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2021 NOVEMBER NEWS



**IUBMB PROTEIN KINASES
NOMENCLATURE SUBCOMMITTEE**

 Ireland/USA, CHAIR	 USA, CO-CHAIR	 UK	 USA
 USA	 Australia	 USA	 UK

First the Kinome, now comes the 'Kinomenclature'. Enzymes are identified by Enzyme Commission #s. EC 2.7 transfer phosphorous-containing groups, but how to parse out all the diverse protein kinases? Our [new subcommittee](#) is figuring out Kinomenclature. Welcome to all the members!

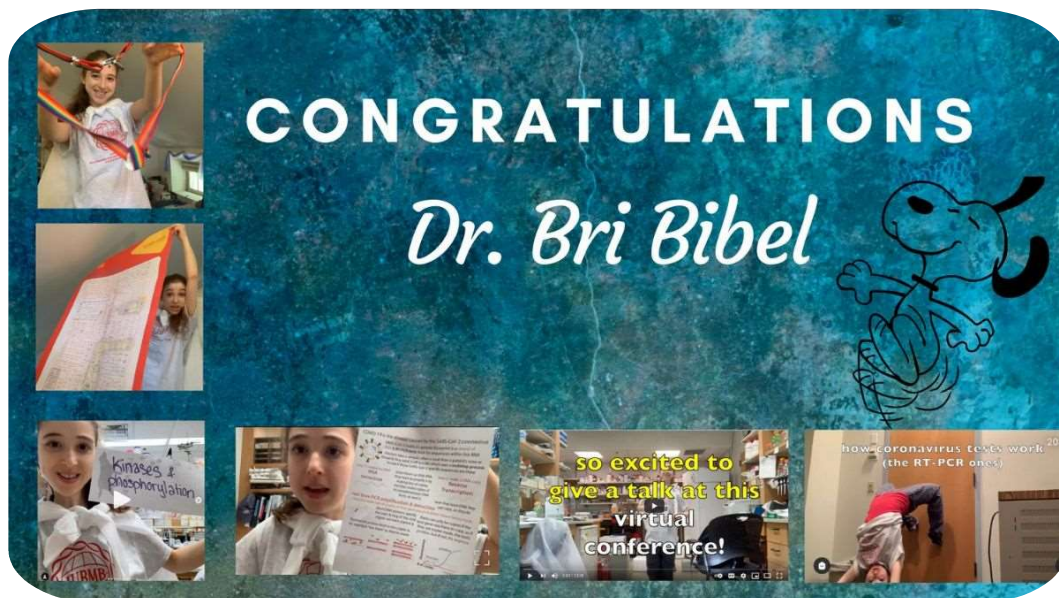
CONGRATULATIONS

Oswald Djihinto



Laboratory of Vector-Borne Infectious Diseases/ Institut Régional de Santé Publique/ University of Abomey-Calavi (UAC), Benin, was awarded the **IUBMB Wood-Whelan Fellowship** to travel to Wits Research Institute for Malaria (WRIM), South Africa, in Prof. Lizette L. Koekemoer's lab to complete his project on the "Assessment of 20-hydroxyecdysone deactivation in *Anopheles gambiae* by silencing the cytochrome CYP306A1 using RNA interference (RNAi)"

** click on photo to play video*

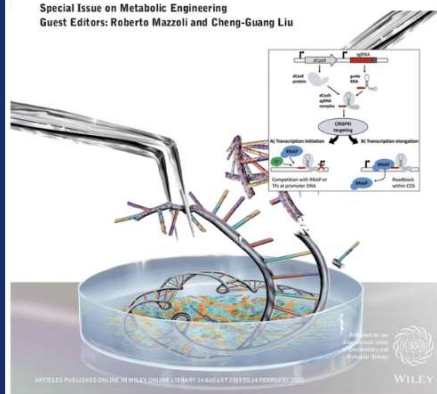


Congratulations to our Student Ambassador, Bri Bibel, henceforth DR. BRI BIBEL, on your successful defense of your PhD.

UPCOMING IUBMB DEADLINES

Biotechnology and Applied Biochemistry

Special Issue on Metabolic Engineering
Guest Editors: Roberto Mazzoli and Cheng-Guang Liu



rapid publication

synthetic biology

metabolic engineering

pathway engineering

application of biochemistry
to biotechnology



IUBMB is seeking a New Editor-in-Chief for Biotechnology and Applied Biochemistry, a *rapid publication* journal devoted to SynBio, metabolic engineering, & biochemistry applied to biotechnology. **Deadline extended to Nov 30.** Info: <https://bit.ly/3BhYjUr>

IUBMB AWARDS

Jubilee Lectures

Deadline December 15



The IUBMB Jubilee Lectures are intended as Plenary Lectures and are recognized for their outstanding contributions to their field as described [here](#).



Open Call for host institutions for FEBS-IUBMB-ENABLE Conferences in 2023 and 2024

The FEBS-IUBMB-ENABLE Conference is a 3-day international and interdisciplinary winter event for PhD students and postdocs, hosted at a different research institute each year.

