

Pharmacology International

No. 90 June 2018 The semi-annual newsletter from the International Union of Basic and Clinical Pharmacology

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WCP2018 KYOTO

18th WORLD CONGRESS
OF BASIC AND CLINICAL PHARMACOLOGY

July 1 (Sun) - 6 (Fri), 2018

Kyoto International Conference Center,
Kyoto, Japan

www.WCP2018.org

Pharmacology for the Future
Science, Drug Development and Therapeutics

Following our previous announcement in December, the Organizing Committee of the WCP2018 is pleased to share the latest information on the Congress. We sincerely look forward to welcoming you at WCP2018 in Kyoto.

Scientific Program

THEME *Pharmacology for the Future*
-Science, Drug Development and Therapeutics-

40 Lectures

■ Opening Lecture



Future of Cancer Immunotherapy
by PD-1 Blockade

Tasuku Honjo, M.D., Ph.D.
Kyoto University, Japan

Sunday, July 1, 2018 16:10 - 17:00

■ Plenary Lecture



Recent Progress in
iPS Cell Research and Application
Shinya Yamanaka, M.D., Ph.D.
Kyoto University, Japan

Monday, July 2, 2018 11:15 - 12:15



The Cardiovascular Effects of
Peptidase Inhibition
Nancy J. Brown, M.D.
Vanderbilt University Medical Center,
USA

Wednesday, July 4, 2018 11:15 - 12:15

■ Tang Prize Lecture



Advances in Genome Editing
Technologies
Feng Zhang, Ph.D.
McGovern Institute for
Brain Research at MIT, USA

Tuesday, July 3, 2018 17:00 - 18:00



Optogenetics
Karl Deisseroth, M.D., Ph.D.
Stanford University, USA

Tuesday, July 3, 2018 11:15 - 12:15



Why TGN1412 was Safe and BIA 10-2474 Dangerous.
The Case for Mechanism Based Drug Development
Adam Cohen, M.D., Ph.D.
Center for Human Drug Research,
The Netherlands

Thursday, July 5, 2018 11:15 - 12:15



A Molecular Understanding of Drug Actions at
G Protein Coupled Receptors
Bryan L. Roth M.D., Ph.D.
University of North Carolina at
Chapel Hill, USA

Wednesday, July 4, 2018 17:00 - 18:00

■ Analytical Pharmacology Lecture

and 33 Cutting Edge Lectures

Continued on page 2...

Opening Symposium

Sunday, July 1, 2018 17:00 - 18:40

■ Pharmacology, Translational Medicine and Drug Discovery

- Makoto Suematsu** Japan Agency for
Medical Research and Development, Japan
- Garret A. Fitzgerald** University of Pennsylvania, USA
- Pierre Meulien** Innovative Medicines Initiative, Belgium
- Isao Teshirogi** Japan Pharmaceutical
Manufacturers Association, Japan



87 Symposia

Oral Sessions

Poster Sessions

Luncheon Seminars

We have received more than 2,300 abstract submissions for oral and poster presentation. Thank you, everyone!

Satellite Symposia

■ International GPCR Symposium

Date and time : Friday, June 29th - Saturday, June 30th, 2018
Venue : Shiran Kaikan, Kyoto University, Kyoto, Japan

■ World Histamine Symposium 2018 (WHS2018)

Date : Saturday July 7 to Monday July 9, 2018 (3 days)
Venue : Shinsho Hall A and B, Kobe Chamber of Commerce and
Industry Hall (Shinsho Hall), Kobe, Japan

■ Educating Scientists and Healthcare Professionals for 21st Century Pharmacology

Date and time : Saturday, June 30th 2018, 12:30pm – 6:30pm
Sunday, July 1st 2018, 8:30am – 12:00pm
Venue : Room 553, Kyoto International Conference Center, Kyoto Japan

■ Brain Mapping and Therapeutics

Date and time : Friday, June 29, 2018 1:30pm - 5:30pm
Venue : Auditorium, Korean Brain Research Institute, Daegu, Republic of Korea

■ Systems Pharmacology and Artificial Intelligence Based on Real World 'Big' Data

Date and time : Friday, July 6, 2018 2:00pm - 5:30pm
Venue : Memorial Hall, Kyoto University Clock Tower Centennial Hall, Kyoto, Japan

■ Receptor Structure Changes the Pharmacology Paradigm (Incorporating the 10th Adrenoceptor Symposium)

Date : Thursday, June 28th to Saturday, June 30th, 2018 (2.5 days)
Venue : Granship Convention Center, Shizuoka, Japan (about 1 h from Kyoto by train)

Plus

(Symposium themes are tentative.)

- Pediatric Pharmacology
- Regulating cell homeostasis: from small molecules (drugs, O₂, ROS, and NO) to ion channels, receptors, and systems

Further details will be announced as they become available.

■ Young Pharmacologist Mixer

Date and time : July 6 (Fri) – July 7 (Sat), 2018 (2 days)
Venue : Kansai Seminar House, Kyoto, Japan
This is targeted only for winners of WCP2018 Congress Bursaries.



Social Events



Chorus



Noh Play

Opening Ceremony

Date & Time: 15:00-16:00 Sunday July 1, 2018

Venue: Main Hall, Kyoto International Conference Center

All registered participants are cordially invited to join and celebrate the official opening of WCP2018. The Opening Ceremony will include exciting performances of a Noh Play and a chorus comprised of elementary school children.

Welcome Reception

Date & Time: 19:00-20:30 Sunday July 1, 2018

Venue: Sakura & Swan, Kyoto International Conference Center

This will be an excellent opportunity to network, meet old friends and colleagues, and to make new ones as the event begins. We believe it will be good time to relax and warm up for the congress. Drinks including sake made in Kyoto and light refreshments will be served. The reception will also feature entertainment: GAGAKU Imperial Court Music, WADAICO Drummers and YUKATA Fashion Show.

YUKATA Fashion Show



WADAICO Drummers



GAGAKU Imperial Court Music

SAKE Seminar

Date & Time: 18:00-19:00 Wednesday, July 4, 2018

Venue: Kyoto International Conference Center (TBA)

Philip Harper, originally from the U.K., was the first non-Japanese to become a "Toji" (master sake brewer). He will give a lecture on the allure of Japanese Sake and the brewing process. After the lecture, participants will have the opportunity to watch the movie "KANPAI! For the Love of SAKE," featuring Mr. Harper as himself, while enjoying SAKE.



KABUKI



Ikebana



Jazz

Vega Music Entertainment,
Photo by Yasuhiro Hikawa

Photo by Yasuo Kubota (STUDIO BOW)

Gala Dinner

Date & Time: 19:00-21:00 Thursday July 5, 2018

Venue: Prince Hall, Grand Prince Hotel Kyoto

Please note that this Gala Dinner requires an extra fee and pre-registration to attend. It will give you an opportunity to mingle with colleagues in pleasant surroundings. Enjoy an buffet-style dinner and exciting performances of Ikebana (flower arranging), jazz and KABUKI (classical Japanese dance/theater).

Closing Ceremony

Date & Time: 12:10-13:10 Friday July 6, 2018

Venue: Main Hall, Kyoto International Conference Center

Performance of Traditional Japanese instruments and Closing Act by Violinist, Ikuko Kawai.



Cultural Experiences

Calligraphy

Calligraphy is said to reflect the writer's mind as well as their writing skill. During this program, you can create your own calligraphy after a few practice attempts. You will be able to bring your creations home with you.

Flower Arrangement

Feel the aesthetic sense of an empty space, particularly as seen in Japan. You can enjoy a flower arranging class while learning the difference between Japanese and western flower arranging styles. Ikebana, a Japanese flower arrangement, expresses the beauty of space while adhering to minimalism, shape and line, balance and other principles.

Origami

Origami is a traditional art form which transforms a sheet of paper into a variety of shapes, such as animals and flowers through folding techniques. Origami expresses the Japanese unique sense of creativity.

The Way of Tea/Chado

Chado, commonly referred to as "Tea Ceremony" in English, is actually a spiritual and aesthetic discipline for refinement of the self – known as a "way," or "do," in Japanese. Through the Way of Tea, you seek the principles of Harmony, Respect, Purity, and Tranquility.



Excursions and Tours

During WCP2018 we will be offering an exciting selection of excursions and tours for participants wishing to explore Kyoto. Deadline for online bookings is 6 June 2018, but if there is a tour slot available, we will accept onsite registration. Please ask on-site at the Tours Desk as to which tours are still available. For excursion and tour details, please access the congress website.

<http://www.wcp2018.org/about-kyoto/excursions-and-tours.html>



Registration

The online registration is now closed. Onsite registration is available during the Congress period. Onsite fees will apply.

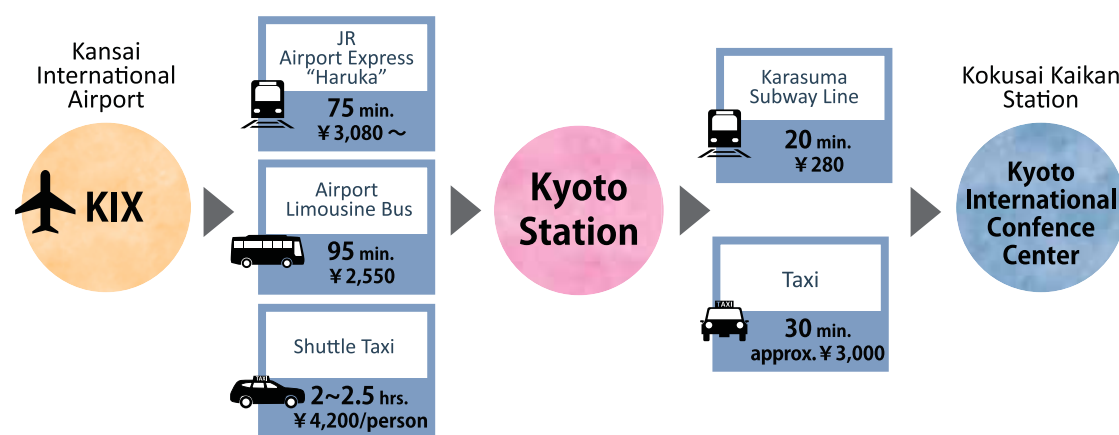
Category	On-site Registration Jul. 1 to 6, 2018
Regular	JPY 50,000
Student	JPY 10,000
Accompanying Person	JPY 15,000
Gala Dinner July 5 (Thu.) at Grand Prince Hotel	JPY 10,000

Venue

Kyoto International Conference Center (ICC Kyoto)
Takaragaike, Sakyo-ku, Kyoto 606-0001 Japan
Phone: +81-75-705-1229 Fax: +81-75-705-1100
<http://www.icckyoto.or.jp/en/access/>



Access



JR
Airport Express
"Haruka"
75 min.
¥3,080 ~
(approx. 30 USD)

The Japan Railways (JR) Haruka express train takes just a little over an hour to arrive at Kyoto Station from Kansai International Airport. The train is designed for travelers carrying luggage and has plenty of stowage space. Destinations are announced in both Japanese and English, making it easy to arrive ready for anything in Kyoto.

[More Information](#) [click](#)

Airport
Limousine Bus
95 min.
¥2,550
(approx. 25 USD)

Excellent limousine express bus services are available from both Kansai International Airport (KIX) and Osaka (Itami) Airport (ITM) to Kyoto Station. The journey to Kyoto Station from KIX takes about 95 minutes. The buses have ample luggage space, all announcements are made in English, and you can reserve a seat or just take the next departure.

[More Information](#) [click](#)

Shuttle Taxi
2~2.5 hrs.
¥4,200/person
direct your door
(approx. 42USD)

Travelers arriving off long-haul flights with heavy baggage are always happy to see the uniformed shuttle taxi driver who will take the weight off your shoulders and guide you to your hotel door. The taxi journey takes about 2~2.5 hours depending upon traffic conditions and the location of your hotel. Services run between Kansai International Airport & Osaka (Itami) Airport, and Kyoto.

[Yasaka Kanku Shuttle Counter](#) [click](#)

[MK "Skygateshuttle" Counter](#) [click](#)

For detailed access information from other airports to the venue, please refer to the congress website at <http://www.wcp2018.org/about-kyoto/access.html>.

See you this summer in Kyoto for WCP2018!

IUPHAR Business Meetings and Events

in the Kyoto International Conference Center

All WCP2018 Registrants Are Welcome

Saturday, June 30th:

Noon – 9 p.m. Education Section Satellite Meeting (Room 553), including the Section General Assembly, the Outstanding Early Education Award, the Teaching Excellence Award, and the Satellite Dinner. See page 6 for more information. Register at <http://www.iuphar-ed2018.org>.

Sunday, July 1st:

8:30 a.m. – Noon Education Section Satellite Meeting continues (Room 553)

Monday, July 2nd:

2:00 p.m. Pharmacology for Africa (Phar/A) Business Meeting, emphasizing Natural Products (Room 104)

4:10 p.m. Introducing the IUPHAR Pharmacology Education Project Symposium S11-10 (Room B1)

6:00 p.m. Pharmacology Education Project Business Meeting (Room 104) See page 7 for more information.

6:10 p.m. Clinical Pharmacology Division General Assembly (Room C2)

Tuesday, July 3rd:

9:25 a.m. The Guide to PHARMACOLOGY Druggable Genome Coverage within the Computational Pharmacology, Databases and Drug Discovery Symposium SY27 (Room B2)

11 :30 a.m. Clinical Pharmacology in Developing Countries Subcommittee Business Meeting (Room 104) See page 8 for more information.

1:30 p.m. Neuropsychopharmacology Section Business Meeting (Room 104)

1:50 p.m. Pharmacology for Africa (Phar/A) General Assembly (Room C1)

Wednesday, July 4th:

11:30 a.m. Pharmacogenetics/genomics Section Business Meeting (Room 104)

2:30 p.m. ImmuPhar Section Business Meeting (Room 104) See page 9 for more information.

5:00 p.m. Gastrointestinal Pharmacology Section Business Meeting (Room 104)

5:00 p.m. NC-IUPHAR Analytical Pharmacology Lecture by Bryan Roth (Main Hall)

6:00 p.m. IUPHAR General Assembly doors open - proceedings begin at 6:30 p.m. (Room B1)

Thursday, July 5th:

8:15 a.m. Discussion of Draft IUPHAR Guidelines on Design, Analysis and Reporting of Studies in Experimental Pharmacology (Room D)

1:00 p.m. Rational Use of Medicines in Resource Strained Countries: Innovative Research, Education and Services organized by the IUPHAR Subcommittee for Clinical Pharmacology in Developing Countries (Room 104) See page 10 for more information.

1:50 p.m. Young Investigator Competition (Annex 2, first floor) See page 11 for more information.

4:00 p.m. Drug Metabolism and Drug Transport Section Business Meeting (Room 104)

Friday, July 6th:

10:20 a.m. Toxicogenomics for Accelerated and Refined Hazard Identification of Chemicals: The Joint IUPHAR-International Union of Toxicology Symposium SY77 (Annex 2)

11:00 a.m. Pharmacology of Natural Products Section Business Meeting (Room 104)

Noon The winners of the Young Investigator Competition will be announced during the Closing Ceremony (Main Hall)



The IUPHAR Education Section (IUPHAR-Ed)

The IUPHAR Education Section welcomes all delegates with an interest in pharmacology education to WCP2018 in Kyoto. There are several important education-related symposia and lectures in the main programme including:

- *Symposium SY7*: European & Asian Training Initiatives to improve safe and effective use of medicines in modern healthcare - Organised by Shinichiro Ueda, University of Ryukyus, Japan (Monday, July 2, 2018, 9:25 – 11.05 a.m. in Room B1)
- *Symposium SY9*: Introducing the IUPHAR Pharmacology Education Project - www.pharmacologyeducation.org - Organised by John Szarek, Geisinger Commonwealth School of Medicine, USA (Monday, July 2, 2018, 4.10 – 5:50 p.m. in Room B1)
- *Cutting Edge Lecture CL12*: Prescribing Safety Assessment: Ensuring Competency of New Doctors to Use Medicines - Simon Maxwell, University of Edinburgh, UK (Tuesday, July 3, 2018, 8:30 – 9:15 a.m. in Annex 2)
- *Symposium SY23*: Interprofessional education (IPE): Educating a new generation of healthcare professionals to prescribe medications safely and effectively - Organised by Kelly Karpa, Pennsylvania State University College of Medicine, USA (Tuesday, July 3, 2018, 9:25 – 11:05 a.m. in Annex 2)

In addition to the events in the main programme IUPHAR-Ed is hosting a pre-meeting satellite event, in collaboration with the Japanese Pharmacological Society and Japanese Society of Clinical Pharmacology & Therapeutics entitled *Educating scientists and healthcare professionals for 21st century pharmacology*. The satellite meeting will be held in Room 553 of the Kyoto International Conference Centre from 12:30 p.m. on Saturday, 30th June to 12:00 noon on Sunday July 1st, immediately prior to the main WCP2018. The Programme will also include a gala dinner on Saturday evening, award of prizes, the General Assembly of the IUPHAR Education Section (IUPHAR-Ed) and the election of new Officers and Councillors (2018–2022).

We hope that the meeting will bring together pharmacology educators from around the world to share innovative approaches and best practice. There will be plenty of opportunities for networking and collaboration between those involved in the many facets of pharmacology education, ranging from science and healthcare students, pharmacologists working in laboratory research and healthcare professionals directing and supervising the use of medicines by patients. The programme is designed to maximise opportunities for participants to present and discuss their education activities with a strong emphasis on the involvement of Japanese educators. Participants are encouraged to submit abstracts for short presentations on any aspect of pharmacology education. Please visit <http://www.iuphar-ed2018.org> for further details about registration and abstract submission.

I look forward to seeing you in Kyoto.

Simon Maxwell
Chair, IUPHAR-Ed

IUPHAR Pharmacology Education Project

www.pharmacologyeducation.org

The IUPHAR Pharmacology Education Project (PEP) developed out of the need to deliver a project with a clear educational focus as a complement to the Guide to Pharmacology. The IUPHAR PEP is a simple, attractive easily searchable resource that supports students of the pharmacological and other biomedical sciences such as medicine, nursing and pharmacy as well as those who teach them. The website for the Pharmacology Education Project went live in April 2016. Since its inception the number of visits has grown to over 7000 per month.

We encourage you, your students, and colleagues to use the site, but more importantly to consider becoming involved as an author and reviewer. Submitting content is easy. It is as simple as drafting a brief summary of a learning asset you know of on the Internet and submitting it with the link to the asset using our online submission form (<https://www.pharmacologyeducation.org/contribute-project>). If you are more ambitious, there are opportunities to submit other extended works which are explained on the form. Members of our Editorial Board are pharmacologists representing several countries. They have been responsible for reviewing the submissions including the associated links but we encourage members of the international pharmacology community to consider becoming reviewers as well. This assures the fidelity of the content and allows ownership of the PEP by pharmacologists across the world.

