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Message from the Secretary General

Juan Carmelo Gómez-Fernández

Dear biophysicists,

The International Union for Pure and Applied Biophysics is working to connect the world of Biophysics as it is said in our motto. Over the next months (second semester of 2019) we will fund several events that are being announced in this issue. These events will take place in Peru ([XII POSLATAM Course](#), Lima, Peru, July 18-21, 2019), Singapore ([ISMRM Workshop on MRI of Obesity & Metabolic Disorders](#), Singapore, July 21-24, 2019), Spain ([EBSA 2019 Biophysics Summer School](#), El Escorial, Spain, July 17-19, 2019) and Argentina ([IV Meeting of Young Biophysicists](#) San Luis, Argentina, November 26, 2019).

For 2020 we are preparing our 20th IUPAB Congress that will take place in Foz do Iguaçu, Brasil, October 26-30. For this reason, IUPAB will not fund any other event, but will generously support this Congress and will offer grants for students who will attend this event.

In addition we have received a number of bids to organize IUPAB Focused Meetings in 2021. The Council will decide very soon about these bids.

It was decided in Edinburgh 2017, that the 2023 IUPAB Congress will be held in Kyoto. But I take this opportunity to remember that in Brazil-2020 we will have to decide who will organize the **2026 IUPAB Congress**. We will open the possibility of presenting bids soon, therefore if you are interested, start preparing your application.

I want to remember once again that this

magazine is open to all of you. We are asking you to send all types of collaborations. It will be in the interest

of all biophysicists to have an attractive international magazine that can be distributed to your members as a new benefit for their membership. We will acknowledge receiving



materials published in your own bulletins or similar that you consider of interest for the biophysics community. In general, materials may consist of: (a) brief articles of opinion about scientific policies or scientific divulgatory reviews of not more of 1500 words, plus 1-2 tables or illustrations; (b) information about Congresses or any other event that you are organizing (preferably flyers in .jpg format); (c) news or brief reports from recent events (not more than 400 words plus 1-2 illustrations, preferable in .jpg format); (d) open positions; (e) brief semblances of women in science, semblances on renowned biophysicists, obituaries of distinguished biophysicists (not more of 1000 words plus 1-2 illustrations, preferable in .jpg format); (f) awards (preferably flyers in .jpg format). Please, communicate this possibility to all the members of your Adhering Body or Society as soon as possible.

Finally, I beg your help for distributing this issue to all persons working in Biophysics or related sciences and to all Adhering Bodies and Societies I once more ask to send this issue to your members.

Don't Ask Women Leaders to Act like Men

Diversity is about accepting the differences in people, not about making women act like men

by Frances Separovic

University of Melbourne

*This article was first published on [Pursuit](#). Read the [original article](#).

International Women's Day is our annual reminder of how far we have come and how far we have to go.

Last year, International Women's Day was particularly special to me. Why? I was inducted into the Victorian Honour Roll of Women as an 'inspirational change agent' and this recognition made me feel accepted.

For much of my life I have felt on the outer and I'd like to give you a sense of why I think inclusion and diversity are so important.

I was born in Croatia, which then was part of Yugoslavia, and came to Australia by boat as a toddler with my mother and sister. My father went to first grade and my mother to second grade, so I was the first in my family to finish primary school.

I grew up in Broken Hill in the far west of NSW and was one of the few with a non-English speaking background at the public high school. At 18, I started my first real job as a junior technician at Australia's national science agency, CSIRO, in Sydney.

Before turning 21, I had my son who motivated me to better myself.

So, as a single mother, while working full-time, I studied part-time and obtained a Biological Technicians Certificate from TAFE, a Bachelor of Arts in Maths and Physics, then Honours in Physics from Macquarie University and

a PhD from UNSW. I couldn't have done this if I had to pay fees.

By that time though, I was approaching a mid-life crisis, not knowing what I wanted to do now that I had finished my schooling. My son had finished high school, so I took leave of absence from CSIRO and took up a post-doc at the National Institutes of Health in United States.

I knew then that I wanted to be an academic and, incredibly, when I came back, found that the School of Chemistry was looking for a Senior



Having the courage and confidence to be yourself is important. Picture: Pexels

Lecturer/Reader in solid-state nuclear magnetic resonance or NMR - my speciality. NMR is related to MRI and is used to determine the 3D structure of molecules. Amazingly (to me), I got the job and this opportunity launched my career in science.

My first year was difficult but I persisted and it has been a very rewarding experience.

In 2005, I became the first woman professor of chemistry in Victoria and in 2012 the first woman elected to the Australian Academy of Science as a chemist.

I have often been the only woman in the room and it's been wonderful to see an increase in the proportion of women in science, especially at the senior levels. But this change in the number of women has been painfully slow and has at times led to situations where I have experienced or observed harassment.



***Frances Separovic
Professor, Chemistry, Faculty of
Science: Deputy Director, Bio21
Institute, University of Melbourne***



"Our daughters should have the same opportunity as our sons to pursue different careers". Picture: Lower Columbia College/Flickr

We need to call it out whenever we see it.

I am growing tired of being told to not be myself. It doesn't make me more confident to be told to act more confidently, to be more assertive, to lose the imposter syndrome. Diversity is about accepting differences, not about making women act like men.

An important lesson that I learned from my six years as Head of School, was that having different approaches is a strength of any team. So often we mistake confidence for competence and humility for weakness.

Those who are uncertain will question, test new hypotheses, solicit advice and bring about change or innovation. Our most valued colleagues are those who combine competence with humility, and many women have both but underestimate the former.

What I admire is courage: going ahead despite the confidence gap and the imposter syndrome. For some

of us this drives us to strive harder and pretend it doesn't exist.

It does get easier and helps to have a support base and mentors, different people to talk to and share our experiences.

We also need more visible women

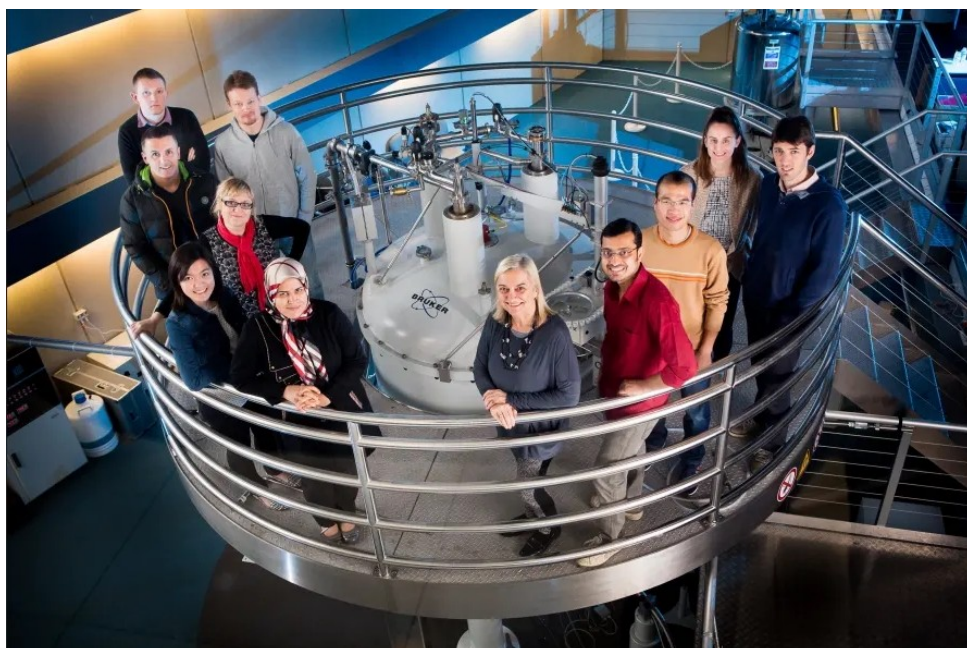
leaders and not just because more diverse teams tend to make better decisions but also because we need different types of leaders, different styles of leadership. One size does not fit all.

Many of my generation in science cannot recall a female lecturer when we went through university.

We need more role models in all walks of life and not just academia. A university education has enriched my life in so many ways and given me so many opportunities. Our daughters should have the same opportunity as our sons to pursue different careers.

We need to celebrate women's strengths and what we bring to the workplace. International Women's Day is a celebration of our achievements and a reminder of what we need to do to achieve a more gender-balanced world.

Banner image: Getty images



Professor Frances Separovic and her team with the nuclear magnetic resonance.

Picture: Peter Casamento

Controversies About the Ways of Publishing Science: Plan S or Who Must Pay?

By Juan Carmelo Gómez-Fernández

Department of Biochemistry and Molecular Biology, University of Murcia, Spain

All of you would probably know already about an initiative that was launched by the European Commission and that have been assumed by a number of European Governments (like France, UK, The Netherlands,



Juan Carmelo Gómez-Fernández

Sweden, Germany and others) and by funding foundations as Gates Foundation or The Wellcome Trust. This initiative has been called Plan S.

Plan, S or cOAlition S, requires that, from 2020, scientific publications funded by public grants from countries supporting it or by adhering agencies or foundations must be published in open access journals (OA) or platforms, totally free of charge for the reader.

After this initiative it will no longer be possible to publish in e.g. the ACS journals, or in Science and Nature for those with funding from the European Research Council and from research councils or foundations that have joined the Coalition S, unless journals like the mentioned ones change their policies.

Letter from European Scientists

Apparently this initiative may be a good thing for people who want to read

scientific journals for free, but it immediately gives rise to doubts. For example, more than 600 hundreds European scientists sent an open letter (you may read it in full [here](#)). In this letter it is said that: "We support open access (OA) and Plan S is

probably written with good intentions. However, Plan S, as currently presented by the EU (and several national funding agencies) goes too far, is unfair for the scientists involved and is too risky for science in general. Plan S has far-reaching consequences, takes insufficient care of the desires and wishes of the individual scientists and creates a range of unworkable and undesirable situations"

They stated that the complete ban on hybrid (society) journals (those in which you may choose to publish in open or not) of high quality is a big problem, since these journals are a big support for these societies and the benefits are used to promote science. By this reasons the persons who support this letter hope that a large part of the world will not (fully) tie in with Plan S, for example the USA, China and the rest of Asia. They stated that in after Plan S

is put in practice, in which researchers pay high charges for each publication, the total costs of scholarly dissemination will likely rise instead of reduce. By these reasons they claim that researchers should have the freedom to choose publication venue, and while complying with Open Access mandates to also choose how papers are made Open Access, in a way that contributes to minimal increased costs for the publishing system while not impinging on academic freedom or jeopardizing internationalization in research and higher education.