The FEBS-IUBMB-ENABLE are now inviting applications from academic institutions (either a university or a research institution) to host the November 2023 conference in a country with a FEBS Constituent Society, and any country with an IUBMB Adhering or Associate Adhering Body (except those allowed in 2023) to host the November 2024 conference. We are looking for academic institutions with a strong research background in molecular life sciences and an active PhD community. This event will be organized by a committee of young researchers belonging to the 5 ENABLE institutions. It will be organized following the standards and structure of the [previous ENABLE events](#). FEBS and IUBMB will fund the event up to a sum of €65,000.

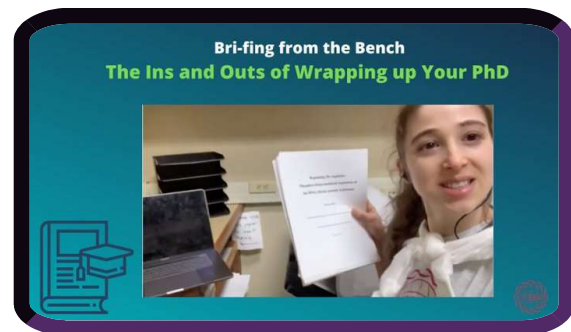
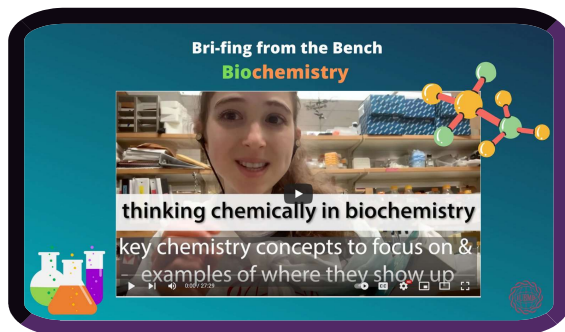
For more information, visit: <https://bit.ly/3w932GN>

BRI-FING FROM THE BENCH

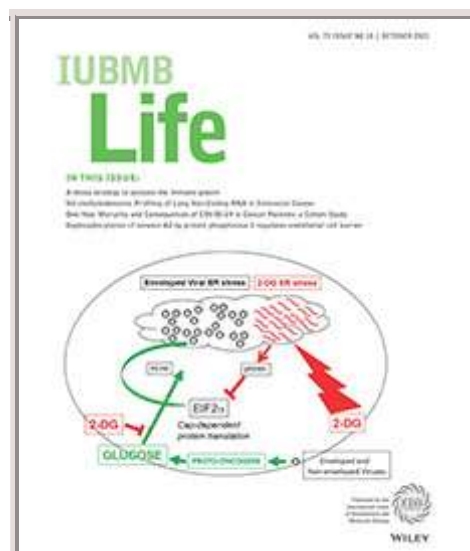


Last chance to ask our Postgraduate Student Ambassador questions about grad school, getting a PhD, lab life, or anything biochemical by **Friday, Nov 5th**.

Ask?: <http://bit.ly/askBrisomething>



IUBMB JOURNALS

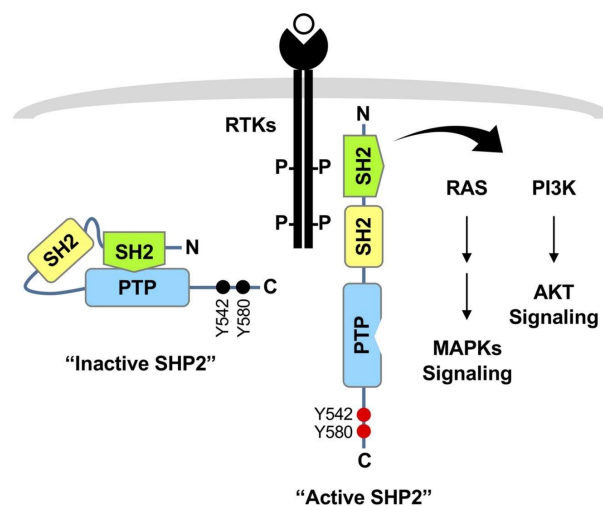


Issue Highlights

- [SHP2: The protein tyrosine phosphatase involved in chronic pulmonary inflammation and fibrosis](#)

By Chun-Jung Chang, Chiou-Feng Lin, Bing-Chang Chen, Pei-Yun Lin, Chia-Ling Chen

Chronic respiratory diseases (CRDs), including pulmonary fibrosis, chronic obstructive pulmonary disease (COPD), lung cancer, and asthma, are significant global health problems due to their prevalence and rising incidence. The roles of protein tyrosine kinases (PTKs) and protein tyrosine phosphatases (PTPs) in controlling tyrosine phosphorylation of targeting proteins modulate multiple physiological cellular responses and contribute to the pathogenesis of CRDs. Src homology-2 domain-containing PTP2 (SHP2) plays a pivotal role in modulating downstream growth factor receptor signaling and cytoplasmic PTKs, including MAPK/ERK, PI3K/AKT, and JAK/STAT pathways, to regulate cell survival and proliferation. In addition, SHP2 mutation and activation are commonly implicated in tumorigenesis. However, little is known about SHP2 in chronic pulmonary inflammation and fibrosis. This review discusses the potential involvement of SHP2 deregulation in chronic pulmonary inflammation and fibrosis, as well as the therapeutic effects of targeting SHP2 in CRDs.