At the upcoming *WCP 2018 Kyoto* meeting there will be a symposium (SY10) titled “Introducing the IUPHAR Pharmacology Education Project - www.pharmacologyeducation.org” on July 2, 2018 in room B1. The session will be chaired by John Szarek and Simon Maxwell, co-directors of PEP. In addition to introducing the website, Leszek Wojnowski, Elizabeth Davis, and Chay-Hoon Tay, members of the PEP editorial board, will discuss utilization of pharmacology teaching materials available on the website. Immediately after the symposium will be brief Business Meeting followed by an informal get together with refreshments in room 104. Anyone with an interest in pharmacology education is welcome.

On behalf of the editorial board, we look forward to working with our pharmacology colleagues across the world in developing a robust website to aid education and research in pharmacology.

John L. Szarek
Simon Maxwell
Elena Faccenda
Management team
Co-directors PEP



IUPHAR SUBCOMMITTEE FOR CLINICAL PHARMACOLOGY IN DEVELOPING COUNTRIES BUSINESS MEETING

Tuesday July 2nd
11:30 a.m. -1.30 p.m. Room 104

All WCP2018 Registrants are Welcome

*Organized by Dinesh Badyal, India; Joseph Fadare, Nigeria;
Lars L. Gustafsson, Sweden; and Olayinka Ogunleye, Nigeria*

1. **Opening and welcome**
2. **Introduction of participants**
3. **Adoption of agenda**
4. **Summary of proceedings of last meeting at the 2014 World Congress of Basic and Clinical Pharmacology in Cape Town** (proceedings will be available at meeting)
5. **Election of chair and secretary of the meeting**
6. **Summary of accomplishments since 2014 with discussion** (2018 annual report to the IUPHAR Executive committee will be available at the meeting)
7. **Acceptance of reports**
8. **Reports of present activities across member states**
9. **Subcommittee priorities and strategic planning for future** (draft work plan will be available at meeting)
10. **Election of Subcommittee officials**
11. **Any other business**
12. **Closing of meeting**

If you have an interest in participating in the IUPHAR Subcommittee for Clinical Pharmacology in Developing Countries, please contact devcountries@iuphar.org or visit the Subcommittee's website at www.iuphar.org.



Immunopharmacology Section

www.Immuno.IUPHAR.org

The IUPHAR Immunopharmacology (ImmuPhar) Section was established in 2013 and has since initiated and contributed to many activities in the field. The ImmuPhar Section website (www.Immuno.IUPHAR.org) offers periodic updates of literature highlights, announcements, reports, upcoming events and meetings. Ms. Hadas Pahima, PhD student, recently joined the Section as the Junior Section Manager, heading the Section website. Dr. Stephan von Guten is in charge of the website's literature highlights. In addition, the Section maintains Facebook (www.facebook.com/immunopharmacology) and LinkedIn (www.linkedin.com/groups/7484359/profile) pages.

Since its inception, the Section has published reviews in peer-reviewed journals such as the *British Journal of Pharmacology*. A volume on Immunopharmacology and Inflammation edited by Section members Carlo Riccardi, Ekaterina Tiligada, Francesca Levi-Schaffer, and Simona Ronchetti (<https://www.springer.com/us/book/9783319776576>) was recently published by Springer Publications.

In September 2017 the Section submitted a proposal for an EU COST Action for a European network to harmonize targeted therapy research and exploitation in immune-inflammatory disorders. If approved, this will be a major activity of the Section in the coming year.

Section members have organized ImmuPhar sessions or meetings in their home countries. The Swiss Society of Pharmacology and Toxicology's Spring 2018 Meeting on "Therapeutic Antibodies: The Good, The Bad and the Ugly" featured an ImmuPhar Section sponsored lecture. "Development of anti-inflammatory drugs: Targeting selectins and leukocyte trafficking" given by Richard D Cummings from Harvard Medical School, and a joint British Pharmacological Society (BPS)/ImmuPhar Section symposium entitled "Cytokine-based therapies in inflammatory disease" was held at the Society's Pharmacology 2017 meeting in December. In November, 2017 an Italy-Israel Workshop on "Advances in Immunopharmacological Therapy for cancer and allergic diseases" was held jointly with the Israel Academy of Sciences and Academia Italiana dei Lincei. The Section was also a co-organizer with the Cuban Society of Pharmacology and IUPHAR for the "Immunopharmacology – Vaccipharma 2017" Congress held in Varadero, Cuba during June.

The Section has been collaborating with NC-IUPHAR in the areas of antibodies and immunopharmacology in general and the International Union of Immunological Sciences (IUIS) through an IUIS - IUPHAR - ImmuPhar Task Force. The ImmuPhar Section also contributes to and has a representative on two task forces, the Immunopharmacology and the AllergoOncology, within the European Academy of Allergy & Clinical Immunology.

At the upcoming WCP2018 there will be an ImmuPhar sponsored symposium (SY79 in room A) titled "New controllers of inflammation: what are the hottest targets?" at 10:20 a.m. on Friday, July 6, 2018. The Section will also hold a Business Meeting in room 104 of the Kyoto International Conference Center on Wednesday, July 4th, which is open to all WCP2018 registrants at 2:30 p.m. One of the agenda topics will be a discussion of soliciting members for and activating three Section subcommittees: 1) Antibodies as therapeutics; 2) Molecular targets for immunomodulatory drugs (molecular oriented); 3) Targets in immune related diseases (disease oriented). We invite all WCP2018 attendees interested in immunopharmacology to join us for the meeting. You may also email immuno@iuphar.org to learn about membership and volunteer opportunities.

Francesca Levi-Schaffer
Chair, ImmuPhar

**IUPHAR Subcommittee for
Clinical Pharmacology in Developing Countries**
Free Workshop for WCP2018 Registrants

**Rational Use of Medicines
in Resource Strained Countries:
Innovative Research, Education and Services**

**Thursday July 5th
1:00 - 3.30 p.m. in Room 104**

Chairs: Assoc. Prof. J. Fadare, Ado-Ekiti Nigeria (Session I), Prof. L.L. Gustafsson, Stockholm Sweden (Sessions II-III), Senior Lecturer O. Ogunleye, Lagos, Nigeria (Sessions IV-V)

I: Introduction and presentation of participants

II: Inspirational lecture

My experience of research, research training and capacity building in pharmacology in Zimbabwe: Considerations for clinical pharmacologists by Collen Masimirembwa, Professor and President, African Institute of Biomedical Science & Technology, Harare, Zimbabwe

Collen has established, trained and created first-class pharmacogenetic and laboratory pharmacology research in collaboration with clinical pharmacologists and clinicians.

Mini-presentations followed by audience discussions

III: Clinical pharmacology educational reforms for undergraduates and young physicians: Training of prescribing skills and introduction of the concept of abridged essential medicines list

Reforms in Nigeria by Joseph Fadare, Nigeria

IV: Experience and future of clinical pharmacology innovative techniques in research, education and clinical services

Implementation of pharmacogenetic knowledge in clinical practice: experience from Brazil by Guilherme Suarez-Kurtz, Head of Pharmacology, National Institute of Cancer, Brazil

Clinical trials of antimalarials in children: Experience of building research capacity in Kenya by Bernhards Ogutu, Chief Research Officer, Kenya Medical Research Institute, Nairobi, Kenya

Feasibility of an African drug information website: A concept of global relevance? by Olayinka Ogunleye and Lars Gustafsson

V: Final remarks

Thoughts on imminent priorities for clinical pharmacology in resource strained countries by Helen McIlleron, Professor, University of Cape Town, Cape Town, South Africa

For additional details, email devcountries@iuphar.org.

Dinesh Badyal, Joseph Fadare, Lars L. Gustafsson, Olayinka Ogunleye

IUPHAR Young Investigator Awards

Thursday, July 5 at 1:50 p.m.

Annex 2, First Floor in the Kyoto International Conference Center

We invite the WCP2018 registrants to watch the 11 contestants, who have eight minutes to present his or her research followed by two minutes of questions. The finalists are...

Name (Institution)

Abstract ID / Title



Gregory Collins
(University of Texas Health Science
Center at San Antonio, United States)

21027 / Abuse-related effects of MDPV, α -PVP, and related synthetic cathinones: structural determinants of reinforcing potency and effectiveness



Ee Von Moo
(Monash University, Australia)

21076 / Understanding the physiological role of endogenous allosteric modulators at the muscarinic acetylcholine receptors



Erik Dietrichs
(University Hospital of
Northern Norway)

20184 / Gap-junction uncoupling as a pharmacological strategy to prevent hypothermia-induced ventricular fibrillation



Kento Kitada
(Duke-National University
of Singapore)

20744 / Increased glucocorticoid hormone actions induce skin-specific Na^+ and water loss in melanocortin 3 receptor knockout mice



Mai Kawazoe
(Toho University, Japan)

20727 / The efficacy of mycophenolate mofetil in Japanese patients with systemic lupus erythematosus



Mi Jeong Heo
(Seoul National University, Korea)

20103 / Alcohol-induced hepatocyte pyroptosis results from miR-148a dysregulation through FoxO1



Yue Fei
(University of Hong Kong)

20930 / Effect of new classes of antidiabetic drugs on cardiovascular outcomes in randomised controlled trials: A network meta-analysis



Tong-Fei Li
(Wuhan University, China)

20806 / Exploiting the cross-talk between glioblastoma cells and tumor-associated macrophages with a nano-drug for regulating tumor immune microenvironment



Dayana Abboud
(Université de Liège, Belgium)

21242 / GPR101 orphan receptor: A novel cause of growth hormone deregulation



Nishant Rai
(University of Delhi, India)

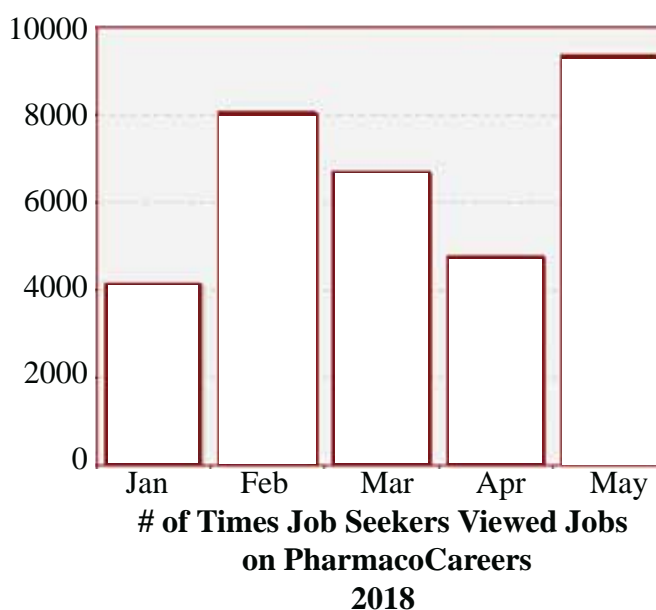
21119 / Experimental studies to evaluate the cellular and molecular mechanisms of a traditional polyherbal anti-asthmatic preparation UNIM-352 in rats: A reverse pharmacology approach



Birgit Caspar
(University of Nottingham,
United Kingdom)

20829 / Investigating the mode of action of intracellular loop 1 pepducins at the CXCR4 receptor

www.PharmacoCareers.org **iUPHAR**CAREERCENTER



Post your available pharmacology
position where it will be seen!

30 Day Job Posting \$275 AUD / \$265 CAD / \$250 USD / €170 EUR / £150 GBP

60 Day Job Posting \$330 AUD / \$320 CAD / \$300 USD / €200 EUR / £180 GBP

90 Day Job Posting \$440 AUD / \$420 CAD / \$400 USD / €270 EUR / £245 GBP

EMPLOYERS - Half of your payment supports the IUPHAR not-for-profit initiatives.

Career services are always free to Job Seekers (800+ profiles registered and growing).

30% discount
on 2018 job postings
for **WCP2018** registrants.
Look for the Coupon Code
at the Congress!

www.PharmacoCareers.org

IUPHAR Wishes to Acknowledge and Thank the WCP2018 Organizers

President

Shuh Narumiya Kyoto University

Vice President

Shinichi Kawai Toho University

Secretary General

Masamitsu Iino Nihon University / The University of Tokyo

Local Organizing Committee

Akinori Akaike Kyoto University (**Chair, Financial Committee**)
Masatoshi Hagiwara Kyoto University (Program)
Hitoshi Hashimoto Osaka University (**Vice Chair, PR and Social Media Committee**)
Yuji Ikegaya The University of Tokyo (Scientific Program and Young Pharmacologist Mixer)
Yumiko Imai National Institutes of Biomedical Innovation, Health and Nutrition (Scientific Program)
Yuji Kumagai Kitasato University (**Chair, PR and Social Media Committee**)
Norio Matsuki The University of Tokyo (**Chair, Scientific Program Committee**)
Masayoshi Mishina Ritsumeikan University (Financial Committee)
Kyoichi Ohashi Oita University (Scientific Program)
Isao Teshirogi Shionogi & Co., Ltd (Social Program)
Hiroki Ueda The University of Tokyo / RIKEN (Scientific Program)
Hiroshi Watanabe Hamamatsu Univ. School of Medicine (**Vice Chair, Scientific Program Committee**)
Chihiro Yabe-Nishimura Kyoto Prefectural University of Medicine (Social Program)
Tsutomu Yamazaki International University of Health and Welfare (**Vice Chair, Financial Committee**)

Scientific Program Supporting Committee

Haruhiko Bito The University of Tokyo
Tomoko Hasunuma Kitasato University
Koichiro Yuji The University of Tokyo

Social Program Supporting Committee

Masato Kasahara Nara Medical University
Chikako Saotome Kyoto University
Tomoyuki Furuyashiki Kobe University

Congress Bursary Review Committee

Atsushi Sugiyama Toho University (**Chair**)
Satomi Akahane Toho University
Naohiko Anzai Chiba University
Kenzo Hirose The University of Tokyo
Yuji Ikegaya The University of Tokyo
Kumiko Ishige Nihon University
Naoki Matsumoto St. Marianna University School of Medicine
Naoki Uchida Showa University
Masato Yasui Keio University

IUPHAR Wishes to Acknowledge and Thank the WCP2018 Organizers (continued)

Regional Scientific Committee

Wen-Chang Chang	Pharmacological Society in Taiwan
Guan-Hua Du	Chinese Pharmacological Society
Ilo Jou	Korean Society of Pharmacology
Supornchai Kongpatanakul	Pharmacological and Therapeutic Society of Thailand
B. Dinesh Kumar	Indian Pharmacological Society
Howard Lee	Korean Society for Clinical Pharmacology and Therapeutics
John Miners	ASCEPT
John A. Rudd	Hong Kong Pharmacology Society
Frans D. Suyatna	The Indonesian Society of Pharmacology
Fred Wai-Shiu Wong	Pharmaceutical Society of Singapore

Program Subcommittee (Names with * indicate overlapping assignment)

Neuroscience

Masayoshi Mishina*	Ritsumeikan University
Masahiro Nomoto	Ehime University

Pain

Hiroshi Ueda	Nagasaki University
Masahiko Shibata	Osaka University

Cardiovascular System

Hiroshi Watanabe*	Hamamatsu University School of Medicine
Akira Nishiyama	Kagawa University

Nephrology and Urology

Yoshikatsu Kanai	Osaka University
Hidehiro Kakizaki	Asahikawa Medical University

Immunology, Inflammation and Bone Metabolism

Masataka Majima	Kitasato University
Shinichi Kawai*	Toho University

Gastrointestinal System

Koji Takeuchi	Kyoto Pharmaceutical University
Takahisa Furuta	Hamamatsu University School of Medicine

Stem Cell Medicine

Haruhisa Inoue	Kyoto University
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Metabolism and Diabetes

Naoto Kubota	The University of Tokyo
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Respiratory System

Yumiko Imai*	National Institutes of Biomedical Innovation, Health and Nutrition
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Systems Biology

Hiroki Ueda*	The University of Tokyo/ RIKEN
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IUPHAR Wishes to Acknowledge and Thank the WCP2018 Organizers (continued)

Education and Training

Atsuro Miyata	Kagoshima University
Shinichiro Ueda	University of the Ryukyus
Hideki Hanaoka	Chiba University

Sensory System

Hideaki Hara	Gifu Pharmaceutical University
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Cancer

Masatoshi Hagiwara*	Kyoto University
Atsushi Ohtsu	National Cancer Center Hospital East

Rare Diseases

Masatoshi Hagiwara*	Kyoto University
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Molecular Bioimaging

Kazuhiko Yanai	Tohoku University
----------------	-------------------

Infection/Global Infectious Diseases

Kenji Hirayama	NEKKEN, Nagasaki University
----------------	-----------------------------

Natural Medicine and Traditional East Asian Medicines

Haruki Yamada	Kitasato University
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Regulatory Science

Yoshiaki Uyama	Pharmaceuticals and Medical Devices Agency
----------------	--

Pharmacovigilance

Kiyoshi Kubota	NPO Drug Safety Research Unit Japan
----------------	-------------------------------------

Health Economics

Tsutomu Yamazaki*	International University of Health and Welfare
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Toxicology

Jun Kanno	Japan Bioassay Research Center / Japan Organization of Occupational Health and Safety
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Genomics/Pharmacogenomics/Personalized Medicine

Ichiro Ieiri	Kyushu University
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Pharmacometrics

Yuji Kumagai*	Kitasato University
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Pharmacokinetics

Hirotochi Echizen	Meiji Pharmaceutical University
Yusuke Tanigawara	Keio University

Pediatric Clinical Pharmacology

Hidefumi Nakamura	National Center for Child Health and Development
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Industry-Academia Collaboration

Chikako Saotome	Kyoto University
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Bidders for the 2026 World Congress of Basic and Clinical Pharmacology (WCP2026)

IUPHAR thanks the 9 member societies that volunteered to host WCP2026. Following an initial judging by the IUPHAR Voting Delegates, the below 4 finalists will present their bids during the General Assembly on Wednesday, July 4th in room B1 of the Kyoto International Conference Center during WCP2018, where the Voting Delegates will cast their ballots to determine the winner. WCP2018 registrants are invited as observers. Doors open at 6 p.m.

