its composition, Section on Clinical Pharmacology (SCP) is at the intersection of all clinicians and clinical pharmacology. This role helps SCP encourage individual-oriented delivery of therapeutics to patients while generating data for top-level research.

Residency in clinical pharmacology involves medical specialty training, with over 60 specialists in clinical pharmacology employed in medical institutions throughout Serbia. The first generation clinical pharmacology specialists passed their boards in 1988. Hospital-based clinical pharmacologists work in departments of clinical pharmacology at the Schools of Medicine in Novi Sad, Kragujevac and Nis. The application to the SMS for establishing the SCP was made at the request of a large number of specialists in clinical pharmacology who were working in different medical institutions.

On October 9<sup>th</sup>, 2008, leading Serbian clinical pharmacologists jointly agreed on the need for creating a Section of Clinical Pharmacology within the Serbian Medical Society. The following individuals were instrumental in the establishment of the SCP in the SMS: Prof. Dr. Ana Sabo – Novi Sad, Prof. Dr. Momir Mikov – Novi Sad, Prof. Dr. Violeta Stanimirovic – Belgrade, Primarius (Head Doctor) Dr. Maca Kastratovic – Belgrade, Prof. Dr. Nina Zigon – Belgrade, Prof. Dr. Viktorija Dragojevic Simic – Belgrade, Prof. Dr. Rada Velickovic – Nis, Dr. Ruzica Lilic – Nis, Prof. Dr. Milos Stojiljkovic – Belgrade, Dr. Dusan Jandric - Belgrade, Dr. Jelena Vukovic – Belgrade, Prof. Dr. Dragan Milovanovic – Kragujevac, Primarius Dr. Zana Stankovic-Belgrade, Prof. Dr. Sloba Jankovic – Kragujevac, Dr. Mira Vukovic – Valjevo, Prof. Dr. Zdenko Tomic - Novi Sad, Dr. Dobrila Bojovic – Belgrade, Dr. Dijana Sefer – Belgrade, Primarius Dr. Lepa Jovanovic – Belgrade, Primarius Dr. Brankica Majstorovic – Belgrade, Prof. Dr. Ivana Timotijevic – Belgrade.

On February 19<sup>th</sup>, 2009 the Chairman of the SMS, Academician Prof. Dr. Radivoje Colovic (photo at right), formally endorsed the establishment of the SCP. This raised the visibility and enhanced the participation of these medical specialists in the Medical Society. On February 27, 2009, the Founding Assembly of the SCP was held at the SMS.



On behalf of the Steering Committee, the Founding Assembly was chaired by Primarius (Head Doctor) Dr. Dragana Maca A. Kastratovic (photo at left), a specialist in clinical pharmacology. The following authorities were present (photo at right): President of the Serbian Medical Society – Academician Prof. Dr. Radivoje Colovic, specialist in surgery; Chairman of the Belgrade Affiliation of the Serbian Medical Society

– Primarius Dr. Mirjana Mojkovic, specialist in general medicine; Chairman of the Board for Head Doctor's Position – Primarius Dr. Dragoljub Ivankovic, specialist in general medicine; Adviser of the Serbian Medical Society, Head of the Legal Department – Suzana Bjelogrljic, Bachelor of Laws; and, 50 specialists in



*Continued on page 24...*

## The Serbian Medical Society (SMS) Section on Clinical Pharmacology (SCP) (continued)

clinical pharmacology from across the Republic of Serbia - Belgrade, Novi Sad, Kragujevac, Nis, Sabac, Pozarevac, and Valjevo. The SCP officers were unanimously elected.



*The Founding Assembly*

The attending physicians were welcomed and support expressed for their future work by SMS President Colovic and the Chairman of the SMS Belgrade Affiliation, Primarius Dr. Mirjana Mojovic. The SCP President, Prof. Dr. Momir Mikov, expressed his gratitude for this honor and the hospitality of the SMS, pointing out that the Section's involvement in the SMS provides numerous benefits for the members of the Section.

The SCP has 50 members, all of whom are either physicians-specialists, residents, or subspecialists in clinical pharmacology. Other physician-specialists can, and have, applied for membership in the Section of Clinical Pharmacology. The annual membership fee is €40. All interested in joining are encouraged to visit [www.sld.org.rs/clinicalpharmacology](http://www.sld.org.rs/clinicalpharmacology) for more information.

Regular scientific-educational meetings are organized the first Friday of every month by the SCP. During 2009 and 2010, SCP visited all Serbian hospital institutions housing clinical pharmacologists in attempt to strengthen the profession throughout the country. The European Clinical Research Infrastructures Network (ECRIN) Project of Academic Studies, directed by Professor Jacques Demotes, is now available at Serbian institutions through the SCP. Contact persons for Serbia are Prof. Dr. Ana Sabo and Primarius Dr. Maca Kastratovic. In addition, SCP has hosted many successful events and meetings.

The Conference on "Development of future leaders in public health system of Serbia" was held March 29, 2010 at the Conference Centre "Sava" in Belgrade. The SCP collaborates with the EU Health Management Project through the SCP President, Prof. Momir Mikov (photo below), who is actively engaged in designing and implementing reforms of the Serbian public health system.



