



**INTERNATIONAL UNION for PURE and APPLIED
BIOPHYSICS**

IUPAB NEWS

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**Activities of the INTERNATIONAL UNION for PURE and APPLIED BIOPHYSICS
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Editor's Note

December, 2015



As the year draws to a close, I have now notified all of the recipients of funding for the 2016 Schools and Workshops. Details of the various schools are now listed under "Conferences" on our website.

This year we had an exceptionally large number of applicants, and so unfortunately it was not possible to provide financial support to all fourteen of the applicants despite the applications being of a very high calibre. However we were able to contribute in varying degrees to nine schools and workshops, and all of the applicants will be listed on our website under "Conferences".

The earlier timing for funding applications did permit us to assess and complete the allocations earlier than in previous years. Thus we plan to repeat this timing in the future.

However, as 2017 is an International Biophysics Congress year, there will be no funding available, thus no applications will be accepted in 2016.

Reports on the schools and workshops since July for which IUPAB contributed funding are on pages 6-12.

Preparations are already under way for the 19th IBC in Edinburgh, Scotland and more details will be available next year.

Again in this issue there is our occasional feature *Women in Science*, and the subject is one of the IUPAB Councillors, Professor Michèle Auger from Canada.

I look forward to hearing from you during 2016.

With best wishes,

Louise Matheson

Editor

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Secretary-General's Report

December, 2015

International Schools Grants: The IUPAB schools grants scheme



represents the largest single, annual expenditure in its non-Congress years. Grants are intended to *assist*, but not cover the full cost of, students from developing countries. The grants are not intended to cover other costs such as travel and accommodation expenses of invited speakers. While IUPAB grants *must only be applied to students from developing countries*, the

schools themselves may be located in developed countries. In addition, the schools/workshops must display the IUPAB logo on the conference webpage and acknowledge IUPAB financial support on all documents. It must also display the IUPAB logo on the program and all related documents. Prior to the completion of a school, organisers must ask all students who received funding to sign a receipt to that effect. And finally, the schools/workshop organiser must report to IUPAB explaining how the allocated funds were actually spent. There is no restriction on the number of times a school can apply for IUPAB schools funding.

The number of applications in 2015 for funding schools/workshops in 2016 increased about three-fold in real terms but regrettably, we were unable to fund all applications. In 2016 the IUPAB will not call for applications for schools funding in the next year because in 2017 IUPAB will hold its 19th Congress in Edinburgh, Scotland from July 16-20. Put it in your diaries.

New Adhering Bodies:

The IUPAB adhering bodies fund the operation of the Union and practically none of these funds are spent on administration. It is pleasing therefore that this year two new adhering bodies have applied for membership. The *International Federation of Societies for Microscopy* (IFSM) based in Spain has asked to join the IUPAB as an Adhering Body. A second application from the *Brazilian Society of Nuclear Biosciences* (SBBN) also asked to join. The addition of these two scientific bodies further strengthens the scope of IUPAB to represent biophysics. New adhering bodies must be ratified at the next General Assembly. This will occur at a Special General Assembly, which will consider the motion, thereby allowing IFSM and SBBN to take their places and vote at the main General Assembly on matters such as elections of Council.

Biophysical Reviews: This journal (BREV) is the official publication of IUPAB. It is a joint venture between the Union and Springer-Nature (Heidelberg). The history of BREV starts with its first issue in 2009, which contained six reviews plus an Editorial. Former members of the IUPAB Council contributed the early reviews. The Editorial Board consisted of Editor-in-Chief (Jean Garnier, a former President of IUPAB), four Associate Editors (D. Parry, I. Pecht, CG dos Remedios, and I.C.P. Smith, all but one of whom were also past Presidents), and 16 members of the IUPAB Council.

With the retirement of Dr Garnier, Cris dos Remedios was appointed as Editor-in-Chief, and the Editorial Board now consists of: Three Special Issues Editors (Alby Diasporo, Laura Finzi, Kenji Yasuda); Five Executive Editors (Damien Hall, NR Jagannathan, Hiroki Nakamura, Wilma Olson, and Jolanda van der Velden); and 24 members of the Editorial Board. In recognition of Jean Garnier's seminal contribution to the journal, he was appointed as Editor Emeritus.

