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International Union for Pure and Applied Biophysics

January, 2021

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Report from the Secretary General

Juan Carmelo Gómez-Fernández IUPAB Secretary General

IUPAB Congress to be held in Foz do Iguazú (Brasil) is one of the scientific meetings that has been postponed due to the pandemia. It will be held, in principle, on October 2021, although a final decision with respect to dates and format will be made in brief according to the current situation and what can be forecast for the immediate future.

The two **IUPAB Focused Meetings** due for 2021, to be held in India and in Canada, were postponed to 2022 and details about them should be known soon.

In the same way the **2023 Congress** due to be held in Kyoto in June 2023 was postponed to similar dates but of 2024.

Note that bids to hold IUPAB Congress in 2027 should be submitted before 1st of May 2021.

Another consequence of the postponement of the Congress was that the General Assembly was not held in



Secretary General, Juan Carmelo Gómez-Fernández

2020. A General Assembly will be held in March 2021. To prevent future similar problems the Executive Committee and the Council will propose a change of the Statutes and Rules of Procedures to permit **virtual General Assemblies** and online votes to elect IUPAB Officers and Councillors.

Please remember the new modalities of <u>sponsorship policy</u> of IUPAB.

Among these new modalities are:

-Sponsorship of a prize for communications made by students or young biophysicists.

Societies of countries linked to IUPAB as Adhering Bodies may apply for this prize to be awarded to presentations made by young biophysicists during meetings of these societies. The prize could also be given during meetings of associations of young biophysicists. See in this link the details to be taken into account: <u>Sponsorship policy</u>.

-Sponsorship of Plenary Lectures in major biophysics meetings and conferences.

IUPAB will sponsor plenary lectures in major meetings or congressesof biophysics like those of EBSA (Europe), ABA (Asia-Pacific), Biophysical Society and LaFEBS (Latin American countries). See <u>Sponsorship policy</u>

Applications should be sent to the Secretary General (<u>icgomez@um.es</u>).



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Questions for the Shaws

An interview with Rowena and Walter Shaw, founders of Avanti Polar Lipids, by Félix M. Goñi

Question: "Could you please write each of you a short (8-10 lines) bio? (Walt may include year of birth)."

Rowena Shaw answer:

My early upbringing was as a farm girl in rural Kentucky but I was born in Cincinnati, Ohio March 24, 1940. The farm was not one of the famous Kentucky horse farms, it was in Carlisle a poor section in central Kentucky. At age 10 I was transformed to a city girl when my parents moved to Detroit, Michigan. Quite a cultural shock! My father was a pastor, so we moved frequently. I was the oldest child and as my nature dictated, I assumed much

responsibility for nurturing my brother and sister. As college became my next venture, I selected Asbury College in Wilmore, Kentucky and studied music as my major. This is where I met Walt and it was only a short time until we married. He sidetracked my music career and later put me into the business and science world. I still play the piano at home for Walt's and my enjoyment. We married between our Sophomore and Junior year, finished college and moved to Columbus, Ohio to attend graduate school at The Ohio State University (OSU). Renee, our first child was born in Columbus. After graduation from OSU we moved to



Rowena and Walter Shaw

Richmond Virginia for a job at the Medical College of Virginia (MCV). Melinda, our second child was born in Richmond. Avanti was started when we were at MCV. The move to Birmingham, Alabama for graduate school and the continued growth of Avanti also resulted in the birth of our third child, Trevor.

Walt Shaw answer:

My upbringing was as an only child in a small town in Northeastern Ohio, Minerva. I was born in Canton, Ohio August 20, 1939. My Father was a banker and my mother owned a clothing store for children. My first exposure into the business world was to own a paper route when I was 13 years old. My 120 paper customers required daily, seven days a week, on time delivery of the Canton Repository paper. Once a week I needed to pay for the papers, so collection on Saturday morning was a weekly happening. This was great training for business later in life. In high school I was a thespian and a member of the percussion section of the orchestra and marching band. I selected Asbury College in Wilmore, Ky. This is where I met the love and 'rock' of my life, Rowena. As a photographer for the Asbury year book I was bitten by the photography bug that still drives my photography passion. I obtained a Master's Degree in Physiological Chemistry (1966) at The Ohio State University and a

Ph.D. in Biochemistry at the University of Alabama, at Birmingham (1973). The only professional job I have had besides Avanti was Laboratory Director, Clinical Research Center (1966-1969) at the Medical College of Virginia, Richmond, Virginia.