*Continued on page 25...*



# The Serbian Medical Society (SMS) Section on Clinical Pharmacology (SCP) (continued)



*The Celebration of the "International Day of Clinical Trials"*

In May 2009, the "International Day of Clinical Trials" was celebrated by the SCP on the premises of the Serbian Medical Association. The event was well-attended as it involved all physicians in Serbia.

On May 30, 2009, Drs. Mira Vuković, a clinical pharmacologist, and Jordan Lazarević, a surgeon, hosted a gathering (photo at right) at the Health Center

of Valjevo, which covered postsurgical treatment of patients with total gastrectomy, treatment of the systemic inflammatory response and enteral nutrition in prevention of postsurgical complications.



A meeting of the SCP was held September 25, 2009 at the School of Medicine in Nis (photo at right). The program included medication in renal failure by Dr. Radmila Velickovic-Radovanovic, erythropoietin in the renal anemia therapy by Prof. Dr. Vidojko Djordjevic, rational therapy of the urinary tract infections by Prof. Dr. Svetislav Kostic, and the association of risperidone use and hypocalcemia by Prof. Dr Dragan Milovanovic.



The development of clinical pharmacology in the countries of former Yugoslavia was explored during the October 30th, 2009 meeting at the Institute of Pharmacology, Toxicology and Clinical Pharmacology in the School of Medicine of Novi Sad (photo below). The beginnings and perspective were introduced by Prof. Dr. Bozidar Vrhovac and Prof. Dr. Milan Stanulovic. The role and importance of the generic drugs today were presented by Prof. Dr. Bozidar Vrhovac followed by the pharmacoepidemiological and

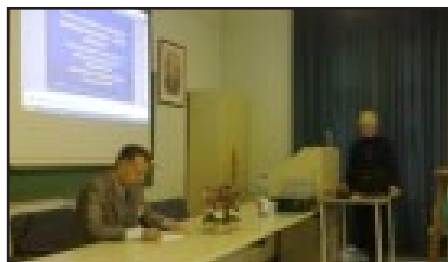


## The Serbian Medical Society (SMS) Section on Clinical Pharmacology (SCP) (continued)

pharmaco-economic consequences of generic substitution by Prof. Dr. Zdenko Tomic. The most frequent wound causes in the South Backa District were highlighted by Assist. Prof. Dr. Olga Horvat. The last topic of medicines in the home medicine cabinet was covered by Assist. Prof. Dr. Sasa Vukmirovic and Assist. Prof. Dr. Nebojsa Stilinovic.

In November, 2009, the SCP, together with the Academy of Medical Sciences, organized an international workshop in Belgrade entitled “Hospital Clinical Pharmacology Week” ([www.sld.org.rs/clinicalpharmacology/default.asp?ID=199](http://www.sld.org.rs/clinicalpharmacology/default.asp?ID=199)). More than 100 physicians took part in the activities.

At the meeting held December 18, 2009, the Serbian Medical Society Chairmanship unanimously approved the proposal by the Section of Clinical Pharmacology that their representatives to the International Union of Basic and Clinical Pharmacology (IUPHAR) shall be specialists in clinical pharmacology. Professors Ana Sabo, MD, PhD and Primarius Dragana Maca Kastratovic, MD, PhD were appointed and immediately assumed their responsibilities.



Professor Kastratovic receiving the  
top research award during  
Hospital Clinical Pharmacology Week

SCP is particularly proud of the participation of Primarius Maca Kastratovic and her colleagues in one of the world's best research teams on oral cancer diagnostics and treatment. Housed at the University of California at Los Angeles, the program is directed by Prof. David T. Wong. The resulting research earned top awards during the first “Hospital-Clinical Pharmacology Week”. The second annual “Hospital Clinical Pharmacology Week” meeting was held in November, 2010. It is anticipated that this event will now be organized every November.

The January 29<sup>th</sup>, 2010 meeting of the SCP was held in the Clinical Centre, Kragujevac School of Medicine (photo below). The subjects were quite varied. Treatment of the *Stenotrophomonas Maltophilia* infection in patients



Continued on page 27...

# The Serbian Medical Society (SMS) Section on Clinical Pharmacology (SCP) (continued)

with long hospital stays was presented by Slobodan Jankovic, Dragan Milovanovic, Dejana Ruzic Zecevic, and Nikola Rosic i Predrag Nikolic. Then Slobodan Jankovic offered a summary of the proposal to establish fixed prices on medical services provided by clinical pharmacologists, which will be submitted to Republic Institute of Health Insurance. In closing, a discussion on the problems facing clinical pharmacologists within their everyday activities in medical institutions was moderated by Sloba Jankovic.

The SCP has offered several continuing medical education (CME) seminars for physicians, which are validated by the Health Council of Serbia. These include:

- Good clinical practice – Maca Kastratovic, Ana Sabo, Momir Mikov, Nina Japundzic, Violeta Stanimirovic, Viktorija Dragojevic, Simic, Jelena Vukovic, Ivan Ferlez, Zorica Vucinic, Karel Turza, and Olivera Laban
- Trombolytic Therapy in Acute Myocardial Infarction – Branka Terzic, Branislav Stefanovic, and Maca Kastratovic
- Antibiotic Prophylaxis in Surgery – Maca Kastratovic, Radoje Colovic, Zdenko Tomic, and Ana Sabo
- Stress: Crisis & Chance – Ivana Timotijevic and Zana Stankovic

Future SCP initiatives are organizing the “Hospital Clinical Pharmacology Week” on an annual basis, additional continuing medical education, and supporting members who wish to study abroad with leaders in the field. SCP supports such studies because there is a growing need in Serbia for new knowledge in clinical pharmacology, particularly in the fields of toxicology, cosmetology, and food production.