Apart from these administrative changes, the journal has taken on a new persona. BREV now devotes two of the four issues each year to Special Issues. In 2016 there will be a Special Issue edited by Laura Finzi focussed on *Supercoiling in DNA-Protein Interactions*. The second Special Issue will be edited by Damien Hall and will cover the topic *Linear Transforms in Biophysical Chemistry*.

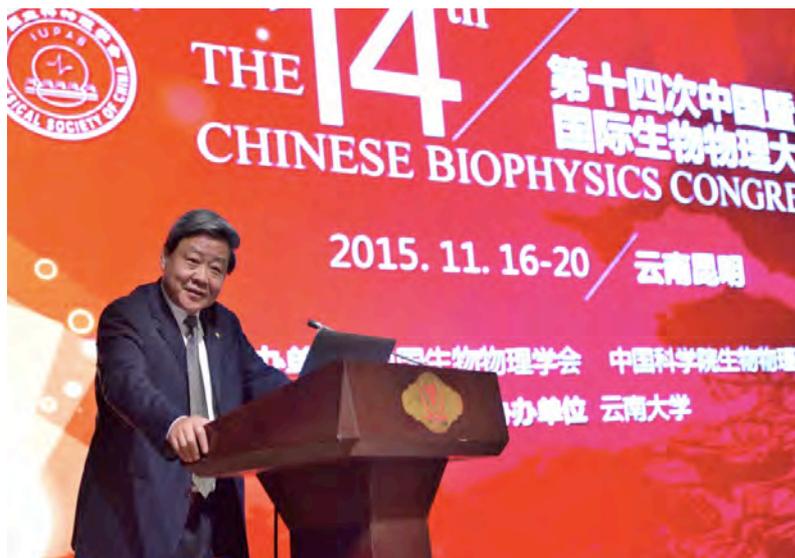
This change of emphasis has been popular. Reviews in Special Issues are more highly cited than regular reviews, but readers can also get an easy snapshot of current opinions of the issue topic.

I am interested in hearing from readers of the *IUAB News* on these changes.

Cris dos Remedios
IUPAB Secretary-General

Report from the Biophysics Society of China

The 14th BSC Congress was held in Kunming, China from Nov. 16 to 20. President of IUPAB and BSC, Prof. Zihé Rao chaired the congress. More than 1000 attendees were at the meeting and over 10 academy members and 135 scientists from China and overseas delivered talks. During the meeting, BSC awarded Bei Shizhang Prizes to Drs Ohsumi Yoshinori and Xiaoliang Sunney Xie.



With Prof. Rao's great effort, 18 Chinese societies of life sciences made a new organization on Oct 15, 2015. The organization builds a bridge between government and these societies, and facilitates these societies to carry out more operations assigned by the government. Prof. Rao was elected to be the first Chair of the organization.

The second Sino-Russian Biophysics Forum was held in Hangzhou, China on May 9th, 2015. Prof. Rao chaired the forum. Also from May 9 to 12, the 9th ABA Congress was held in Hangzhou, China and Prof. Xiyun Yan chaired the meeting. During the meeting, she was elected to be the president of ABA.

The other great news for BSC this year is that three members of the BSC were elected as Chinese Academy members.

Professor Xiyun Yan was one of them.

Report on Workshop at Radeberg, near Dresden, Germany

From July 15-18 a workshop on *Spectroscopies in Biology* was held ahead of the main 10th EBSA congress in Dresden, organized by Anthony Watts (Oxford University, UK) and Manuel Prieto (Lisbon University, PT).

IUPAB contributed funding to support the workshop.

Forty-six graduate students attended and they were taught by Angela Gronenborn (USA) and Chritsin Eggelling (UK) both of whom were Plenary Speakers at the main congress, and Daniela Goldfarb (Israel) and Cait McPhee (UK), both invited speakers at the main congress. The two organizers, Manuel Prieto (President of EBSA) and Anthony Watts also contributed to the teaching.

