IUBMB NEWSLETTER

Issue No. 10 | November 2020

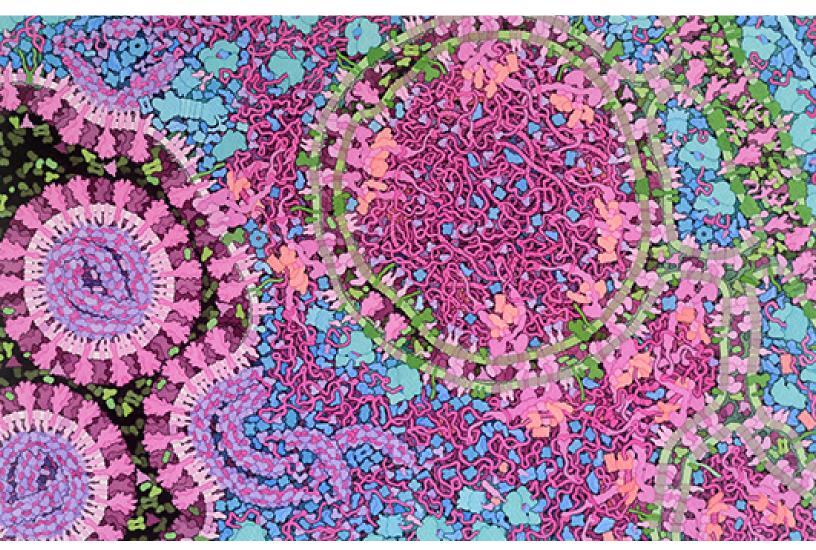


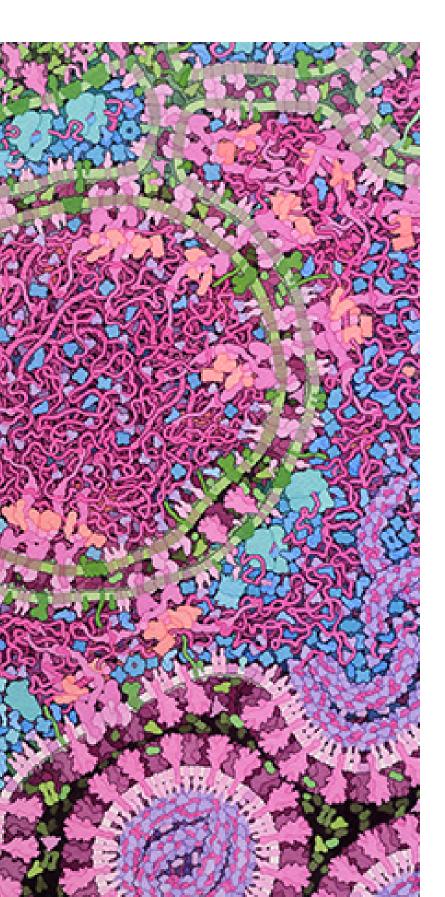
Image: Coronavirus Life Cycle

Acknowledgement: David S. Goodsell, RCSB Protein Data Bank; doi: 10.2210/rcsb_pdb/goodsell-gallery-023



CONTENTS





- Message from the President |3
- New EiC for IUBMB Life |6
- Dr Francis Amara, IUBMB Ambassador for Africa |7
- Dr Yang Mooi Lim, IUBMB Ambassador for FAOBMB | 7
- Brianna Bibel,
 IUBMB Student Ambassador |8
- Launch of New website |9
- New IUBMB Whelan Young Investigator Award & Awardee | 10
- Announcement of Two New Activities | 11
- 2020 Young Investigator Prize |13
- Education and Training | 14
- Congratulations to IUBMB Jubilee Lecture | 15
- Congratulations
 Cesar Ramirez-Sarmiento | 15
- Biochemistry Education Movies |16
- IUBMB Journal Highlights | 18
- Upcoming Meetings | 19
- IUBMB Programs & Benefits of Membership |24
- Executive Committee | 26

Message from the President



Andrew H.J. Wang

Year 2020 is a year of tremendous turmoil caused by the COVID-19 pandemic. When the first cases of the new coronavirus infections in human were reported near the end of 2019, it only raised alarms in a few countries. However, by early spring of this year it rapidly spread to many countries. Today, there are more than 180 countries and regions that have been reported with confirmed cases. We have now nearly 43 million confirmed cases globally and over 1,152,729 deaths reported. The most affected countries with over 1 million confirmed case for each country are United States (8,575,177), India (7,864,811), Brazil (5,380,635), Russia (1,487,260), France (1,084,659), Argentina (1,081,336), Spain (1,046,132) and Colombia (1,007,711).