SCP is truly proud of their IUPHAR membership, and look forward to meeting, and entertaining, fellow IUPHAR colleagues in Serbia. •

Dragana Maca A. Kastratovic, Ana Sabo, and Momir Mikov on the behalf of all Serbian Clinical Pharmacologists



Some members of the Serbian Medical Society Section on Clinical Pharmacology



Map of Serbia, courtesy of Wikipedia

# 2011 Anniversaries

## ***IUPHAR congratulates the following member societies:***

British Pharmacological Society  
1931 - 2011

Norwegian Society of Pharmacology & Toxicology  
1936 - 2011

Australasian Society of Clinical and Experimental  
Pharmacologists and Toxicologists  
1966 - 2011

Brazilian Society of  
Pharmacology and Experimental Therapeutics  
1966 - 2011

South African Society for  
Basic and Clinical Pharmacology  
1966 - 2011

Turkish Pharmacological Society  
1966 - 2011

Hong Kong Pharmacology Society  
1986 - 2011

Association of Pharmacologists of Ukraine  
2001 - 2011

Maltese Pharmacology Society  
2006 - 2011



# The Austrian Pharmacological Society (APHAR) Celebrates 15<sup>th</sup> Anniversary

## Beyond Puberty and Maturing - APHAR is 15

The Austrian Pharmacological Society (APHAR) was founded 15 years ago in November 1995. Those most responsible for the establishment of the Society were Peter Placheta, Walter Kukovetz, Hans Winkler and Wolfgang Schütz. Historically, Austrian pharmacologists joined the German and/or the British pharmacological societies. Because of this, some questioned whether an independent Austrian society was necessary. However, European integration and other developments catalyzed the efforts of Austrian pharmacologists to establish a national society. Reasons for this include the fact that (i) European unification had driven the association of learned national societies at the European level; *e.g.*, EPHAR was founded in 1990. These were thought to eventually shape European science policies, which are translated at the national level. Representation in these bodies is contingent on the existence of a national society; (ii) transformation of higher education was anticipated to require an overhaul of doctoral training programmes; and (iii) with the increased emphasis on evidence-based medicine, it was believed that a national pharmacological society would be invaluable in identifying individuals in the country who are most able to assess the merits of drug therapies.



Thus, the APHAR mission is to provide a forum for fostering the continuous evolution of experimental and clinical pharmacology as a scientific discipline. Our prime asset is the continued influx of young people into the field. With the help of donations from the pharmaceutical industry, APHAR awards two attractive scientific prizes on a yearly basis. The Pfizer-sponsored Hans-Horst-Meyer-Prize is awarded to a young pharmacologist for the best publication and the Heribert-Konzett-Prize, funded by Astra-Zeneca, is for the scientific achievements of a young independent investigator.

The annual meetings of the Society have been a vibrant success. They are typically held on the last weekend in November, with the venue rotated among Graz, Innsbruck and Vienna. APHAR reaches out to sister organizations on a regular basis, with joint scientific conferences held with the Hungarian, Slovenian and Swiss societies. A generous package of travel grants for thesis students, sponsored by Amgen, has allowed young scientists to attend these meetings. Sponsored workshops, such as Training in Electrophysiology, organized by H. Todt and a career workshop organized by M. Waldhoer, are another means for attracting such individuals to APHAR. Other missions of APHAR are to provide a mechanism for linking Austrian pharmacologists to international umbrella societies, such as EPHAR, EACPT, and IUPHAR, and to advise health-care providers in matters of pharmacotherapy. The role of APHAR in some of these activities is legally codified.

Austrian pharmacology has a long and proud tradition, having first been established as an independent discipline in the late 19<sup>th</sup> century with the recruitment of Hans-Horst Meyer (“lipoid theory of narcosis”) as the chair of the Institute of Pharmacology in Vienna. Among the major figures in Austrian pharmacology from those days were Otto Loewi, Alfred Fröhlich, Ernst-Peter Pick, Carl and Gerty Cori, and Adolf Jarisch. Some of these internationally recognized giants in the field, including Loewi, Fröhlich, and Pick, managed to flee the country to avoid the Nazi period, where the darkest sides of academic competition were exposed for what they are: exercises in vanity and quests for petty glories rather than a search for truth. After the liberation of Austria, pharmacology recovered, thanks in part to contacts that had been maintained with the the exiled scientists. A new generation rose through the academic ranks, becoming prominent leaders in industrial/regulatory pharmacology during the post-war period. Several of the more prominent figures from this era were awarded an honorary APHAR membership. This group includes Ingeborg Eichler, Georg Hertting, Oleh Hornykiewicz, Walter Kobinger, Heribert Konzett, Fred Lembeck, Bernhard Peskar, and Hans Winkler. Tradition is a double-edged sword: one can draw on the past to face future challenges or indulge in a retrospective paralysis. APHAR hopes to mature into a society that passes on the torch of enthusiasm rather than the veneration of the ashes. ●