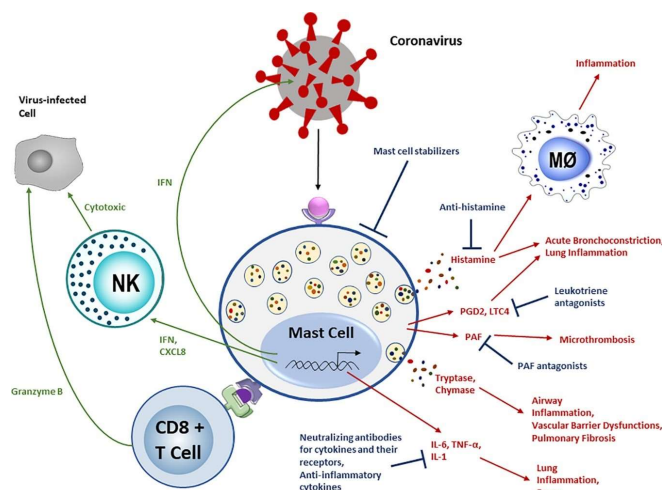


- [Mast cells: Therapeutic targets for COVID-19 and beyond](#)

By Hiu Yan Lam, Vinay Tergaonkar, Alan Prem Kumar, Kwang Seok Ahn

Mast cells (MCs) are innate immune cells that widely distribute throughout all tissues and express a variety of cell surface receptors. Upon activation, MCs can rapidly release a diverse array of preformed mediators residing within their

act as sentinels in response to rapid changes within their microenvironment. There is increasing evidence now that MCs play prominent roles in other pathophysiological processes besides allergic inflammation. In this review, we highlight the recent findings on the emerging roles of MCs in the pathogenesis of coronavirus disease-2019 (COVID-19) and discuss the potential of MCs as novel therapeutic targets for COVID-19 and other non-allergic inflammatory diseases.

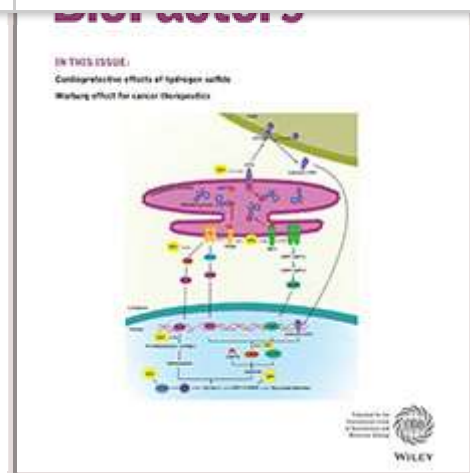


SPECIAL ISSUE CALL FOR PAPERS

See the full list of Calls for papers [here](#)

NEW VIRTUAL ISSUES

See all the new IUBMB Life Virtual issues [here](#)



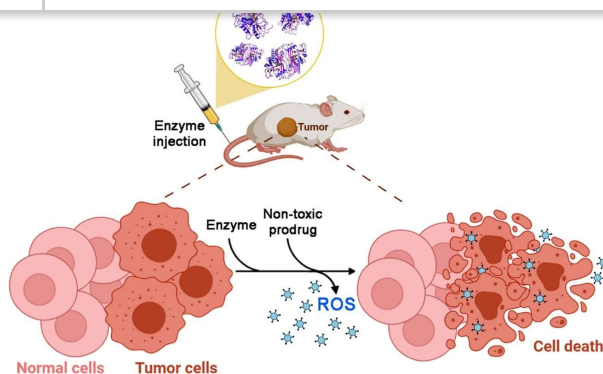
New Issue: Volume 47, Issue 5

Issue Highlights

- [Reactive oxygen species as a double-edged sword: The role of oxidative enzymes in antitumor therapy.](#)

By Elena Rosini, Loredano Pollegioni

A number of approaches have been developed over the years to manage cancer, such as chemotherapy using low-molecular-mass molecules and radiotherapy. Here, enzymes can also find useful applications. Among them, oxidases have attracted attention because of their ability to produce reactive oxygen species (ROS, especially hydrogen peroxide) in tumors and potentially modulate the production of this cytotoxic compound when enzymes active on substrates present in low amounts are used, such as the d-amino acid oxidase and d-amino acid couple system. These treatments have been also developed for additional cancer treatment approaches, such as phototherapy, nutrient starvation, and metal-induced hydroxyl radical production. In addition, to improve tumor specificity and decrease undesired side effects, oxidases have been targeted by means of nanotechnologies and protein engineering (i.e., by designing chimeric proteins able to accumulate in the tumor). The most recent advances obtained by using six different oxidases (i.e., the FAD-containing enzymes glucose oxidase, d- and l-amino acid oxidases, cholesterol oxidase and xanthine oxidase, and the copper-containing amine oxidase) have been reported. Anticancer therapy based on oxidase-based ROS production has now reached maturity and can be applied in the clinic.