Arguments in Proceedings of the National Academy of Science USA

As stated above Plan S may put some problems to learned societies publishing journals. By this reason this controversy has been given a lot of attention in different scientific journals. An example of this is the recent publication of a number of papers in PNAS USA. In a first paper called "Plan S" falls short for society publishers—and for the researchers they serve" (PNAS February 12, 2019 116 (7) 2400-2403 [Proc Natl Acad Sci U S A. 2019 Feb 12;116 \(7\):2400-2003](#)) the President of the Academy, Marcia McNutt, expressed her concerns about Coalition S and Plan S. For example she said that "I am also concerned that the architects of Plan S have not consulted broadly with researchers, editors, and leaders of scientific societies to obtain their views of how devastating this plan might be for the very organizations that support researchers and their disciplines" and concluded "There should be a way to move from the current system to an ideal publishing future that is both diverse and accessible. But the current Plan S proposal threatens to do more harm than good, especially to the scores

of scientific societies that publish journals. I fear for the overall health of the scientific enterprise if the views of society publishers are marginalized, ignored, or trivialized”.

This opinion letter was replied by Robert Kiley (Wellcome Trust) and by Robert-Jan Smits (Open Access Envoy of the European Commission) in favour of Plan S: titled “cOAlition S: Response to PNAS” ([Proc Natl Acad Sci U S A. 2019 Mar 26;116\(13\):5859-5860](#)). In this

letter the authors stated that “We are

calling for greater transparency of publishing costs with the aim to better understand how the different elements (e.g., managing peer review, production costs, hosting costs, etc.) contribute to overall article cost. We encourage PNAS to share a breakdown of these costs with the community” and that “We

would like to assure you that in the scope of Plan S, society publishers would not be “marginalized, ignored, or trivialized”. On the contrary, we call on you—and the leadership within the National Academy of Sciences and other societies—to join us and help us bring about this change in scholarly publishing to help realize full OA”.

But the President of the NAS responded to this letter with another alternative: “Meeting Plan S’s goal of maximizing access to research” ([Proc Natl Acad Sci](#)

[U S A. 2019 Mar 26;116\(13\):5861](#)). “A much simpler route toward achieving your goal of maximizing access to research and allowing for artificial intelligence and text and data mining is Plan U, in which funders require that grantees deposit manuscripts on a preprint server under a Creative Commons Attribution license (CC BY) before submission and peer review in a journal. Plan U avoids the tremendous overhead and infrastructure needed to implement, monitor, and enforce Plan

repositories since there are a number of journals that will not accept pre-published papers.

Comments in Nature

Other journals have also echoed about this controversy. For example, Nature published in [NEWS 26 February 2019](#), an article by Holly Else, titled “High-profile subscription journals critique Plan S”, stating that journals with top reputation, like Nature and Science, cannot comply with Plan S. They argued “that they have high internal costs that

couldn’t reasonably be recouped in a fully open-access model, and that cutting costs would risk reducing journals’ quality. Some publishing companies also urged the initiative to reconsider its policy on hybrid journals”. Furtherly Springer-Nature suggests “that the Plan S coalition engage in individual, confidential talks with publishers to explore “bilateral solutions”.



S—which entails vetting thousands of individual journals, various journal platforms, and repositories—and eliminates the need to further refine Plan S implementation guidelines, which have to date raised more questions than they answer”.

This proposal has certainly many advantages and the use of these preprint servers is widely used in some fields like Physics or Mathematics, but one may worry about the effect of depositing a preprint in one of these

The opinion of Paola Bovolenta

Biophysical Societies are also concerned. As an example I found an opinion article of Paola Bovolenta published in Biofisica Magazine (Spanish Biophysical Society) ([Are we ready for plan S?](#)) other arguments are put forward. The author states that “in the current publishing system, the use and reuse of a large fraction of the published information is limited by copyright agreements, set for the benefit of the publishers” but she

recognizes that “much has been written either in favour or against Plan S, reflecting the existing diverse opinions among researchers from different fields” and she concluded “the Plan S initiative is conceptually important and I expect that, at the end, it will bring a refreshing spirit on the current mode of scientific publications and their relative value; we should be ready to take full advantage of it”.

Conclusions

It is evident that journals cannot be published without cost and that somebody must pay for this. Nowadays readers pay for subscriptions and authors in some cases for publication. With Plan S this model may be heavily shifted to the payment by authors. This could be a problem for authors whose financing agencies would not fund them specifically for this and in these cases funds will be retracted from other expenses as chemicals or equipment. If highly cited journals will charge a high fee to everybody to publish totally open it could occur that authors from less developed countries will not be able of publishing in them.

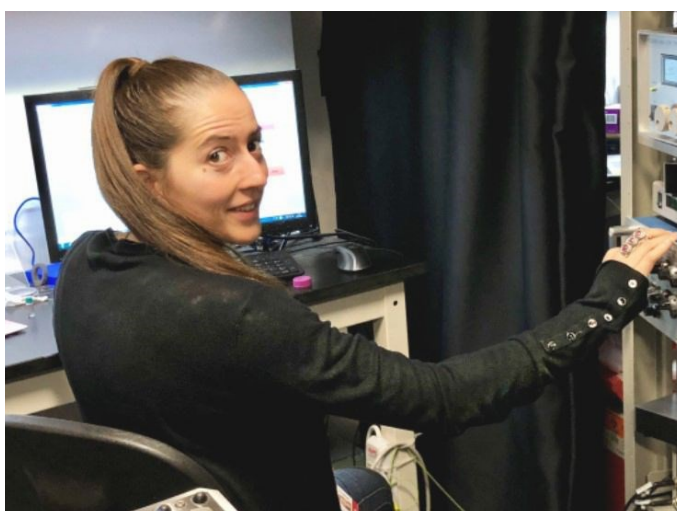
Many questions remain open about Plan S and it is clear that this policy will create an earthquake and the ripples will affect to everybody around the world, of course that Europeans will be the first to be ran over.

Young Biophysicists in the Spotlight: Martina Rangl

Department of Physiology and Biophysics,
Weill Cornell Medicine, New York, USA

by Rainer Schindl

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Martina Rangl, Weill Cornell Medicine

“It is remarkable; it allows visualizing protein dynamics with about 10 images per second together with a nanometer resolution” summarizes Dr. Martina Rangl the technological advantages of high-speed atomic force microscopy (AFM).

The AFM is Martina’s favorite technique in live science since she started her PhD studies at the innovative and interdisciplinary laboratory of Prof. Peter Hinterdorfer in Linz, Austria, that is located closely to the blue Danube River. There, she first developed an enhanced, non-invasive and fast preparation method for native nuclear membranes optimized for AFM-based applications that was later featured as inside-cover story of the Journal ChemPhysChem. This platform allows

studying the nuclear pore complex (NPC), a large, multiproteinous assembly in the nuclear envelope that is the only port in and out of the nucleus of a cell.

Although the NPC is of key importance for various physiological processes, details of

the nucleo-cytoplasmatic transport mechanism through the NPC are still unresolved and under debate.

Using her expertise in Molecule Recognition Force Spectroscopy (MRFS), in which molecules are tethered to the AFM sensor, and thereby enabling detection of molecular interactions, Martina was able to directly measure the binding forces between the proteins forming the permeability barrier of the NPC. She was able to demonstrate that cargo translocation through the nuclear membrane is energy-free, and is executed through distinct transport routes within the NPC pore. Martina published these novel mechanistic insights as first author in the high ranked journal Angewandte Chemie and her article was nominated as “Hot

Paper”.

Besides her work elucidating the molecular picture of the NPC, Dr. Martina Rangl published 6 more original papers in which she demonstrated the diversity of MRFS as fast screening method for nano-medicine applications.

Fascinated by studying single molecules at work, she joined the laboratory of Dr. Simon Scheuring as postdoctoral fellow at INSERM in Marseille, France. There she specialized in the newest AFM technology called high-speed AFM that now allowed her to step into ion channel field and study channel gating processes more than 100 times faster than conventional AFM would offer.

Using this method, Martina was elucidating the gating mechanism of cyclic-nucleotide gated ion channels, which are the key signal transducers in the visual and olfactory perception system. For her studies on the ion channel called MloK1, Dr. Martina Rangl first integrated a buffer-exchanging system to the high-speed AFM, allowing for the smooth exchange of the measuring condition while continuously recording and monitoring membrane proteins at high spatial and temporal resolution. This

implementation was

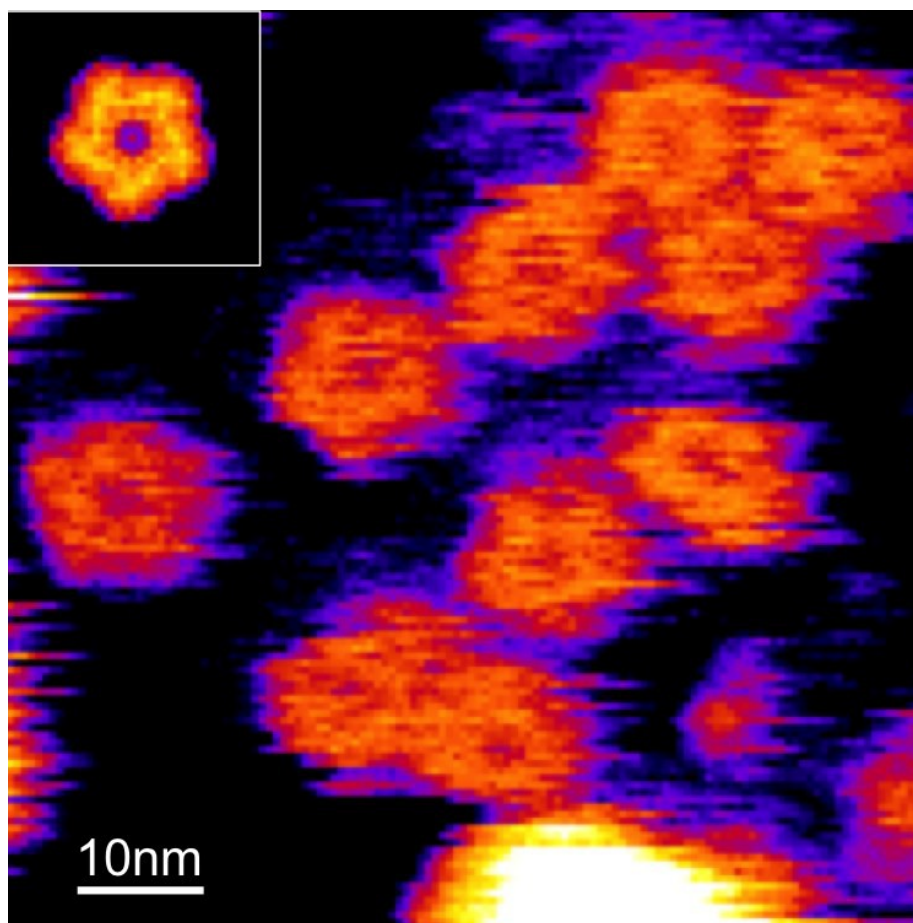
crucial in the development of an enhanced high-speed AFM for biological application, and allowed her to visualize the dynamic transitions of the MloK1 channel from open to closed configuration under near-physiological conditions and in almost real-time.