Budapest,
Hungary
19-24 July, 2026



Melbourne,
Australia
13-18 July, 2026

Montreal,
Canada
11-18 July, 2026



Prague, Czech
Republic
8-12 July, 2026

Nominees to the 2018 - 2022 IUPHAR Executive Committee

The Nominating Committee, consisting of Kim Brøsen (Denmark), John Miners (Australia), Kathy Giacomini (USA), Mohamed Khayyal (Egypt), Zhi-Bin Lin (China) and Carlo Riccardi (Italy), is pleased to introduce the individuals nominated to the 2018 - 2022 IUPHAR Executive Committee. Their brief biosketches are on the following pages. The elections are scheduled as part of the IUPHAR General Assembly on Wednesday, July 4th in room B1 of the Kyoto International Conference Center. WCP2018 registrants are invited as observers. Doors open at 6 p.m.

For President



Ingolf Cascorbi,
Germany

For 1st Vice President



Francesca Levi-Schaffer,
Israel

For 2nd Vice President



Yoshikatsu Kanai,
Japan

For Secretary General



Michael Spedding,
France

For Treasurer



James E. Barrett,
USA

For Councilor (5 positions)



Arthur
Christopoulos,
Australia



Guan-Hua Du,
China



Helen Ochuko
Kwanashie, Nigeria



Guilherme Suarez-
Kurtz, Brazil



David J. Webb,
United Kingdom

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Ingolf Cascorbi, MD, PhD Nominated for President

Ingolf Cascorbi (Germany) received a diploma degree (Biochemistry, 1985) and a Ph.D. (Biochemistry, 1989) from the Free University, Berlin, Germany. Additionally he graduated at the same university in medicine (1992). He continued his scientific career as research associate at the Institute of Clinical Pharmacology, Charité, Humboldt University Berlin, where he worked under the supervision of Ivar Roots. In 1998 Dr. Cascorbi specialized in clinical pharmacology, received a Dr. med. (M.D.) in 1999 and achieved his habilitation in clinical pharmacology in 2000. In the same year he became Associate Professor of Pharmacology and Toxicology at the University of Greifswald. In 2004 he was appointed as Full Professor of Pharmacology, Christian Albrechts University Kiel and Director of the Institute of Experimental and Clinical Pharmacology, University Hospital Schleswig Holstein (UKSH), Campus Kiel, Germany.

Dr. Cascorbi has held many elected and appointed offices. For six years he served on the Academic Senate of the University of Kiel. Since 2012 he is Dean of Education of the Medical Faculty. He is Vice Chair of the UKSH Committee for Medicinal Products, Vice Chair of the Ethics Committee and Chief Advisor of the Center of Clinical Studies.

Outside the university he was appointed as Member of the Health Care Professional Working Party European Medicines Agency (EMA) and the Scientific Advisory Board of the German Agency of Drugs and Medical Devices (BfArM). Currently he is Member of the Gene Diagnostics Commission, German Ministry of Health and the Drug Commission of the German Medical Association.

From 2003-2015 Dr. Cascorbi served on the executive Board of the European Association for Clinical Pharmacology and Therapeutics (EACPT), from 2007-2011 as its chairperson. From 2006-2014 he was elected as Chair of the IUPHAR Section of Pharmacogenetics and Pharmacogenomics. Additionally Ingolf Cascorbi is Vice Chair of the German Society for Clinical Pharmacology and Therapy and executive board member of the European Society for Pharmacogenomics and Personalized Therapy (ESPT).

Ingolf Cascorbi is member of several editorial boards: Basic and Clinical Pharmacology and Toxicology, British Journal of Clinical Pharmacology, Clinical Pharmacology and Therapeutics (Associate Editor), Deutsches Ärzteblatt Intl., European Journal of Clinical Pharmacology, Pharmacogenetics and Genomics, Pharmacogenomics, Therapeutic Drug Monitoring.

He is member of the American Association for Cancer Research (AARC), American Society for Clinical Pharmacology and Therapeutics (ASCPT), Association for Applied Human Pharmacology (AGAH), British Society for Pharmacology (BPS), European Society for Pharmacogenomics and Personalized Therapy (ESPT), German Interdisciplinary Association for Intensive Care and Emergency Medicine (DIVI), German Society for Cardiology (DGK), German Society for Clinical Pharmacology and Therapeutics (DGKliPha).

His research interests are focused on pharmacogenomics and -epigenomics of drug metabolizing enzymes and membrane transporters, drug resistance in oncology, genetic risk factors of complex diseases, neurologic pain research and epilepsy. He has published more than 250 research reports, reviews, and book chapters.

Francesca Levi-Schaffer, PharmD, PhD Nominated for 1st Vice President

Francesca Levi-Schaffer (Israel) is a Professor at the Hebrew University of Jerusalem (HUJI) in the Institute for Drug Research of the School of Pharmacy, Faculty of Medicine. She holds the Isaac and Myrna Kaye Chair in Immunopharmacology. From 2006-2009 Prof. Levi-Schaffer was Chair of the Department of Pharmacology and Experimental Therapeutics and head of the Teaching Unit of Pharmacology and Experimental Therapeutics in the HUJI Faculty of Medicine, School of Pharmacy. Prof. Levi-Schaffer was born in Italy and completed her PharmD degree at the University of Milano. In 1984 she received her PhD degree in Immunology from the Weizmann Institute, Rehovot, Israel. Her post-doctoral training was at Harvard Medical School (1984-86).

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Francesca Levi-Schaffer, PharmD, PhD

Nominated for 1st Vice President

(continued)

Prof. Levi-Schaffer has published 160 articles in peer-reviewed journals, 83 reviews and editorials and 25 book chapters. She has one patent and two provisional patents pending. In 2011 she was elected Chairperson of the National Committee of the International Union of Basic and Clinical Pharmacology (IUPHAR) representing the Israel Academy of Sciences and Humanities. In 2012, she was instrumental in the establishment of an Immunopharmacology Section in the IUPHAR and serves as its first Chairperson. She is a member of the Israeli Ministry of Health Committee for Human Experimentation of New Drugs, a Councilor and member of the Executive Committee of the International Union of Basic and Clinical Pharmacology (IUPHAR); Treasurer (2016-18), Secretary General (2018-20) and member of the Board of Directors of the World Allergy Organization; a Council member of the Collegium Internationale Allergologicum (CIA); a member of the Immunopharmacology Task Force and the AllergoOncology Task Force of the European Academy of Allergy and Clinical Immunology (EAACI).

Prof. Levi-Schaffer's expertise is in the area of immunopharmacology of allergy focusing on mast cells and eosinophils, their activating and inhibitory receptors, their cross-talk for a better prophylaxis/treatment of allergic diseases. Moreover, she is studying the role of mast cells and eosinophils in hypoxia (allergy, COPD); mastocytosis and its treatment; the crosstalk between atopic dermatitis and asthma with the microbiome; and she is developing novel monoclonal antibodies and bispecific antibodies against activating and inhibiting receptors on mast cells and eosinophils for the treatment of allergy and of selected solid tumors.

Yoshikatsu Kanai, MD, PhD

Nominated for 2nd Vice President

Yoshikatsu Kanai (Japan) received his M.D. degree from Gunma University (Japan) in 1984 and Ph.D. (Medicine) from The University of Tokyo (Japan) in 1988. He completed his postdoctoral training at The University of Tokyo (Toxicology, 1988–1991) and at Brigham and Women's Hospital, Harvard University in US (Nephrology and Molecular Pharmacology, 1991–1993). Appointed to a faculty position as assistant professor of pharmacology at Kyorin University School of Medicine (Japan) in 1993, he was promoted to associate professor in 1996, and to professor of pharmacology in 2001. Since 2007, he has been full Professor of Pharmacology at Osaka University Graduate School of Medicine (Japan), where he is Chief of Department of Bio-system Pharmacology.

Dr. Kanai has been a member of the Japanese Pharmacological Society (JPS) since 1992. He joined the Scientific Council in 2002. He is currently a member of the Board of Directors of the Japanese Pharmacological Society, and also a member of ASPET. He has also been a core member of NC-IUPHAR since 2012. He has been serving as editorial board member of both *Biochemical Pharmacology* (2012–) and *Channels* (2007–). He received the JPS Setsuro Ebashi Award in 2014 for his research on the molecular pharmacology of transporters, their molecular identification and application to drug discovery.

Dr. Kanai's research interests center on the molecular pharmacology of transporters from both pharmacodynamic and pharmacokinetic point of view. He has identified and characterized more than 30 transporter molecules for organic solutes including nutrients and drugs, and searched for their possible applications as therapeutic targets. The transporters he identified include glucose transporter SGLT2 whose inhibitors have been clinically developed as anti-diabetic drugs, urate transporter URAT1 as a target of uricosuric drugs, organic anion transporters OATs some of which are critical for ADME and adopted in FDA guidance, and various amino acid transporters involved in neurotransmitter clearance, epithelial transport of amino acids and cellular nutrition. He has proposed the idea of "transportsome", the multi-molecular assembly involving transporters and the physically- and functionally-coupled membranous and/or extra-membranous components as a functional unit of transmembrane transport. He is now extending the scope of his research to the discovery of anti-tumor drugs and diagnostic agents targeting amino acid transporters in cancer cells as well as to the understanding of cellular signaling mediated by amino acid transporters.

Michael Spedding, PhD, FBPhS

Nominated for 2018-2022 Secretary General

Michael Spedding (France) graduated with a BSc. Hons Pharmacy from Sunderland Polytechnic School of Pharmacy in 1971. He completed his preregistration pharmacist's requirements to obtain an MRPharmS from Sunderland General Hospital before completing his PhD under the direction of D.F. Weetman and A.J. Sweetman of Sunderland Polytechnic and R.T. Brittain of Glaxo, where he differentiated adenosine and ATP receptors.

After spending four years as a lecturer in pharmacy/pharmacology for Sunderland Polytechnic, Dr. Spedding joined Merrell Dow Research Institute in Strasbourg in 1978 where he became the project leader for cardiovascular



Michael Spedding, PhD, FBPhS Nominated for Secretary General (continued)

drugs, assisting in the discovery of D,L- α -difluoromethylornithine (DFMO) and earned an international reputation on calcium channels, defining allosteric mechanisms of drugs at channels, multiple different drug binding sites and the first effects of calcium channel modulators in the brain. In 1985, he was appointed the pharmacology director and therapeutic area director for Preclinical and Clinical Central Nervous System (CNS) Drugs in the Edinburgh labs of Syntex – the group progressed drugs for stroke, angina and sexual dysfunction into late clinical development.

Dr. Spedding then joined the Institute de Recherche Servier in Paris in 1992 where he advanced from research center director to scientific director in 2004. During his tenure, he served as the scientific liaison director for Egis Pharmaceuticals, PLC in Budapest and set up key enabling experiments on new drugs and disease targets. He built two research centres for Servier. He has been associated with the passage of 11 drugs into clinical trials. After twenty two years with Servier, Dr. Spedding launched a research company, Spedding Research Solutions, where he specializes in new approaches in psychiatry, neuroinflammation and amyotrophic lateral sclerosis. Dr. Spedding's research has been published in over 190 full scientific papers with an h-index of 56 and he has initiated more than 20 patents. In his spare time he has cumulated several decades of athletic competition and a scientific interest in human performance and ageing.

Dr. Spedding has been elected to the French Academy of Pharmacy and as a fellow of the BPS. In addition, he has a long history with IUPHAR, where he has served on the Nomenclature Committee (NC-IUPHAR) as secretary for a decade before being appointed as the chair in 2002. He was elected Secretary General of IUPHAR in 2014 where he has focused his energy on academic drug discovery, synergizing natural products and New Chemical Entities, and expanding the online resources of IUPHAR.

James E. Barrett, PhD Nominated for Treasurer

Dr. James E. Barrett (USA) is a Professor in the Department of Neurology, Pharmacology and Physiology and former Chair of the Department of Pharmacology and Physiology, Drexel University College of Medicine. He received his Ph.D. from Pennsylvania State University followed by postdoctoral training in neuropsychopharmacology at the Worcester Foundation for Experimental Biology. During his 7 years as Chair at Drexel, he was the Founding Director of the Drug Discovery and Development Program, and of the Clinical and Translational Research Institute of Drexel University. He has served on the faculty at the University of Maryland and the Uniformed Services University of the Health Sciences where he was Professor in the Departments of Psychiatry, Pharmacology and Medical Psychology. Dr. Barrett joined Wyeth as Vice President of Neuroscience Discovery Research following the merger with Lederle Laboratories where he had been Director of Central Nervous System Research. Prior to his return to academia at Drexel University College of Medicine, he was Senior Vice President, Chief Scientific Officer, and President of Research at Adolor Corporation, a company focused on pain pharmaceuticals. He moved to Adolor after serving as President of Research and Development at Memory Pharmaceuticals, a biopharmaceutical company founded by the Nobel Laureate Eric Kandel, dedicated to the development of drugs for the treatment of central nervous system (CNS) disorders.

He has published more than 300 scientific articles, books and abstracts in the areas of substance abuse, neuropharmacology, neurobiology, behavioral pharmacology, translational research and neuroscience and serves on several editorial boards. He was President of the Behavioral Pharmacology Society and of the American Society for Pharmacology and Experimental Therapeutics (ASPET). He also served as the Chair of the Board of Publication Trustees for ASPET and was on the Board of Directors for the Federation

James E. Barrett, PhD

Nominated for Treasurer

(continued)

of American Societies for Experimental Biology (FASEB), where he was a member of the Science Policy Committee and the Public Affairs Committee as well as Chair of the “Breakthrough Series in Science” and “Horizons in Bioscience” Series. Dr. Barrett was recently appointed Editor-in-Chief of the Handbook of Experimental Pharmacology, one of the most authoritative and influential series in pharmacology, with an 80-year history of contributions to the discipline.

He has received the Solvay-Duphar Award for Research on Affective Disorders, the George B. Koelle Award from the Mid-Atlantic Pharmacology Society for contributions to teaching and research and the P.B. Dews Lifetime Achievement Award for Research in Behavioral Pharmacology. He is also the recipient of the Torald Sollmann Award in Pharmacology for significant contributions to the advancement and extension of knowledge in the field of pharmacology. Dr. Barrett served as a member of the External Scientific Advisory Board (SAB), Preclinical Autism Consortium for Therapeutics and has served on the SABs of Biogen-Idec, Cephalon and Eli Lilly. He recently joined the SAB of Yumanity Therapeutics. He has served as the President of the Association of Medical School Pharmacology Chairs and Councilor, International Union of Basic and Clinical Pharmacology (IUPHAR). In addition to being a member of ASPET, he is also a member of AAAS, the American Pain Society and is a Fellow of the American College of Neuropsychopharmacology. His current research emphasis is on pain, its co-morbid pathologies, basic mechanisms and biomarkers, and on the development of new therapeutics for pain disorders emerging from academic research.

Arthur Christopoulos, PhD

Nominated for Councilor

Arthur Christopoulos (Australia) is the Professor of Analytical Pharmacology and Head of the Drug Discovery Biology Theme in the Monash Institute of Pharmaceutical Sciences, Monash University, Australia. He is also a Senior Principal Research Fellow of the National Health and Medical Research Council of Australia. He obtained his Bachelor of Pharmacy and PhD in Pharmacology from the Victorian College of Pharmacy, Monash University, followed by postdoctoral studies at the University of Minnesota.

His research focuses on novel paradigms of drug action at G protein-coupled receptors (GPCRs), the largest class of drug targets, and incorporate computational and mathematical modeling, analytical and molecular pharmacology, medicinal chemistry, structural and chemical biology, and animal models of disease. In particular, Dr. Christopoulos is a leading authority in the study of allosteric modulation and biased agonism at GPCRs. He has developed assays and analytical procedures that facilitate the detection, validation and quantification of allosteric drug effects, made key contributions to the discovery of first-in-class allosteric or biased ligands for muscarinic, cannabinoid, adenosine and opioid receptors, and pioneered a new mode of selective drug action involving hybrid (“bitopic”) molecules that concomitantly bridge both orthosteric and allosteric binding sites on a single receptor. More recently, he has extended his studies towards understanding the structural basis of allosteric drug binding and modulation, as well as exploring the potential of allosteric and biased molecules to target cognitive deficits, cardiovascular disorders and neuropathic pain.

Dr. Christopoulos has over 280 publications, over 165 invited presentations, has served on the Editorial Board of 8 journals, including Mol. Pharm., J.P.E.T., Pharm. Rev., B.J.P. and ACS Chem. Neurosci., and consults for numerous companies. He has had a long-standing relationship with IUPHAR, initially as a Corresponding Member of NC-IUPHAR and Chair of the NC-IUPHAR muscarinic receptor nomenclature committee, and now as NC-IUPHAR Deputy Chair. He led the recent NC-IUPHAR initiative that culminated in the development of the first uniform nomenclature for describing allostery across all receptor superfamilies (GPCRs, ion channels, nuclear receptors and receptor tyrosine kinases). Dr. Christopoulos has also made long-standing contributions to the discipline through his roles in other IUPHAR member Societies, including former Councilor of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) and the International Society for Serotonin Research.

His contributions to the field have been recognized through receipt of the John J. Abel Award from the American Society of Pharmacology and Experimental Therapeutics, the ASCEPT Rand Medal, the Distinguished Lecturer Award from the American College of Neuropsychopharmacology, the British Pharmacological Society’s Gaddum Memorial Award, the IUPHAR Analytical Pharmacology Lecturer and a Doctor of Laws (Honoris Causa) from the University of Athens. Since 2014, Thomson Reuters/Clarivate Analytics have annually named him a Highly Cited Researcher in Pharmacology and Toxicology. In 2017, he was elected a Fellow of the Australian Academy of Health and Medical Sciences.



Guan-Hua Du, PhD Nominated for Councilor

Guan-Hua Du (China) received his B.S. degree in Pharmacy from Shandong University (China) in 1982 and M. S. degree in Medicine from Tongji Medical University (China) in 1989. He obtained his Ph.D. degree in Pharmacology from Peking Union Medical College (China) in 1995. He did postdoctoral research at the University of Liege (Belgium) from 1995-1998. After returning to China, Dr. Du worked as professor at Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College as the Director of National Centre for Pharmaceutical Screening in 1998. Dr. Du is now professor of pharmacology at the Institute of Materia Medica in the Chinese Academy of Medical Science and Peking Union Medical College. He is the director of the National Center for Pharmaceutical Screening.

Dr. Du established the China's first high-throughput drug screening system, which was approved by the National Ministry of Science and Technology. By using a network-style screening strategy and the neurovascular unit integration target theory, he developed Pinocembrin as a novel drug against cerebral ischemia. Dr. Du also developed another novel drug named Baicalein used for treatment of Parkinson's disease, which was designed to adjust the balance of central neurotransmitters. These two drugs have now entered phase II clinical trials in China, respectively. He also took the lead in promoting the development of crystalline drug research in China and had finished the preclinical research of a new (polymorphs) drug Nitrendipine. Dr. Du also developed "injection of salvianolic acids" as a drug against cerebral ischemia for clinical use.