New Issue: Volume 68, Issue 4

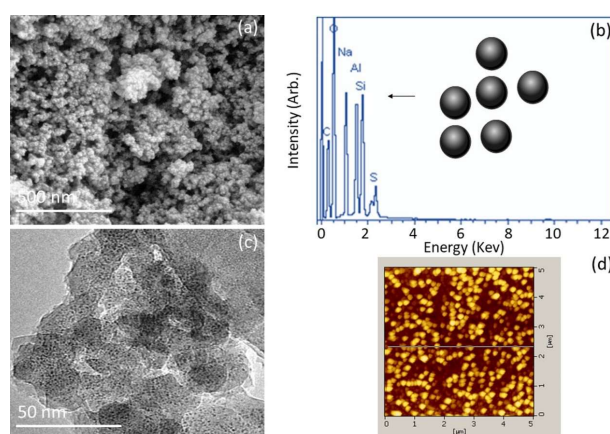
Issue Highlights

- [Nanosensing colon cancer biomarker on zeolite-modified gap-fingered dielectrodes](#)

By Ming Gao, Yuansong Sun, Qi Wang, Shuaiting Ma, Xinwei Guo, Lingling Zhou, Yeng Chen, Kasi Marimuthu, Subash C.B. Gopinath

Nanomaterial on the sensing area elevates the biomolecular immobilization by its right orientation with a proper alignment, and zeolite is one of the suitable materials. In this research, the zeolite nanoparticles were synthesized using rice husk ash as the basic source and the prepared zeolite by the addition of sodium silicate was utilized to attach antibody as a probe on a gap-fingered dielectrode surface to identify the colon cancer biomarker, “colon cancer-secreted protein-2” (CCSP-2). Field Emission Scanning Electron Microscopy and Field Emission Transmission Electron Microscopy images confirmed the

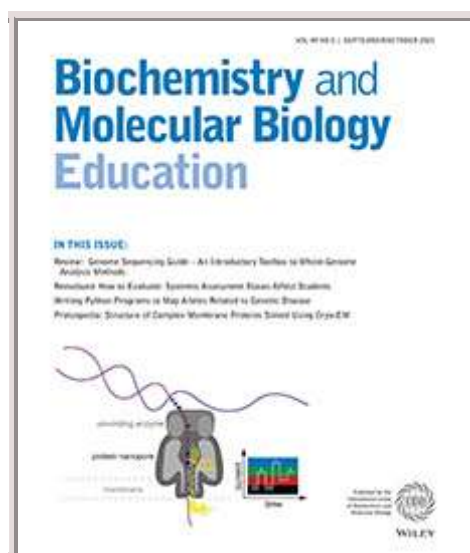
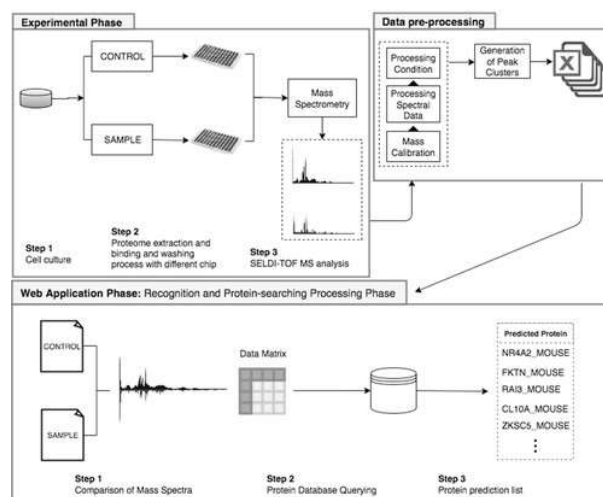
then anti-CCSP-2 was attached by an aldehyde linker. On this surface, CCSP-2 was detected and attained the detection limit to be 3 nM on the linear regression curve with 3–5 nM of CCSP-2. Estimated by the determination coefficient of $y = 2.3952x - 4.4869$ and $R^2 = 9041$ with 3δ ($n = 3$). In addition, control proteins did not produce the notable current response representing the specific sensing of CCSP-2. This research is suitable to identify CCSP-2 at a lower level in the bloodstream under the physiological condition of a colon cancer patient.



- [Selymatra: A web application for protein-profiling analysis of mass spectra](#)

By Davide Nardone, Angelo Ciaramella, Mariangela Cerreta, Salvatore Pulcrano, Gian C. Bellenchi, Linda Leone, Giuseppe Manco, Ferdinando Febbraio

Surface enhanced laser desorption/ionization-time of flight (SELDI-TOF) mass spectrometry is a variant of the matrix-assisted laser desorption/ionization-time of flight (MALDI-TOF) mass spectrometry. It is used in many cases especially for the analysis of protein profiling and for preliminary screening of biomarkers in complex samples. Unfortunately, these analyses are time consuming and protein identification is generally strictly limited. SELDI-TOF analysis of mass spectra (SELYMATRA) is a web application (WA) developed to reduce these limitations by (i) automating the identification processes and (ii) introducing the possibility to predict proteins in complex mixtures from cells and tissues. The WA architectural pattern is the model-view-controller, commonly used in software development. The WA compares the mass value between two mass spectra (sample vs. control) to extract differences, and, according to the set parameters, it queries a local database to predict most likely proteins based on their masses and different expression amplification. The WA was validated in a cellular model overexpressing a tagged NURR1 receptor, being able to