Interestingly, it could be shown that MloK1 does not follow a simple, single conformational change from an open to a closed state (and vice versa) upon ligand removal as previously expected. Instead, this channel displayed a transition from one stable open conformation to a highly dynamic closed state with fluctuating subunits. These findings are of major importance for understanding the working mechanism of this protein, and reflect a mode of action shared by many cyclic-

nucleotide gated channels. Her work was accepted in Nature Communications and in addition she recently co-authored another Nature Comm. and a Nature Nanotechnology paper in this field.

On top of her fascinating key-findings Martina adds that she also “likes the beauty of these images, as the symmetry of the molecules shapes them as stars or flowers”. Now she lives and works in the heart of New York City, at Weill Cornell University right in Manhattan at the Upper East Side. “The close proximity of such well-known universities like Columbia, Weill Cornell or NYU creates an extraordinary scientific environment. On the other hand, innovative labs in Austria are for sure competitive” Martina compares here experience with different research

places. When Martina cycles to the lab in the morning, she loves to cross Central Park. “Now it is astonishingly beautiful with all the colorful leaves in this season”. But even if it rained, she would still pack into rain clothes, get on her bike, and cycles about 60 blocks to work. There, Dr. Martina Rangl currently explores a Mg^{2+} ion channel and provides dynamic insights into the gating process to the current static cryo



electron microscopy structures. The two powerful techniques nicely complement each other when combined in one research topic. "Cryo-EM has a better atomic resolution, but one needs to keep in mind that the structures of the molecules are derived from averaging thousands of particles. High-speed AFM movie recordings show individual channels and I can follow the conformational transitions in real-time, and get a comparable, but moving picture to the individual cryo-EM ion channel states. Thereby, high-speed AFM often offers an explanation why high resolution structures of certain protein conformations are so hard to generate: If a certain condition is highly dynamic and structural states have very limited dwell times, some conformations are hard to define in that subset of transitions". Dr. Martina Rangl explains her atomic resolution: "The closed structure looks like a five symmetric blossom when magnesium ions are bound and the channel is closed. However, when magnesium gets depleted each of the pentameric subunits get highly mobile and the symmetry is lost and finally ends up in a fully open bean-like structure".

I am convinced that Martina's fascinating results on the gating mechanism of an important Mg^{2+} channel will soon again find the way to a highly prestigious journal.

A Biophysicist's Portrait: Karl Lohner

University Graz

by Gerhard Schütz

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Karl Lohner, University Graz

"I am sorry that I had to cancel our Skype appointment this morning, but there were urgent requests concerning some sewage pollution. Since I knew about this subject, I took care of it".

Karl Lohner, or Charlie, as most people call him, is the kind of person people like to ask. He likes to help, regardless of whether he is acting in his present role as vice dean of the Faculty of Natural Sciences at Karl-Franzens University Graz, former chairman of the works council of the Austrian Academy of Sciences, or as a competent scientist and colleague. It's not just that Charlie knows a lot; that's just one point. And that he is interested in solutions; that too. And that he expresses his opinion and stands up for it; that too. But when Charlie explains things one has the impression that it happens on an equal footing; maybe even diagonally from below. His modesty makes listening pleasant.

Charlie grew up in rather modest circumstances in the Mürztal in Styria. "In a conversation with my dad about the stars, the universe, and the earth, we came to the topic of pollution. That's when I knew: I want to understand that, this is what I want to study".

Charlie went to Graz to study chemistry at the Technical University. He then did his doctorate on ether lipids with Albin Hermetter and Friedrich Paltauf.

"During work for my PhD thesis, Peter Laggner from the Austrian Academy of Sciences asked me if I would be prepared to perform some experiments on LDL using NMR, which in turn opened the opportunity to join his group within an FWF project on lipid-peptide interaction for about two years". This has become a successful scientific partnership over many years.

"But then I wanted to go abroad to get to know a different scientific environment".

Charlie joined the group of Alfred Esser as a PostDoc at the University of Florida in Gainesville. "There was the question of how complement proteins interact with membranes to destroy the target cell. In addition to immunology I wanted to learn new techniques like infrared spectroscopy, but soon realized that people wanted to learn calorimetry from me". In any case, this time was a success for everyone, and Charlie was happy to return back to Florida a month or so every now and then.

Fact sheet:

- **Born 23. 02. 1955 in Veitsch, Styria**
- **1984: PhD in Chemistry, TU Graz**
- **1994: Habilitation in Biophysical Chemistry, TU Graz**
- **1986-1988: Post doctoral fellow in the Laboratory of Structural Biology, University of Florida, Gainesville**
- **1990-2011: Deputy Director (2012, Director) of the Institute of Biophysics and Nanosystems Research, Austrian Academy of Sciences, Graz**
- **Since 2013: Head of Biophysics Division, Institute of Molecular Biosciences, University of Graz**

After 2 years, however, Charlie's older son reached the age to attend school, and for the family the question of returning to Austria was raised.

"Already during my departure from Graz there was the vague idea that I may return to Peter Lagner after my PostDoc time". And indeed, Charlie continued at the Institute of Biophysics and Nanosystems Research at the Austrian Academy of Sciences, which was led by Peter Lagner, and focused on the study of membrane-active antimicrobial peptides. "This runs like a thread through my academic career".

It was at a Gordon conference when Charlie formulated his scientific question: "Robert Hancock said in his presentation that a cationic amphipathic helix is sufficient to get membrane activity. But where does the specificity for certain bacteria come from"?

In those days, I had already started thinking about the lipid composition of the cytosolic bacterial membrane. "And Charlie kept working on this topic. "I

proposed that we might not only be able to target the bacterial membrane, but also use the same peptides to suppress septic shock by neutralizing lipopolysaccharides".

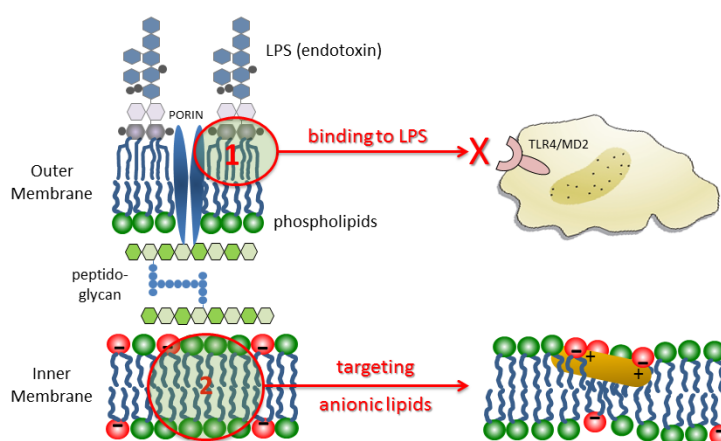
Charlie coordinated an EU project on the subject, which also resulted in a successful start-up company. "And

nowadays, we are trying, together with Georg Pabst, to investigate the effect of peptides on the membrane structure of living bacteria in real time using synchrotron radiation. Amazing, but it really seems to work".

Based on an older publication related to lipid redistribution in tumor cells, he speculated that a similar principle could

also work for tumor cells: "In cancer cell lines, negatively charged phosphatidylserine is transported to the exoplasmic side of the cancer cells, which can be recognized by our peptides". An unconventional approach to fighting cancer that has been further pursued by his co-worker Dagmar Zweytick.

And what does Charlie do in his free time? "I used to like hiking and skiing. But there is not much time left. Once a week we meet for gymnastics and football". This is understandable, taking into account Charlie's many professional interests and the time he dedicates to these interests, as well as the intensity with which he pursues them. At the end of our Skype conversation, I looked at the clock: that was a mind-opening 1 ½ hours lesson about the biophysics of membrane-active peptides, and it just flew by! Thanks, Charlie, for the exciting conversation!



Schematic presentation of the dual mode of action of short cationic amphipathic peptides derived from human lactoferricin against antibiotic resistant Gram-negative bacteria:

- (1) Neutralization of lipopolysaccharide (LPS, endotoxin) by peptide, blocking its binding to toll-like receptors (TLR4/MD2) early action in sepsis cascade.**
- (2) Targeting of anionic lipids of the inner membrane leading to disordering and clustering of lipids, killing of bacteria within minutes owing to membrane damage development of resistances unlikely.**

Report on XXIII School of Pure and Applied Biophysics on “Emerging Tools in Biomechanics: from tissues down to single molecules”

February 4th - 8th, 2019. Palazzo Franchetti, Venice, Italy

Organized by the Italian Society for Pure and Applied Biophysics (SIBPA) - in collaboration with IVSLA - Venetian Institute for Science Letters and Arts

Event partially funded by IUPAB



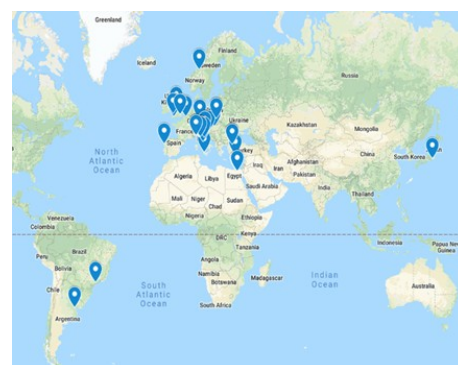
The Italian Society for Pure and Applied Biophysics (SIBPA) organized its XXIII School edition in the amazing venue of Palazzo Franchetti in Venice (Italy) (<http://tiny.cc/BiophysicSchool-2019>).

This edition was focused on the recent advances and the emerging techniques able to probe mechanical properties in biological material.

Forty students coming from all over the world (Argentina, Brazil, Croatia, Egypt, France, Germany, Hungary, Italy, Japan, Norway, Poland, Portugal, Turkey, United Kingdom) actively participated to five intense days in which scientific excellence and the high-quality

formative activities have merged together.

Fourteen exciting lectures given by teachers belonging to complementary areas explained how the mechanical properties have key role in biological processes. Reporting on novel techniques and challenging applications in life sciences, the topic has been analyzed at different length scales, from molecular and sub-cellular approaches (Atomic Force Microscopy, Acoustic Force Spectroscopy), to single cells analysis (Brillouin microspectroscopy, MEMS) extending towards multicellular organization and tissues (nanoindentation, ultrasonic micro-elastography). The theoretical lessons and application talks have been complemented by “Hands on training” sessions: in silico tutorials and experimental activities have been made possible by the involvement of world leading companies, which provided access to unique state of the art instrumentations. In the dense schedule, a student corner was also planned: students were challenged giving an elevator pitch to convince a jury to finance their own research



Students World Wide provenance

projects. The winners were unexpectedly rewarded with characteristic Venetian carnival masks.