Topics covered ranged from solution state and solid state NMR, fluorescence and UV-vis methods, ultra high resolution microscopy, and ESR. The aim of introducing new methods to some, and giving added background before the speakers presented their research talks, was achieved and the lecturers made significant efforts to present their approaches in a comprehensible way.

Additionally, five younger scientists, who were giving selected oral presentations at the main congress, had an opportunity to practice their presentations, with feedback from two or more of the more senior lecturers.

This exercise was much appreciated by all participants.

Students attended from locations as far as Cuba (newly arrived and working in Spain, and first time at any such workshop) and India, as well as many European countries, the U.K. and U.S.A..

More than fifty per cent were from disadvantaged countries. There was also one special interest “career advice lecture” directed to young female researchers.

There was ample opportunity for informal interactions, and a visit to the local famous Radeberger Brewery. As well, a volleyball match with over half the workshop participants involved, proved very successful – everyone had a free *Radeberg Braueri* glass to take home with them. The location, food and service were exceptional, as well as very good value, with participants sharing rooms to keep costs down.

At the congress, these friendships and networking clearly persisted, as

evidenced from the friendship groups around the congress centre.

In a post-workshop survey the workshop was deemed to have had a 100% success rate in ensuring networking and interactions between students at the main congress. Satisfaction, as measured through a range of questions (answered anonymously) was much more positive than critical.



International Volleyball Competition



Radeberger Brauerei evening tour

Tropical School of Biophotonics, Oct 5-9, 2015 Singapore Bioimaging Consortium (SBIC), A*STAR, Singapore

Chair: Prof Malini Olivo (malini_olivo@sbica-star.edu.sg)

This year has been designated as the International Year of Light (<http://www.light2015.org/Home.html>) to highlight the importance of light in life, especially in biomedical and physical sciences. This event is particularly significant because the United Nations Educational, Scientific and Cultural Organization (UNESCO) is promoting and encouraging photonics related activities across the globe. In this context, Singapore Bioimaging Consortium (SBIC), A*STAR, Singapore, with the support of International Union of Pure and Applied Biophysics (IUPAB), organized the first international Tropical School of Biophotonics (TSBP) in Singapore from Oct 5-9, 2015. In this school, we trained 28 participants (PhD Students/early Post doctorates) from 20 countries across the world in various topics in the field of optics and bio- photonics through an intensive lecture series and hands-on/lab demo sessions. Participants were selected (from ~90 applications) based on merit and fellowships were provided to cover their travel, accommodation and food expenses.

Thought leaders in the field of biophotonics (19 speakers in total- 6 from overseas and 13 from Singapore) conducted lectures on current topics such as surface-enhanced Raman spectroscopy, photoacoustic imaging, fluorescence imaging, diffuse optical imaging, optical endoscopic imaging, optogenetics, micro OCT, focal modulation microscopy, non-linear optics etc. Six hands-on training/demo sessions were conducted on the cutting edge biophotonics techniques at SBIC, A*STAR as well as SBIC-Nikon microscopy center (<http://www.nikonimagingcentre.com.sg/pages/home.html>) on various microscopy techniques and Bruker preclinical optical imaging (<http://www.pci-lab.com/>) at SBIC. We also included an Industry-Academia Career Development Forum with a panel consisting of leading academic experts and industry leaders. Through this interactive session, participants voiced their questions to the panel to get information on professional development and career guidance.

To promote camaraderie, we conducted two social activities (one networking dinner and an outing to Singapore's iconic attractions) so that participants could interact closely with the speakers and also seek their advice on their research problems. The participants expressed their gratitude in their feedback, for the takeaway knowledge acquired during

TSBP that inspired them and exposed them to the enormous possibilities of biophotonic techniques.



Participants, speakers and organizers of TSBP



Participants engaging in the lab demo session



Participants engaging in a team building activity



Participants, speakers and organizers of TSBP during an outing

VIII POSLATAM Course “Membrane lipids, transporters, channels...and all that Crosstalk”

November 23-25, 2015, Salto, Uruguay.