[New Virtual Issue on Teaching in the Time of COVID-19](#)

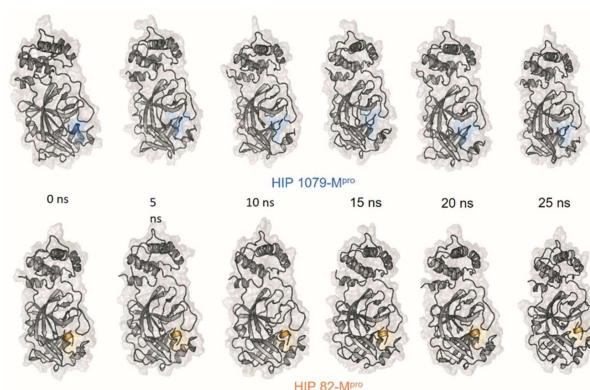
New Issue: Volume 49, Issue 5

Issue Highlights

- [A student led computational screening of peptide inhibitors against main protease of SARS-CoV-2](#)

By Anika Tajrian Khan, Golam Mahmud Chowdhury, Juwairiyah Hafsah, Md Maruf, Md Riyad Hossen Raihan, Md Talha Chowdhury, Nafisa Nawal, Nishat Tasnim, Pranto Saha, Prottoy Roy, Raya Tabassum, Souvick Patrick Rodrigues, Walid Hasan, Zarin Tasnim Samanta, Suprio Kamal, Md Shahoriar Nazir, Md Ackas Ali, Mohammad A. Halim

study, experimentally proven 14 HIV protease peptides were screened against the main protease of SARS-CoV-2. Fourteen middle and high school “student researchers” were trained on relevant computational tools, provided with necessary biological and chemical background and scientific article writing. They performed the primary screening via molecular docking and the best performing complexes were subjected to molecular dynamics simulations. Molecular docking revealed that HIP82 and HIP1079 can bind with the catalytic residues, however after molecular dynamics simulation only HIP1079 retained its interaction with the catalytic sites. The student researchers were also trained to write scientific article and were involved with drafting of the manuscript. This project provided the student researchers an insight into multi-disciplinary research in biology and chemistry, inspired them about practical approaches of computational chemistry in solving a real-world problem like a global pandemic. This project also serves as an example to introduce scientific inquiry, research methodology, critical thinking, scientific writing, and communication for high school students.

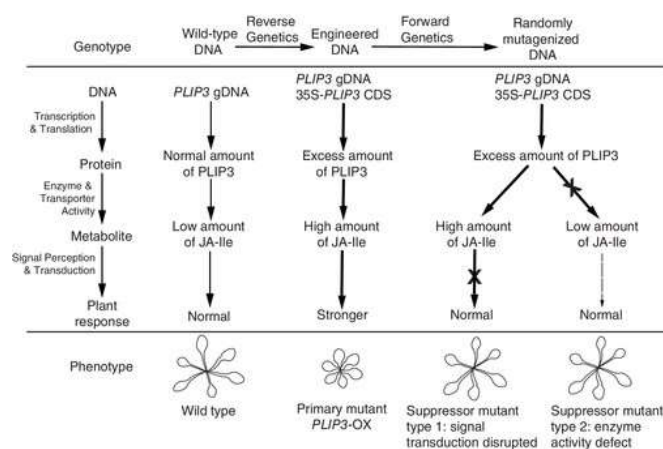


- [Connecting research and teaching introductory cell and molecular biology using an Arabidopsis mutant screen](#)

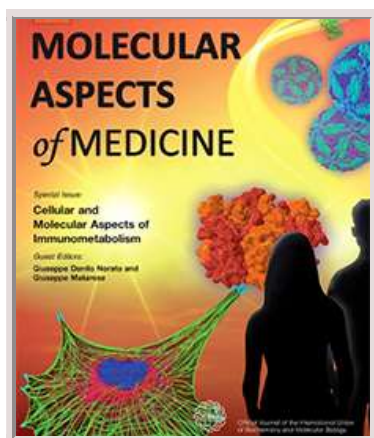
By Jinjie Liu, Ron Cook, Linda Danhof, David Lopatto, Jon R. Stoltzfus, Christoph Benning

A complex research project was translated into a Course-based Undergraduate Research Experience (CURE), which was implemented in sections of an introductory Cell and Molecular Biology laboratory course. The research laboratory generated an engineered plant line producing a growth-inhibiting, lipid-derived plant hormone and mutagenized this line. Students in the CURE cultured the mutagenized plant population and selected and characterized suppressor mutants. They learned to observe phenotypes related to the biosynthesis and perception of the plant hormone and explored the genetic and biochemical basis of these phenotypes. As the students studied the relevant genetic, molecular and biochemical concepts

the teaching lab and the research lab. It benefited both parties as the students had a real-life, deep learning experience in scientific methodology, while the research lab gathered data and materials for further studies.