Question: "When and how did Avanti start?"

Answer:

I was working at the Medical College of Virginia (MCV) as the Laboratory Director for the Clinical Research Center. William R. Harlan, Jr., MD was the Medical Director of the center. In addition to the Clinical Research Center



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activities Dr. Harlan had a research laboratory that was interested in lipid research. So, I got my first exposure to lipids in his laboratory in 1966. One of the projects in the research laboratory was a phospholipase that was released into the blood after the subject was given an i.v. injection of heparin. Previously, the Harlan laboratory had concentrated on the triglyceride hydrolase activity, Lipoprotein Lipase, in post heparin plasma. The phospholipase activity had just been discovered prior to my joining the laboratory. The hydrolase activity was at the 1 position of glycerol and the substrate was phosphatidylcholine (Lecithin). The assay read out was titration of the fatty acid released from lecithin and it took 10g of phospholipid per assay. A very tedious and slow assay. My initial project was to make kilogram quantities of lecithin from egg yolk for the assay. But it was clear that a more efficient assay was needed. I had just graduated from The Ohio State University (OSU) with a MS degree in Physiological Chemistry and a strong background in Organic Chemistry. Along with Peter Jezyk, Ph.D., a faculty member in the MCV Biochemistry department, I developed a phosphatidylcholine substrate that was labeled with a radioactive fatty acid in the 1 position of the glycerol. The amount of substrate required for each assay was dramatically reduced to milligrams and the number of assays per day was increased dramatically. This project became the subject of my Ph.D. thesis.

Another project in the Harlan laboratory required the extraction of lipids from whole blood. This was for a study on burned patients. Their red cells would 'spiculate' after three days if the burns affected one third of the body and were classified as third degree. We had problems with oxidation of the lipids in the extracts caused by the carryover of hemoglobin. I knew my friends at OSU were working with whole blood lipid extracts and had solved the oxidation problem. I made arrangements to go to OSU to get their procedure. It was a simple solution. Substitution of isopropanol for methanol in the Folch and we were off to big time business. We would go to the "company" after work and make lipids. This arrangement lasted until May of 1969 when I bought my partners out for a total of \$2200. Dr. Harlan and I moved to the University of Alabama, in Birmingham (UAB) in July 1969. My position was the supervisor of a clinical lipid laboratory and do research on my Ph.D. Surprisingly. Dr. Harlan left the university in 1971,



Avanti Polar Lipids Logo

extraction protocol caused hemoglobin to partition in the isopropanol-water phase. While I was in Ohio, I called Grand Island Biologicals in Chagrin Falls and told them I had large quantities of lecithin derived from chicken eggs for sale. Since we had abandoned the enzyme titration method in favor of the radioactive assay, we had an excess of egg lecithin. I was invited for a meeting the next day and we negotiated an exclusive supply agreement. They were in need of a lipid supplier because the prior supplier of lipids had just burned down. That was the start of Laboratory Pure Biochemicals in 1967. Peter Jezyk, Joseph Libretti and I set up the company in January of 1969 and located it in the research complex at the University of Richmond. Joseph, due to his Italian heritage, came up with the name Avanti

however, he supervised my research from the University of Michigan. Fortunately, a paper published in Febs Letters in 1971 led me to the laboratory of Virgil Brown, MD at the University of California, San Diego. I was able to finish my research quickly in the Brown laboratory. I graduated from UAB in 1973 and made an offer to Grand Island Biologicals to set up a lipid lab in Chagrin Falls, Ohio. They told me lipids had no future and they were not interested in any future lipid collaboration. However, later they did become a significant customer of Avanti. I thought their lack of interest in lipids was great since it eliminated my exclusive contract and I was convinced that lipids did have a great future. I resigned from UAB and set up a lipid laboratory in Pelham, Alabama. The