Such a pandemic has created a crisis in many countries where many activities, personal or business, have been severely curtailed. National borders have been closed which resulted in nearly all international travels coming to a halt. Most domestic events are also affected. Schools were forced to change the teaching modes to virtual classes. Commercial businesses were slowed down. In short, the life style for many of us has been changed. Interestingly a few countries have been coping with the COVID-19 pandemic fairly well. Several countries have mortality with less than 10 deaths, including Laos (0, population >7 millions), Cambodia (0, population >16 millions), Mongolia (0, population >3 millions), Taiwan (7, population >23 millions). Some other countries are also doing well with fewer than 60 deaths including New Zealand (25), Iceland (11), Thailand (59), Vietnam (35).

How did some countries counter the pandemic successfully? I believe the most effective (and simple) public health practices are 1. wearing face mask, 2. washing hands, and 3. social distancing. If everyone can follow these practices, the chance of being infected by this horrible coronavirus would be greatly reduced. Some additional measures such as measuring body temperature before entering public areas such as meeting rooms, public transportation like MRT, buses, trains, would be advised.

With winter season being around the corner in the northern hemisphere, the chance of COVID-19 pandemic exacerbated by the seasonal flu is a big concern. Recently there is a second wave of rising cases in Europe and the USA. I hope everybody can keep a good practice of personal hygiene so the situation will not get worse.

Of course, all of us are looking forward to having effective and safe vaccines to keep us from the virus in the future. I think the philosophy of herd immunity is probably not a recommended approach. Several pharmaceutical biotech companies are racing to develop vaccines. There are several modalities for generating the immune responses based on the way the antigens are created: virus-based, viral vector, nucleic acid (DNA or RNA), and protein-based. Some vaccines hopefully will be available near the end of 2020 or early half of 2021.

In the absence of vaccines, how do we counter the infection? An interesting case in point is the treatment of US President Trump used by his medical team. Soon after he was diagnosed with the disease, his medical team designed a treatment protocol with precise arrangements of the type of drugs they used, the sequence of giving these drugs and the timing of each drug given. Briefly he was given 8 grams (a very high dose!) Regeneron's antibody cocktail immediately. Supposedly with Regeneron's antibody cocktail he had plenty of antibody to fight against/kill the virus immediately; (2) Remdesivir was used to block coronavirus from increasing in the body (Remdesivir is now approved for use in COVID-19 treatment by US FDA); (3) Finally Dexamethasone was used to control/reduce inflammation. Other chemicals such as zinc, vitamin D, famotidine, melatonin and aspirin were also used, although the rationale of using them was not totally clear. Regardless, he recovered from the infection in about three days. Whether the type of drugs and sequence of administering them could be applied to others is still with some debate.

Looking back to the past 10 months, despite the pandemic situation remaining a grave challenge, I see hope in overcoming the problem. In the short 10 months thousands of scientific papers have been published, ranging from sequencing the virus genomes, understanding the mechanisms of the viral life cycle, rapid elucidation of 3D structures by x-ray crystallography and cryoEM, developing diagnostic kits and therapeutic antibodies, searching for effective drugs. Remarkably much of the results were freely shared by peers.

In order to maintain the regular IUBMB activities, we have held more than 6 EC meetings by video conferences to discuss many issues associated with IUBMB. Because our EC members are located around the world, Alexandra who lives in San Diego USA has to get up at 5 am in the morning to login to the Zoom conference. She also is serving the role of temporary Secretary General, as Jim Davie resigned from the Secretary General post recently.

In addition, several EC members will complete their respective terms next year. By IUBMB regulations, we need to finish the nomination process six months before our next General Assembly meeting which is now scheduled on July 15, 2021, most likely by virtual meeting format. As the GA meeting this time involves the voting process, we will face some technical challenges. The positions which will be vacated are President-elect, Secretary General, Treasurer, Chair of the Education Committee. I encourage all Adhering Bodies to nominate your most suitable candidates.

Another important affair is the appointment of the new Editor-in-Chief of our flagship journal IUBMB Life. Bill Whelan and Angelo Azzi have served as co-EiCs for many years and they have pushed the journal to the current excellent reputation with an Impact Factor over 4. We are extremely grateful for their untiring service to the IUBMB Life throughout these years. After much effort, we are delighted to announce that our new EiC, Professor Stathis Gonos from Greece will start his job on Januray 1, 2021.

There are three other IUBMB journals which will need to have some re-organizations to the editorial office. We are working with the Publication Committee, chaired by Zengyi Chang and Wiley's Executive Editor Julia Kostova to proceed with those tasks. The performance improvement of our journals is vital for our bargaining position with Wiley in the coming years in terms of financial contribution.

We have discussed with FEBS regarding the future plan of the ENABLE program. We have agreed to continue the ENABLE. The present idea is to have the meeting held by rotating in Europe and Asia and America. Travel fellowships may be provided for young scientists to attend ENABLE meeting using the generous funding support from Tang Prize Foundation (www.tang-prize.org, Taiwan). Other virtual education conferences like the joint IUBMB-ASBMB conference are being coordinated by Professor Janet Macaulay.