He was awarded the first and second prizes of the Beijing Science and Technology Awards for Technological Innovation in 2002 and 2009; Third prize of Chinese medical science and technology Awards for Technological Innovation in 2002 and 2011; National Outstanding Scientific and Technological Workers Award in 2010; Outstanding teachers Award in Beijing in 2011; Second prize of Chinese Ministry of Education outstanding achievements in scientific research of Higher School Award in 2012; Third prize of Chinese Pharmaceutical Association Award for Technological Innovation in 2014.; Second prize of National Scientific and Technological Progress award in 2016.

Dr. Du has published more than 700 peer review papers and edited 40 books in the area of pharmacology. In addition, he has obtained more than 60 patents (China and PCT). He has been invited to more than 200 times as speaker domestic and international conferences. His research interest focus on the drug discovery, includes the development and application of high throughput screening theory and strategy, neuropharmacology, cardiovascular pharmacology and the modernization of traditional Chinese Medicine. He is also editorial board member of more than 10 journals.

Dr. Du was the president of the CNPHARS from 2007 until 2017. He focuses on the advancement of academic communication and cooperation between domestic and foreign pharmacology societies, through the convening of conferences, seminars and workshops to promote contact between Chinese scholars and scholars from various countries. He is also a councilor of the Executive Committee of Asian Pacific Federation of Pharmacologists.

Helen Ochuko Kwanashie, PhD Nominated for Councilor

Helen O. Kwanashie (Nigeria) obtained her BSc and MSc Biochemistry degrees from University of Ibadan, and PhD Pharmacology from Ahmadu Bello University (ABU), in 1979, 1981 and 1991 respectively. Her postdoctoral training was at Dept of Biochemical Medicine, University of Dundee in Scotland. As a career academic, Prof Kwanashie has been teaching and researching at ABU for 35 years: from 1982 when she was appointed assistant lecturer

Helen Ochuko Kwanashie, PhD Nominated for 2018-2022 Councilor (continued)

teaching biochemistry in the first few years, through 1991 when she was staff-in-training working on her PhD, and rising through the ranks to full professor of pharmacology in 2004. She has taught pharmacology to undergraduate and postgraduate pharmacy, medical, nursing, veterinary and biomedical sciences students in Nigeria (at ABU and some other universities as visiting adjunct or sabbatical professor), as well as abroad (as visiting professor to University of Sierra Leone).

As one who routinely mainstreams women and children issues into her teaching, research and community service, Prof Kwanashie logically has her principal area of professional/research interest to be perinatal-cum-paediatric pharmacology, with interfacing interests in disease conditions that are prevalent in the tropics and developing world - such as malaria, HIV/AIDS and sickle cell disorder. Her secondary research thrust is pharmacology education. She has supervised several research-based BPharm projects, MSc theses and PhD dissertations; and recently established the Helen Ochuko Kwanashie Research Alumni and Students (HOKRAS) - an innovative group to facilitate mostly peer-based guidance-cum-support to her current and former postgraduate students. Prof Kwanashie's publications include 73 peer-reviewed journal articles, 22 journal-published conference abstracts, 4 book chapters, 8 project reports, 1 pharmacology-based art exhibition, etc. In addition, she has been a manuscript reviewer for many reputable journals and for over a decade, was on the editorial board of the West African Journal of Pharmacology and Drug Research.

Prof Kwanashie is on the 2014-2018 executive committee of IUPHAR Education Section and was president of West African Society for Pharmacology (WASP) from 2008 to 2013, facilitated monumental advances including re-integration of non-Nigerian participation after 29-years absence. As an active member of some other pharmacological societies/groups e.g. Pharmacology for Africa Initiative (PharfA), British Pharmacological Society (BPS) and American Society for Pharmacology and Experimental Therapeutics (ASPET), Prof Kwanashie has harnessed her experiences to advance the careers of her peers, junior colleagues as well as her own, in and outside the discipline.

Prof Kwanashie is recipient of many scholarships, fellowships and other awards from universities, professional societies, pharmaceutical companies and government; including 1993 Postdoctoral Research Award from Wellcome Trust (UK), 2014 Teaching Excellence Award from IUPHAR_Ed and 2017 Pharmacology Educator Award from ASPET_DPE. In her home university, she has severally been named 'Outstanding lecturer' and 'Best lecturer in Pharmacology' by student bodies.

Prof Kwanashie has been actively engaged in pharmacology education research, culminating in many result-oriented publications spanning over two decades. She believes that pharmacology education has evolved sufficiently to be ascribed the status of a full-fledged sub-discipline, and is advocating for development of postgraduate certificate, diploma and master programmes in pharmacology education, akin to what exists for medical education.

Gilherme Suarez-Kurtz, MD, Doct Med Nominated for Councilor

Guilherme Suarez-Kurtz (Brazil) graduated from the Faculty of Medicine, Universidade do Brasil and received his Doctor of Medicine degree from Universidade Federal do Rio de Janeiro. He completed postgraduate training at Faculté de Médecine de Paris, the University of Pennsylvania in Philadelphia, Columbia University in New York, and University College London.

Prof. Suarez-Kurtz developed his academic career at Universidade Federal do Rio de Janeiro, becoming a Full Professor of Basic and Clinical Pharmacology in 1984. In 1997, he moved to the Brazilian National Cancer Institute, as Head of the Research Division.

Prof. Suarez-Kurtz pioneered studies of pharmacogenomics in admixed populations, particularly Brazilians. He founded remains the coordinator of the Brazilian Pharmacogenomics Network (Refargen), which congregates 19 research groups in the country. He has published approximately 200 full papers and reviews in international journals, advised over 30 M.Sc. dissertations and Ph.D. theses, dozens of undergraduate students, and has produced several educational videos in pharmacology.

Prof. Suarez-Kurtz represented Brazil in the International Agency for Cancer Research (Lyon, 2000-2002), chaired the 2nd Latin American Congress of Pharmacogenomics and Personalized Medicine (Rio de Janeiro, 2012), and was

Gilherme Suarez-Kurtz, MD, Doct Med Nominated for 2018-2022 Councilor (continued)

the Editor of the book Pharmacogenomics in Admixed Populations (Landes Biosciences). He is a Member of the Editorial Boards of British Journal of Clinical Pharmacology, Pharmacogenomics and Frontiers in Pharmacology.

Prof. Suarez-Kurtz is a Senior Investigator of Brazilian National Research Council, a Full Member of the Brazilian Academy of Sciences, and is the Chair of the Pharmacogenetics and Pharmacogenomics Section of IUPHAR from July, 2014 through July, 2018.

David Webb, MD, PhD Nominated for 2018-2022 Councilor

David Webb (United Kingdom) was born, educated and trained in London, and gained his MB BS in 1977 (University of London), MD in 1990 (University of London) and DSc in 2000 (University of Edinburgh). He undertook research training in the MRC Blood Pressure Unit, Glasgow, and Department of Pharmacology and Clinical Pharmacology, St Georges, University of London. After a Senior Lectureship in Medicine at the University of Edinburgh, he was appointed as the Christison Professor of Therapeutics & Clinical Pharmacology in 1995. He has held positions as a physician and clinical pharmacologist/toxicologist in Edinburgh since 1990, and runs Edinburgh's Hypertension Excellence Centre.

Dr. Webb ran Edinburgh University's Department of Medicine (1997 – 2001), established and led its Centre for Cardiovascular Science (CVS) and Wellcome Trust-funded Cardiovascular Initiative (1998), and has directed Medical Research Council and Wellcome Trust funded Translational Medicine and Therapeutics Initiatives (2007 – 2015). He currently leads the Hypertension and Renal Theme of Edinburgh's CVS. He is a Fellow of the Academy of Medical Sciences, American Heart Association, British Pharmacological Society, Faculty of Pharmaceutical Physicians, Royal College of Physicians (Edinburgh and London) and Royal Society of Edinburgh.

Dr. Webb's main clinical and research interest is in hypertension, focusing on arterial stiffness, endothelial dysfunction and chronic kidney disease. His work on the hormone endothelin over a period of around 30 years has underpinned current clinical trials of endothelin antagonists in hypertension, diabetes and chronic kidney disease. He has published over 700 peer-reviewed papers on clinical pharmacology and cardiovascular disease (h-Index 100), and five books on cardiovascular topics. He is involved in teaching and training, mainly of postgraduate physicians and scientists (>30 PhDs to date).

Dr. Webb is immediate Past President of the BPS (2016 – 2017), having previously held a number of other roles, including Vice President Clinical and Vice President Meetings. He was awarded BPS's biennial Silver Medal for research in 1994, and the Lilly Prize and Gold Medal for contributions to clinical pharmacology in 2003. In addition to serving as Vice Chair, then Chair, of the IUPHAR Division of Clinical Pharmacology, he is future President of the IUPHAR World Congress of Basic & Clinical Pharmacology to be held in Glasgow in 2022, having been President of the European Society for Clinical Pharmacology & Therapeutics (EACPT) Congress in 2009.

Dr. Webb is a non-executive director of the Medicines and Healthcare products Regulatory Agency (MHRA), an Executive Agency of the UK Department of Health. MHRA also incorporates the National Institute for Biological Standards and Control (NIBSC), for which Dr. Webb chairs the Scientific Advisory Committee. In Scotland, he has chaired the Scottish Medicines Consortium (SMC: Scotland's equivalent of NICE), and been President of the Scottish Society of Physicians and Vice President of the Royal College of Physicians of Edinburgh.

In his spare time, he enjoys holidays with his wife, who is a paediatric endocrinologist, with a focus on rock climbing, ski touring, diving and biking – no beach holidays!

IUPHAR Transfers Its Administration to Parthenon Management Group:

What this means for you (and us)

A tribute to Lynn and Leigh-Ann, and the new future with an IUPHAR executive director

S.J. (Sam) Enna, finishes his term as IUPHAR president during WCP 2018, continuing as past-president 2018-2022. However, Sam has also served two terms as secretary general, effectively holding together IUPHAR for a total of 12 years, which is an enormous achievement. We will have the opportunity to thank Sam in Kyoto.

The IUPHAR administrative office in Kansas City has been run on a day-to-day business by Lynn LeCount (operations) and Leigh Ann Arbuckle (finance), whom you all know are the interface of IUPHAR with its member societies. Petra Thürmann (2014-2018 treasurer) and Michael Spedding (2014-2018 secretary general) would like to give a tribute to Leigh Ann and Lynn, as they have completely reorganised how IUPHAR works over this 12-year period. They performed the daunting task with friendly simplicity and great efficiency, as everyone interacting with them can testify. We rely on them completely. However, both finish for new adventures on July 31st. So, please greet them at the IUPHAR booth #8-1 in Kyoto at WCP 2018. We shall miss them massively.



L → R: Leigh Ann Arbuckle (treasurer's assistant), Colleen Enna (wife), Sam Enna (big kahuna), Lynn LeCount (administrative officer) and Jennifer McNichols (editorial coordinator)

How do you replace irreplaceable people? Well you cannot, so we have negotiated with Parthenon Management Group (PMG), a Nashville, Tennessee-based company specialised in working for scientific societies. An administrative office principally based at PMG will provide continuity, giving long term stability as the IUPHAR officers change over multiple terms. PMG has an impressive range of client societies (<http://parthenonmanagementgroup.com/our-clients>). We negotiated with Sarah Timm, CEO, and the key points are listed below. Kristen Kovach has been appointed as the IUPHAR executive director and will be your day-to-day contact and should be in copy of key IUPHAR emails (admin@iuphar.org). Michelle Tidwell will oversee work for any absences by Kristen. Lynn and Leigh Ann have been working on the transfer with members of the PMG team during most of 2018.

Continued on page 26...



5034A Thoroughbred Lane
Brentwood, TN 37027 USA
+1.615.324.2365
Monday - Friday
8:00 a.m. - 5:00 p.m. central USA

IUPHAR Administration to PMG

(continued)

Everyone at Parthenon Management Group (PMG) is thrilled to welcome IUPHAR to our family of organizations. PMG has been managing professional scientific societies for the past 10 years and our mission is to help our organizations achieve their mission. In fact, our goal in managing a scientific society is to do our job with the same level of excellence that our members do their work. PMG believes that the success of a professional scientific society results from member driven leadership and governance with management and facilitation being provided by professionally trained and experienced staff. We relieve the leadership of the administrative burdens and enable them to devote their time to strategic thinking and determining the goals and objectives of the society. We look forward to continuing IUPHAR's record of success for many years into the future.



Kristen Kovach, MPH
PMG Project Manager



Michelle Tidwell, MSW
PMG Sr. Project Leader



Sarah Timm, CAE, CMP-HC
PMG President, CEO

PMG will...

- provide all the normal business tools and necessities, including an executive officer, telephone system, computers and office equipment.
- provide an email system and basic telephone service. Long distance calls and conference calls will be billed to IUPHAR at PMG's cost.
- support the IUPHAR Executive Director with accounting and other staff.
- manage IUPHAR funds and bank accounts within the bounds of a budget as approved by the IUPHAR officers and executive committee.
- transfer the IUPHAR website and database to their servers.

The initial term of the agreement will be April 1, 2018 – March 31, 2020. It will automatically renew for successive one-year terms unless cancelled by either party. So please introduce yourself to Kristen and Michelle at the IUPHAR booth #8-1 and General Assembly (with Lynn and Leigh-Ann!) during WCP2018. We really feel that this is a crucial step for IUPHAR and pharmacology in general.

Michael Spedding
Secretary General

Petra Thürmann
2014-2018 Treasurer



In Memory of Darrell R. Abernethy

On November 18, 2017 the discipline of pharmacology, the American Society for Pharmacology and Experimental Therapeutics (ASPET), and the International Union of Basic and Clinical Pharmacology (IUPHAR) suffered a significant loss with the death of Darrell Abernethy from pancreatic cancer.

A Kansas native, Darrell was born in 1949 in Mitchell County and raised on the family farm near Scottsville, population 25, in the north-central portion of the state. He left home in 1967 to pursue an undergraduate degree in chemistry at the University of Kansas in Lawrence, and M.D. and Ph.D. (Pharmacology)

degrees at the University of Kansas Medical School in Kansas City. His doctoral work, which focused on cholesterol biosynthesis, was performed under the guidance

of Daniel Azarnoff, M.D., a renowned clinical pharmacologist. Following internship and residency in Internal Medicine at the University of Miami, Darrell undertook postdoctoral training in Clinical Pharmacology with David Greenblatt, M.D. at Harvard Medical School. This launched a productive 36 year collaboration that resulted in over 100 published reports on drug metabolism and pharmacokinetics. He also trained in Geriatric Medicine at Boston University. Darrell held faculty appointments in Medicine and Clinical Pharmacology at Tufts University School of Medicine, Baylor College of Medicine, Brown University, and Georgetown University Medical Center, where he was the Francis Cabell Brown Professor of Medicine and Pharmacology and Director of the Division of Clinical Pharmacology. In 1999 he became Chief of the Laboratory of Clinical Investigation at the National Institute on Aging Gerontology Research Center. From 2007-2009 he was the Chief Science Officer of the United States Pharmacopeia, and from 2009 until his death the Associate Director for Drug Safety in the Office of Clinical Pharmacology at the Food and Drug Administration.

Darrell's research included both pharmacodynamic and pharmacokinetic studies, with particular emphasis on cardiovascular pharmacology. He had a special interest in the molecular mechanisms responsible for the therapeutic and toxic effects of cardiovascular agents, particularly in the aged. In recent years he was involved

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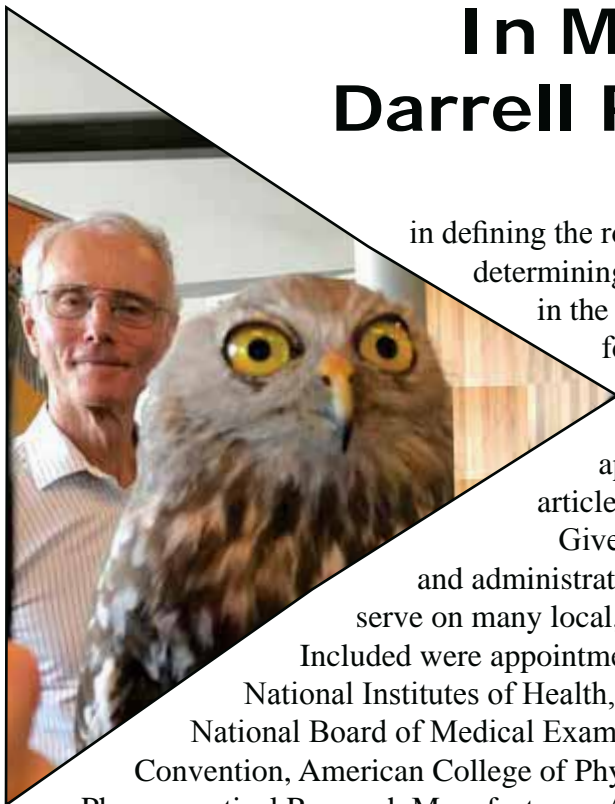


The 2014 - 2018 IUPHAR Executive Committee in Xi'an, China May, 2015

*L → R: (Standing) Masamitsu Iino, David J. Webb, S.J. Enna, **Darrell R. Abernethy**, Michael Spedding, James E. Barrett, Bhagirath Patel, David LeCouteur, Graeme Henderson, Yong-Xiang Zhang (Seated) Francesca Levi-Scheffer, Petra Thürmann, Eeva Moilanen*



In Memory of Darrell R. Abernethy (continued)



in defining the role of drug target polymorphisms in determining therapeutic responses and was a leader in the development of the Drug Burden Index for defining the effects of medications on functions that determine independence in the elderly. His highly cited work appears in over 300 published research articles, reviews and book chapters.

Given his prominence in the field and administrative skills, Darrell was invited to serve on many local, national and international boards.