The proactive involvement of all the participants students, teachers, companies and organizers to the different school activities contributed to create a genuinely positive atmosphere facilitating the social inclusiveness and the informal networking, leading to the



The Organizing Committee, composed by Mauro Dalla Serra - CNR Trento (Italy), Silvia Caponi - CNR Perugia (Italy), Massimo Vassalli - CNR Genova (Italy), and Peter Glynn-Jones - University of Southampton (UK)



Group photo of Participants to the School

success of the event.

A special thanks has to be given to the BioBrillouin (<https://www.biobrillouin.eu/>) and Arbre-Mobieu (<https://arbre-mobieu.eu/>) Cost Actions, which supported selected students providing a total of 14 bursaries for the school attendance. Moreover, thanks to the support of the International Union of Pure and Applied

Biophysics, further 3 fellowships have been granted for the participation of international students based in low income countries.



Winners of the elevator pitch wearing characteristic Venetian carnival masks: O'DEA, Laura (Swansea, UK), BOTTARO Elisabetta (Southampton, UK), CARVALHO Eva (Porto, Portugal), MASULLO Luciano (Buenos Aires, Argentina), GRISANTI Giulia (Rome, Italy), JANEŠ Josip Augustin (Zagreb, Croatia), VIGNOLINI Tiziano (Firenze, Italy)

Nataly Zaribeth Herrera Reinoza

It has been an honor to participate at the XXIII International School of Pure and Applied Biophysics in Venice, Italy. My current project is focused on the application of Atomic Force Microscopy to determine mechanical properties of cancer cells. The school had four interesting lectures approached to this topic and I really enjoyed them. I could take some notes and clear too many doubts, taking new and exciting ideas for improve my project. Also, I met some students with academic interests similar to mine, which allowed me to exchange appealing ideas about my project and share part of my experience working with AFM in biological systems.

At the school were shown others fascinating techniques, in this way I had mainly drawn my attention traction force microscopy and Brillouin spectroscopy. I would like to venture during future research in these techniques. So, I feel that this event provided me a broader vision of biomechanics and its potentialities. In the hands-on sessions, I have had a chance to know about some state-of-the-art technologies and equipment in the mechanobiology world. It was magic to live all these enriching academic experiences in a city as wonderful and cultural as Venice, where you look you are seeing really beautiful historical monuments. I really enjoyed walking through its narrow streets, taste the local cuisine, know the beautiful buildings and especially spend an interesting week in a city surrounded by water.

Luciano A. Masullo

The course "Emerging tools in Biomechanics: from tissues down to single-molecules" held at Palazzo Franchetti in Venice from 4th to 8th of February was a highly enriching experience for me as a PhD student. Not only had I the possibility to listen to and interact with top researchers in the field but I also had the opportunity to see most of the presented techniques and applications in hands-on sessions.

Moreover, I found it extremely interesting to interact with young scientists and engineers working in industry in start-up companies specialized in cutting-edge technologies based on recent developments and discoveries. The opportunity and the challenge to give a brief, focused talk on what my PhD project is about was also really interesting and I think I have learnt a lot from that too.

Last but not least attending to the school was a unique opportunity to meet researchers (both students and professors) from many different countries and talk about different projects and put my own project(s) in perspective. I hope to keep interacting with the people I met and hopefully engage projects together as collaborators.

Heba Sabry Mohamadin Quenawy

Thanks to support of the International Union of Pure and Applied Biophysics (IUPAB) I could join the "XXIII International School of Pure and Applied Biophysics" in Venice, Italy.

It was a great experience for me to join such a wonderful scientific event and meet all those professional speakers and students. And to have practical sessions on the most updated instruments in mechanobiology. The school added a lot to my knowledge and helped me to precise my research plan. Also it was a nice chance to enjoy the beauty of Venice and spend very nice time in it.

Many thanks to the organizers and sponsors of the school. I'm looking forward to join other events with them.



Winners of the IUPAB fellowships: Nataly Zaribeth HERRERA REINOZA (Brasil), Luciano MASULLO (Argentina), Heba Sabry MOHAMADIN QUENAWY (Egypt)

Report on Multiscale Simulation & Mathematical Modelling of Complex Biological Systems

January 30th - February 1st, 2019. Jawaharlal Nehru university, New Delhi, India

A richly textured workshop-cum-conference on the multiple points of connection between mathematical models, multiscale simulations and biology reached its glorious finale at JNU on last 01st February 2019. It was a five days long event, began on 28th January with first two days dedicated for rigorous hands-on training and workshop on mathematical models and multiscale simulations that are essential to address complex biological systems.

- Initially, the workshop was planned for a limited number of participants (twenty) selected from a larger pool of applicants based on their research experience and recommendations from their PIs. However, due to overwhelming response, we finally had to accept fifty participants from different parts of India, among which 48% are female, and 52% are male participants. Majority of the participants were PhD students, while we had 10% of young faculty participants as well.

- The participants were from different premiere institutes of India such as IISc



Bangalore, JNCASR, IISER Kolkata, IISER Mohali, IISER Pune, IIT Delhi, IIT Kanpur, IIT Madras, Delhi University, South Asian University, IIT Mandi etc.

- The workshop was conducted through informal class mode, where the following trainers have kindly agreed to train the participants:

Prof. Anatoly B. Kolomeisky, Rice Univ.
Prof. Debasisa Mohanty, NII
Prof. Nikolay Dokholyan, Penn State Univ.

Prof. Indira Ghosh, SCIS, JNU
Along with them Dr Shailesh Pandey and Ms Pinky Dey assisted during hands-on sessions.

- The topic of the workshop-cum-conference was extremely challenging,

primarily because it is new and has no structured composition for classroom study, rather depends largely on the ongoing research. Furthermore, the topic proposes a paradigm shift in the sequence based system science to structure-based system biology that has a huge potential to unravel the structure-function relationship of complex biological machinery and systems and thereby developing de novo drugs to combat lethal diseases. This requires thorough training from scratch, and many meetings and workshops are needed to cover the relevant theories and hands-on training. Our workshop was a beginning where students were delved in mathematical models and applications of multiscale simulations, however, sequel workshops/meetings are must to ensure sustainable development in the subject.

- The total number of conference

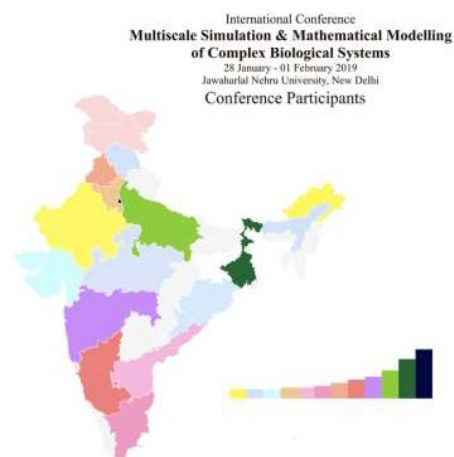


participants was 232 including speakers, out of which 40% are female participants whereas 60% were male participants from various premiere institutes of India. Our data suggest that we have received participation from all most all the states of India except one or two. This itself justifies the necessity of this conference, which was unique and very different from usual biophysical meetings.

- All the lectures presented in the conference are based on either of last two-three years research or completely

new and unpublished work. All the speakers received intense and involving discussions, debates and questions from other participants that have provided new insights to the speakers as well as the researchers in the relevant areas. We have received many emails regarding the scientific excellence of the conference.

Following the two-day workshop, we had an intriguing conference with ten brainstorming sessions. There is an urgent need to define and delineate this new discipline of the structural system biology. These require close interactions, debate and discussions of scientists and researchers of both national and international fame together and the proposed conference was but a suggested beginning.



Report on 43rd Indian Biophysical Society (IBS) Meeting

March 15th - 17th, 2019. IISER, Kolkata, India

The 43rd IBS meeting, conducted in the Mohanpur (West Bengal) campus of the Indian Institute of Science Education and Research (IISER) Kolkata, between March 15th and 17th, brought together a diverse population of eminent as well as young scientists, a large section of students, as well as participants from the scientific industry. The total number participants, representing the diversity and the multi-disciplinary nature of biological physics, were about 290. The theme of this year's meeting was "Molecules to Systems".

Organizing Committee

The Chairperson of the National Advisory Committee was Prof. Sourav Pal, Director, IISER Kolkata. Other members of the National Advisory Committee were the President (Prof. Jayant Udgaonkar), Vice-President (Prof. Purnananda Guptasarma),



Secretary (Prof. Sudipta Maiti) and Treasurer (Prof. Dhananjay Bhattacharyya) of 2018-19 IBS.

The Convenors from IISER Kolkata were:

Dibyendu Das, Bidisha Sinha, Neelanjana Sengupta

Members of the Local Organizing Committee were:

Chaitali Mukhopadhyay (Univ. of Calcutta)
Gautam Basu (Bose Institute, Kolkata)
Dhananjay Bhattacharyya (SINP,

Kolkata)
Padmaja P. Mishra (SINP, Kolkata)
Kaushik Sengupta (SINP, Kolkata)
Krishnananda Chattopadhyay (IICB, Kolkata)
Raja Paul (IACS, Kolkata)
Suman Chakrabarty (SNBNCBS, Kolkata)
Rahul Das (IISER Kolkata)
Arnab Gupta (IISER Kolkata)
Pradip Tarafdar (IISER Kolkata)
Partha P. Datta (IISER Kolkata)
Rituparna Sinha Roy (IISER Kolkata)

Speakers

Invitations to speakers were sent out well in advance, covering all theoretical as well as experimental aspects of biophysics. There were a total of 45 scientific seminars. Younger speakers were given preference, and it was ensured that at least 20% of the speakers were women. An overwhelming number of speaker

requests were received, and many had to be requested to present their work in posters. This year's G. N. Ramachandran plenary lecture was delivered by Prof. Lynne Regan, in a seminar titled "Protein Structure & Design: The Relevance & Radicalism of Ramachandran in 2019".

International Representation

IBS 2019 saw significant participation from the international biophysics community. This included a delegation of 3 young post-doctoral scientists sent by the Japanese Biophysical Society. In addition, there was one speaker from Singapore, four speakers from USA, and one speaker (GNR lecture) from the UK.

Industry Participation

There was significant participation from the industry. This included industrial sponsorships, a few commercial talks, as well as a scientific talk by an industry scientist.

Poster Sessions

Afternoons (1.5 hrs each day) and post-dinner slots of 15th and 16th March were devoted to poster sessions at IBS 2019. Around 155 posters were presented by students, postdocs and senior scientists with every applicant offered an opportunity to present their work. Every poster was on display throughout the meeting and evaluated

by multiple faculty. Finally 7 poster prizes were awarded under the different categories. Pictures attached underneath capture the vibrant spirit as well as the serious nature of these gatherings.