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Volume 81 (October 2021) 100996

Neutrophils at the crossroads of acute viral infections and severity

By Surender Rawat, Sudhanshu Vrat, Arup Banerjee

UPCOMING MEETINGS



On behalf of the Organizing Committee, we would like to warmly invite scientists from all parts of the world to join us at The Biochemistry Global Summit – the 25th IUBMB, 46th FEBS and 15th PABMB Congresses, and we look forward to welcoming you in Lisbon in July 2022!

[Registration opens now](#) | **MAR 10: Early Registration Deadline** | [Meeting details](#)



The 2022 IUBMB–FEBS–PABMB Young Scientists' Forum (YSF 2022) will be held just ahead of and in conjunction with the joint 25th IUBMB, 46th FEBS and 15th PABMB Congress. The exciting YSF 2022 will take place at Vimeiro, located on the Portuguese coast alongside a peaceful beach with a fantastic view of the endless Atlantic Ocean.

[Registration opens now](#) | **DEC 15: Application Deadline** | [Meeting details](#)
FEB 10: Notifications of YSF award winners



Are you part of the next generation in Infection Biology? Then join this platform for late-stage postdoctoral scientists in the field.

NOV 3: [Abstract Submission](#) | **DEC 15:** [Registration](#) | [Meeting details](#) | [Online poster](#)



We're excited to invite you to the 47th Lorne Conference on Protein Structure and Function, taking place February 6-10, 2022.

Given the ongoing uncertainty around domestic and international travel in Australia due to the COVID-19 pandemic, the Lorne Proteins 2022 conference will be offered as a **hybrid model**. We welcome delegates to the Mantra in Lorne, but for those unable to participate face-to-face, all content will be available through a virtual platform.

We are delighted to announce our 2022 Leach Lecturer [Professor Leann Tilley](#), and the IUBMB Jubilee Lecture [Dr. Hao Wu](#).

NOV 5: [Abstract Submission deadline EXTENDED](#) | [Registration](#) | [Meeting details](#)



We are delighted to invite you to the first edition of the “FEBS Advanced Lecture Course on Cellular stress and ADP-ribosylation”, which will be held in Naples, Italy, on 8 - 13 November 2021.

We are committed to sharing research advances and sustaining scientific interaction throughout the coronavirus pandemic and are delighted to announce that the afternoon sessions of the course will be accessible online (virtual attendance 2.30 - 7PM, CET). We thus invite all colleagues with travel restrictions to join us online. The registration for the online meeting is possible as of today. Abstracts submitted until October 15th will be considered for a short presentation.

NOV 5: [Registration](#) | [Programme](#) | [Meeting details](#)



Could “[One Health](#)” be the key to future pandemic prevention? Professor Robyn Alders from Chatham House will try to answer this.

NOV 12: [Registration](#) | **DEC 3: Event** | [Meeting details](#) | [Online poster](#)

Online, Wednesday 17 November 2021



A. Yarden - Nov. 17

M. Kapur - March 9, 2022

We would like to announce a webinar series on **"Innovation in Undergraduate Teaching of Life Sciences"**.

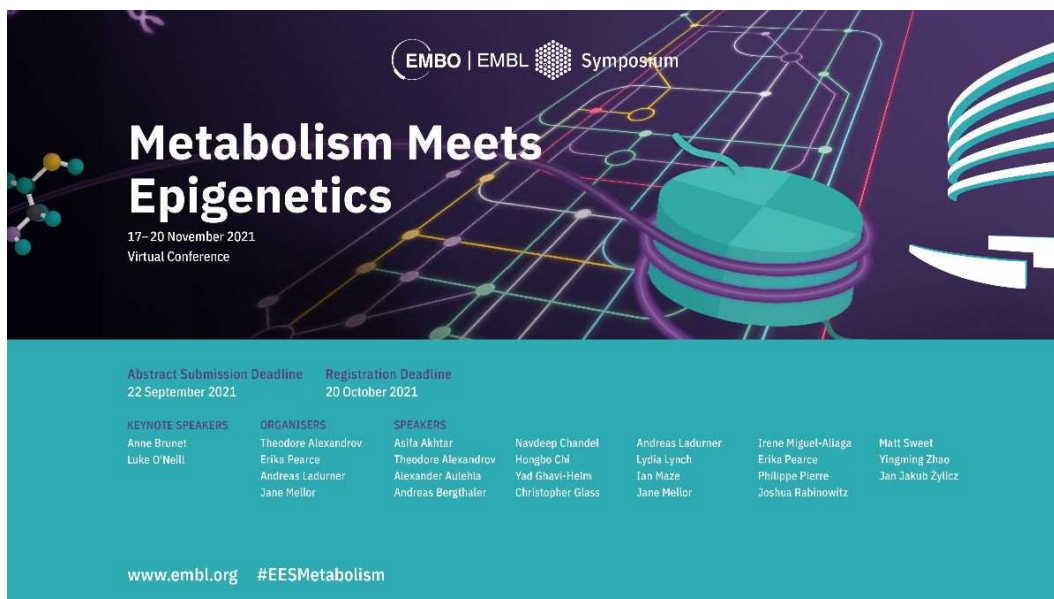
This webinar series replaces and complements the "1st Swiss Symposium on Innovation in Undergraduate Teaching of Life Sciences" (cancelled for now because of the pandemic).