manufacturing site was a 900 sq ft cement block garage. It was a bare bones garage that Rowena and I made into a laboratory. Not a sophisticated laboratory but one with plywood sheets as table tops held up by saw horses, an old kitchen tables for work space to seal ampoules with an old flame torch and a crudely constructed bench to hold a water bath and rotovap. The lab originally had no bathroom, air conditioning or hoods. Eventually, hoods, a bathroom and air conditioning were installed in the garage. In order to make the house payment and eat, I taught biochemistry to Physicians Assistants at UAB for three years. Rowena managed the Avanti office from the house and I make lipids in the

afternoon after high school classes and since he attended Birmingham Southern College, he worked through his college career. He then went to University of North Carolina in Dr. Berry Lentz's laboratory for his Ph.D. Steve returned to Avanti in 1990 and is with the Avanti today as Chief Scientific Officer. In 1985 Burroughs-Welcome approached Avanti to supply dipalmitoyl phosphatidylcholine for a drug, Exosurf, to treat neonates with respiratory distress. The drug was approved in 1990 and was responsible for saving thousands of babies lives. This project put Avanti in the pharmaceutical excipient drug business. Avanti has continued to grow both the research and pharmaceutical business. It is due



Avanti Polar Lipids Campus

garage laboratory. Late in the afternoon I would take home the lipids I made that day, we would pack them on dry ice and ship them via FedEx. The Thompson Laboratory at the University of Virginia, the Papadopoulos - Szoka laboratory at Buffalo, the Racker laboratory at Cornell, Ithaca and John Weinstein's laboratory at the NIH were Avanti's first customers. The business grew and in 1979 we hired our first employee, Stephen Burgess. Steve worked in the to the guidance of God, our loyal research and pharmaceutical clientele and the dedication of our employees that Avanti has succeeded.

Question: "How come you Northerners became established in Alabama?"

Answer:

I had the good fortune of a great boss, William R. Harlan, Jr, MD, on my first and only job at the Medical College of Virginia. Dr. Harlan invited Rowena and me to join him in the move from Virginia to the University of Alabama at Birmingham. We really enjoyed living in the Birmingham, Alabama area so we became pseudo Carpet Baggers.

Question: "A difficult one: how has each of you contributed to the success of Avanti? (we all know that both did to a large extent)."

Answer:

Some decisions have profound effects not imagined when the original decision is made. The location of Avanti's manufacturing site is one of those decisions. Two locations were considered, one close to the city of Birmingham and the other in the suburb of Pelham. The deciding factor to take the Pelham location was the fact that we would drive against traffic going to Pelham from our home in Vestavia Hills. The manufacturing site in Pelham was a 900 sq ft cement block garage.

What made this location so fortuitous was that we could expand into space on either side until 5 contiguous garages became the manufacturing site. However, the main advantage to this site was the employees we hired. The first employee, Stephen W. Burgess, a high school student that worked after school and on weekends. I learned about Steve from his father who was manager of the grocery store where I bought tissues. Other people from the Pelham-Alabaster area are also longterm employees. So, the location was responsible for hiring employees that made a difference.

Selection of equipment was critical to the start of Avanti. We had little funds to buy equipment so it was important not to waste money. Chromatography



columns were purchased from Tom Beesley at Quantum Industries and pumps to flow solvents were from Fluid Metering (FMI). Tissues were extracted in 20-gallon stainless steel vessels. All of these brands were used for many years.

In the beginning, Avanti's Product line was limited to natural products but since high quality natural lipid products were not commercially available, we continued to grow. Product quality was the driving force from the very beginning. Avanti built a reputation in the scientific community for the highest quality lipids on the planet. Keeping the high quality while scaling up production and hiring employees has been one of the challenges that we have met. Rowena was the absolute watch dog on employee safety training, employees observing the safety rules and instilling into the employee's psyche the necessity of quality production.

The addition of a synthetic line of products in 1978 stimulated the next growth phase. The synthetic literature in the early 70's showed that long incubation times, high temperatures and low yields characterized lipid synthesis. I never tried these methods. I did have an epiphany about synthetic conditions after I took an order from NIH, John Weinstein, to make a synthetic phosphatidylcholine. I was able to produce a synthetic 1,2-diacyl-sn -glyceo-3-phosphocholine that required only an overnight incubation at low temperature and produced a 90% plus yield. This process was scaled up without modification to produce several tons of product for Burroughs-Wellcome's ExosurfTM. Also, the mild conditions allowed for the synthesis of high quality polyunsaturated fatty acid containing phospholipids.