Awards

The call for applications for the Ratna Phadke award was displayed online on the IBS website few months before the meeting. The award was won by Dr. Shubhasis Halder (Ashoka University), an young aspiring scientist working at the interface of experimental biophysics and molecular

biochemistry. The Ratna Phadke Award talk was delivered by him on the first day of the IBS 2019 - on 15th March. In addition to Ratna Phadke award, as many as seven Poster Prizes were also awarded in the IBS 2019, of which 3 were sponsored by ACS, 3 by IBS and 1 by OWLS. All participants received certificates while winners of poster prizes also received handsome cash awards.

Publication and Proposal Writing Workshops

Prof. Bertrand Garcia-Moreno, an invited speaker as well as the Editor-in-Chief of the journal Proteins: Structure, Function and Bioinformatics, did an informative seminar, followed by discussions, on publishing original biophysics research in

the journal. Dr. Sayam Sen Gupta conducted a Workshop titled "Writing a Alexander von Humboldt Proposal" on behalf of the Humboldt Foundation.

Logistics

IBS 2019 witnessed large participations from Scientists, young researchers and students from across India and abroad. On 14th and 15th March, for Speakers,



Chairpersons, President, Secretary and Past Presidents of Indian Biophysical Society, logistics support included pickup and drop car services from the nearest airport, railway stations and institutes/universities of Kolkata. For students and other registered participants, bus services were provided from nearest railway station of Kalyani, Nadia.

During the conference days (15th to 17th March, 2019), logistics also included providing to and fro bus services to students/registered participants staying in guest houses and hostels around IISER Kolkata. Car services were provided for speakers staying in hotels near the campus of IISER Kolkata.

On the last day of the conference (17th March, 2019), logistics support was provided for all registered participants to Kolkata.



Report on Biophysics of Signals and Models

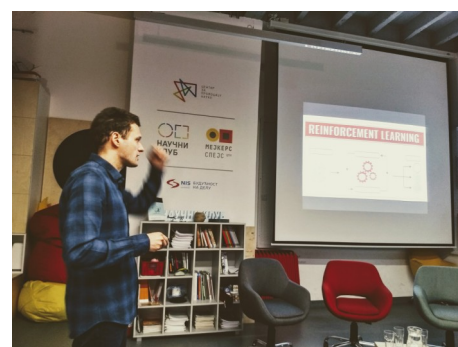
March 29th, 2019. CPS Club, Belgrade, Serbia

Organized by Biophysical Society of Serbia



On March 29th, 2019 the Biophysical Society of Serbia with the cooperation of the Center for the promotion of science (CPS), has organized in Belgrade in the [CPS club](#), a session of lectures on popular Biophysics entitled “Biophysics of Signals and Models”

given by young “rising stars” - researchers from the Faculties of Biology and Medicine of the University of Belgrade. The titles of lectures were “How to learn the machine to recognize biological signals” by Dr Andrej Korenić, “Waves in the cardiovascular system”



by Bojana Stojadinović and “Fractals and images” by Dr Nemanja Rajković.

The lectures were held in the CPS headquarters and were open to the general public. After each of the lectures the audience asked questions and at the end of the session a panel was organized with a lively discussion. During the session the leaflets downloaded and printed in color from the Biophysics Week site were distributed to the audience.

Report Membrane Biophysics of Exo-Endocytosis: from Model Systems to Cells

April 3rd - 6th, 2019. Mandelieu la Napoule, France

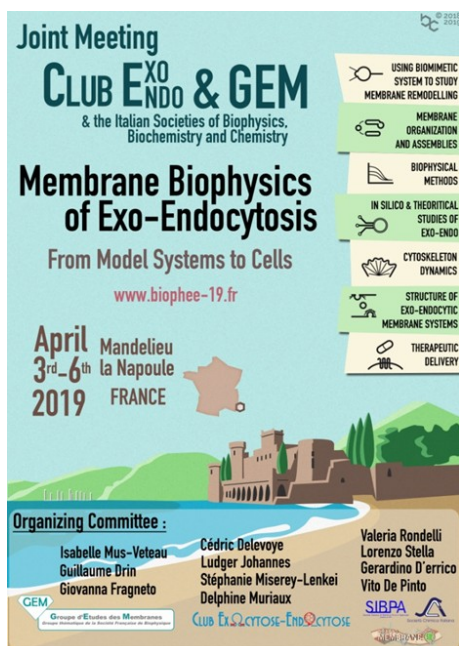
Organized by the French Membrane Study Group and Club Exocytose-Endocytose with the participation of the Italian Society of Pure and Applied Biophysics, Italian Society of Chemistry and Italian Society of Biochemistry and Molecular Biology

The joint international meeting (<http://biophee-19.fr/>) was held for the first time with the goal to illustrate how novel opportunities for discovery in the life sciences arise when the most urgent challenges in the field of exo and endocytic membrane trafficking are addressed from fresh angles based on innovative biophysical tools and concepts.

The meeting took place on April 3-6, 2019, on the sunny French Riviera in the South of France. Participation was limited to a maximum of 150 people, and the meeting was fully booked, with 88 senior scientists and 62 students and postdocs coming from many

different Countries: France and Italy, of course, but also Armenia, Australia,





Austria, Belgium, Brazil, Canada, Germany, the Netherlands, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States of America.

The meeting format encouraged interactive discussion, with much room for contributions from young scientists. A total of 9 bursaries for participation were awarded from the Italian societies and GEM, GEM granted a prize for the best PhD thesis to Raphael Dos Santos Morais, and, during the meeting, the two best oral presentations by young participants (Joanna Podkalicka, Institut Curie, Paris France and Marc Abella Guerra, Max-Planck Institute, Marburg, Germany) and the 3 best posters were selected for an award.

A total of 13 distinguished international speakers were invited to present keynote and plenary talks. In addition, 42 oral presentations and 56 posters were selected from the submitted abstracts.

The program was composed by 7 scientific sessions covering topics ranging from the use of biomimetic

systems, to the exploitation of theoretical and computational approaches, until the investigation of real systems and cells by the most advanced techniques: Using biomimetic system to study membrane remodeling; Membrane organization and assemblies; Structure of exo-endocytic membrane systems: from isolated molecules to cells; In silico and

theoretical studies of exocytosis and endocytosis; Biophysical methods; Cytoskeleton dynamics; Therapeutic delivery.

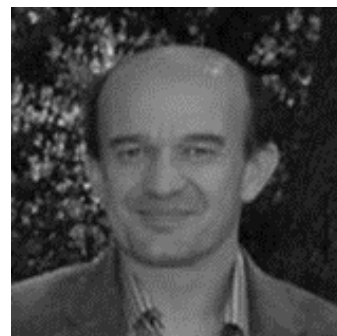
The location, grouping together the conference and poster rooms, catering and accommodation, favored fruitful discussions between delegates coming from complementary research fields.

European Biophysical Societies' Association (EBSA) Awards, 2019

The European Biophysical Societies' Association (EBSA) is pleased to announce their 2019 awards to be presented at the EBSA/IUPAB Congress, Madrid, 20 - 24th July.

The EBSA Young investigator Award, 2019, goes to Pere Roca-Cusachs of the University of Barcelona (UB) and Institute for Bioengineering of

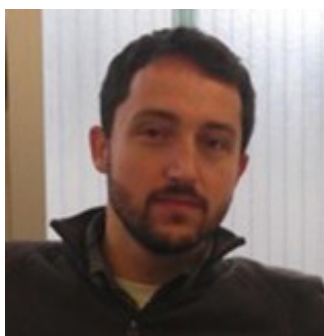
carries a US\$3,000 cash prize from Avanti Polar Lipids Inc.



More information about the awards and previous winners can be found on the EBSA web site (www.ebsa.org).

Registration is now open for the forthcoming biennial EBSA/IUPAB Congress in Madrid, 20 - 24th July 2019 (www.ebsa.org), where both recipients will present Plenary lectures - Greg Winter, UK and Stephen Hell, Germany are also Plenary Lecturers.

Places are also still available for a Pre-congress Summer School (17 - 20th July 2019) at El Escorial, near Madrid where some of the invited speakers from the congress, including Greg Winter, Cambridge, UK (Nobel Laureate, 2018), will act as tutors (more details [here](http://www.ebsa.org)).

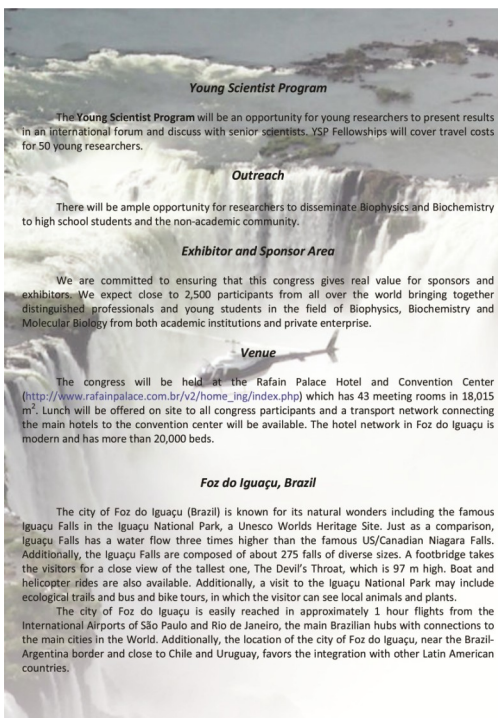


Catalonia (IBEC), Spain, for his contributions to the field of mechanobiology (web site [here](http://www.ibec.es)). The Award carries a €2,000 cash prize from EBSA.

The Avanti/EBSA Award goes to Bruno Antonny, group leader at the Institut de Pharmacologie Moléculaire et Cellulaire, Valbonne-Sophia Antipolis, France, for his work on membrane biophysics (web site [here](http://www.ibec.es)). The Award

20th International Congress of IUPAB a joint event with the 45th Annual Meeting of SBBf and 49th Annual Meeting of SBBq

October 26th - 30th, 2020 | Foz do Iguaçu, Brazil



Young Scientist Program

The Young Scientist Program will be an opportunity for young researchers to present results in an international forum and discuss with senior scientists. YSP Fellowships will cover travel costs for 50 young researchers.

Outreach

There will be ample opportunity for researchers to disseminate Biophysics and Biochemistry to high school students and the non-academic community.

Exhibitor and Sponsor Area

We are committed to ensuring that this congress gives real value for sponsors and exhibitors. We expect close to 2,500 participants from all over the world bringing together distinguished professionals and young students in the field of Biophysics, Biochemistry and Molecular Biology from both academic institutions and private enterprise.

Venue

The congress will be held at the Rafain Palace Hotel and Convention Center (http://www.rafaipalace.com.br/v2/home_img/index.php) which has 43 meeting rooms in 18,015 m². Lunch will be offered on site to all congress participants and a transport network connecting the main hotels to the convention center will be available. The hotel network in Foz do Iguaçu is modern and has more than 20,000 beds.