With monthly online seminars in English (usually on Wednesday at 17.30 CET), it aims to create a **forum and a community to help improving the quality of undergraduate education in the life sciences.**

Guest Speaker: [Anat Yarden](#) (Weizmann Institute of Science, Rehovot, Israel);
Should we relate to students' religious faith when teaching evolution?

REGISTRATION IS FREE, for LS2 members and non-members, and for the whole Seminar Series. Only registered participants will receive the zoom link of the webinar.

NOV 17 : Event 17:30 hr CET | [Registration](#)



EMBO | EMBL Symposium

Metabolism Meets Epigenetics

17–20 November 2021
Virtual Conference

Abstract Submission Deadline 22 September 2021	Registration Deadline 20 October 2021
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KEYNOTE SPEAKERS	ORGANISERS	SPEAKERS				
Anne Brunet Luke O'Neill	Theodore Alexandrov Erika Pearce Andreas Ladurner Jane Mellor	Asifa Akhtar Theodore Alexandrov Alexander Aulic Andreas Bergthaler	Navdeep Chandel Hongbo Cui Yad Ghavi-Helm Christopher Glass	Andreas Ladurner Lydia Lynch Ian Maze Jane Mellor	Irene Miguel-Aliza Erika Pearce Philippe Pierre Joshua Rabinowitz	Matt Sweet Yingming Zhao Jan Jakub Zyllicz

www.embl.org #EESMetabolism

NOV 17-20: Event | [Meeting details](#)



Due to the coronavirus pandemic and after careful consideration, the IUBMB Focused Meeting / FEBS Workshop on “Crosstalk between Nucleus and Mitochondria in Human Disease” (*CrossMitoNus*) in Sevilla, Spain has been postponed to 22-25 March 2022. The event will take place at the Research Scientific Centre Isla de la Cartuja ([cicCartuja](#)).

NOV 20: Registration Deadline EXTENDED | [Meeting details](#) | [Online poster](#)

 A poster for the EMBL Conference Cancer Genomics 22-24 November 2021. The background is a colorful, abstract design with green, blue, and purple hues, overlaid with a faint DNA double helix and a circular diagram. The text is white and black.

EMBL Conference

Cancer Genomics

22 – 24 November 2021

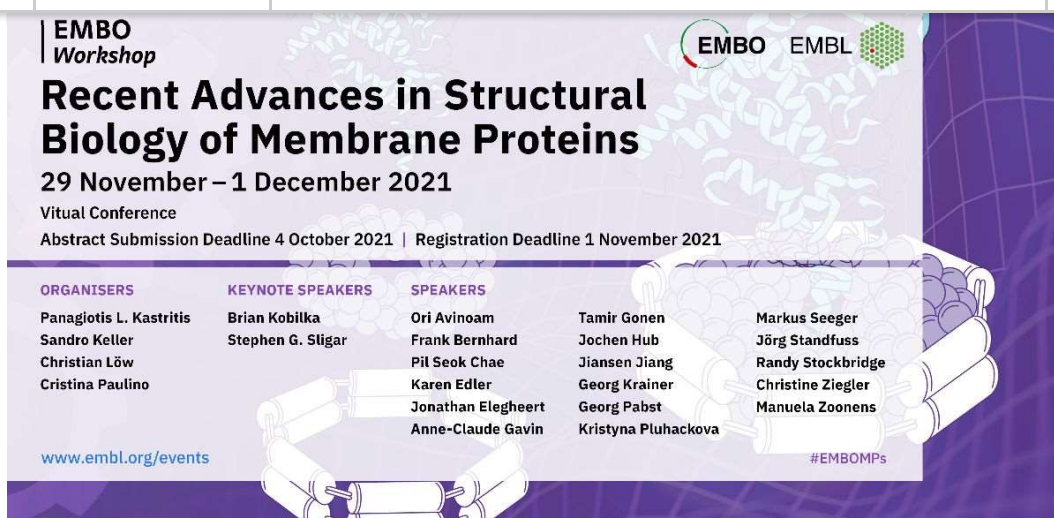
Virtual Conference

Abstract Submission Deadline 20 September 2021 | Registration Deadline 25 October 2021

ORGANISERS	KEYNOTE SPEAKERS	SPEAKERS			
Jan Korbelt	Peter Campbell	Hannah Carter	Holger Heyn	Dan Landau	Elli Papaemmanuil
Núria López-Bigas		Edwin Cuppen	Marcin Imieliński	Po-Ru Loh	Rahleh Rahbari
Seishi Ogawa		Christina Curtis	Nada Jabado	Núria López-Bigas	Toshiro Sato
Elli Papaemmanuil		Moritz Gerstung	Jan Korbelt	Seishi Ogawa	Fran Supek

www.embl.org/events #EMBLCanGen

NOV 22-24: Event | [Meeting details](#)



EMBO Workshop

Recent Advances in Structural Biology of Membrane Proteins

29 November – 1 December 2021

Virtual Conference

Abstract Submission Deadline 4 October 2021 | Registration Deadline 1 November 2021