Analytical methods in the beginning were rudimentary but adequate. Thin Layer Chromatography (TLC) was the main tool. Quantum TLC plates coupled with a host of solvent systems and many different sprays to identify functional groups in lipids gave the necessary quality control to produce quality products. More sophisticated analytical equipment was added to the laboratory as funds became available. Gas Chromatographs (GC) and High-Performance Liquid Chromatographs (HPLC) coupled with light scattering detectors were put into service. Later Mass Spectrometers (LC-MS/MS) and Nuclear Magnetic Resonance (NMR) spectroscopy, 400MHz with cryoprobe, were added to the Analytical arsenal. The equipment budget was tight so used and demo equipment was the norm for Avanti's purchases.

Packaging products for storage and shipping was an area that we needed to learn a lot. We found that all glass ampoules are not equal. We learned that the glass surface of different ampoule manufactures has vastly different activities. The surface activity of glass was brought front and center when we shipped Alexandria Newton at UCSD a batch of 1,2 diacyl glycerol that was completely inactive in her Protein Kinase C assays. After much digging we found that a new shipment of ampoules was the culprit. The active glass surface catalyzed the acyl migration from the 2 position to the 3 position. Fortunately, we quickly found a supplier of ampoules that produced an inactive glass surface and the Newton laboratory could get back to work.

Many important activities of a business fall outside the main expertise of the business. Pricing products, catalogue

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production, advertising, trade shows, customer relations, financial systems, employee training, employee management and employee hiring are all the areas that Rowena's expertise blossomed. Without the collaboration between Rowena and me Avanti would not exist.

Question: "Avanti has contributed to the Pfizer-BioNtech vaccine. How did you do it? Are you involved in other vaccines as well? (no names, for sure)."

Answer:

Over many years we developed personal relationships with many of our customers. The Pfizer-BioNtech collaboration is just one of several contracts we developed from these relationships. However, the quality of Avanti's product was the main reason for being selected as the supplier.

Question: "How was the Avanti-Croda transition? What is Croda (the name is new to most of us?) Will the name Avanti survive?"

Answer:

Croda is a worldwide company based in England with more than 4000 employees. The products and services supply many commercial areas ranging from cosmetics to pharmaceuticals. Their moto "Smart Science to Improve LivesTM" is true to Croda's history. Avanti was attractive to Croda because of our lipid expertise for research products, pharmaceutical products and formulation work. The name Avanti Polar Lipids, Inc., will remain. To show their commitment for the Avanti brand, buildings are already under construction. I see great future growth for Avanti with Croda.

N.B. IUPAB thanks Avanti for their great support to Science through their sponsored prizes and their high quality products.



Report on 60th Anniversary Meeting of the British **Biophysical Society**

This year, 2020, marked the 60th anniversary of the first meeting of the British Biophysical Society, founded by biophysicists such as Andrew Huxley, John Kendrew, Maurice Wilkins and Max Perutz. Our planned in-person meeting to celebrate the birth of the society was cancelled for obvious reasons. However, we could not allow this special anniversary to go unmarked, and so the first British Biophysical Society Virtual meeting was held on 14th -17th September 2020.

We gathered together from our spare bedrooms, kitchens and gardens, through time and space to celebrate 'Biophysics through time and space'. Registration was free and the total number of registrants was 1458. Attendees tuned in from across the

September 14 - 17, 2020

world (42 countries) and we wer e treated to a wealth of wonderful science, ranging from the work of Nobel Laureates Venki Ramakrishnan and Richard Henderson, both Honorary members of the society, to that of outstanding early career researchers, including the first IUPAB Young Investigator prize winner, Giulia Paci (Italian working in London).