# International Society of Pharmacovigilance

At the forefront of pharmacovigilance around the world



## *Celebrating their 10<sup>th</sup> Anniversary*

The 10th ISoP Annual Meeting took place in the vibrant city of Accra, Ghana from 3 to 7 November 2010. Entitled “Pharmacovigilance in the global village”, it was the first sub-Saharan African meeting for ISoP. It was very well attended, with almost 300 delegates from across the globe. One aim of the meeting was to examine pharmacovigilance practices worldwide, with a view to sharing best practices, to highlighting, and assessing ways to deal with, common challenges. The WHO National Centres annual meeting was also held in Accra this year, providing an opportunity for delegates from both organizations to hold a joint WHO-ISoP session.

The Pharmacovigilance (PV) meeting also featured 12 parallel scientific sessions covering a host of diverse topics. These included signal detection, medication errors, vaccine safety, ecopharmacovigilance, regulatory expectations, and communication. One session was conducted entirely in French to meet the needs of attendees and speakers from Francophone Africa. A session on the exciting new topic of Forensic Pharmacovigilance was lead by Kenneth Hartigan-Go. The presentation and discussion, both of which were very stimulating, received excellent feedback from the attendees.



The 10th ISoP Meeting was held at the La Palm Beach Hotel in Accra, Ghana.

Continued on page 31...

## ISoP Celebrates their 10th Anniversary (continued)

Keynote lectures were another highlight of this meeting. These included *New Frontiers in Pharmacovigilance* by Gerald Dal Pan, from the USA Food and Drug Administration; *Science Medicines, Health: Strengthening Regulatory Science and Improving PV Law to the Benefit of Public Health*, by Peter Arlett, EMA; *International Co-operation to Deliver a Global PV System*, by June Raine, MHRA; and the Bengt-Erik Wiholm lecture given by Nicholas Moore, University of Bordeaux, France.

The poster competition, with 95 entrants, was judged by the poster prize committee, co-chaired by Sarah Daniels and Jan-Willem Van Der Velden. First prize went to F.A. Al Braik, A.S. Elgharbawy, and M.Y. Hasan for their poster entitled *Toxic Mercury Levels in Counterfeit Medicated Cosmetic in UAE and Potential of Toxicological Adverse Drug Reactions* (Abstract no. 27). All the conference abstracts are published in *Drug Safety*, the official journal of the Society.



The ISoP 2010 poster winners with the Poster Committee

Learning opportunities continued after the main conference, with a number of short courses presented by international experts in pharmacovigilance. The courses presented were entitled 'Creating a Safety Culture', 'Clinical Trial Safety', 'Vaccine Safety', 'Principles of Risk Management', and 'Basic Concepts'. A lively social programme was also part of the proceedings. Included were a Ghanaian dance, drama and a dinner.



ISoP Executive Council Members during the General Assembly



PV Outreach - Mantse Agbonaa

Continued on page 32...

## ISoP Celebrates their 10th Anniversary (continued)

Besides holding the conference in the home town of Alexander Dodoo, the current ISoP President, the significance of the event was heightened by the fact that it took place on the 10th Anniversary of ISoP. We were fortunate to have in attendance three past presidents of ISoP, Ralph Edwards, Giampaolo Velo and Nicholas Moore, who together and between them cut a special birthday cake as part of the gala dinner celebration.



*Four ISoP Presidents cut the anniversary cake  
L → R: R. Edwards, G. Velo, N. Moore and A. Dodoo*

The meeting was deemed a great success and the delegates were delighted to have the opportunity to discuss in such a unique setting the common challenges and solutions to problems confronting those pharmacovigilance workers globally.

With a first-ever meeting of such magnitude in West Africa, ISoP is implementing its strategy to share knowledge and information on drug safety to as broad an audience as possible. ●

Alexander Dodoo and Deirdre McCarthy

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### **International Society of Pharmacovigilance**

ISoP Secretariat Ltd  
London SW12 0HS, UK  
<http://www.isoonline.org>

ISoP 2011  
Annual Meeting  
Istanbul, Turkey

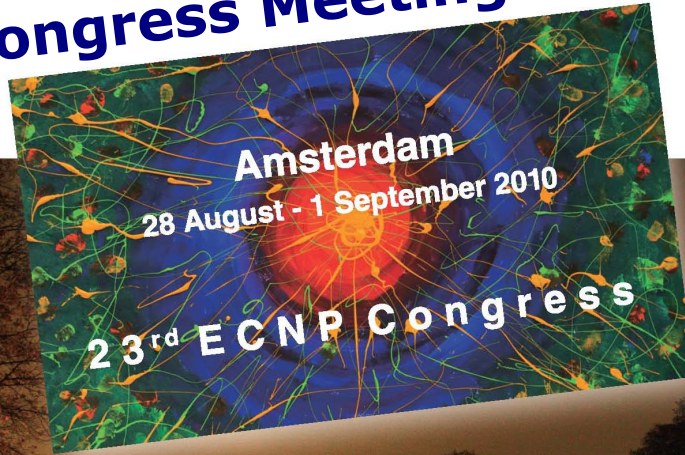


*The 11th ISoP Meeting will be held October 26 - 28, 2011. See  
[www.iso2011.org](http://www.iso2011.org) for more information.*





## 23rd Congress Meeting Report



For the past 23 years it has been a great challenge for the Scientific Programme Committee (SPC) to organize innovative and attractive scientific programs for the ECNP Congresses. So it was with the 23<sup>rd</sup> edition, which was held this year in Amsterdam. Fortunately, we had many advantages in performing the task this year.