ORGANISERS	KEYNOTE SPEAKERS	SPEAKERS	
Panagiotis L. Kastiris	Brian Kobilka	Ori Avinoam	Tamir Gonen
Sandro Keller	Stephen G. Sligar	Frank Bernhard	Jochen Hub
Christian Löw		Pil Seok Chae	Jiansen Jiang
Cristina Paulino		Karen Edler	Georg Krainer
		Jonathan Elegheert	Georg Pabst
		Anne-Claude Gavin	Kristyna Pluhackova
			Markus Seeger
			Jörg Standfuss
			Randy Stockbridge
			Christine Ziegler
			Manuela Zoonens

www.embl.org/events

#EMBOMPs

NOV 25: [Registration deadline EXTENDED](#) | **NOV 29 - DEC 1:** Event
[Meeting details](#) | [Online poster](#)



EMBL Conference

SARS-CoV-2 – Two Years On: Science Meets the Challenge

10 December 2021

Virtual Conference

Organisers		Registration Deadline
Stephen Cusack	Anna Pyle	2 December 2021
Jürgen Deka	David Stuart	

This conference will examine our current knowledge on SARS-CoV-2 molecular biology and epidemiology and will discuss strategies and approaches to anti-infectives and vaccines.

DEC 2: [Registration](#) | **DEC 10:** Event | [Meeting details](#) | [Online poster](#)

Interested in attending a virtual meeting?

Now you can by applying for the IUBMB MilliporeSigma Virtual



cover registration costs.

OPEN DEADLINE

IUBMB MilliporeSigma
Virtual Meeting Fellowships

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ANNOUNCEMENTS

The opportunity to visit a lab in a different country could transform your career / life. **WOOD-WHELAN WEDNESDAY** starting in November will feature past awardees, now Professors, Research Scientists, CEOs, from all over the world.

**** April 1 next deadline ****



Wood-Whelan Wednesday



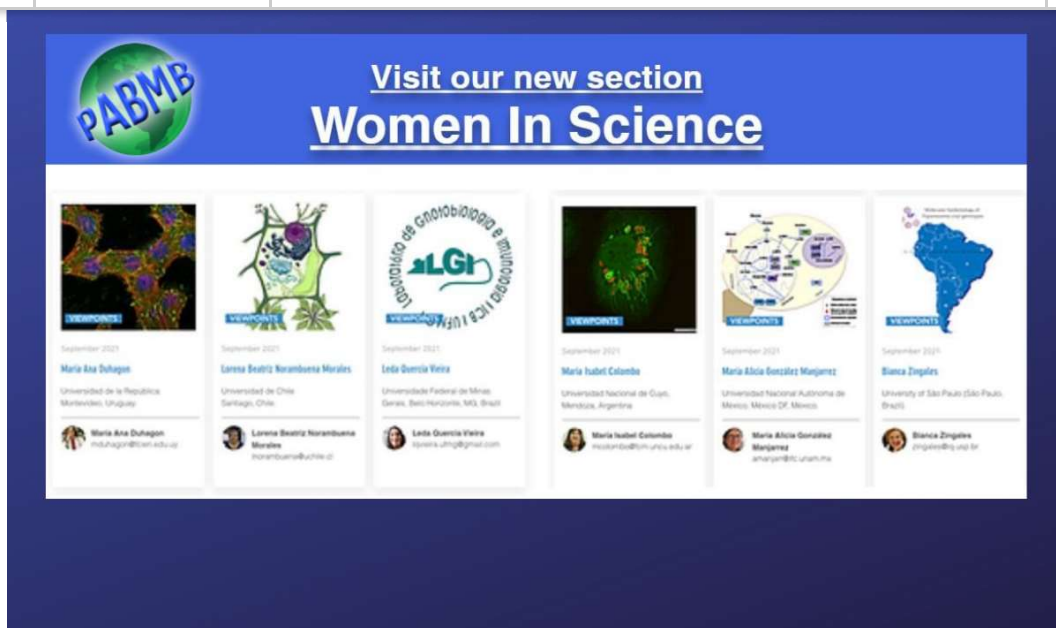
Valeria Zarelli
Argentina to USA
Assistant investigator,
Instituto de Histología y
Embriología de Mendoza
(IHEM-CONICET),
Argentina

'I was honored with the Wood-Whelan Research Fellowship in 2004 while I was doing my PhD, to do a rotation in Dr. Rauchman's lab at the Saint Louis University, MO for a period of six months. Thus, during that time I had the opportunity to acquire new skills in the lab, improve my English, but mainly to discuss as well as to learn awesome science with wonderful investigators. This experience not only helped me to grow as a scientist but also as a person. I am really grateful to receive the Fellowship, and due to that, I have recommended other colleagues from my country who would like to visit other labs in the USA to improve their works.'

2004



It's our first Wood Whelan Wednesday! Valeria Zarelli, Argentina, came to the US during her PhD to learn skills that helped her establish her career. She is now an Assistant Investigator at the Instituto de Histología y Embriología de Mendoza (IHEM-CONICET), Argentina.



Check out PABMB's new section "[Women In Science](#)"



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