This first venture of the BBS into online meetings was a great success. What seemed a huge negative was turned into a positive by opening participation



Claire Friel, Nottingham

The 60th Anniversary Meeting of the British Biophysical Society Biophysics through time and space: the BBS @60 14th - 17th September 2020 Meeting to be held via Zoom

Prize for the Best Communication granted by IUPAB to a Young participant at the 60th British Biophysical **Conference: Giulia Paci**

Talk summary:

In her talk at the 60th Anniversary Meeting of the BBS, Dr. Paci presented results

from her PhD work on the biophysics of cargo transport across the Nuclear Pore Complex [1]. In order to study the nuclear import of extremely large cargoes, she developed a toolkit of model cargoes based on viral and artificial capsids and chemical labelling to attach fluorescent dyes and NLS



peptides on the capsid surface. This enabled her to obtain a set of cargoes in a previously

unexplored size up to 36 nm and with tuneable #NLSs. A combination of biophysical characterizations, confocal imaging and quantitative analyses were used to precisely measure the import kinetics of all cargoes and identify the key factors affecting import efficiency. These experiments

Blo:

Dr. Giulia Paci is an EMBO **Postdoctoral fellow at the MRC** Laboratory for Molecular Cell Biology, UCL, in the labs of Yanlan Mao and Buzz Baum. She is interested in understanding the interplay between mechanical forces and molecular processes across biological scales. She has a background in Physics from the University of Bologna, Italy and completed her PhD at EMBL Heidelberg in the group of Edward Lemke.

revealed that import efficiency and the requirements for transport scale nonlinearly with cargo size. Finally, the



experimental results could be recapitulated using a simple biophysical model based on the energetics of nuclear transport: an entropic cost of inserting a large cargo into a crowded



Giulia Paci

environment, and an enthalpic contribution due to the binding of NTRs to the NLSs and FG-Nups. She also presented results from a second project [2], where the team developed a microfluidic device to trigger rapid (milliseconds) phase separation of purified FG-Nups under continuous optical observation and study their interaction with different cargoes. This novel approach enabled them to access a previously unobserved timescale and discover that FG-Nup49 undergoes phase separation into droplets with all the properties of a liquid state. The droplets already display permeability barrier properties, allowing selective perfusion of cargoes (including the previously developed large cargoes) only in presence of NLSs and NTRs.

[1] Paci, G., Zheng, T., Caria, J., Zilman, A., & Lemke, E. A. (2020). Molecular determinants of large cargo transport into the nucleus. Elife, 9, e55963.

[2] Celetti, G.*, Paci, G.*, Caria, J.,
VanDelinder, V., Bachand, G., & Lemke, E. A.
(2020). The liquid state of FG-nucleoporins mimics permeability barrier properties of nuclear pore complexes. The Journal of Cell
Biology, 219(1)

Report of YIB-TALKS 2020 organized by Jóvenes Biofísicos – The Young Initiative on Biophysics

The Young Initiative on Biophysics organized YIB-TALKS, an activity which intention was to spread the work of fellows and students in the area of biophysics, and presented the opportunity to build bridges across the young biophysical community, sponsored by the Argentinian Biophysical Society and IUPAB. For this purpose, 38 participants (undergraduate, master, doctoral and postdoctoral students) from Argentina, Brazil, Chile,

Uruguay, Colombia and Germany sent a 5-minute video presenting their work, in a posterlike manner.

On October, 26th those videos were uploaded in our

Event partially funded by IUPAB



YouTube channel for everyone to see. From the participant videos, one was selected as the best presentation by a 9 -member jury. The selection of such video was based not only on the communicational skills of the speaker, but on the originality, creativity and organization of the presentation. The winner, Agustín Ormazábal a PhD student from Quilmes National University, Argentina received a 250 EUR prize sponsored by IUPAB.

The jury of the contest agreed on three runners up: Wanda M. Valsecchi, Natalia Ríos Colombo, both postdocs students from Argentina, and Fernanda Leomil, a PhD student from Brazil. A mention to the most watched and

> popular video was awarded to Mina Aleksanyan, a firstyear PhD student from Germany. These videos were very creative, well organized and the story-telling of each speaker had high-

JÓVENES BIOFÍSICOS Aleksanyan, a tirst year PhD student from Germany. These videos were

The Young Initiative on Biophysics



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level of clarity.

Every video involved in the activity had an outstanding quality. We would like to congratulate every young scientist participating in this activity.