*First*, all of us in the SPC were highly motivated and did our very best to construct a highly topical scientific program in the areas of preclinical and clinical

neuropsychopharmacology, with the aim of promoting translational research and fruitful exchanges and dialogues between basic neuroscientists and clinicians. I am especially grateful to the SPC group for their generous, effective and clever contributions in making our enterprise a success.

*Second*, the large number of proposals for symposia that were submitted by scientists, mostly from Europe but also from overseas, allowed us to select the very best in all domains relevant to neuropsychopharmacology. Selection was particularly difficult because most of the proposals were excellent. While the best science was the top priority in making these selections efforts were made to balance time and space between clinical and preclinical sciences, and to strive for geographical and gender balance. For the ECNP Amsterdam Congress approximately 30% of the participants were female. Efforts will continue to bring this percentage up to the level reflecting the major contributions of female scientists and clinicians in neuropsychopharmacology research.



Prof. Joseph Zohar, President, welcomed the participants.

*Third*, the staff at ECNP Office, particularly Maria Vrijmoed - de Vries and her assistant Petra Hoogendoorn, played, of course, a pivotal role in creating the optimal conditions for the SPC to select topics, speakers, chairs and moderators for the symposia, educational tracks, and other sessions. I am especially grateful for the professionalism and warm, cordial collaboration of the whole ECNP team in Utrecht, without whom none of this would have been possible.

Thanks to these assets, the ECNP Congress in Amsterdam was a great success. It remains the largest European meeting dedicated to the neurosciences. More than 7,200 delegates from 104 different countries registered and participated in

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## 23rd ECNP Congress Meeting Report (continued)



Every session was full to capacity.

Professors Nutt (left) and Goodwin (right) introduced the speakers.

the ECNP scientific program and the 13 satellite symposia supported by pharmaceutical companies. Indeed, all the meeting rooms were full during the entire congress, from the very first to the very last symposium. It was not unusual to see participants entering with additional chairs after a session had commenced because of the difficulty reaching the few remaining free seats in the middle of the room. Clearly, this success was due primarily to the superb quality of presentations and discussions by the faculty speakers and moderators. Special thanks to them all.

The poster sessions were heavily attended each day, with enthusiastic discussions and exchanges in spite of the limited space. The three plenary lectures on hot topics – *Epigenetics* by Isabelle Mansuy, *Biomarkers of Alzheimer's disease* by the ECNP Award winner Kaj Blennow, and the fascinating *Hippocampus* by György Buzsáki – were outstanding, and each attracted a large number of attendees.

For the first time, this year a young scientist breakfast meeting was organized with each of these prestigious speakers the day after their lecture. This initiative, which will be refined for the next year, is in support of the ECNP initiative to ensure the future of neuropsychopharmacology by providing support to PhD students and postdoctoral fellows in the field. Thus, as with previous congresses, there were four Target Expert Meetings (TEMs) in Amsterdam 2010: on *addiction*, *child and adolescent neuropsychopharmacology*, *neurological disorders* and *psychotic disorders and antipsychotics*. For each of these, young senior scientists were invited to participate in the discussions with the hope of fostering new European collaborative projects.

Another innovation for the 23<sup>rd</sup> ECNP Congress was the webcasting of presentations with the speakers' consent. Two of the three plenary lectures, five of the six educational update sessions, and seventy-five symposia presentations can be viewed on the ECNP website, thereby making a large part of the congress available *live* for those who could not be in Amsterdam.

Last, but not least, I would like to emphasise that contacts with the press were very positive thanks to the skills of three delegates, Anna Wirz-Justice, Philippe Fossati and Jim van Os, for clearly explaining to journalists the key importance of neuropsychopharmacological research for the management and prevention of psychiatric diseases. Amsterdam 2010 was therefore a “grand cru”, thanks to all the fantastic people who worked so hard for its success. Rendez-vous is now taking place for the next challenge: the 24<sup>th</sup> ECNP Congress, 3-7 September 2011 in Paris. ●

Michel Hamon  
Chair, Scientific Programme Committee

# Meeting Report

## 8th Southeast European Congress on Xenobiotic Metabolism and Toxicity (XEMET 2010)

The 8th Southeast European Congress on Xenobiotic Metabolism and Toxicity (XEMET 2010), which was partly supported by the IUPHAR Section on Drug Metabolism and Drug Transport (DMDT) and EUROTOX, took place in Thessaloniki, Greece, on October 1st-5th 2010. The Xenobiotic Metabolism and Toxicity (XEMET) Congress of Southeast European Countries (formerly named Xenobiotic Metabolism and Toxicity Workshop of Balkan Countries, XMTWBC) is the eighth that has been convened. The prior conferences were in Novi Sad, Yugoslavia (1991), Ioannina, Greece (1995), Varna, Bulgaria (1997), Antalya, Turkey (2000), Constanta, Romania (2002), Banja-Luka, Bosnia Hercegovina (2004), and Novi Sad, Serbia (2008). Throughout their history, XEMET meetings have provided a forum for discussion and exchange of knowledge in the area of xenobiotic metabolism and toxicity for established scientists from academia and industry, while at the same time providing a valuable introduction to the field for younger scientists.