Dear Colleagues,

I am thrilled to inform you that the VIII Latin American Graduate Course in Biophysics recently concluded successfully in the city of Salto, Uruguay. I organized this course with the support of my home Institution (CENUR Litoral Norte, Universidad de la República) and the co-sponsorship and help of investigators from the Uruguayan Schools of Sciences and of Medicine, the Institute Pasteur of Montevideo, as well as researchers from the University of Buenos Aires, Argentina. Crucial financial support for this event came from IUPAB, US Biophysical Society and many Uruguayan National Agencies and sponsoring Institutions.

The Lecturers were from Argentina (4), Uruguay (4), Brazil (3), Denmark (2), Chile, Portugal, Spain, USA, and Venezuela. They presented a total of eighteen one-hour lectures. In addition to evaluating students' posters, these professors also participated in three-day workshops, a novel overlapping modality for POSLATAM courses that were chaired by ex-POSLATAM Uruguayan young researchers.

We had 41 students, 20 of them from Argentina, 12 from Brazil, 4 from Uruguay, 2 from Venezuela, and one from Mexico, Cuba, and Chile (more than 50% were female students). According to the information we requested when they filled in the application form, students came not only from the Biophysics field but also from neighboring areas of knowledge such as Physics, Biochemistry, Physical Chemistry, Computational Chemistry as well as Structural Biology and Molecular Dynamics. All 41 students presented posters showing their results and were evaluated by POSLATAM Professors.

The great atmosphere throughout the course, the evident synergistic student-professor, professor-professor and student-student interactions, and all the kind words and compliments that we keep receiving a week after the closing of the VIII POSLATAM, represent, without a doubt, the best reward for the organizers. For more details on the program, please visit our website at <http://masbiofisica.fcien.edu.uy/poslatamviii>

My dream of bringing the POSLATAM course for the first time ever to Uruguay truly came true, with the valuable help of my colleagues, biophysicists from my Country

and from the Argentinean and Brazilian Biophysical Societies. A special mention is also due for the support of the Latin American Federation of Biophysical Societies (LAFeBS). The northern City of Salto entered history as a witness that we can successfully bring Biophysics to unconventional places that are far from the “Centers of Knowledge”, thus fulfilling one important facet of IUPAB’s mission.

With kind regards,



R. Daniel Peluffo, Ph.D.
Chair of the VIII POSLATAM Course
Professor of Biophysics
IUPAB’s Councilor
Chair, Department of Biological Sciences
CENUR Litoral Norte – sede Salto
Universidad de la República
Uruguay



Students and some speakers at VIII POSLATAM Course in Salto

Women in Science

Profile: Professor Michèle Auger

Université Laval, Québec, Canada



Professor Auger is now in her second term on the Council of the IUPAB, having been re-elected at the 18th IBC in Australia last year. She is also the Secretary of the Biophysical Society of Canada.

Michèle Auger graduated from the Université du Québec à Trois-Rivières with a B.Sc. in Chemistry in 1985. She did her graduate studies under the direction of Dr. Ian C.P. Smith, himself a former President of the IUPAB, at the

University of Ottawa and the National Research Council of Canada. She obtained her Ph.D. in Chemistry in 1990 and she then joined the laboratory of Dr. Robert G. Griffin at the Massachusetts Institute of Technology as a postdoctoral fellow.

She obtained a Women's Faculty Award from NSERC in April 1991 and accepted an Assistant Professor appointment in July 1991 in the Department of Chemistry at Université Laval. She was promoted to Associate Professor in 1996 and to full Professor in 2000.

Michèle Auger has established an internationally recognized research program on the development of solid-state NMR techniques to investigate the structure and dynamics of biological macromolecules at Université Laval. Current research projects in the Auger group concern the interaction between novel antimicrobial peptides and model membranes, the interaction between amyloid peptides and membranes, the study of recombinant and natural spider silk, the interactions between anticancer drugs and lipid bilayers and the physicochemical characterization of skin.