Winner, runners up and mention:

Agustín Ormazábal, PhD student. Unidad de Fisicoquímica, Departamento de Ciencia y Tecnología, Universidad Nacional de Quilmes, Argentina. "Investigation on the molecular basis of the post trascriptional regulatory mechanism associated with the RsmZ/ RsmE system using computational methods".

Fernanda Leomil, PhD student. UNIFESP - Universidade Federal de São Paulo, Brazil. "Material properties and stability of anionic membranes with different levels of complexity".

Natalia S. Ríos Colombo, Post-doc student. Former work place: INSIBIO – CONICET/UNT, Tucumán, Argentina. Actual workplace: CERELA – CONICET, Tucumán, Argentina. "Suicide probes: a resource to assess the mechanism of action of membrane-active peptides in living bacterial cell".

Wanda M. Valsecchi, Post-doc student. Departamento de Química Biológica, Facultad de Farmacia y Bioquímica, Universidad de Buenos Aires; and IQUIFIB - CONICET– Universidad de Buenos Aires. "Biophysical characterization of cation transport-



Agustín Ormazábal associated intermediates of the gastric proton pump".

Mina Aleksanyan, 1st year PhD student. Max Planck Institute of Colloids and Interfaces, Germany. "Electroporation of GM1-doped Giant Unilamellar Vesicles (GUVs)".

First draft of the UNESCO Recommendation on Open

Science

Released on 30 September 2020

Preamble

The General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO), meeting in Paris XX November 2021,

Recognizing the urgency of addressing complex and interconnected environmental, social and economic challenges for the people and the planet, including poverty, health issues, access to education, rising inequalities and disparities of opportunity, natural resource depletion, loss of biodiversity, land degradation, climate change, natural and human-made disasters, spiralling conflicts and related humanitarian crises;

Acknowledging the vital importance of science, technology and innovation to respond to these challenges by providing solutions to satisfy human needs, improve living standards and human well-being, advance environmental sustainability, foster sustainable social and economic development and promote democracy and peace;

Further acknowledging the opportunities and the potential provided by the expansion of information and communication technologies and the global interconnectedness to accelerate human progress, to bridge the digital divide and to develop knowledge societies;

Noting that the global COVID-19 health crisis has proven worldwide the urgency of access to scientific information, sharing of scientific knowledge, data and information, enhancing scientific collaboration and science- and knowledge-based decision making to respond to global emergencies and increase the resilience of societies;

Committed to leaving no one behind with regard to access to science and benefits from scientific progress by ensuring that, for example, when a safe and effective vaccine or treatment for COVID-19 is developed, it is produced rapidly on scale and the data, scientific knowledge and methods needed to produce it are openly available for all countries;



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Open Science

UNESCO has launched a global consultation on Open Science

H3: Global Consultations on Open Science

To build a global consensus on Open Science, the development of the UNESCO Recommendation on Open Science relies on an inclusive, transparent and consultative process involving all countries and all stakeholders.

The Recommendation is expected to define shared values and principles for Open Science, and point to concrete measures on Open Access and Open Data with proposals for action to bring citizens closer to science, and commitments for a better distribution and production of science in the world.

The process of drafting the Recommendation is regionally balanced, highly inclusive and collaborative. It involves multiple stakeholders and is expected to lead to the adoption of the Recommendation by UNESCO Member States in 2021.



UNESCO has launched a global consultation on <u>Open Science</u> with a view to developing a standard-setting instrument in the form of a Recommendation, to be adopted by the UNESCO General Conference in November 2021.

CODATA has been invited to contribute to this process, to provide inputs from the organisation and to mobilise our global expert community.

In developing the Open Science Recommendation, UNESCO is gathering inputs from all the regions and all the interested stakeholders, through online consultations, regional and thematic meetings and numerous debates on implications, benefits and challenges of Open Science across the globe.

H3 Online Consultation

Are you a scientist, a publisher, a science policy maker or someone with experience and interest in Open Science? Your input is important to the UNESCO process.

Please participate in the survey designed to collect inputs for the development of the UNESCO Recommendation on Open Science. The survey may be completed (in English, French or Spanish) either online or downloading documents to be returned to the UNESCO team at <u>openscience@unesco.org</u>.

For all links and further information please see the page on the UNESCO website.

The deadline for submitting inputs is 15 June 2020.