*Prof. Olavi Pelkonen informed the audience about food-drug interactions.*



*Prof. Gabrielle Hawskworth spoke about xenobiotic transporters.*

The meeting this year covered a broad area of the field. Leading European scientists discussed their work and presented the most recent data on xenobiotic metabolism and toxicity, on drug transport and targeted drug delivery, drug interactions and food-drug interactions, the influence of food and environment on reproduction, and innovative technology for reducing xenobiotic toxicity and minimizing the risk of exposure to hazardous environmental xenobiotics. The Congress included three workshops. Two of these were on PCR and Real-Time PCR techniques. The third was a virtual laboratory on DNA microarray technology, with e-teaching material kindly provided by the Genetic Science Learning Center, University of Utah, USA. All registered participants could attend one workshop at no cost.



*Prof. Momir Mikov presented information about bile acids.*

Due to its multidisciplinary character, XEMET 2010 attracted the interest of not only pharmacologists and physicians but also of other scientists who work on the area of xenobiotics. XEMET 2010 offered an opportunity for continuing scientific education, with participants who attended the Congress receiving 21 credits (21 CME-CPD credits according to the criteria set by EACCME-UEMS).

XEMET 2010 was held under the auspices of the Aristotle University of Thessaloniki and the Greek Ministry of Education, Life-long Learning and Religious Affairs. It was realized, in spite of the difficult financial situation of Greece, thanks to generous support by IUPHAR-DMDT and EUROTOX. The registration fee was kept

*Continued on page 36...*

## Meeting Report: XEMET 2010 (continued)

very low plus 15 scholarships were awarded to assist young scientists to attend who would not otherwise have been able to participate. All student participants had full access to the Congress and the workshops. Apart from its scientific content and overall educational value, the conference was an important means for disseminating information on safer use of medicines, food and environmental xenobiotics.



L → R: Professors Jaime Kapitulnik, Alan Boobis and Olavi Pelkonen in front of the ancient city wall of Thessaloniki

The social program of XEMET 2010 included sightseeing tours, visits to historical sites and to recreational venues. Thessaloniki is the second largest city in Greece and one of the oldest in Europe, dating back some 2,300 years.

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One of the most famous historical sites near Thessaloniki is Vergina, where the tomb of Philip, the father of Alexander the Great, was found in 1976. The treasures found in this tomb are now on display nearby in the marvelous museum. Participants also had an opportunity to visit the holy town of Dion, where Philip and Alexander the Great prayed to Zeus before going into battle.



Meeting registrants toured the holy city of Dion. L → R behind the guide: Mrs. Kapitulnik, Prof. Yanev, Dr. Vasovic, and Prof. Vereczkey

More information on the program of XEMET 2010 can be found at the website <http://xemet2010.web.auth.gr>. The abstracts have been published in *Frontiers in Pharmacology* and may be found at [http://www.frontiersin.org/events/8th\\_Southeast\\_European\\_Congres/1051/drug\\_metabolism\\_and\\_transport](http://www.frontiersin.org/events/8th_Southeast_European_Congres/1051/drug_metabolism_and_transport). •



The Chair of XEMET 2010, Prof. Paraskevi Papaioannidou, speaking on xenoestrogens and their impact on reproduction.

Paraskevi Papaioannidou  
Chair, Organizing Committee

## Meeting Report

# Integrative and Organ Systems Pharmacology (IOSP) School for Africa on *In Vivo* Toxicology



The Kenya Society for Basic and Applied Pharmacology (KeSoBAP) held a four day training workshop on May 10<sup>th</sup> - 13<sup>th</sup>, 2010 in the Department of Pharmacology and Pharmacognosy at the University of Nairobi, Kenya. This course was part of a series of Integrative and Organ Systems Pharmacology (IOSP) short courses, which are organized under the auspices of the International Union of Basic and Clinical Pharmacology (IUPHAR) and funded, in part, by the International Council for Science (ICSU) and the American Society for Pharmacology and Experimental Therapeutics (ASPET). The IOSP Committee was chaired by Professor David Bylund, who was also a facilitator in this workshop.



The goals of the IOSP courses were to highlight the unique role of *in vivo* animal and organ systems research in pharmacological research and development, to train young investigators in ethical and humane research techniques involving laboratory animals and experimental protocols involving the use of animal models. This program was aimed at fostering skills and in training personnel in integrative organ systems pharmacology. The IUPHAR IOSP African Initiative also hosted training workshops in Potchefstroom, South Africa in September, 2009 and in Cairo, Egypt in March 2010.

The objective of the Nairobi IOSP workshop was to equip young scientists with the knowledge and practical skills necessary to conduct *in vivo* toxicological investigations. The course was taught by local and internationally renowned pharmacologists and toxicologists.