Foz do Iguaçu, Brazil

The city of Foz do Iguaçu (Brazil) is known for its natural wonders including the famous Iguazu Falls in the Iguazu National Park, a Unesco World's Heritage Site. Just as a comparison, Iguazu Falls has a water flow three times higher than the famous US/Canadian Niagara Falls. Additionally, the Iguazu Falls are composed of about 275 falls of diverse sizes. A footbridge takes the visitors for a close view of the tallest one, The Devil's Throat, which is 97 m high. Boat and helicopter rides are also available. Additionally, a visit to the Iguazu National Park may include ecological trails and bus and bike tours, in which the visitor can see local animals and plants.

The city of Foz do Iguaçu is easily reached in approximately 1 hour flights from the International Airports of São Paulo and Rio de Janeiro, the main Brazilian hubs with connections to the main cities in the World. Additionally, the location of the city of Foz do Iguaçu, near the Brazil-Argentina border and close to Chile and Uruguay, favors the integration with other Latin American countries.

*20th International Congress of IUPAB a joint event with
the 45th Annual Meeting of SBBf and
49th Annual Meeting of SBBq*

IUPAB 2020
SBBf & SBBq

October 26 - 30th 2020 - Foz do Iguaçu - PR - Brazil



Congress Venue:
Convention Center
Rafain Palace Hotel
<http://www.sbbq.org.br/iupab2020>

Welcome to Brazil!

On behalf of the Brazilian biophysics and biochemistry communities, we welcome you to the joint **20th IUPAB Congress, 45th Annual SBBf Meeting, and 49th Annual SBBq Meeting**, to be held in **Foz do Iguaçu, Brazil, October 26 - 30, 2020**. This Congress aims to offer a broad international overview of research frontiers and recent developments in Biophysics, Biochemistry and Molecular Biology.

The Annual Meetings of the Brazilian Biophysical Society (SBBf) and the Brazilian Biochemistry and Molecular Biology Society (SBBq) are two of the most traditional events within the Brazilian scientific community. They have been the forum of choice for presentations and discussions regarding the state of the art in biologically relevant phenomena, as well as their social benefits. Science policy, integration with other segments of the economy and outreach activities have also been among the main focuses of these events.

The organizers are committed to an outstanding program with contributions in the form of keynote lectures and symposia, as well as oral and poster presentations. The presence of leading scientists among the invited speakers will certainly contribute to create a very rich scientific environment, which we hope will also allow for bringing together the best of Science in Biophysics and Biochemistry.

The participants are also encouraged, in addition to discussing Science, to find time to experience some of the local culture.

Bem-vindos ao Brasil!!!

With our warmest regards,
Rosângela Itri and Maurício Baptista
Chairs of the Congress









Scientific Program and Organization

The scientific program will be composed of plenary and keynote lectures, symposia and poster sessions organized by the Scientific Committee. The secretariat, composed of 3 fulltime secretaries, and the board of directors will work together with the Organizing Committee in order to prepare the congress.

Confirmed **plenary lectures** will be presented by



Richard Henderson, MRC Labs, Cambridge, UK - is a Scottish molecular biologist and biophysicist and pioneer in the field of electron microscopy of biological molecules. He shared the Nobel Prize in Chemistry in 2017 with Jacques Dubochet and Joachim Frank.



Michael Levitt, Stanford University - is an American-British-Israeli biophysicist and a professor of structural biology. He received the 2013 Nobel Prize in Chemistry, together with Martin Karplus and Arieh Warshel, for "the development of multiscale models for complex chemical systems



Chris Dobson, University of Cambridge - is a British chemist, who is the John Humphrey Plummer Professor of Chemical and Structural Biology. In 2014 he received both the Heineken Prize for Biochemistry and Biophysics and the Feltrinelli International Prize for Medicine.



Angela Gronenborn, a native of Colony, Germany, Gronenborn received her undergraduate degree in 1975 and her Ph.D. in physical chemistry in 1978, both from the University of Cologne. She did postdoctoral work with protein NMR pioneer James Feeney at the National Institute for Medical Research in London. In 2004 Gronenborn moved to the University of Pittsburgh to head its department of structural biology, where she has remained since.



Othara Augusto is Full Professor of Biochemistry at the Departamento de Bioquímica, Instituto de Química, Universidade de São Paulo, Brazil. Her research interests are focused on kinetics and mechanisms of redox enzymes, oxidant and antioxidant mechanisms, infection and inflammation. She has been Associated Editors of Free Radical Biology and Medicine since 2013. She is member of the Brazilian Academy of Science, of the Third World Academy of Sciences and is Fellow of the Society for Redox Biology and Medicine.



Ramon Latorre is Full professor of Neuroscience Institute from University of Valparaíso, Chile and Director of Interdisciplinary Center of Neuroscience of Valparaíso. His research interests are focused on understanding how the protein domains involved in sensing stimuli (sensors) and opening the pore (gates) communicate. He is member of Latin America Science Academy Council and Foreign Member of National Academy of Sciences. USA.

Biophysics in the 21st Century

EBSA 2019 Summer Biophysics School

July 17th - 19th, 2019 | El Escorial, Spain

Event partially funded by IUPAB



Learn the Background Principles

This workshop will enable younger scientists to become more familiar with the fundamentals of a range of methods and approaches, that will enable a deeper understanding and appreciation of the research talks at the main congress.

Hear from the Experts

Invited and Plenary speakers from the congress will be invited to participate at this workshop, in addition to others who are regular teachers at EBSA Biophysics courses and workshops. A senior editor from Elsevier will give an insight to publishing both for the scientist and as a career path.

Networking

A great opportunity to network with senior scientists and invited speakers and world experts in their field in an informal way, as well as meet other participants ahead of the main congress before you arrive, in a relaxed and informal environment in a beautiful buzzing town in the hills above Madrid.

Practice Your Talk

Those younger scientists who have been selected to present an ORAL PRESENTATION at the main congress, are invited to practise their talk in front of the workshop participants and tutors, and receive both formal and informal feedback, if desired.

A PRIZE will be awarded to the person presenting the best talk, as voted by the participants themselves.

Spaces Are Limited

The workshop is highly subsidised by EBSA and the fee to attend (including accommodation for 3 nights, meals and access to all the lectures), is €120. Spaces are exclusively limited to young scientists registered for the main Congress, and local students by previous agreement - see registration page for eligibility.

Dates

Arrival, Wednesday July 17th 2019 (the first formal session will be at 6pm, followed by an informal reception then dinner).

Departure will be on Saturday 20th July 2019 in morning at 12 noon – the main congress starts at 17:00 in Madrid.

Tutors

Anthony Watts, Oxford, UK (President, EBSA)

Helmut Grubmüller, Max Planck Institute, DE (past-President, EBSA)

Jesus Perez-Gil, Madrid, Spain (President-elect, EBSA)

Edward Egelman, UVa, Charlottesville, USA (President, Biophysical Society)

Pere Roca-Cusachs, Barcelona (EBSA Young Investigator Award)

Manuel Prieto, Lisbon, Portugal (President-elect, IUPAB)

Greg Winter, Cambridge, UK (Nobel Laureate)

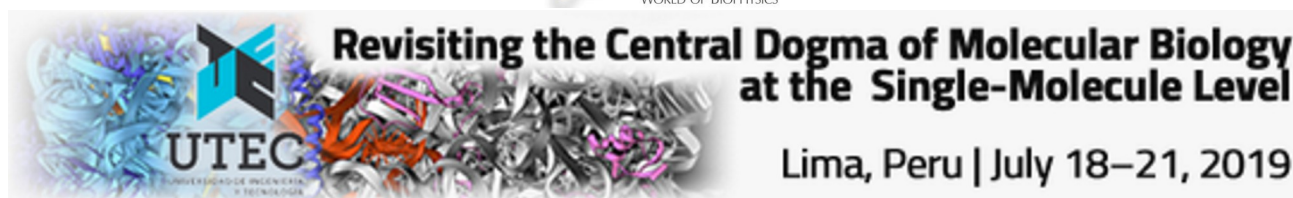
John Seddon, Imperial College, UK (Secretary, EBSA)

POSLATAM course: Revisiting the Central Dogma of Molecular Biology at the Single-Molecule Level

Biophysical Society

July 18th - 21st, 2019 | Lima, Peru

Event partially funded by IUPAB



Dear Colleagues,

It is with pleasure that we invite you to attend the *Revisiting the Central Dogma of Molecular Biology at the Single-Molecule Level* thematic meeting, which will be held July 18-21, 2019, in Lima, Peru—the gastronomic and cultural hub of South America, which harbors world-heritage sites from pre-Columbian, Inka empire, and Spanish colonial eras.

This meeting will focus on how recent discoveries by single-molecule manipulation and nanoscale imaging enable molecular level understanding of biophysics with emphasis on replication, transcription, protein synthesis, chaperone-mediated protein folding/degradation, and molecular motors. In addition, the goal is to feature the latest cutting-edge developments in single molecule instrumentation and nanoscale visualization, steered molecular dynamics simulations, and single-molecule applications for the study of pathogens and infectious diseases.

The research done at the single-molecule level is inherently interdisciplinary, taking place at the interface of cell biology, physics, bioengineering, biochemistry, and computational biology. This meeting will bring together researchers with a wide range of expertise and interests who use single-molecule tools to address problems in each of these fields.

This meeting will feature keynote speakers, selected talks from the submitted abstracts, discussion sessions, and poster presentations. Together, these events will provide the attendees—particularly students and junior researchers—multiple ways to interact with the leaders in the field, stimulate the exchange of ideas, and foster collaborations among them. Furthermore, this meeting will provide a platform for scientists in other fields to get interested in single-molecule approaches and foster interdisciplinary collaborations.

This POSLATAM 2019 course will be held within the Revisiting the Central Dogma of Molecular Biology at the Single-Molecule Level thematic meeting. The attendance of POSLATAM students to the BPS thematic meeting in Lima is being sponsored by the [IUPAB](#).

Please visit the website for the [list of speakers](#). We encourage you to share this information with colleagues and students who may be interested in attending.

The deadline to [submit an abstract](#) is May 13, 2019, and the deadline to [register](#) at the discounted early registration rate is April 5, 2019. Abstract submission is free.

We look forward to seeing you in Lima.