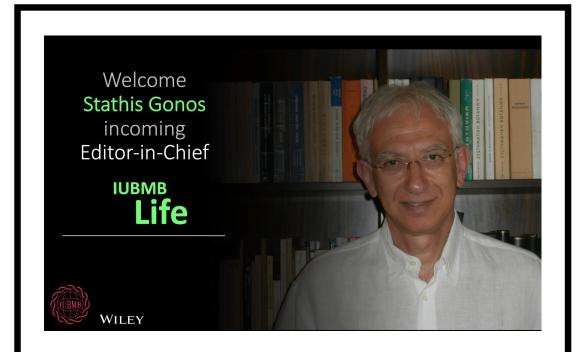
Finally, I have started the action of rejoining the new International Science Council (ISC). ISC has approved the initial application steps and they will ask their members to show support from at least 12 members. We will know the answer in the next two months.

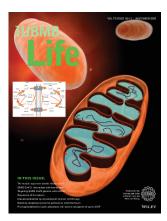
There are many new changes associated with IUBMB. I encourage you to browse IUBMB website (https://iubmb.org) which is being revamped with the help from Charysse Austria and many detailed information about IUBMB can be found. For example, a suite of Biochemical Educational Movies is listed in the website and it is free to access. Major biochemistry and molecular biology concepts and experiments are succinctly described in these movies.

Last but not the least, I want you to keep safe and healthy, and stay away from COVID-19 disease by following three simple steps: wearing mask when going out, washing your hands frequently, and maintaining social distancing. See you in our next Newsletter.

Andrew H.-J. Wang, PhD

President, IUBMB





The IUBMB is pleased to announce the appointment of Stathis Gonos, Director of Research at the National Hellenic Research Foundation, as the new Editor-in-Chief of our flagship journal IUBMB Life. Gonos, whose three-year term will begin Jan 1, will succeed the journal's longtime editors William J. Whelan and Angezi. Dr. Gonos brings a new vision and new editorial team to the journal, including the appointment of six Associate Editors. Building on the foundations set by Whelan and Azzi, the journal will continue to be devoted to the rapid publication of the most novel and significant short articles, reviews and papers in the broadly defined fields of biochemistry, molecular biology, cell biology, and molecular medicine.

Stathis Gonos graduated from the University of Athens, Greece, obtained his Ph.D. at the University of Glasgow, U.K. and a Docent at the University of Orebro, Sweden. He worked at the Ludwig Institute for Cancer Research in London, U.K. and is now Director of Research at the National Hellenic Research Foundation/IBMCB. His research focuses on the genetic and environmental factors that are linked to human aging and longevity.

"I am delighted that Dr. Gonos has agreed to serve as Editor-in-Chief" says President Andy Wang. "We are confident that the new editorial team, led by our Editor-in-chief and his editorial board, will elevate IUBMB Life to a higher tier journal." Gonos will work closely with the Publication Committee of IUBMB Life, currently chaired by Zengyi Chang, and Wiley publications. "We are grateful for the many years of outstanding service by Bill Whelan and Angelo Azzi and, as we look towards the future, are excited to have Stathis Gonos steer the journal through the changing landscape of publishing and biomolecular sciences" says President-elect Alexandra Newton.

IUBMB Life was created in 1999 and, under the leadership of Whelan and Azzi, has grown to a journal with a strong reputation for rapid publication of short articles, reviews, and hypothesis in all areas of the biomolecular sciences.

Dr. Yang Mooi Lim IUBMB Ambassador for FAOBMB

Professor Yang Mooi Lim has recently been appointed the new IUBMB Ambassador to the FAOBMB Region. This appointment was made by the IUBMB Executive Committee, after consultation with the FAOBMB Executive Committee. This IUBMB Ambassador position was previously held by Professor Phillip Nagley from 2016-2018.

The purpose of the IUBMB Ambassador appointment is to make contact with organised groups or societies of biochemists and molecular biologists in countries of the FAOBMB region that are not presently Adhering Bodies or Associate Adhering Bodies of IUBMB. Because IUBMB and FAOBMB work very closely, with congruent objectives for the development of research, education and training in biochemistry and molecular biology (IUBMB globally and FAOBMB regionally), there is a parallel role for the Ambassador to help recruit groups or societies of biochemists and molecular biologists in this region to become Members of the Federation of Asian and Oceanian Biochemists and Molecular Biologists, and International Union of Biochemistry and Molecular Biology. The FAOBMB region covers about one-third of the world population, ranging from western parts of Asia and some parts of the Middle East, across Asia and Oceania to the Islands of the South Pacific as far as Hawaii in the East. The additional members to be recruited would gain benefits from becoming formally associated with IUBMB and FAOBMB, especially where the discipline of biochemistry and molecular biology may not be well developed compared to other countries in the region and worldwide.