Included were appointments to advisory committees for the National Institutes of Health, Food and Drug Administration, National Board of Medical Examiners, United States Pharmacopoeial Convention, American College of Physicians, Veterans Administration, Pharmaceutical Research Manufacturers Association Foundation, Burroughs

Wellcome Foundation, and ASPET. He held elective office in professional societies, including the presidency of the American Society of Clinical Pharmacology and Therapeutics (ASCPT), and as chair of the American Board of Clinical Pharmacology, of the American Association for the Advancement of Science, and of the Clinical Division of IUPHAR. He was also a member of the IUPHAR Executive Committee. He was on the editorial boards of some of the leading journals in the field, such as

Clinical Pharmacology and Therapeutics, *British Journal of Clinical Pharmacology*, *Journal of Clinical Psychopharmacology*, and *Clinical Pharmacology in Drug Development*. In service to ASPET he was a member of the editorial board of *Molecular Interventions*, Associate Editor of the *Journal of Pharmacology and Experimental Therapeutics*, Editor-in-Chief of *Pharmacological Reviews*, and one of the two original Deputy Editors of *Pharmacology Research and Perspectives*. He was a Visiting Lecturer at nearly two dozen universities and was the recipient of numerous awards in recognition of his research and other contributions to the field. These included the Rawls-Palmer and the William B. Abrams awards from ASCPT and the Nathaniel T. Kwit Memorial Distinguished Service Award from the American College of Clinical Pharmacology.



At the podium during the Joint Scientific Meeting of Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists and the Molecular Pharmacology of G Protein Coupled Receptors in Melbourne, Australia in November, 2016

Continued on page 29...

In Memory of Darrell R. Abernethy

(continued)



*Panel discussion during the Symposium on Challenges in Drug Discovery & Development in Xi'an, China May, 2015
L → R: Paul Vanhoutte, David J. Webb, **Darrell R. Abernethy**, Henry H. Sun*

Darrell rapidly gained the respect and admiration of those who knew him. Although humble and self-effacing, he would readily, and candidly, share his thoughts and advice when asked. His guidance was sought routinely. His opinions were always based on common sense, experience, and consideration for others.

Darrell said that although he left Mitchell County decades ago he remembered the lessons learned as a young farm hand in a remote area known for its frigid winters and blistering summers. These included an appreciation for the importance of hard work, self-reliance, personal responsibility, and initiative. These values, combined with his native intelligence and curiosity, propelled him into a world that differed considerably from that of his childhood. Taking full advantage of opportunities offered, Darrell contributed significantly to the basic understanding of drug actions, to education in the field, to the development of healthcare policy, and to the advancement of our discipline.

According to his wishes, Darrell's remains were buried beside his parents on the family farm. He returned home exactly 50 years after departing for college. The medical community is fortunate he chose to forsake the tranquility of country living for the challenges of a career in the biomedical sciences. He will be remembered by his friends for his laconic wit, keen insights, and sage counsel. His legacy is the legions of patients who benefit directly from his work.

S.J. Enna
President, IUPHAR

Reprinted with permission: SE Enna (2018) A Tribute to Darrell Abernethy (1949-2017), The Pharmacologist, 60:55

IUPHAR Secretary General's Report

What we have achieved between WCP2014 Cape Town and WCP2018 Kyoto and future challenges for pharmacology

June 2018

The 2014 World Congress of Basic and Clinical Pharmacology in Cape Town (WCP2014) was very successful and we thank the organisers again! We wish to highlight what has been achieved as a curtain-raiser to the 2018 World Congress of Basic and Clinical Pharmacology (WCP2018) in Kyoto. This report will allow delegates to better understand what IUPHAR does, to volunteer in initiatives of interest to them and, when in Kyoto, to communicate to officers and staff those activities to prepare for a new round of progress toward the 2022 World Congress of Basic and Clinical Pharmacology (WCP2022) in Glasgow.

Defining IUPHAR

Pharmacology is the science of drugs and therapy. IUPHAR bridges preclinical and clinical research, with the possibility of making major advances for health care in developing countries.

First, IUPHAR is a global umbrella organisation for pharmacology so appreciates the many different issues, opportunities and difficulties experienced by its member societies. The main source of IUPHAR finance is the membership dues, which are critical to success, but which give limited support. Other funds must come from profitable WCPs and from raising finance through benefactors or grants. IUPHAR may be a useful partner for fund-raising with you by linking your initiative with other organisations. Please come and see us about this.

Second, IUPHAR is a Non-Governmental Organisation (NGO) in relations with the World Health Organisation (WHO). With assistance from the Clinical Pharmacology Division officers, Kalle Hoppu and Caroline Samer, we are renewing our WHO goals over the summer, but IUPHAR is already involved in many health care issues for WHO (figure 1). Members of the Paediatric Clinical Pharmacology Section, chaired by Greg Kearns, are engaged in revising the paediatric tuberculosis guidelines promulgated by WHO.

Collaboration

Nomenclature

IUPHAR is proving itself a good arbiter of research questions in the multiple areas of drug targets and therapy - what we know and don't know - with an excellent synergy between industry and academia. This is achieved without conflict of interest as only validated, reproduced, data are used by our Nomenclature Committee (NC-IUPHAR), chaired by Steve Alexander, with Adam Pawson as the executive secretary. NC-IUPHAR has over the last 30 years structured modern pharmacology.



- Promote Drug Discovery R&D, with open-source knowledge, databases, compound libraries,
- Support early-stage drug discovery and development, particularly in developing countries,
- Stimulate global cooperation in R&D
- Encourage research on mechanisms of action and PK of natural products and traditional medicines. Evidence-based medicine.
- Capacity building for clinical trials, particularly in developing countries,
- Encourage development of regulatory affairs in developing countries

Figure 1: Some relevant WHO priorities where IUPHAR is active

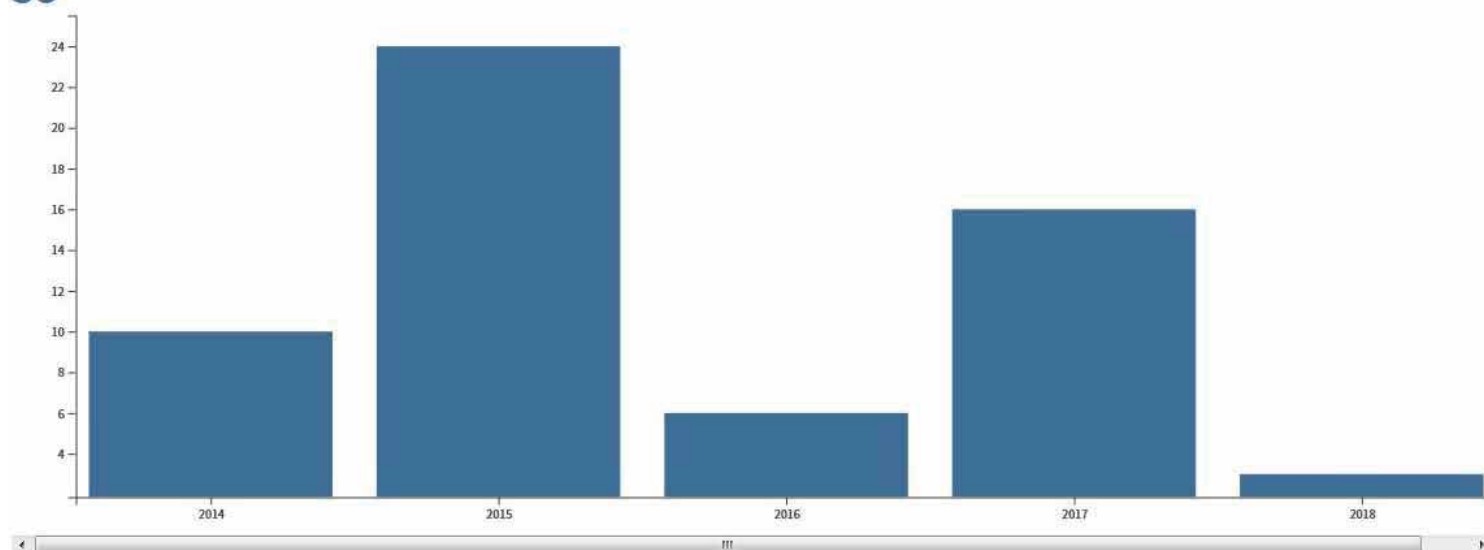
IUPHAR Secretary General's Report

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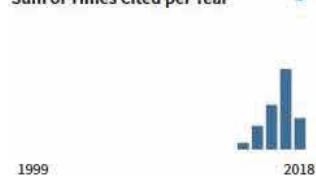
Over 90 subcommittees of about 700 expert scientists back our publicly available databases, accessed freely by scientists in 160 countries, which have resulted in more than 125 publications (h-index 80), available at <http://www.guidetopharmacology.org/nciupharPublications.jsp>. The Japanese Pharmacological Society (JPS) and a few academic institutions have generously financed the travel of their members to the NC-IUPHAR meetings. The NC-IUPHAR publications have been so successful since 2014 (figure 2) that we formed an IUPHAR Editorial Board, chaired by Eliot Ohlstein, to help coordinate the efforts. Sections and Subcommittees are encouraged to contact him when preparing their manuscripts. The full list of IUPHAR 2014-2018 publications is available in the appendix.

Total Publications

59



Sum of Times Cited per Year



h-index

27

Average citations per item

75.73

Sum of Times Cited

4,468

Without self citations

4,398

Citing articles

2,637

Without self citations

2,609

Figure 2: 2014-2018 citations for IUPHAR Nomenclature Committee publications

Receptor Databases

We benefit from a remarkable partnership with the British Pharmacological Society (BPS), which pays for two curators of the database group based in the University of Edinburgh, with Jamie Davies serving as the principal investigator. There are currently three other curators, supported by grants from the Wellcome Trust Foundation and education grants from IUPHAR member societies.

The complexities of drug-receptor interactions are such that small meetings of experts around key questions can make much more progress than massive computer-driven data trawling. Select meetings of experts can clearly and rapidly define what we know and don't know. New areas in pharmacology have been covered in the online databases, including:

- Antibodies
 - Kinases
 - Proteases and hydrolases
 - Epigenetic targets
 - Allostery
 - Alternative Splicing
- (probably substantially underestimated in drug targets in disease states)

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IUPHAR Secretary General's Report (continued)

We are now working with the Gates-funded 'Medicines for Malaria Venture' (MMV), in order to populate an online database with all the potential sites of therapeutic intervention in combating the malaria parasite.

Immunopharmacology

Immunopharmacology is perhaps the fastest advancing branch of pharmacology. Chaired by Francesca Levi-Schaeffer and supported by treasurer, Katerina Tiligada, the IUPHAR ImmuPhar Section is organising this research. Immunological therapy for cancer has revolutionised the field, with over 800 clinical trials involving check-point inhibitors and associated therapies. Immunological protocols tend to be poorly defined in the developing world and, except for centres of excellence, support is needed to allow competitive research. There is a major need for simple, validated immunological protocols around drug targets, which can be performed in laboratories without major facilities. The International Union of Immunological Sciences (IUIS) and IUPHAR have signed a Memo of Understanding to seek funding in support of this initiative, among others.

A Wellcome Trust Foundation grant to the Edinburgh-based group financed the creation of the Guide To IMMUNOPHARMACOLOGY (www.guidetoimmunopharmacology.org), a website listing the drug targets in immunopharmacology. To launch this website, BPS is sponsoring *Immunopharmacology: Challenges, Opportunities and Research Tools* on October 1st and 2nd in Edinburgh. The speakers featured at www.bps.ac.uk/news-events/events/2018/october/immunopharmacology-challenges,-opportunities-and will cover the main therapeutic areas and drug targets in immunopharmacology allowing the meeting to bring together key IUIS and IUPHAR collaborators to develop joint strategies.

Natural products

Natural products (NPs) represent a major part of the world's chemical diversity for drug discovery: this involves traditional medicine, and also the discovery of specific NP drugs for key targets. There has been a rift between herbal mixtures, where synergies between the different components are claimed, frequently with little evidence and pure compounds. However, in the last few years, technology and legislation have revolutionised NP research via:

- High throughput metabolomics can define the molecules in complex mixtures.
- Biosynthesis can now produce single chemicals, or mixtures, from genetically engineered bacteria or yeast.
- The microbiome is highly dependent on natural products with a synergy that changes both the composition of the microbiome, and of the NPs.
- Immunopharmacology is highly dependent on NPs and NPs can change immunopharmacological profiles.
- Chemical and plant libraries are available for screening (we are publishing a list).
- The impact of the Nagoya protocol, which protects biodiversity and traditional medicine, attributes ownership of genetic and NP resources to the nation of origin,

IUPHAR Secretary General's Report

(continued)

and scientists must follow specific guidelines in NP research. Thus, NP science has geopolitical constraints, which are already changing the face of research. Getting the balance right in the application of Nagoya is critical for world health and for finding new drugs, equitably. IUPHAR, as an international organisation, has a goal of increasing evidence-based medicine in NP research.

- These technologies can be applied to pharmaceutical research, nutraceuticals, cosmetics, food additives and food, but with different regulatory impact.

We are currently negotiating a major collaboration on natural products. The Pharmacology of Natural Products (PNP) Section, under the direction of Yongxiang Zhang, and IUPHAR leadership have participated in a series of meetings in China, India, Singapore, Brazil, Africa and Europe proposing that the potential revolutions in the field be enacted constructively, rather than being blocked by administration. This new paradigm is necessary because of the different health care issues between rich and poor and the geographical differences in health care approaches. We wish to recognize the efforts of Fred Wong, local organiser of the IUPHAR World Conference on the Pharmacology of Natural and Traditional Medicines in Singapore in 2015, and Cherry Wainwright, local organizer of the 5th International Conference on the Mechanisms of Action of Nutraceuticals in Aberdeen in 2017. We are indebted to their well-organised teams who worked with the PNP Section to make the conferences so successful. Meeting reports can be obtained from the secretary general. The resulting publications are listed in the appendix.

The Chinese Pharmacological Society has been a steadfast partner in these efforts. IUPHAR training courses and meetings organized in China have been great successes and we thank Guanhua Du and Ying Zhao in addition to Yongxiang for their tireless efforts in coordinating them. Pharmacology for Africa (Phar/A), the constellation of African pharmacological societies, is organizing informative symposia and a strategic meeting on NPs during WCP2018. The Indian Pharmacological Society (IPS) has volunteered to co-organize with the PNP Section the next IUPHAR World Conference on the Pharmacology of Natural and Traditional Medicines in late 2019.

Symposia, Training and Conferences

Limited space here allows us to highlight only a few from the very long list of symposia and meetings by the IUPHAR Sections and Subcommittees since 2014. See table 1 on the next page for the list of meetings, training and symposia underwritten by IUPHAR and the Clinical Pharmacology Division. The annual dues paid by the IUPHAR member societies have made these opportunities possible.

The IUPHAR Gastrointestinal Pharmacology Section, chaired by Duan Chen, helped the Medical Faculty University of Zagreb in Croatia celebrate their centennial in 2017. The Section, through the efforts of Arpad Somogyi, Sandor Szabo and Yvette Tache, has put together for six consecutive years the Summer School on Stress. Duan and his fellow Section member, Ludmilla Filaretova, have received a grant from the University of Oslo to develop an academic network in Norway and Russia. Their first meeting was held in St. Petersburg, Russia in 2017. The Section provided speakers and co-organizers for the Joint Symposium on Inflammation and Cancer held in Incheon, Korea during March, 2018 as part of the International Conference on Ulcer Research by the International Association of Surgeons, Gastroenterologists and Oncologists, and the Korean Society of Gastrointestinal Cancer.

The Pharmacogenetics and Pharmacogenomics (PGx) Section, under the leadership of Guilherme Suarez-Kurtz, has expanded its membership since 2014. The group has established a Memorandum of Understanding with the Golden Helix Foundation, which resulted in a symposium in Kuala Lumpur, Malaysia in 2015. They then entered a Memorandum of Understanding with the European Society of Pharmacogenetics and Personalized Medicine (ESPT), which yielded significant participation in the 2015 conference in Budapest, Hungary as well as symposia at the 2016 conference in Cape Town, Africa and the 2017 conference in Catania, Italy. A symposium entitled *Pharmacogenomics: Discovery and implementation* is planned during the 2018 International Congress of Genetics, in Foz do Iguaçu, Brazil.

IUPHAR and the International Union of Toxicology have a reciprocal symposia agreement. In partnership with the IUPHAR Drug Metabolism and Drug Transport (DMDT) Section, the PGx Section co-coordinated a

IUPHAR Secretary General's Report (continued)

Table 1: IUPHAR and Clinical Pharmacology Division Supported Symposia, Training and Conferences

	Organized/Presented by	Meeting	Topic Funded	Location	Support
2015	Clinical Pharmacology Division	12th European Association for Clinical Pharmacology and Therapeutics Congress	Drug induced liver injury symposium	Spain	Clinical Pharmacology Division
	Clinical Pharmacology Division / Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists / British Pharmacological Society	Joint Scientific Meeting	Clinical pharmacology symposium	Hong Kong	Clinical Pharmacology Division
	Clinical Pharmacology Division/Chinese Pharmacological Society	Symposium on Challenges in Drug Discovery & Development	CAMs, TCM lectures and panel discussions	China	IUPHAR Operations
	Pharmacogenetics and Pharmacogenomics Section	29th Scientific Meeting of Malaysian Society of Pharmacology and Physiology	Golden Helix Symposium on next generation pharmacogenomics	Malaysia	Clinical Pharmacology Division and IUPHAR Operations
	Clinical Pharmacology in Developing Countries Subcommittee	Medicines Utilization Research in Africa (MURIA) Workshop	Drug utilization research in Africa workshop	Botswana	Clinical Pharmacology Division and IUPHAR Operations
	Pharmacoepidemiology and Pharmacovigilance Subcommittee	European-Egyptian Collaboration in the Pharmacovigilance International Workshop	Pharmacovigilance symposium	Egypt	Clinical Pharmacology Division and IUPHAR Operations
	Gastrointestinal Pharmacology Section / Croatian Pharmacological Society / University of Szagreb	Drug Development and New Frontiers in Gastrointestinal Diseases	New therapeutics in gastrointestinal pharmacology symposium	Croatia	IUPHAR Operations
2016	Pharmacogenetics and Pharmacogenomics Section / Drug Metabolism and Drug Transport Section	Pharmacogenetics and Precision Medicine Conference	Pharmacogenetics: A focus on infectious diseases and population diversity symposium	South Africa	Clinical Pharmacology Division and IUPHAR Operations
	Geriatric Clinical Pharmacology Subcommittee/Clinical Division of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists	Joint Scientific Meeting of Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists and the Molecular Pharmacology of G Protein Coupled Receptors	Geriatric pharmacology symposium	Australia	Clinical Pharmacology Division
	Integrative and Organ Systems Pharmacology Subcommittee	Training Workshop	Animal research		
	Pharmacogenetics and Pharmacogenomics Section / Drug Metabolism and Drug Transport Section	XIV International Congress of Toxicology of the International Union of Toxicology	IUPHAR/IUTOX reciprocal symposia	Mexico	IUPHAR Operations
	Clinical Pharmacology in Developing Countries Subcommittee	Medicines Utilization Research in Africa (MURIA) Workshop	Drug utilization research in Africa workshop	Botswana	Clinical Pharmacology Division and IUPHAR Operations
	ImmuPhar Section / British Pharmacological Society	Pharmacology 2016	Study, development and rationale use of immunopharmacological agents symposium	United Kingdom	IUPHAR Operations
	Pharmacoepidemiology and Pharmacovigilance Subcommittee	Workshop co-organized with the South Asian College, an affiliate of the American College of Clinical Pharmacology	Drug side effects in the elderly workshop	India	Clinical Pharmacology Division and IUPHAR Operations
2017	Geriatric Pharmacology Subcommittee	21st International Association of Gerontology and Geriatrics by the Gerontological Society of America	Frail elderly symposium	United States	Clinical Pharmacology Division and IUPHAR Operations
	Clinical Pharmacology in Developing Countries Subcommittee	Medicines Utilization Research in Africa (MURIA) Workshop	Drug utilization research in Africa workshop	Namibia	Clinical Pharmacology Division and IUPHAR Operations
2018	Pharmacogenetics and Pharmacogenomics Section	International Congress of Genetics	Pharmacogenomics: Discovery and implementation symposium	Brazil	Clinical Pharmacology Division and IUPHAR Operations

Pharmacology
International

June 2018



IUPHAR Secretary General's Report

(continued)

symposium at the 2016 International Congress of Toxicology, held in Merida, Mexico. The International Union of Toxicology, president, Jun Kanno, has organized the symposium *Toxicogenomics for Accelerated and Refined Hazard Identification of Chemicals* on Friday, June 6th at WCP2018.