The Organizing Committee

ISMRM Workshop on MRI of Obesity & Metabolic Disorders

July 21st - 24th, 2019 | Singapore

Event partially funded by IUPAB



Singapore Bioimaging Consortium, A*STAR, and the International Society for Magnetic Resonance in Medicine (ISMRM) welcome you to the International workshop on

MRI OF OBESITY AND METABOLIC DISORDERS

July 21-24, 2019

Breakthrough Theatre, Level 4, Matrix, Biopolis, Singapore

The prevalence of obesity and related metabolic disorders continue to rise worldwide. This workshop brings together internationally recognized scientists and clinicians who are currently developing and applying advanced MRI and MRS techniques to probe biophysical properties of fat and investigate the causes and consequences of obesity and metabolic dysfunction in both adults and children. The program includes advances in fat-water MRI, relaxometry, diffusion, elastography, multi-nuclear applications. This workshop bridges the clinical needs and scientific development to directly impact bench-to-bedside in this area of research.

Trainee funding support: Provided by ISMRM & the International Union of Pure and Applied Biophysics (IUPAB) is available for graduate students & young post-doc's. Apply during abstract submission.

Details of the scientific program are available on the ISMRM website: <https://www.ismr.org/workshops/2019/ObMet/program.htm>

Registration is required and must be done on the ISMRM website at : <https://www.ismr.org/workshops/2019/ObMet/reg.htm>

Abstracts must be submitted at: <https://www.ismr.org/workshops/2019/ObMet/call.htm>

SUPPORTED BY



SUPPORTED BY



IV Meeting of Young Biophysicists

November 26th , 2019 | San Luis, Argentina

Event partially funded by IUPAB

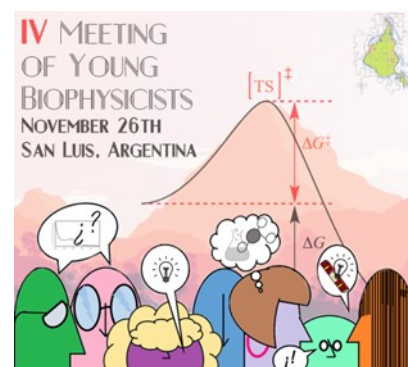


IV Meeting of Young Biophysicists

November 26th 2019

San Luis, Argentina

SAVE THE DATE!



The [Young Initiative on Biophysics \(YIB\)](#) is pleased to invite you to the **IV Meeting of Young Biophysicists** which will be held in San Luis, Argentina on November 26th 2019, as a satellite activity of the Argentinean Biophysical Society (SAB) Annual meeting.

The Meeting will feature a variety of inspiring activities:

Get to know your fellows' research through **Oral Presentations** and **fire talks "My Project in Two Minutes"**.

Know how to improve your professional skills in **Tutorials** delivered by recognized researchers.

Share wisdom and learn from others in our **Workshops** coordinated by experts in the field.

Come and discuss with us about the women's role and about science in our **Round Tables**.

Call for "My Project in Two Minutes" presentations is from May 1st – June 30th.

Call for Abstracts and Registration is from July 1st – August 10th! **IUPAB fellowships** will be available for selected students.

More information will be available soon. Stay tune and visit our [web site](#)!

Join us in this brainstorming day full of biophysics!



secretaria.yib@gmail.com



Young Initiative on Biophysics



@JovenesBiofisicos

Sponsored by



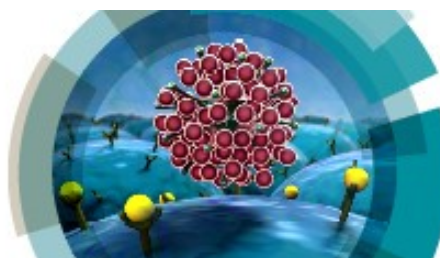
Nanolithography of Biointerfaces Faraday Discussion

Royal Society of Chemistry

July 3rd - 5th, 2019 | London, United Kingdom

Nanolithography of
Biointerfaces

Faraday Discussion



3–5 July 2019
London, UK

Welcome

Join us in London, UK in July 2019 for this addition to our Faraday Discussion series. For over 100 years and 300 meetings, Faraday Discussions have been the forefront of physical chemistry. Many of these Discussions have become landmark meetings in their field.

We invite you to join us to discuss the topic of Nanolithography of Biointerfaces and make your contribution to this cutting-edge dialogue alongside leaders in this field.

This meeting is for established scientists, post-graduate students and industrial researchers interested in Nanolithography of Biointerfaces. Given the recent developments in the field, the unique format of the Faraday Discussions will allow for in-depth discussions and opportunities to establish new collaborations.

On behalf of our committee, we look forward to welcoming you to London.

Adam Braunschweig

Chair

Attendance

The RSC is keen to encourage and enable as many people as possible to attend our events, to benefit from the networking opportunities and the chance to hear talks from leaders in the field. If you have childcare, caring responsibilities or other care needs, and would like to attend this event, please do get in touch with us to see if there's anything we can do to help enable you to attend.

Format

Faraday Discussions remain amongst the only conferences to distribute the speakers' research papers in advance, allowing the majority of each meeting to be devoted to discussion in which all delegates can participate. Following each meeting a written record of the discussion is published alongside the papers in the Faraday Discussions journal.

Themes

- Multidimensional Micro- and Nano-printing Technologies
- Preparation of Multivalent Glycan Micro- and Nano-Arrays
- Glycan Interactions on Glycocalyx Mimetic Surfaces
- New Directions in Surface Functionalization and Characterization

Speakers

- Peter Seeberger (Introductory Lecture) Max Planck Institute of Colloids and Interfaces, Germany
- George Whitesides (Closing Remarks Lecture) Harvard University, United States
- Michael McAlpine University of Minnesota, United States
- Ten Feizi Imperial College London, United Kingdom
- Jeffrey Gildersleeve National Cancer Institute, United States
- Yoshiko Miura Kyushu University, Japan
- Bart Jan Ravoo Westfälische Wilhelms-Universität Münster, Germany
- Elisa Riedo NYU - Tandon School of Engineering, United States
- Zijian Zheng The Hong Kong Polytechnic University, China

12th EBSA 10th ICBP-IUPAP Congress

July 20th - 24th, 2019 | Madrid, Spain



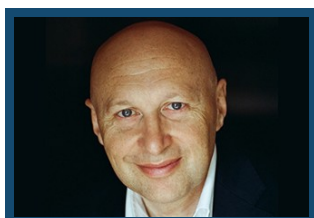
**JOINT 12TH EBSA
10TH ICBP-IUPAP
BIOPHYSICS CONGRESS**
BIOPHYSICS FOR LIFE AND TECHNOLOGY



Plenary Speakers



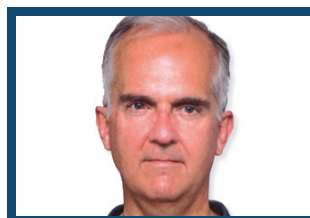
Sir Gregory Paul Winter



Eva Nogales



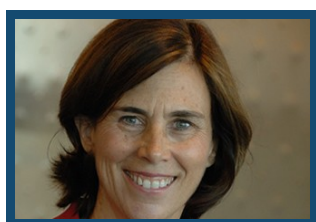
Julio M. Fernandez



Gregory A. Voth



Madan Rao



Patricia Bassereau

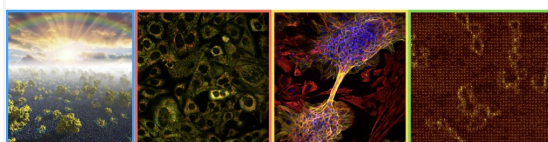


Important Dates

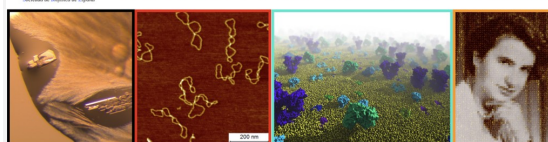
- 22- Mar.-19 Extended Deadline!
Bursaries submission Deadline
- 27- Mar.-19 Extended Deadline! Call for
abstracts Deadline
- 15- Apr.-19 Abstracts notification of
acceptance to the Authors
- 29- Apr.-19 Presenters registration
deadline to be published in Abstract
book
- 7 - May Deadline for Early Registration
- 30- Apr.-19 The Imagin'action -
Hamamatsu Image Contest 2019
Submission Deadline
- 31-May 19 BPS Sponsored Poster
Competition Deadline

The fourth Imagin'Action image contest - 2019 edition - was launched on February 2019 on the SBE social media and websites. This year, 8 excellent images compete for the prize, sponsored by Hamamatsu Spain, consisting in a contribution for travel expenses to attend the 12thEBSA – 10th ICBP-IUPAP biophysics congress (Madrid, July 20th-24th).

You can vote your favorite image on the twitter (@SBEsp) and



HAMAMATSU
SBE IMAGE CONTEST 2019



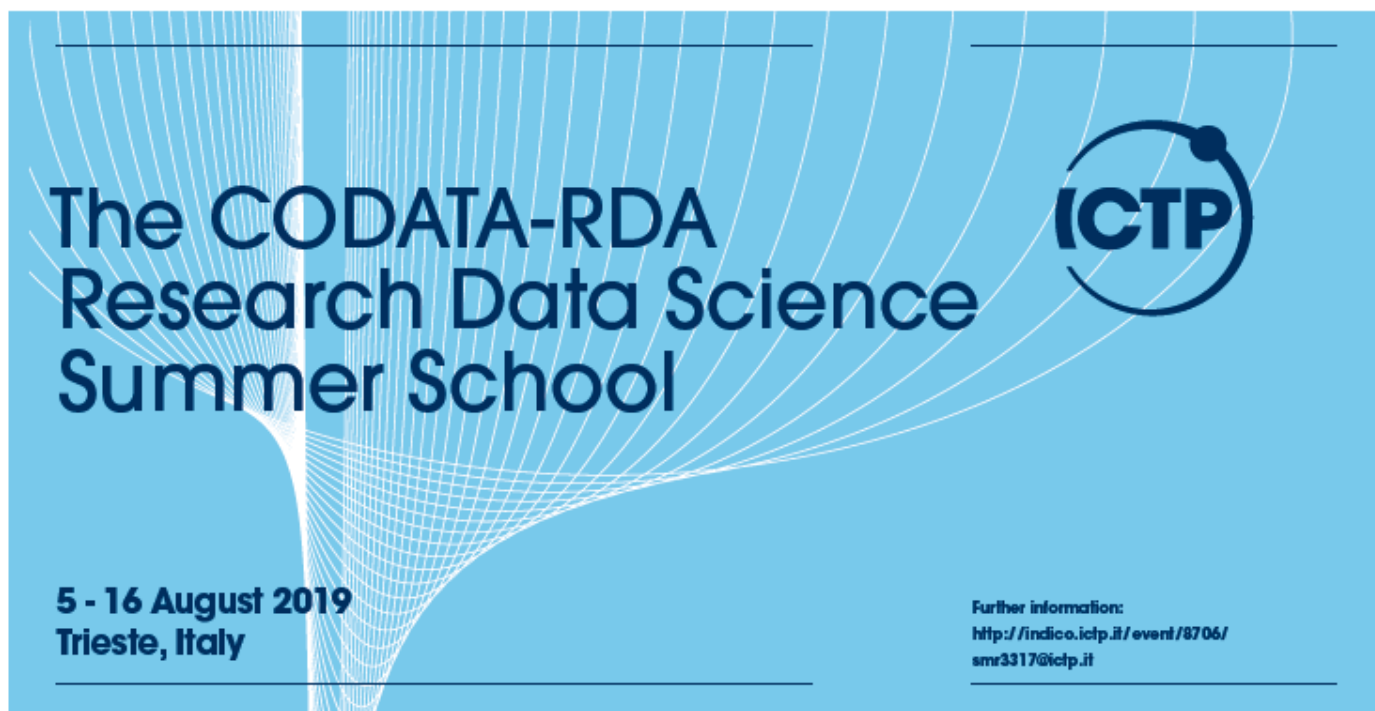
facebook (SBE) accounts of the Spanish Biophysical Society between May 10th and May 31st, 2019.