### Facilitators

Prof. Anastasia N. Guantai  
Prof. David Bylund  
Prof. Gabrielle Hawksworth  
Prof. Peter I. Aziba  
Dr. Margaret Oluka  
Dr. Faith Okalebo  
Dr. Jesca Wesongah  
Dr. Charles Githinji  
Dr. Hastings Ozwara  
Dr. Maina Ngotho  
Mr. Maina Ichagichu  
Dr. Tom Menge



Student participants were residents of African countries. Among this group were individuals pursuing or holding post graduate specialization in pharmacology and/or toxicology or a closely related field and those who are working in a teaching or research institution. This workshop is part of a capacity building effort in pharmacological research in Africa, a core objective of the IOSP initiative.

# IOSP *In Vivo* Toxicology Workshop Report

(continued)

The workshop was advertised in the IUPHAR and University of Nairobi websites. In addition, e-mail communications were sent to individuals within African research institutions and universities. A total of 32 applications were received and of these 21 people were invited to attend the training session. The selection criteria included age, with preference given to those based in research institutions and those who are undertaking post-graduate training. Two invited participants were unable to attend the workshop.

<u>Participants</u>	<u>Country</u>
Lilly Mmalebuso Mokoena	South Africa
Akingbasote James Adebola	Nigeria
Osasan Josephine Yetunde	Nigeria
Barandaje Venance Burushi	Tanzania
Tijani Adeniyi Yahaya	Abuja Nigeria
Mohamed Abdallah Hamzawy	Egypt
Bisaso Kuteesa Ronald	Uganda
Tekwu Emmanuel Mouafo	Cameroon
Maria Bestina Daniel	Tanzania
Chrian Mkombozi Marciale	Tanzania
Emmanuel Elia Haule	Tanzania
Nicholas M. Mwikwabe	Kenya
Lucia Kipkoech Keter	Kenya
Dominic Ochwangi Omosa	Kenya
Catherine Kaluwa Kaingu	Kenya
Stanley Nderitu Wambugu	Kenya
Zakayo Limiri Thaimuta	Kenya
Joseph K. Gikunju	Kenya
Gedion Mutie Kikuvi	Kenya

*Continued on page 39...*



# IOSP *In Vivo* Toxicology Workshop Report (continued)

The workshop was opened by the Principal, College of Health Science, Prof. Isaac O. Kibwage, who was accompanied by the Acting Dean of the School of Pharmacy, Dr. K. Abuga. Prof. Kibwage is a pharmacist with specialist training in pharmaceutical analysis. He welcomed all the guests and noted that the School and College were honored to host this workshop. He also noted the importance of the workshop in drug development and in providing instruction in the role of ethical regulations in research involving experimental animals. He invited the guests to visit recreational facilities in the city during their stay.



*The workshop participants were welcomed by Prof. Kibwage.  
L → R: K. Abuga, I.O. Kibwage, A.N. Guantai and G.M. Hawksworth*

The next few days were focused on lectures and laboratory workshops. The coursework included theoretical issues such as experimental design, good animal husbandry, regulatory requirements, and safety pharmacology. These lectures were interspersed with opportunities to learn practical skills, such as techniques for handling animals, obtaining samples, toxicity and histology testing, and writing scientific papers. A formal dinner was arranged for an evening of recreation and fellowship. At the conclusion of the coursework, the participants completed an assessment test to evaluate the course content and improve future IOSP workshops in Africa.



*Demonstration of the use of microtome in making tissue sections for histological examination*

*Continued on page 40...*

# IOSP *In Vivo* Toxicology Workshop Report

(continued)



Prof. Isaac O. Kibwage, the Principal of the College of Health Sciences headlined the closing ceremony. In addition to making congratulatory remarks on the success of the workshop, the Principal awarded certificates of participation to all those who attended the course.

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*Professors Hawksworth (at left) and Ozwara (at right) receiving their thank you gifts from the students.*

The student participants then awarded certificates to the facilitators as a gesture of appreciation for a job well done. Gifts of appreciation were also awarded to the international and local facilitators and local facilitators. The Institute of Primate Research donated three copies of a book on the proceedings of a conference on laboratory animal science courtesy of Dr. Maina Ngotho, head of the animal sciences department at the Institute of Primate Research. One of copy of this book was given to the IOSP Initiative through Prof. Bylund (at right) and another copy retained for use by KeSoBAP.



*Continued on page 41...*



# IOSP *In Vivo* Toxicology Workshop Report (continued)

As with any successful event, there were many people and organizations who made it possible. The following are thanked for their contributions:

## Sponsors and collaborating institutions

International Union of Basic and Clinical Pharmacology (IUPHAR)  
International Council for Science (ICSU)  
Kenya Society for Basic and Applied Pharmacology (KeSoBAP)  
Department of Pharmacology and Pharmacognosy, University of Nairobi (UoN)  
Institute of Primate Research (IPR)  
Kenyatta National Hospital (KNH) (Toxicology Centre)  
The American Society for Pharmacology and Experimental Therapeutics (ASPET)

## Organizing Committee

Prof. Anastasia N. Guantai  
Dr. Margaret Oluka  
Dr. Charles Githinji  
Dr. Jesca Wesongah  
Dr. Faith Okalebo  
Mr. Daniel Karume  
Mrs. Rahab Munenge  
Miss Beatrice A. Oketch