The DMDT Section is chaired by Ann Daly, who helped the group publish in the *Journal of Personal Medicine* on the pharmacogenomics of CYP2C9. The Section supported *Methods 2015*, an international symposium in Pretoria, South Africa, and organized additional symposia with the Indian Society for the Study of Xenobiotics during the 2nd Annual Meeting of the Xenobiotic Research in India, held in Bangalore in 2017. The Section is also contributing to WCP2018 a symposium biomarkers for drug induced liver injury.

The IUPHAR Education Section is offering the *Educating Scientists and Healthcare Professionals for 21st Century Pharmacology*, a WCP2018 satellite meeting on June 30th and July 1st. The program features the Section's General Assembly, an awards ceremony, and a dinner in addition to speakers and posters. The meeting themes include active learning and student-led education.

The IUPHAR executive committee and officers are grateful to several member societies that generously hosted meetings on our behalf and supported our initiatives. Please see figure 3 for a synopsis.

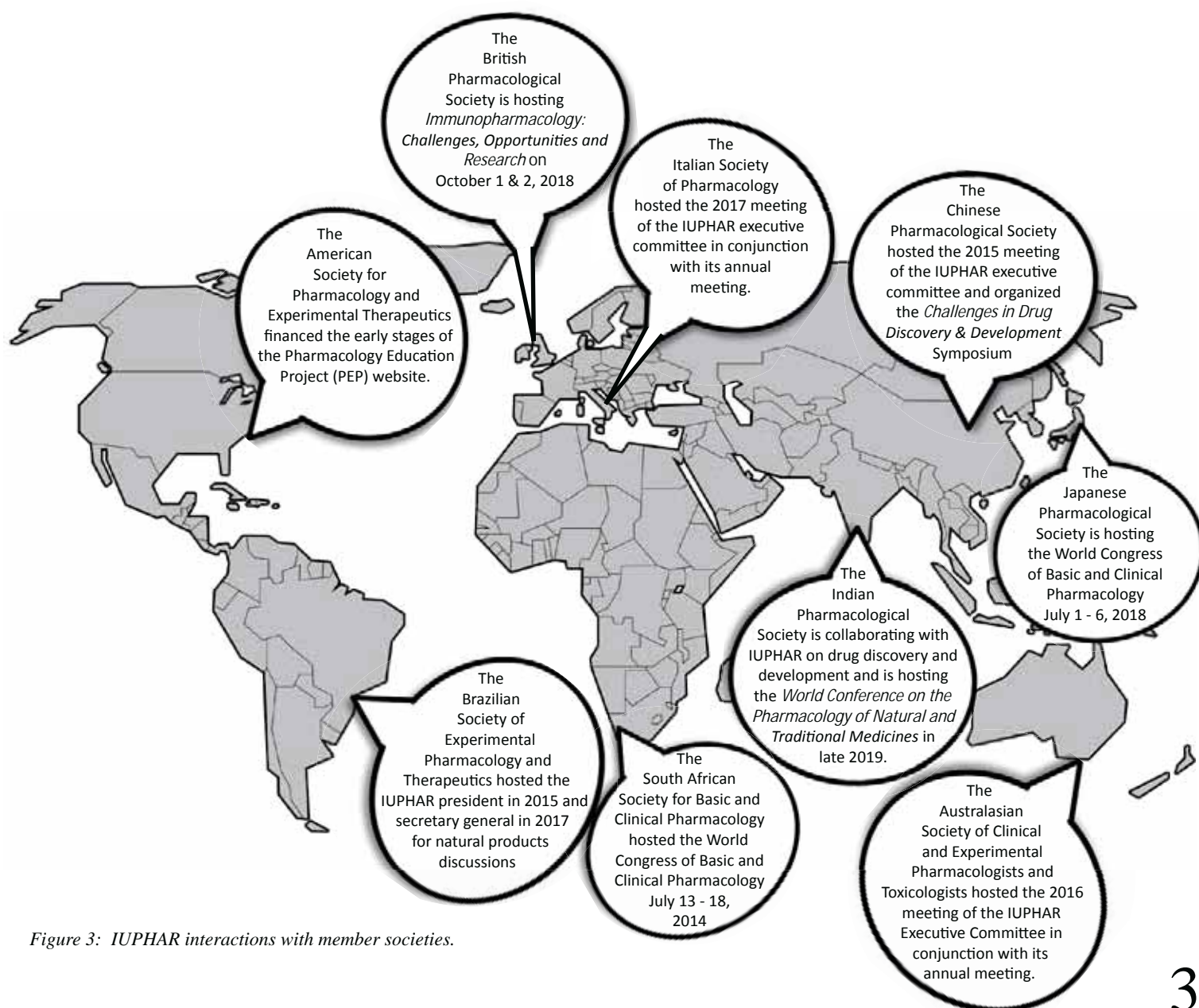


Figure 3: IUPHAR interactions with member societies.

Continued on page 36...

IUPHAR Secretary General's Report (continued)

Resources

Our long-term strategy is to build web-based learning and research infrastructure to benefit pharmacology worldwide. Thus, in their website favourites or bookmarks every pharmacologist should have www.guidetopharmacology.org and every researcher in immuno-related fields should have www.guidetoimmunopharmacology.org! These websites will be showcased in Kyoto.

Clinical Pharmacology

The Clinical Pharmacology Division jointly published with WHO and CIOMS in 2012 a strategic document defining the practice of clinical pharmacology. The original version has been translated into Japanese, Korean and Russian. The Clinical Pharmacology Division established in 2016 a series of Mentoring Centres to support the development of research and teaching in developing areas of the world. In addition to general clinical pharmacology expertise, each Mentoring Centre offers specialisation in specific research areas (table 2).

Table 2: IUPHAR Clinical Pharmacology Mentoring Centres

Location	Available Research Expertise
Busan, Korea	Drug metabolism/drug transporters/drug interaction, pharmacokinetic and pharmacodynamics analyses, pharmacogenomics and quantitative pharmacology, and many other area of xenobiotics science, ranging from molecular to clinical implementation
Edinburgh, United Kingdom	Biomarkers, clinical toxicology, clinical trials, education, first-in-human studies, formulary development and management, health technology assessment, hypertension, prescribing skills and their assessment, acute kidney injury, chronic and end-stage kidney disease, translational research, and clinical research techniques
Malaga, Spain	Clinical trials, clinical toxicology, biomarkers, pharmacogenetics, flow cytometry assays in clinical studies, integration of OMICs through systems biology, innovative approaches to education, first-in-humans studies in oncology, idiosyncratic drug induced liver injury, clinical research protocols design, in depth phenotyping, selection of outcome measures, liver function, and validation of new drug targets in preclinical models
Stockholm, Sweden	Drug metabolism and drug-drug interactions, pharmacokinetics and pharmacogenetics, therapeutic drug monitoring, analysis of drugs of abuse and clinical toxicology, doping in sports and society, eHealth, critical drug evaluation and work in drug and therapeutics Committees, rational use of medicines, drug safety, clinical trials, pharmacoepidemiology, drug utilization, undergraduate, postgraduate and continued education
Sydney, Australia	Pre-clinical studies of ageing and geriatric pharmacology, cohort studies of ageing and pharmacoepidemiology, observational and interventional clinical studies of geriatric patients, and polypharmacy and deprescribing
Toronto, Canada	Clinical toxicology, clinical epidemiology, drug interactions, drug safety in breastfeeding, molecular pharmacology, pharmacogenetics/pharmacogenomics, paediatric pharmacology, population pharmacokinetics, reproductive toxicology (foetal drug safety), translational research

For additional information, please email clinical@iuphar.org.

Chaired by Darrell Abernethy until his sad demise in 2017, the vice chair David Webb ensured continuity within the Division by taking the helm. He is assisted by the very capable David LeCouteur and María Isabel Lucena, who are nominated to continue through 2022. We thank them. Caroline Samer and Nilima Kshirsagar have also been nominated as 2018-2022 Division officers. The Clinical Pharmacology Division General Assembly will be held on July 2nd in Kyoto.

Developing Countries

The Clinical Pharmacology Division has a special subcommittee focused on developing countries. Chaired by Lars Gustafsson and Dinesh Badyal, who will hand over leadership in July to Olayinka Ogunleye and Joseph Fadare, the Subcommittee of Clinical Pharmacology in Developing Countries has actively supported the network called Medicines Utilisation Research in Africa through the organization of workshops. Olayinka and Joseph are an example of the success of the Clinical Pharmacology Mentoring Centre in Stockholm, situated in the Karolinska Institutet, where they spent two weeks training

with Lars Gustafsson. They were subsequently instrumental in establishing the Nigerian Society for Clinical Pharmacology & Therapeutics. We would like to acknowledge Lars for his outstanding leadership.

Continued on page 37...

IUPHAR Secretary General's Report

(continued)

The Pharmacoepidemiology and Pharmacovigilance Subcommittee, led by Milou Drici, has been very successful organising informative workshops in India and Egypt. These workshops, and the other meetings supported by the Division, are listed in table 1. Nick Buckley is nominated to be the 2018-2022 chair.

At WCP2014 we pledged to keep tight contact with Pharmacology for Africa (PharfA), the constellation of African pharmacological societies. This has been accomplished through quarterly teleconferences of the PharfA management team, chaired by Douglas Oliver and administered by Makhotsa Lekhooa, with volunteers from the IUPHAR Executive Committee. In conjunction with the South African Society for Basic and Clinical Pharmacology, PharfA organised the 2016 All Africa Congress on Pharmacology and Pharmacy. PharfA is contributing to WCP2018 symposia on topics germane to all developing countries and has scheduled their General Assembly at the Congress on July 2nd.

We particularly appreciate the efforts of the IUPHAR First Vice President, Graeme Henderson, who has diligently sought free resources to assist pharmacologists in Africa and other developing regions in furthering their careers and research. As examples, <https://www.hindawi.com> delivers free access to current publications in pharmacology and <https://www.AuthorAID.info/en> provides online mentoring to help researchers in resource limited countries achieve success in designing and publishing their work.

IUPHAR promotes pharmacological training in developing countries and has supported the Integrative and Organ Systems Pharmacology training courses for animal use, emphasising the 3Rs. Under the guidance of David Lewis (<https://www.etris.leeds.ac.uk>) hands-on workshops were held in South Africa during 2014 and 2018 as well as China in 2016. Dave is currently planning 2018 and 2019 sessions in India and East Africa. These are but a few highlights from a long list of activities. Please email admin@IUPHAR.org if your society has an interest in hosting a workshop.

Education

Our education initiatives are clearly important. Chaired by John Szarek and Simon Maxwell, the Pharmacology Education Project (PEP) will be featured at WCP2018 on July 2nd. The online learning resource supports education and training in the pharmacological sciences. The materials will be of value to students of pharmacology, clinical pharmacology and anyone seeking to develop a better understanding of the pharmacological sciences. The aim is to deliver a simple, attractive, easily searchable resource that will support students of the biomedical sciences, medicine, nursing and pharmacy as well as those who teach them. The website is currently financed via the Chinese, Japanese and Hungarian pharmacology societies, to whom we express our gratitude. The website <http://www.pharmacologyeducation.org> is maintained by the Edinburgh database team, with Elena Faccenda as the curator. This is a major priority for IUPHAR so please visit <http://www.pharmacologyeducation.org/contribute-project> if you would like to contribute a bit of your time or teaching materials towards the next generation of pharmacologists.

The Neuropsychopharmacology (NPP) Section helped publish *A New Nomenclature for Classifying Psychotropic Drugs* in the *British Journal of Clinical Pharmacology*. The commentary focuses on a hot topic in the field of Neuropsychopharmacology, the new Neuroscience-based Nomenclature (NbN) and describes its potential applications and advantages for a better pharmacological treatment of psychiatric disorders. The Section chair, Filippo Drago, is an active organizer for the Catania International Summer School of Neuroscience during 2016 and 2017.

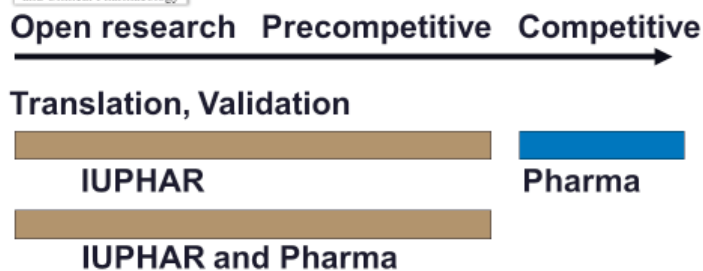
Future Actions and Challenges

Drug Discovery & Development in Academia and Industry

The world is awash with scientific data, but its interpretation for therapeutic benefit lags far behind. IUPHAR can provide a precompetitive level playing field for collaboration between pharmaceutical industry, biotechs and academics (figure 4). We are considering setting up an academic drug discovery initiative for the developing world. Jim Barrett is steering the efforts.



Figure 4: Preclinical mechanisms



An opportunity to contribute to a global initiative in clinical and preclinical healthcare and education, bridging the gap between preclinical molecular targets, translational medicine, clinical pharmacology, and aid pharmacology in developing countries.

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IUPHAR Secretary General's Report (continued)

An alliance with the Indian Pharmacological Society has been made to develop health and pharmacology education throughout India and support drug discovery and development. The Indian Pharmacological Society has delocalised its meetings to cover regional and local centres, and the 2019 annual meeting will offer the opportunity for IUPHAR executive committee members to be speakers. We now need to develop a major grant application to support these actions.

We wish to involve the pharmacology societies around the world even more.

How will we do this?

- We have used Skype, telephone conferences, meeting dial-ins or YouTube videos in an experimental fashion during 2014-2018. It has been an overall success, so we propose to link IUPHAR scientists with member society meetings where we cannot have a direct presence because travel funds are very limited. If you would like to invite an IUPHAR representative to a pharmacology society meeting you are organising, please contact admin@IUPHAR.org so we may explore participation by Skype or teleconference.
- During July, the 2018-2022 Executive Committee will choose a Young Investigator Corresponding Member, who will be charged with linking young scientists around the world via social media. The Edinburgh database can help with this initiative.
- The IUPHAR executive committee will also initiate additional scientists as Corresponding Members to provide additional expertise beyond those areas covered by the executive committee. This initiative will be tested during the 2018-2022 term then finalised thereafter.

IUPHAR finances are very thin being composed primarily of the member societies' dues, with a few subventions and grants. We thank Servier for their ongoing support of NC-IUPHAR meetings. We have successfully obtained important Wellcome Trust Foundation grants for the Guidetopharmacology and -immunopharmacology, and MMV has financed the guide to malaria pharmacology. However, the Wellcome Trust Foundation grants expire at the end of October, representing a challenge to continue our efforts at this level.

Transition to 2018

I must thank Sam Enna, Lynn LeCount and Leigh Ann Arbuckle of the Kansas City IUPHAR Administrative Office. Sam has served two terms as secretary-general then as president for a total of 12 years. Lynn has been the principle 'on-the-ground' organiser and contact for IUPHAR during this time with Leigh Ann keeping track of the finances. Special kudos goes to Petra Thürmann for her work as the treasurer for the last term and extraordinary efforts at realigning IUPHAR to comply with the not-for-profit regulations under which it remains tax-free. They have held IUPHAR together. It is with some trepidation that a new team must take on a new era.

We very much appreciate all the work done by the Japanese Pharmacological Society and the Japanese Society of Clinical Pharmacology in the organisation of WCP2018 in Kyoto. Have a great success!

Finally, I would like to thank all the wonderful people I met during this period, and also the support from Pharmacology Societies around the world. We look forward to meeting you all in Kyoto!

Michael Spedding
IUPHAR Secretary General

With contributions from David J. Webb and Lynn LeCount *Continued on page 39...*

IUPHAR Secretary General's Report

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Appendix: IUPHAR Publications 2014-2018

- Alexander SPH, Catterall WA, Kelly E, Marrion N, Peters JA, Benson HE, et al. (2015a). THE CONCISE GUIDE TO PHARMACOLOGY 2015/16: Voltage-gated ion channels. *British Journal of Pharmacology* 172(24): 5904-5941.
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- Williamson, G, Clifford, MN. Role of the small intestine, colon and microbiota in determining the metabolic fate of polyphenols. Pages 24-39.
- Meeting Abstracts on Pages 105-142.

The Inauguration of the Nigerian Society of Clinical Pharmacology and Therapeutics

Clinical Pharmacology and Therapeutics has been in existence in Nigeria for about four decades with the pioneering efforts of the late Emeritus Professor Lateef Akinola Salako (1935 -2017). He started the Clinical Pharmacology Unit



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in the University College Hospital, Ibadan, Nigeria as an offshoot of The Department of Pharmacology of the University of Ibadan, Nigeria in 1979 (http://uch-ibadan.org.ng/Clinical_Pharmacology). The need for training of physicians in the subspecialty of clinical pharmacology and therapeutics was recognized early in Nigeria and the discipline has been accepted and is examined as a subspecialty of Internal Medicine in the National Postgraduate Medical College of Nigeria and, most recently, in the West Africa College of Physicians. To date, Nigeria has produced only about 30 clinical pharmacologists, despite the increasing needs for clinical pharmacologists in health care, research and medical education for the population of over 170 million people.