The winner and two other finalists will have their images displayed in the main hall at the location of the 12th EBSA – 10th ICBP-IUPAP congress.

CODATA-RDA Research Data Science Summer School

CODATA

August 5th - 16st, 2019 | Trieste, Italy



**The CODATA-RDA
Research Data Science
Summer School**

**5 - 16 August 2019
Trieste, Italy**

ICTP

Further information:
[http://indico.ictp.it/event/8706/
smr3317@ictp.it](http://indico.ictp.it/event/8706/smr3317@ictp.it)

This school provides early career researchers (at MSc-level to 3 years after their PhD) and professionals (who register via ITU Academy) with the necessary set of foundational data science skills to enable them to analyse their data in an efficient and effective manner for the 21st century.

Description:

The material covered here is fundamental to all areas of data science and hence open to researchers and professionals from all disciplines that deal with significant amounts of data. The goal is to provide a practical introduction to these topics with extensive labs and seminars.

Individuals with a background in high energy/particle physics, IoT/Big-Data analytics, bioinformatics and climate data sciences can apply to one of the advanced workshops that run immediately after the school.

Topics:

- Open Science
- Introduction to Unix Shell
- Programming for Analysis
- Git
- Research Data Management
- Author Carpentry
- Data Visualisation
- Information Security
- Machine Learning
- Computational Infrastructures

Directors:

R. MURENZI, TWAS
N. MULDER, University of Cape Town, South Africa
R. QUICK, Indiana University, USA
H. SHANAHAN, Royal Holloway University, UK
S. HODSON, CODATA, France
L. BEZUIDENHOUT, University of Oxford, UK.
M. CORDOBA, Universidad de Costa Rica, Costa Rica
R. COBE, UNESP, Brazil
S. JONES, University of Glasgow, UK
I. GIROTTI, ICTP
U. SINGE, ICTP
M. ZENNARO, ICTP

Local Organizer:

C. ONIME, ICTP

Towards Next-Generation Data-Driven Science: Policies, Practices and Platforms

CODATA

September 19th - 20th, 2019 | Beijing, China



[The CODATA 2019 Conference](#) will be held on 19-20 September 2019 in Beijing, China. This year's conference theme is: Towards next-generation data-driven science: policies, practices and platforms.

The conference will follow a [high-level workshop](#), 17-18 September 2019, on 'Implementing Open Research Data Policy and Practice' that will examine such challenges in China and elsewhere in the light of the emergence of data policies and in particular the China State Council's Notice on 'Measures for Managing Scientific Data'.

Science globally is being transformed by new digital technologies. At the same time addressing the major global challenges of the age requires the analysis of vast quantities of heterogeneous data from multiple sources. In response, many countries, regions and scientific domains have developed Research Infrastructures to assist with the management, stewardship and analysis. These developments have been stimulated by Open Science policies and practices, both those developed by funders and those that have emerged from communities. The FAIR principles and supporting practices seek to accelerate this process and unlock the potential of analysis at scale with machines. This conference provides a significant opportunity to survey and examine these developments from a global perspective.

The convening organisations are pleased to invite you to contribute to the program by proposing sessions.

Biology and Physics Confront Cell-Cell Adhesion

Biophysical Society

October 14th - 17th, 2019 | Aussois, France



Dear Colleagues,

It is with great pleasure that we invite you participate in the *Biology and Physics Confront Cell-Cell Adhesion* thematic meeting, to be held at the Centre Paul Langevin, Aussois, France, October 14-17, 2019.

Cell-cell adhesion is a fundamental biological and physical determinant of tissue organization, both in health and disease.

However, the biology and physics of adhesion are often treated very differently. Cell and developmental biologists commonly focus on the molecular mechanisms responsible for cell-cell adhesion, whereas soft matter physicists consider

principally the rheological properties of the contact interface. This meeting aims to bring these views and communities together, along with biophysicists and computational scientists, to develop a unified perspective on cell-cell adhesion that could not be achieved by any one community alone.

Visit the [website](#) for the [program overview](#) and [list of speakers](#). We encourage you to share this information with colleagues who may be interested in attending.

The deadline to submit an abstract and register for the meeting is June 14, 2019. Registration rates for the meeting include registration, accommodation, and meals for 5 days.

We look forward to seeing you in Aussois!

The Organizing Committee,

Sandrine Etienne-Manneville (Institut Pasteur, France)

Jean-Leon Maître (Institut Curie, France)

Alpha Yap (The University of Queensland, Australia)

Virgile Viasnoff (Mechanobiology Institute of Singapore)



XLVIII Argentinean Biophysical Society Annual Meeting

Sociedad Argentina de Biofísica

November 27th - 29th, 2019 | San Luis, Argentina



XLVIII Argentinean Biophysical Society Annual Meeting

November 27th-29th 2019

San Luis, Argentina



The **XLVIII Annual meeting of the Argentinean Biophysical Society (SAB)** will be held from 27th to 29th November 2019 in San Luis, Argentina. Our annual meeting aims to bring together national and international scientists who carry out original research to promote the development of Biophysics in the country and in the region. The meeting includes plenary lectures, thematic symposia, short talks and lightning talks selected from abstracts and poster presentations.

Confirmed speakers

Plenary Lectures

- Adam Liwo, University of Gdansk, Poland
- Roger Williams, MRC Lab, UK
- Igal Szleifer, Northwestern University, USA
- Gabriela Amodeo, IBEA-UBA, Argentina

Symposia

- Pablo Garay (Uruguay)
- Eliana Ascitto (Argentina)
- Gabriel Longo (Argentina)
- Monica Pickholz (Argentina)
- Alejandro Cagnoni (Argentina)
- Sergio Pantano (Uruguay)
- Cecilia D'Alessio (Argentina)
- Mario Del Pópolo (Argentina)
- Cecilia D'Alessio (Argentina)
- Dario Estrin (Argentina)
- Vanessa Galassi (Argentina)
- M. Florencia Gonzalez-Lizzaraga (Argentina)

Confirmed Symposia

- Glycobiophysics
- Mathematical models, bioinformatics and computational biophysics
- Microscopy and spectroscopy
- Young Researchers

Young investigator talks selected from abstracts
SAB student travel fellowships available

Satellite Meeting

The **IV Meeting of Young Biophysicists** organized by the **Young Initiative on Biophysics** will be held on November 26th. IUPAB fellowships will be available for selected students.

Please, visit our [web site](#) for more information about the meeting

IUPAB News Number 71, May, 2019

Executive Committee of IUPAB

President: Dr. Marcelo MORALES, Brasil, mmorales@biof.ufrj.br

Past President: Prof. Dr. Zihé RAO, China, raozh@mail.tsinghua.edu.cn

President Elect: Prof. Dr. Manuel PRIETO, Portugal, manuel.prieto@tecnico.ulisboa.pt

Secretary General, Prof. Dr. Juan C. GÓMEZ-FERNÁNDEZ, Spain, jcgomez@um.es

Treasurer: Prof. Dr. John BAENZIGER, Canada, John.Baenziger@uottawa.ca

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Frances SEPÁROVIC, Australia, fs@unimelb.edu.au

Giuseppe ZUCCHELLI, Italy, giuseppe.zucchelli@unimi.it

The Executive Committee and the Council are depicted at the end of the General Assembly in Edinburgh, 18th July, 2017



IUPAB News Number 71, May, 2019

Activities of the INTERNATIONAL UNION for PURE and APPLIED BIOPHYSICS

From the Secretary-General:
Professor Dr. Juan C. Gomez-
Fernandez

Courier address:

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Facultad de Veterinaria,
Universidad de Murcia,
Edificio 17, 30100.Murcia,
Spain.

Telephone: +34-868884766.

Email: jcgomez@um.es

IUPAB is registered in France

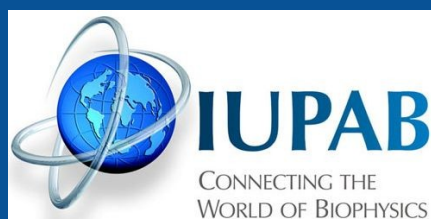
according Loi du 1er Juillet

1901-Art. 5, n°

ordre 03/000309, n° dossier

00158190

The International Union for Pure and Applied Biophysics (IUPAB) was formed in Stockholm in 1961 as the International Organisation for Pure and Applied Biophysics. It was established as the International Union in 1966, when it became a member of the ICSU (International Council for Science) family. Affiliated to it are the national adhering bodies of 61 countries. Its function is to support research and teaching in biophysics. Its principal regular activity is the triennial International Congresses and General Assemblies.



Important Announ- cement Sponsorship Policy of IUPAB

As from now on there will be a change in the sponsorship policy with respect to that posted in:

<http://iupab.org/about/sponsorship/>

So that point 8, will read:

Applications for financial support
of Conferences, Schools and other

should be returned to the Secretary General at least before June 30th of the year prior to the event if it is scheduled for the first semester of the following year or before the 31st of December if it will take place during the second semester.

If organizers of meetings are seeking only the approval of IUPAB, including the use of the IUPAB logo, but not requesting financial support, applications may be submitted to the Secretary General at any time and will be considered by the Executive Committee by correspondence.

Note from the Editor:

IUPAB News will be happy to reproduce articles previously published by bulletins or other publications of any of our Adhering Bodies. We will be also happy to consider articles written by biophysicists on scientific or other subjects of broad interest for the biophysical community. You may contact the Secretary General with respect to this matter.

IUPAB is not responsible for the opinions expressed in the articles here included and nor necessarily share these opinions.

The Editor of IUPAB News is the IUPAB Secretary General Juan Carmelo Gómez-Fernández. This publication is produced and published at the University of Murcia, Departamento de Bioquímica y Biología Molecular A, Campus de Espinardo, Murcia, Spain.

Assistant Editor: Alessio Ausili

It can be found online at: <http://iupab.org/category/newsletters/>

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