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Mr. Juma Siminyu

The assessment tests revealed the participants valued their experience and would like to have more opportunities to learn *in vivo* skills. Plans are underway for the next IOSP training workshop in Cairo, Egypt on February 5<sup>th</sup> – 7<sup>th</sup>, 2011. ●

Excerpt from report by  
Anastasia N. Guantai  
President, KeSoBAP

# Upcoming Events

**III International Conference of Oxidative Stress (HAVANA-REDOX 2011) co-sponsored by the Cuban Society of Pharmacology**

Where: Havana, Cuba  
When: January 27 - 30, 2011  
Website: <http://www.scf.sld.cu>

**Winter Meeting of the Norwegian Society of Pharmacology and Toxicology**

Where: Beitostolen, Norway  
When: January 27 - 30, 2011  
Website: <http://www.nsft.net/sider/tekst.asp?side=860>

**European College of Neuropsychopharmacology (ECNP) Workshop on Neuropsychopharmacology for Young Scientists in Europe followed by ECNP Summit on the future of CNS drug research in Europe**

Where: Nice, France  
When: March 3 - 6 and 6 - 7, 2011  
Website: <http://www.ecnp.eu/emc.asp?pageId=1797>

**Joint Meetings of 11th Southeast Asian Western Pacific Regional Meeting of Pharmacologists and 84th Annual Meeting of the Japanese Pharmacological Society**

Where: Yokohama, Japan  
When: March 22 - 24, 2011  
Website: <http://www.secretariat.ne.jp/seawp2011>

**P2T 2011 Congress of Physiology, Pharmacology and Therapeutics co-sponsored by the French Society of Pharmacology and Therapeutics**

Where: Grenoble, France  
When: March 22 - 24, 2011  
Website: <http://www.congres-p2t.fr>

**77th Annual Meeting of the German Society for Experimental and Clinical Pharmacology and Toxicology**

Where: Frankfurt am Main, Germany  
When: March 30 - April 1, 2011  
Website: <http://dgpt2011.de/default.asp>

**Experimental Biology '11 sponsored by the American Society for Pharmacology and Experimental Therapeutics**

Where: Washington, DC, USA  
When: April 9 - 13, 2011  
Website: <http://aspet.org/meetings.aspx>



# Upcoming Events

## **11th Regional Meeting of European College of Neuropsychopharmacology (ECNP)**

Where: St. Petersburg, Russia

When: April 14 - 16, 2011

Website: <http://www.ecnp.eu/emc.asp?pageId=1788>

## **European College of Neuropsychopharmacology (ECNP) - EPA Seminar in Neuropsychopharmacology**

Where: Estonia

When: April 27 - 29, 2011

Website: <http://www.ecnp.eu/emc.asp?pageId=315>

## **2011 Annual Meeting of the Western Pharmacology Society in conjunction with the Mexican Pharmacology Society**

Where: Mexico City, Mexico

When: May 16 - 20, 2011

Website: <http://www.westernpharmsoc.org>

## **2011 Canadian Society of Pharmacology and Therapeutics Meeting in collaboration with the Canadian Society for Pharmaceutical Sciences, the Controlled Release Society and the Natural Health Products Research Society of Canada**

Where: Montreal, Quebec, Canada

When: May 25 - 27, 2011

Website: <http://www.pharmacologycanada.org>

## **13th Biennial European Society for Developmental Perinatal & Pediatric Pharmacology (ESDP) on Drug Therapy in Neonates and Children: Recent Advances**

Where: Oslo, Norway

When: June 15 - 17, 2011

Website: <http://www.esdppp.org/oslo-2011.136876.en.html>

## **10th Congress of the European Association for Clinical Pharmacology and Therapeutics (EACPT), co-sponsored by the Hungarian Society for Experimental and Clinical Pharmacology**

Where: Budapest, Hungary

When: June 26 - 29, 2011

Website: <http://www.eacpt2011.org>

## **European College of Neuropsychopharmacology (ECNP) School of Neuropsychopharmacology**

Where: Oxford, United Kingdom

When: July 3 - 8, 2011

Website: <http://www.ecnp.eu/emc.asp?pageId=315>

*To include your events here, please e-mail the details to [iuphar@kumc.edu](mailto:iuphar@kumc.edu).*



# 10<sup>th</sup> Congress of the European Association for Clinical Pharmacology and Therapeutics

*„From Drug Research to Therapy  
for the Benefit of Patients“*

**June 26-29, 2011**

*Budapest,  
Hungary*



Hungarian Society  
for Experimental and  
Clinical Pharmacology

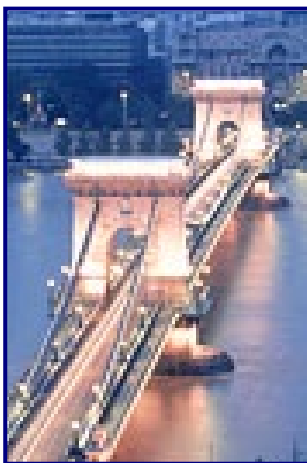


European Association for  
Clinical Pharmacology  
and Therapeutics

[www.eacpt2011.org](http://www.eacpt2011.org)

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