Discoveries by Michèle Auger have already led to 109 scientific articles in

prestigious journals, including the Biophysical Journal and Biochemistry, and were presented on more than 500 occasions at scientific meetings worldwide. As a clear indication of the originality and importance of her work, she has been asked to write several review articles and invited to present 104 lectures. In recognition of her scientific contributions, she was awarded the Barringer Award from the Spectroscopy Society of Canada in 2002, the 2007 Clara-Benson Award from the Canadian Society for Chemistry, and the 2010 Fellowship from the Chemical Institute of Canada.

To date, Michèle Auger has trained over 46 masters students, 20 PhD students and 12 postdoctoral fellows who are now holding excellent positions in industry and academia, and she is known for her ability to train highly qualified scientists.

Of particular interest, Michèle has been an outstanding role model for women to undertake graduate studies, as demonstrated by the impressive number of female graduates she has trained. Indeed, women count for over 60% of her former and current students.

Michèle Auger's contribution to science also extends to her participation in other important areas. She has served on several grant evaluation committees. In addition, she is a member of the management committee for the National Ultrahigh-Field NMR Facility for Solids in Ottawa and she is one of the organizers of the ISMAR (International Society for Magnetic Resonance) Conference that will be held in Quebec City in July 2017. Michèle Auger is also a member of many scientific organizations and IUPAB representative for the Biophysical Society of Canada.

In addition to research, teaching and promoting science are also important missions for Michèle Auger. She is recognized as an outstanding teacher as demonstrated by the many distinctions she has received, including 7 "Professeur-Étoile" Prizes from the Faculty of Science and Engineering at Université Laval. She has also obtained the "Best Chair of Undergraduate Studies" award in 2013 for her dedication to the development of the chemistry curriculum at Université Laval.

She has presented a lecture on the *Chemistry of odors and perfumes* on numerous occasions at several high schools and during science fairs. Finally, she was also involved in the creation of the interactive activity

Attraction chimique (Chemical Attraction) that promotes chemistry to teenagers and to the general public.

Besides all of the above, Michèle Auger enjoys spending time with her family, playing the cello, reading novels and doing outdoor activities, including downhill skiing and dragon boating.

British Biophysical Society | **IOP** Institute of Physics

19th IUPAB congress and 11th EBSA congress

16–20 July 2017, Edinburgh International Conference Centre, Edinburgh, UK



The 19th IUPAB Congress will be held in conjunction with the 11th Congress of EBSA (the European Biophysical Societies Association) in Edinburgh, Scotland, UK from 16th-20th July 2017.



The British Biophysical Society, together with the Biological Physics Group of the Institute of Physics will be the local hosts; the Congress Co-Chairs are Anthony Watts (BBS) and Andrew Turberfield (IOP), University of Oxford. The Organising Committee are taking on the task of assembling an outstanding scientific programme for this major international biophysics event.

All areas of contemporary biophysics will be included in a varied programme, from single molecule studies to complex machines and new methodologies, encompassing experimental,

simulation and theoretical approaches, applied across all biological systems. Plenary lectures, invited talks and selected oral presentations from younger scientists will be combined in a programme aimed at attracting a truly international participation.

The venue is in the centre of Edinburgh, overlooked by the famous Castle, and is one of the UK's premier conference sites and facilities. Edinburgh is one of the most popular tourist destinations in the world and has much to offer, especially in the summer with the Edinburgh Festival which follows this Congress; it is also a gateway to the Highlands and Islands.

Edinburgh offers a wide range of accommodation to suit all tastes and budgets, within easy reach of the Conference Centre. The new tram gives fast and affordable transport from Edinburgh Airport which, together with nearby Glasgow, links Scotland directly to almost 30 European cities and provides direct flights to North America and the Middle East, with connections to the East and Africa.

We look forward to welcoming you to Edinburgh!

Further details are available on the Congress website:

<http://www.iupab2017.org>

Key dates:

Abstract submission deadline: 23 February 2017

Early Registration deadline: 14 April 2017

Registration deadline: 5 July 2017



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