Two Nigerians, Dr. Olayinka Ogunleye, a Consultant Physician and Clinical Pharmacologist at the Lagos State University College of Medicine and its Teaching Hospital, and Dr. Joseph Fadare, a Consultant Physician and Clinical Pharmacologist at the Ekiti State University College of Medicine and its Teaching Hospital, were hosted at the Clinical Pharmacology Mentoring Centre in Stockholm, Sweden. They spent October 14th through 28th, 2017 in the Division of Clinical Pharmacology at the Karolinska Institutet and Karolinska University Hospital for mentoring and training by Professor Lars L. Gustafsson, who is the Co-Chair of the IUPHAR Subcommittee for Clinical Pharmacology in Developing Countries. Their curriculum included significant time with the Head of the Division of Clinical Pharmacology at Karolinska Institutet, Associate Professor Georgios Panagiotidis, and the Head of the Clinic at Karolinska University Hospital, Professor Marja-Liisa Dahl. The visit was the launch of the Clinical Pharmacology Mentoring Centre at Karolinska Institutet, which seeks to strengthen clinical pharmacology and therapeutics in developing countries. (<https://iuphar.org/clinical-division/mentoring-centers>). At the end of the visit, Olayinka and Joseph and their hosts identified, amongst a number of action plans, the critical need for clinical pharmacologists in Nigeria to collaborate towards achieving specific goals in strengthening the subspecialty in Nigeria and the rest of Africa.

While there have been some past attempts to bring together clinical

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The Inauguration of the Nigerian Society of Clinical Pharmacology and Therapeutics

(continued)

pharmacologists in Nigeria, this renewed vision injected a sense of urgency to the efforts. The enthusiastic responses from colleagues led to a meeting of clinical pharmacologists in Nigeria on March 2nd, 2018 at the Lagos State University Teaching Hospital in Ikeja, Lagos. Fourteen people attended along with a few other invited guests, including the Chief Medical Director, Professor David Oke, and medical students and residents in the Clinical Pharmacology unit of the host institution.

The occasion featured some reminiscence on the advent and development of clinical pharmacology in Nigeria and a moment of tribute for the pioneering roles of Professor Lateef Akinola Salako, who died on the December 8th, 2017. Professor Oladapo Walker (photograph at right), who has held various leadership positions at the World Health Organization (WHO) in the African region, delivered the keynote address. A senior clinical pharmacologist, Professor Walker is a former Professor and Head of the Department of Pharmacology and Therapeutics at the University of Ibadan, Nigeria and is currently a Professor of Pharmacology and Therapeutics at Babcock University in Ilishan-Remo, Nigeria.



Participants of the inaugural meeting

L → R: (front) Prof. Ambrose Isah, Prof. Oladapo Walker, Prof. David Oke, Prof. Catherine Falade, Prof. Ibrahim Abdul-Aguye, Dr. Olayinka Ogunleye; (middle) Dr. Abimbola Opadeyi, Dr. Adura Adedapo, Prof. John Obodo and Dr. Michael Obaro; (back) Dr. Okezie Enwere, Dr. Titus Okpara, Dr. Peter Akhideno, Dr. Joseph Fadare, Dr. Sunday Ogundele

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The Inauguration of the Nigerian Society of Clinical Pharmacology and Therapeutics

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He reflected on the history of clinical pharmacology globally and how drug discoveries continue to contribute to improved health care and disease control. Professor Walker berated researchers from developing countries for their lack of contributions to basic medical research. He advocated the need for Nigeria and the other developing countries to focus on drug discoveries and translational researches to address the emerging double burden of communicable and non-communicable diseases in this region. He endorsed granting clinical pharmacologists the opportunity to guide healthcare policies related to the field. Lastly, Professor Walker highlighted the need for mentorship to help clinical pharmacologists take leading roles in education on medicines and its use as well as several potential opportunities in research.



The subsequent business meeting (photograph above) resulted in the participants agreeing to originate a society named the Nigerian Society for Clinical Pharmacology and Therapeutics (NSCPT). The group brainstormed goals and time-lines for promoting clinical pharmacology at local and national levels, such as education, clinical services, healthcare, government policies, regulatory and industrial affairs and research among others. The members broke into three working groups, namely Constitution Development, Curriculum Review, and Rebranding and Advocacy with specific terms of references defined for each group to work on then report back at the next meeting.

Members left the meeting in high spirit with commitments to sustain the drive towards strengthening clinical pharmacology and therapeutics in Nigeria. The next meeting will be hosted by colleagues in the Department of Clinical Pharmacology at the University College Hospital in Ibadan in June 2018. More details will be made available as the Nigerian Society for Clinical Pharmacology and Therapeutics takes shape.

Olayinka O. Ogunleye†

Joseph O. Fadare†

Sunday O. Ogundele

†Members. IUPHAR Sub-committee for Clinical Pharmacology in Developing Countries



Report from the IUPHAR Liaison to the INTERNATIONAL COUNCIL FOR SCIENCE

ICSU is an NGO with 142 national scientific members and 31 international scientific unions, of which IUPHAR is one. ICSU's mission is to strengthen international science for the benefit of society. It is governed by an Executive Board while its secretariat ensures day-to-day planning and operations from the central office in Paris. Every two to three years, legislative matters are discussed and decided at the General Assemblies, the ICSU "parliament". As votes are based on the amounts of membership dues paid, the national members have about 90% of the voting weight compared with the scientific unions. ICSU has three Regional Offices: Pretoria, Africa, Kuala Lumpur for Asia and the Pacific Region, and San Salvador, El Salvador covering Latin America and the Caribbean. Every two years, ICSU also convenes delegate meetings for the scientific unions in Paris.

ICSU has many groups, called interdisciplinary bodies, that focus on particular topics of international scientific relevance. They report regularly during General Assemblies and scientific union delegate meetings. Altogether, progress made by these interdisciplinary bodies seems to be very good so I am optimistic about their outlook. Below is a list for pharmacologists who may have interdisciplinary interests and wish to learn more:

Committee on Data for Science and Technology (CODATA)
Committee on Space Research (COSPAR)
Future Earth
Global Climate Observing System (GCOS)
Global Ocean Observing System (GOOS)
INASP (previously International Network for the Availability of Scientific Publications)
Integrated Research on Disaster Risk (IRDR)
Scientific Committee on Frequency Allocations for Radio Astronomy and Space Science (IUCAF)
Scientific Committee on Antarctic Research (SCAR)
Special Committee on Oceanic Research (SCOR)
Scientific Committee on Solar Terrestrial Physics (SCOSTEP)
Urban Health and Wellbeing
World Climate Research Programme (WCRP)
World Data System (WDS)

<http://www.codata.org>
<https://cosparhq.cnes.fr>
<https://www.futureearth.org>
<http://www.gcos-science.org>
<http://goosocean.org>
www.inasp.info
www.irdinternational.org
<http://www.iucaf.org>
<http://www.scar.org>
www.scor-int.org
<http://www.yorku.ca/scostep>
www.urbanhealth.ac.cn
<http://www.wcrp-climate.org>
www.icsu-wds.org

On October 24, 2016, a joint Extraordinary General Assembly of the Councils of ICSU and the International Social Science Council (ISSC; www.worldsocialscience.org) was held to discuss the usefulness and modalities of merging the two organizations. I



At left, ISSC President, Alberto Martinelli, conferring with ICSU President, Gordon McBean

used on-line streaming to follow the discussions in Oslo that day. Although IUPHAR agreed in principle with the proposed merger, some union members of ICSU expressed concerns about how this might affect the role of ICSU in international scientific relations. Ratification required approval by two-thirds of both councils' voting members. The final count in favor of the merger was 97.6% of ICSU members and 90.0% of ISSC members. The agreement to merge paved the way for the start of the legal implementation phase.

The most recent ICSU General Assembly place in Taipei, Taiwan on October 23 – 26, 2017. Much time and effort at the Taipei meeting were dedicated to the merger of ISSC and ICSU. Year-end financials were reported as of 2016 to be €5'748'908 in reserves for ICSU and €2'973'824 for ISSC. While nearly everyone agreed that it was a good idea to fuse these two scientific organizations, the procedural and constitutional matters consumed two days. Discussions, followed by a vote, resulted in the proposal to name the newly formed organisation the International Science Council (ISC).

Continued on page 44...

Report from the IUPHAR Liaison to the International Council for Science (ICSU) (continued)



At that business meeting, the recently modified ICSU grants program was described and the progress reports from two of the prior awardees were presented. Previously, ten grants of €30,000 each were offered annually, of which IUPHAR was been awarded two in the past. As of 2017, three grants for a duration of three years are offered every third year, each for a maximal budget of €300,000. Although IUPHAR submitted joint applications with the Unions of Toxicology and of Immunology, these were not ultimately funded. In addition to the large grants now offered by ICSU, there is a special program handled by the Regional Office in Africa. Of particular interest to several IUPHAR member societies is the initiative, *Leading Integrated Research for Agenda 2030 in Africa* (LIRA 2030). Started last year, nine groups have already

initiated projects in Africa and seems to make good progress. The finances for LIRA 2030 come from the Swedish International Development Agency, whose goal is to strengthen research capacity in Africa.

Members also voted (photograph at left) on the location of the next General Assembly. Fukuoka, the largest city in Kyushu, Japan and Paris bid to host it. There was a large majority in favor for the capital of France; so, the next one will take place in Paris in September 2018. Photos of the General Assembly can be viewed at <https://www.flickr.com/photos/icsu/sets/72157689700276436>.

Electronic General Assemblies by ICSU and ISSC were both subsequently held May 11 - 16, 2018. The ICSU and ISSC Councils approved the merger so the International Science Council will establish during 2018 a new unified council to serve as a global voice for science.

A past problem for ICSU has been a lack of feedback from its members to integrate into its current and future activities. As an example, IUPHAR was one of the eight, out of 31, international scientific unions to comment - positively - on the ICSU-ISSC merger. Only few of the national scientific members replied. Thus, communication with the members must be addressed by ISC if it is to be sustainable. Certainly, in these times where numerous governmental bodies do not consider scientific evidence as a basis for decisions, it is important for scientists to support organisations such as ISC in order to help create a united voice for the field.

I wish IUPHAR and ISC much success with their efforts for the years to come.

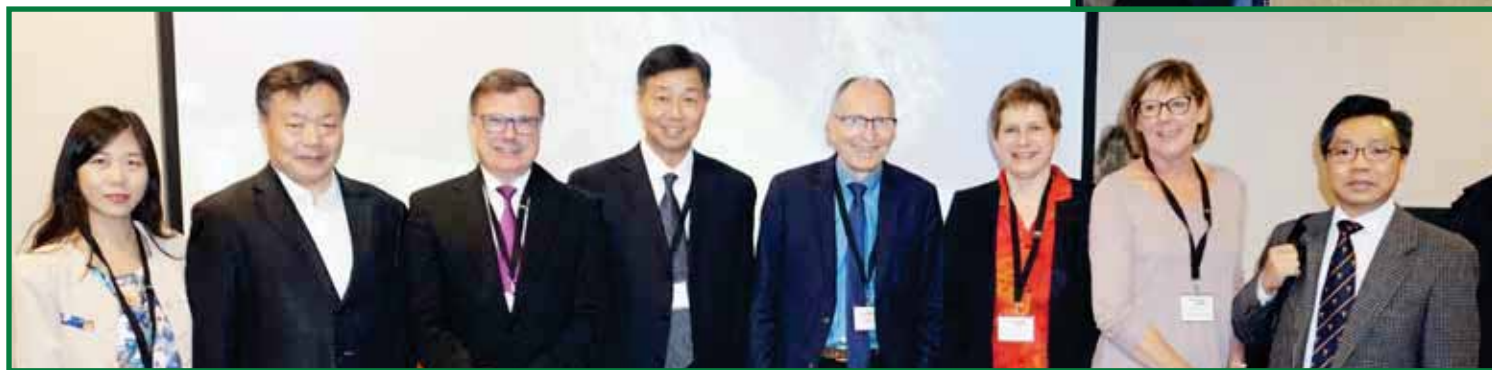
Urs Rüegg
ICSU/ISC-IUPHAR liaison
IUPHAR Treasurer 2006-2014



The World Conference on the Pharmacology of Natural and Traditional Medicine is the flagship meeting organized by the Pharmacology of Natural Products Section of the International Union of Basic and Clinical Pharmacology (IUPHAR). It has been hosted in Hangzhou, China (2009), Macau, China (2012), and Singapore (2015). Subsequent to discussions held during the very successful Singapore meeting, Prof. Yongxiang Zhang, IUPHAR Pharmacology of Natural Products (PNP) Section Chair, was pleased to announce that the fourth conference had been scheduled in Aberdeen as a joint meeting with the International Conference on the Mechanism of Action of Nutraceuticals (ICMAN). Prof. Cherry Wainwright, the ICMAN Chair, and Prof. Valérie Schini-Kerth, the PNP Section Vice-Chair, agreed to co-chair the joint conference. The conference theme “From Nutraceuticals to Pharmaceuticals, Common Challenges and Approaches” accurately reflected the collaboration of the two conferences.

During the opening ceremony on September 27th, Prof. Cherry Wainwright and Prof. Yongxiang Zhang (photograph at upper right) welcomed the international audience on behalf of ICMAN and the PNP Section, respectively. Prof. S.J. Enna, the IUPHAR President, and Prof. Michael Spedding (photograph at right), the IUPHAR Secretary-General, offered their congratulations to the meeting organizers on the quality and variety of the topics and speakers. The formal scientific program consisted of six themes:

1. Novel sources of nutraceuticals and natural product pharmaceuticals;
2. Bioavailability/pharmacokinetics of nutraceuticals and natural product pharmaceuticals;
3. Translating novel pathways and mechanisms of action into the clinical use of nutraceuticals and natural product pharmaceuticals;
4. Personalized nutrition and natural product medicine: therapeutic evidence and regulatory requirements?
5. Two different worlds?-addressing the convergence between nutraceuticals, TCM and western medicine;
6. Drug/nutrient/microbiome/lifestyle interactions.



The PNP Section representatives: L → R: Ying Zhao, Guanhua Du, Thomas Efferth, Yongxiang Zhang, Michael Spedding, Valérie Schini-Kerth, Cherry Wainwright, Wai Shiu Fred Wong

Continued on page 48...



ICMAN IUPHAR Natural Products Aberdeen 2017

(continued)

Each theme included one keynote lecture and two themed plenary lectures, one invited by ICMAN and the other by IUPHAR. Forty-six speakers were selected from the submitted abstracts, providing opportunities for young researchers to interact with one another in ten separate sessions. An additional six workshops focused on experts discussing the prospects and strategies for developing nutraceuticals and pharmaceuticals based on natural products.



The PNP Section held a business meeting (photograph above) in conjunction with the conference. Profs. Yongxiang Zhang, Valérie Schini-Kerth and Wai Shiu Fred Wong led the discussions that included guests from the Chinese Pharmacological Society, Profs. Guanhua Du, Wenxia Zhou and Ning Jiang. It was proposed that the 5th World Conference on the Pharmacology of Natural and Traditional Medicine be held in 2019 in Hyderabad, India in conjunction with the annual meeting of Indian Pharmacological Society (IPS). The proposal was later confirmed by Profs. Dinesh Kumar



Giovanna Bermano and Valérie Schini-Kerth chaired a symposium

Continued on page 49...



Jeremy Spencer



Raymond Anderson



Juntian Zhang



Rudolph Bauer



Guanhua Du



ICMAN IUPHAR Natural Products Aberdeen 2017

Bharatraj, the IPS President and Bhagirath Patel, the IPS General Secretary. Another important issue discussed was strategies to expand the Section. Considering the wide-ranging uses and research of traditional and natural medicines, it was agreed to enlarge the Section's Executive Committee with representatives from more regions and countries. The nomination of new members is open through the next Section business meeting scheduled Friday, July 6th at 11:00 a.m. during the 2018 World Congress of Basic and Clinical Pharmacology in Kyoto, Japan. Natural products and traditional medicine researchers are invited to email self-nominations with a current biosketch to NaturalProducts@IUPHAR.org.



The participants were very engaged in the sessions

Thanks to the efforts by Profs. Wainwright and Enna and Dr. Eliot Ohlstein, the IUPHAR Editorial Board Chair, the conference proceedings appeared as a special issue of Biochemical Pharmacology (<https://www.sciencedirect.com/journal/biochemical-pharmacology/vol/139>). As mentioned in the special issue preface by Profs. Yongxiang Zhang, Michael Spedding, Cherry Wainwright, Valérie Schini-Kerth, and Giovanna Bermano, "The Aberdeen meeting brought together scientists engaged in drug discovery in general and those focused on identifying and characterizing pharmaceuticals and nutraceuticals derived from natural sources. ... topics considered include ways to facilitate natural product drug discovery and to apply more rigorous scientific standards in evaluating these drug candidates to broaden their use and to enhance their efficacy and safety." We believe this conference represents the first step in a unique collaboration by pharmacologists and nutritionists on natural product research to foster modern drug discovery and development based on ancient resources and theories.

Ying Zhao
PNP Section Secretary

and

Wenxia Zhou
Chinese Pharmacological Society Deputy Secretary-General



A distinguished line up of speakers

L → R: Yongxiang Zhang, Rudolph Bauer, Thomas Efferth, S J Enna, Guanhua Du, Michael Spedding, Wenxia Zhou



The South African Annual Pharmacology Conference (SAPHARM-2017)
Faculty of Health Sciences, University of the Free State
October 1st – 4th, 2017

The 2017 Annual Pharmacology Conference (SAPHARM-2017) of the South African Society for Basic and Clinical Pharmacology (SASBCP) was hosted in Bloemfontein South Africa by the Department of Pharmacology and its Research Unit on Indigenous Knowledge Systems (IKS). The conference covered a wide range of topical issues, thereby exposing participants to the latest developments in pharmacology and related fields, hence the theme, *Advances in Pharmacological Sciences*.

Participation

The conference attracted 148 participants, the majority of whom were from South African higher institutions of learning. There were 82 (55.4%) students, of whom 76 (92.7%) were from South Africa. Other participants represented mainly Nigeria (5) and India (7). The two pre-conference workshops were over-prescribed with 46 and 48 participants (planned for 25 each), of mainly postgraduate students. The organizers wish to thank the sponsors that enabled the strong participation of many young scientists. Of note, with such humble participation of four staff members from the Traditional Healers' Organisation, this conference marked a new beginning for a closer association of researchers and these traditional knowledge holders.

Continued on page 51...



Speakers paused with the exhibitors (in red) at the 'Traditional Healer's Organisation' stand.