H3 Thematic and regional meetings

UNESCO will hold a series of online and face to face consultations to support an open debate on Open Science awareness, understanding and policy development to feed into the UNESCO Recommendation on Open Science. In this context, a series of regional and thematic consultations are being organized. For more information see the page on the UNESCO website or contact the UNESCO team at openscience@unesco.org

UNESCO Recommendation on Open Science will complement the 2017 Recommendation on Science and Scientific Research. It will also build upon the UNESCO Strategy on Open Access to Scientific Information and Research and the new UNESCO Recommendation on Open Educational Resources.

For further information and useful links please see the page on the UNESCO website.



The second Costa Rican Biophysics Symposium

March 11 - 12, 2021 | Virtual Event partially funded by IUPAB



The second Costa Rican Biophysics Symposium will be organized virtually on March 11th-12th of 2021. This year will count with **Dr. Francisco Bezanilla** from the University of Chicago as the keynote speaker. The talks will include research on electrophysiology, machine learning applied to cellular microscopy, and prediction of protein-protein interaction sites.

This event aims to build an international network of scientists whose work is representative of the field of biophysics. Biophysics is a very multidisciplinary field and this meeting sets a precedent in Costa Rica about the importance of collaborating across disciplines to answer challenging scientific questions.

The first Costa Rican Biophysics Symposium was organized in January of 2019 at the National Academy of Sciences of Costa Rica. It attracted nearly 80 attendees with scientists from Costa Rica and worldwide universities including Virginia Tech and École Polytechnique Fédérale de Lausanne. **Information** about the 2021 symposium and registration can be found at the <u>official web page</u>. **Registration** will open on the first week of February.





13th European Biophysics Conference

European Biophysical Societies' Association (EBSA)

July 24 - 28, 2021 | Vienna, Austria

The EBSA 13th European Biophysics Congress will take place in Vienna from 24 - 28th July 2021.

The information about the congress is updated regularly on the <u>congress web site</u> and we can confirm that a physical event will take place under appropriate safety conditions. For anyone unable to be there in person, for example due to travel restrictions in their country, it will also be possible to attend the **Congress virtually**.

The closing date for **EBSA bursary applications** (50 - 60 available) is March 19th 2021, and the **Abstract submission deadline** is March 31st 2021.

The **IUPAB** Sponsored Plenary Lecturer will be Francesco Bezanilla, Chicago.





Symposia

Protons on interface

Virus biophysics

Bioenergetics

Synthetic cell

Biosensors Instruct-ERIC

Mechanobiophysics

Biomimetic nanopores

Channels and Ca²⁺ signaling

Medical biophysics / Imaging

Advanced optical microscopy

Light as a tool in biophysics

Membrane transporter & channels

Quantification of molecular forces

Liquid-liquid phase separation and

DNA architecture and gene regulation

intrinsically disordered proteins

Membrane signal transduction

Cytoskeleton / Motor proteins Membrane architecture and asymmetry

Membrane active peptides Biomolecular simulations

Lipid-Protein interactions

Protein translocation, assembly and folding

Ada Yonath

Nobel prize 2009 Weizmann Institute of Science Israel

Plenary Lectures

Thomas Südhof Nobel prize 2013 Stanford University, USA Francesco Bezanilla

University of Chicago, USA **Maria Rodnina** MPI Göttingen, Germany

Raimond Dutzler University of Zurich. Switzerland

Gerhard Hummer Max Planck Institute, Germany

Karolin Luger University of Colorado, USA

Carol Robinson (tbc)

University of Oxford, UK

1 Dec 2020 31 Mar 2021 30 Apr 2021

Start of registration and abstract submission
End of abstract submission
End of Early bird registration

Conference Website Link



IUPAB News Number 76, January, 2021

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





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Activities of the INTERNATIONAL UNION for PURE and APPLIED BIOPHYSICS From the Secretary-General: Professor Dr. Juan C. Gomez-Fernandez **Courier address:** Departamento de Bioquímica y Biología Molecular A, 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 Announcement Sponsorship Policy of IUPAB

As from now on there will be a change in the sponsorship policy with respect to that posted in: <u>http://iupab.org/about/</u> <u>sponsorship/</u> 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, nor necessarily share these opinions.

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