The South African Annual Pharmacology Conference (continued)



All the sessions were held in the spacious and decorated Kine 5 hall.

Proceedings

The pre-conference workshops were supplemented with seminal presentations on traditional medicines. One was on *Quality Practices in Biomedical Research* by Prof. A. Walubo, Dr. G.M. Matsabisa and Prof. P. Mukherjee (from India); and the other was on *Analysis of therapeutic proteins by LC-MS/MS* by Profs. V. Maharaj, O. Heudi (from Switzerland) and F. Braga (from Brazil). Many issues presented in these workshops were components of the subsequent conference presentations, reflecting their relevance.

Continued on page 52...



Prof. Christo Muller giving the opening lecture on the SAMRC research agenda for the 21st Century.



Prof. Olivier Heudi during his lecture on 'methods for analyzing therapeutic proteins'.



Prof. F. Braga giving his lecture on regulation of herbal medicines in Brazil.



Prof. P. Mukherjee his lecture on regulation of traditional medicines in India.



Prof. Charles Mondo giving his lecture on advances in hypertension therapy.



Dr. G. Matsabisa giving his lecture on regulatory challenges for African traditional medicines.

The South African Annual Pharmacology Conference (continued)

The conference program entailed several plenary lectures that were punctuated by oral and poster presentations. The plenary sessions covered topics such as LC/MS-MS analysis of therapeutic proteins or biological medicines by Prof. O Heudi and Prof. H. Reuter; novel approaches to management of neuropsychiatric diseases by Prof B. Harvey, Prof. V. Steenkamp and Dr. P. van Zyl; use of LC/MS-MS as an imaging tool by Prof. T. Govendor supported by his research group; advances in cardiovascular therapies with special reference to hypertension and anti-coagulation by Prof. C. Mondo (Uganda) and Prof. M. Makotoko; product development from African traditional medicines, a comparison with India and Brazil by Prof. F. Braga, Prof. P. Mukherjee and Dr. G. Matsabisa; anti-tuberculosis drug induced hepatotoxicity and new drug designs by Prof. C. Karen, Prof. A. Walubo and Prof. K. Syed; strategies for drug development and research, including traditional medicines by Dr. H. Chabalala, Prof. D. Oliver and Prof. B. Rosenkranz; and ARV therapy and pharmacovigilance in South Africa by Prof. G. Maartens and Mr. D. Mukesh.

The majority of the oral and poster presentations were on drug-discovery research from traditional medicines, specifically, testing for activity against diabetes mellitus, malaria, inflammation, oxidative states, cardiovascular disease, central nervous diseases, HIV and tuberculosis, indicating how researchers are addressing priority diseases in South Africa, and Africa at large.

Awards

The conference featured the young pharmacologist competition for the best podium (oral) and poster presentations in basic and clinical pharmacology, as well as the best publication and educator awards, along with the social media challenge. The winners were announced at the gala dinner that was attended by Prof. G.J. van Zyl, the dean, the faculty of health sciences and Dr. G. Taylor, the Director of Research, University of the Free State. The winner for the young pharmacologist competition for podium presentations in basic pharmacology was Jaco Fourie from the NorthWest University with a paper entitled '*Evaluation of Efavirenz on addictive-like behaviors and neurochemistry in rats*'. The first runner-up was Kim Sheva from University of Pretoria, followed by Crystal Erichsen from the NorthWest University. The winners for poster presentations were Lizahn Laing and Lloyd Tanner for Basic and Clinical Pharmacology, respectively. Both were from the University of Cape Town. The winners for the 2016 best publication award were Prof. Brian Harvey and Dr. Madeleine Uys for their article entitled '*The $\alpha 2C$ -adrenoceptor antagonist, ORM-10921, has antipsychotic-like effects in social isolation reared rats and bolsters the response to haloperidol (Progress in Neuro-Psychopharmacology & Biological Psychiatry 2016; 71: 108–116)*' and third places, respectively, were articles submitted by Prof. Robyn van Zyl and Prof. Christiaan Brink. Lastly, the 2016 Best Educator's Award went to Prof. V. Steenkamp from the University of Pretoria. Of note, Prof. Steenkamp succeeded Prof. Brink as the new president of the Society, thereby making history as the first female president of the Society. We are thankful to our local and international colleagues who offered their expertise as adjudicators and/or judges in each of these competitions. The gala dinner would not have been so exciting without the spectacular group of schoolchildren, 'the raising stars', who entertained the participants to a local traditional dance during which they exhibited a complex choreography.

Continued on page 53...

The South African Annual Pharmacology Conference (continued)



The 'raising stars' are a group of school children who performed traditional dances at the Gala dinner then joined some of the delegates for a photograph.

Sponsors

The organisers and SASBCP are grateful to the sponsors, particularly the South African Medical Council (SAMRC), which was also the first to respond to our request, for making this conference a success. The other prominent sponsors included the National Research Foundation (NRF), cover underwrote travel costs of an international speaker and Servier Laboratories for supporting workshop registration fees for twenty (20) young scientists. Other supporters were the Department of Science and Technology (DST) and the national Department of Health (DoH) for sponsoring several local and international speakers, and students, as well as Boehringer Ingelheim for the educator award, and, of course, we thank all our exhibitors.

Prof. A. Walubo
Organizing Committee Chair

Please note that only opening and international speakers have been featured in photographs due to space limitations.





The 2nd Joint Meeting of the Chinese Pharmacological Society and the American Society for Pharmacology and Experimental Therapeutics

November 2-5, 2017 in Hangzhou, China

In order to further facilitate international communication and cooperation, the first joint meeting between the Chinese Pharmacological Society (CNPHARS) and the American Society for Pharmacology and Experimental Therapeutics (ASPET) was held in conjunction with Experimental Biology in San Diego, USA during 2014. It was chaired by Richard Neubig, who was President of ASPET at the time. As agreed by the partnering societies, the 2nd CNPHARS-ASPET joint meeting was held in Hangzhou, China on November 2-5, 2017. More than 220 delegates from China and the USA attended the event. Leaders and executive members from both groups participated in the proceedings. ASPET honored CNPHARS by sending several high-ranking leaders, including Profs. Edward Morgan (President-Elect), John Tesmer (Secretary-General), Margaret Gnegy (Secretary-General-Elect), and Charles France (Past Secretary-General).

The opening ceremony was held at Hangzhou Baima Lake Jianguo Hotel on the morning of November 3rd. Prof. Yonghe Zhang (CNPHARS Secretary-General - photo at right) hosted



the ceremony and Prof. Yongxiang Zhang (Meeting Co-Chair, CNPHARS President, - photo at left) welcomed the attendees and expressed his sincere gratitude to the Zhejiang University of Traditional Chinese

Medicine and the Zhejiang Pharmacological Society for co-hosting the joint meeting. Then he gave a brief overview of the progress in China for pharmacology and new drug research and development. Finally, he urged the participants to promote the communication and cooperation between China and USA in pharmacology and drug development. Prof. John D. Schuetz (Meeting Co-Chair, ASPET President - photo



2nd Joint Meeting of ASPET and CNPHARS (continued)



The group convened at Hangzhou Baima Lake Jianguo Hotel for the joint meeting.

at right) then offered the audience a brief description of the history and mission of ASPET. Dr. Jinhui Gu (Director of the Department of Science and Education Division of the National Health and Family Planning Commission of China - photo at right), warmly congratulated the meeting organizers, and highlighted the progress and achievements of the National Science and Technology Major Projects for Major New Drugs R&D. He was confident the joint meeting would provide a great communication platform for pharmacologists from China and USA to explore innovative approaches to developing new therapeutics in China. To meet that goal, the joint meeting featured two symposia entitled *Molecular Pharmacology and Drug Discovery* and *Traditional Medicines and Natural Products in Treating Disease*.

The Molecular Pharmacology and New Drug Discovery session was co-chaired by Prof. Guanhua Du (CNPHARS Past President) and Dr. David R. Sibley (ASPET Past President). The keynote address of “GPCRomics: tissue and cellular GPCR expression identifies new therapeutic targets” was delivered by Prof. Paul Insel from the University of California, San Diego. Afterward, six experts from China and the USA reported their recent findings related to drug development efforts based on G protein-coupled receptors (GPCRs).

The Traditional Medicines and Natural Products on the Treatment of Diseases session was co-chaired by Prof. Jianguo Chen (CNPHARS Vice President and Huazhong University of Science & Technology Vice President) and Prof. Benedict Green (Research Pharmacologist with the United States Department of Agriculture). Prof. Yongxiang Zhang’s keynote lecture was entitled “Pharmacological study on traditional Chinese medicine and natural product in China”. He systematically introduced the pharmacological research and progresses of traditional Chinese medicine and natural products in China. Then six pharmacologists from China and USA presented recent progress in traditional Chinese medicine and natural products. The meeting participants found this session to be a particularly intriguing blend of eastern and western medicine.



2nd Joint Meeting of ASPET and CNPHARS (continued)

Pharmacology
International

June 2018



Symposia speakers: L → R: and top → bottom: Paul Insel, Yongxiang Zhang, Wei Wei, Mary-Ann Bjornsti, Xin Xie, Rick Neubig, Jinpeng Sun, John Tesmer, Benedict Green, Jiandong Jiang, Mary F. Paine, Zhenhua Jia, Nadja Cech, Guanhua Du.

2nd Joint Meeting of ASPET and CNPHARS (continued)

Young investigators, five from China and five from the USA, were invited to present their research on the morning of November 4th. Of this group, Amy Moritz (postdoctoral fellow of the National Institutes of Health), Shu Wiley (postdoctoral fellow of the University of California, San Diego) and Biyu Hou (doctoral candidate of the Institute of Materia Medica, Chinese Academy of Medical Sciences) received Youth Excellent Report Awards (lower right photo). The joint meeting organizers also presented 12 young investigators with an Excellent Poster Award (lower left photo). More than 120 abstracts were published in the *Chinese Journal of Pharmacology and Toxicology* (issue 7, 2017). At the closing ceremony, Prof. Zhang, and Prof. Schuetz delivered concluding remarks on behalf of CNPHARS and ASPET, respectively.



The CNPHARS-Servier Prize for Young Investigator in Pharmacology (lower right photo) and the CNPHARS Young Pharmacologist Award (lower left photo) were presented to the winners during a ceremony co-hosted by Profs. Guanhua Du, Yonghe Zhang, and Wei Wei. Dr. Xiaoming Zhu (Macau University of Science and Technology), a 2017 recipient of the CNPHARS-Servier Prize for Young Investigator in Pharmacology, gave a speech on behalf of all the 2017 recipients. Dr. Jean-Luc Picker, Head of Scientific Relations at North Asia, Schweitzer, delivered a congratulatory speech on behalf of the French Academy of Servier. Prof. Yongxiang Zhang encouraged young pharmacologists to remain humble and pursue excellence with a sense of responsibility.



The strong academic atmosphere of this conference allowed the attendees to learn through the presentations and discussion some of the latest progress in the field of GPCR-related drug R&D as well as the pharmacological aspects of traditional Chinese medicine and natural medicine in China and abroad. The joint meeting fulfilled its purpose to promote academic communication and cooperation between Chinese and American scientists. The meeting organizers have already begun laying the plans for the 3rd CNPHARS-ASPET Joint Meeting to be held in Orlando, USA, in April 2019.

Yan Huang, Beijing Institute of Pharmacology and Toxicology
Xiaorui Zhang, Beijing Institute of Pharmacology and Toxicology
Ying Zhao, Chinese Pharmacological Society
Wenxia Zhou, Beijing Institute of Pharmacology and Toxicology



The ASPET and CNPHARS leadership

Upcoming Events

IUPHAR 18th World Congress of Basic and Clinical Pharmacology

July 1 – 6, 2018 in Kyoto, Japan

<http://www.wcp2018.org>

Serotonin on the Wild Atlantic Way, the 19th Meeting of International Society for Serotonin Research

July 15 – 19, 2018 in Cork, Ireland

<http://serotoninclub.org>

International Congress of Genetics featuring the IUPHAR Pharmacogenetics and Pharmacogenomics Section symposium

September 10 – 14, 2018 in Foz do Iguaçu, Brazil

<https://www.sbg.org.br/pt-br/noticias/2018-international-congress-genetics>

International Association of Therapeutic Drug Monitoring and Clinical Toxicology Congress in conjunction with the **Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists**

September 16 – 19, 2018 in Brisbane, Australia

<http://www.iatdmct2018.org>

2018 Safety Pharmacology Society Annual Meeting with a Continuing Education Program and DSP Certification Exam on September 29th

September 30 – October 3, 2018 in Washington DC, USA

<http://www.safetypharmacology.org/am2018>

Immunopharmacology: Challenges, opportunities and research tools organized by the **British Pharmacological Society**, featuring the official launch the **IUPHAR Guide to IMMUNOPHARMACOLOGY database project**

October 1 – 2, 2018 in Edinburgh, United Kingdom

<https://www.bps.ac.uk/news-events/future-scientific-meetings/2018/immunopharmacology-challenges,-opportunities-and#Overview>

30th Congress of the Spanish Society of Clinical Pharmacology

October 3 – 5, 2018 in Santander, Spain

<http://www.se-fc.org>

Autumn Meeting of the Belgian Society of Fundamental and Clinical Physiology and Pharmacology

October 19, 2018 in Brussels, Belgium

<http://users.ugent.be/~jvdvoord/physiology&pharmacology/index.htm>

19th International Union of Food Science and Technology (IUFoST) World Food Science and Technology Congress

October 23 – 27, 2018 in Mumbai, India

<https://www.iufost2018.com>

Pharmacology 2018 organized by the **British Pharmacological Society**

December 18 – 20, 2018 in London, United Kingdom

<https://www.bps.ac.uk/news-events/future-scientific-meetings>

To include your events here, please e-mail the details to admin@uphar.org.

★ ★ *Safety Pharmacology Society* ★ ★

WASHINGTON, DC

September 30–October 3, 2018

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

2018 Scientific Sessions

- ★ Science=Solutions for the US Opioid Crisis
- ★ Secondary Pharmacology: From the Test Tube to the Clinic
- ★ Next Generation Non-Opiate Pain Management
- ★ Safety Pharmacology/FDA Discussion on the Gastrointestinal System
- ★ CiPA Real-Life Implementation
- ★ The Promise and Perils of Heart Failure Gene Therapy
- ★ Cardio-Oncology
- ★ Central Nervous System and Sensory Assessments: Established and Emerging Nonclinical Drug Safety Testing Strategies
- ★ Advanced Imaging Techniques in Preclinical Safety
- ★ *In Silico* Approaches
- ★ From Bench to Bedside—Translational Clinical Pharmacology Designs
- ★ Case Studies—Preclinical to Clinical

and much more!

Abstract Submission

Deadline: June 15

Early Bird Registration

Deadline: July 15



WWW.SAFETYPHARMACOLOGY.ORG/AM2018

IMMUNOPHARMACOLOGY: CHALLENGES, OPPORTUNITIES AND RESEARCH TOOLS

01-02 October 2018

John McIntyre Conference Centre, The University of Edinburgh, UK

Objectives

- To highlight the challenges in bridging the gap in communication and data exchange between the immunity, inflammation and infection research communities and the pharmacology community, and the need for an easily accessible data flow in both directions.
- To provide an official launch for the International Union of Basic and Clinical Pharmacology (IUPHAR) Guide to IMMUNOPHARMACOLOGY database and portal (www.guidetoimmunopharmacology.org).
- To assist early career researchers embarking on a career in academic and industrial immunopharmacology.

Speakers

Krebs Cycle reprogrammed for Cytokines
Professor Luke O'Neill, Trinity College Dublin, Ireland

Discovering the right target in inflammatory disease – savvy or serendipity?
Professor Iain McInnes, University of Glasgow, UK

Quantitative Clinical Pharmacology approaches to optimising Cancer Immunotherapy treatment
Dr Alex Phipps, Roche, Welwyn Garden City, UK

Targeting PI3K in cancer, inflammation and metabolism
Professor Matthias Wymann, University of Basel, Switzerland

Decision-making in lung immunity
Professor Tracy Hussell, University of Manchester, UK

Inhibit Activation or Activate Inhibitor of Mast Cells and Eosinophils: Which Weapon is Better to Fight Allergic Diseases?
Professor Francesca Levi-Schaffer, Hebrew University of Jerusalem, Israel

A review on kinase targets in immunological indications
Dr Dorian Fabbro, Piquar Therapeutics, Switzerland

Targeting Pattern Recognition Receptor receptor signaling for therapeutic approaches
Professor Clare Bryant, University of Cambridge, UK

Treating immunodeficiency with an immunomodulator: Effective therapy of APDS by PI3Kd inhibitor leniolisib
Dr Christoph Burkhardt, Novartis, Switzerland

The biology of GPR91 and its role regulating autoimmune responses
Dr José Carballido, Novartis, Switzerland

Novel strategies for Active Immunotherapy: from T cell engagers to CAR T cells
Dr Thierry Wurch, Servier, France

Targeting the PI3Kgamma signalosome to treat asthma and cystic fibrosis
Professor Emilio Hirsch, University of Torino, Italy

Macrophage plasticity in immunopathology and cancer: from bench to bedside
Professor Alberto Mantovani, Humanitas University, Milano, Italy

Resolution of inflammation and infection
Professor Mauro Teixeira, Federal University of Minas Gerais, Brazil

Meeting organisers

Dr Adam Pawson,
University of Edinburgh, UK

Dr Steve Alexander,
University of Nottingham, UK

Professor Clare Bryant,
University of Cambridge, UK

Dr Anthony Davenport,
University of Cambridge, UK

Professor Jamie Davies,
University of Edinburgh, UK

Deadlines:

Abstract submission: Friday 13 July 2018

Member bursary: Friday 13 July 2018

Early bird registration: Monday 3 September 2018

Registration: Monday 24 September 2018

Member registration: £200

Student registration: £100

Non-member registration: £220

Non-member student registration: £110

Accommodation: £80



**The British Pharmacological Society's
flagship annual meeting attracts over
1,200 scientists each year from across
the world.**

This year the event will showcase content led by the Pharmacology community, through submitted symposia sessions and abstract presentations alongside invited speakers and commissioned content.

Highlights include...

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Dr Jackie Hunter, BenevolentAI
Dr Andrew Morris, Health Data Research UK
Dr Menelas Pangalos, AstraZeneca Innovative Medicines
and Early Development Biotech Unit

Online registration opens in June 2018 at
www.bps.ac.uk/pharmacology2018



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IUPHAR Administrative Office
University of Kansas Medical Center
3901 Rainbow Blvd.,
Mail Stop #4016
Kansas City, Kansas 66160 USA

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ISSN 1462-9941

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