Dr. Francis Amara IUBMB Ambassador for Africa

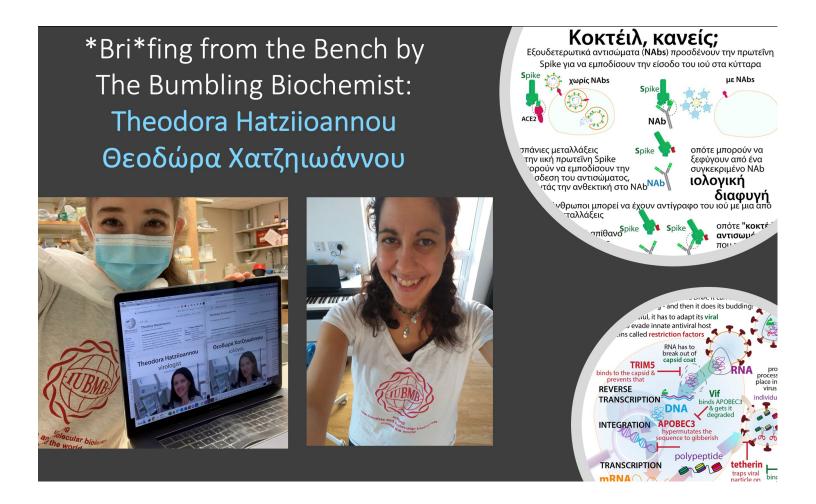
Construction of the STEM EDUC CENTRE building in Sierra Leone is now completed. Installation of equipment at this center will commence in 2021. The centre will serve as the main hub for teaching and learning of Biomolecular Sciences for West African countries.

I have started providing advice to undergraduate students in Africa on exploring opportunities to pursue graduate studies in Biochemistry and Molecular Biology at European and North American universities.



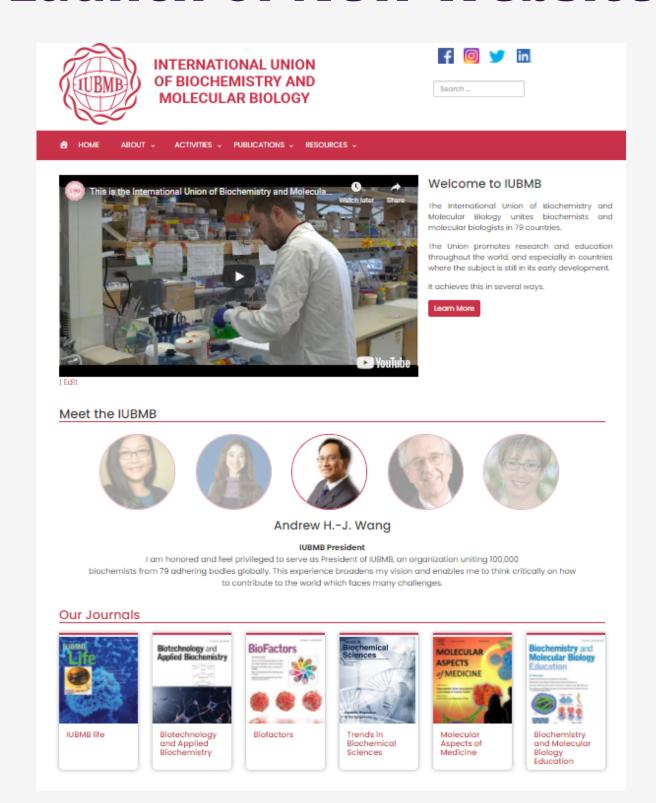
Our Student Ambassador Bri Bibel, known on social media as the Bumbling Biochemist, continues to provide a Bri-fing from the Bench for our social media every Friday. These beautifully illustrated and humorously written Bri-fings cover diverse aspects of biochemistry and molecular biology, from basic concepts to lab techniques, and are valuable educational resources for students around the world. In our June Newsletter, we described how volunteers around the globe helped her translate her post on how Covid-19 PCR tests work into 30 languages, which found can be here: https://bit.ly/covid19bbresources

Brianna Bibel IUBMB Student Ambassador



As part of this endeavour, an e-friendship between Bri, a graduate student at Cold Spring Harbour Labs (US) and Nefeli Boni-Katzantzidou, a graduate student at the University of Liverpool (UK), was catalyzed, and the two work together on projects. Most notably, Bri created a Wikipedia page and illustrated post on virologist Theodora Hatziioannou both of which were translated into Greek by Nefeli: http://bit.ly/theodorahatziioannougreek

Launch of New Website



We are pleased to launch a new and improved website, with easy access to the many fellowships we offer, journals we publish, adhering bodies, and much more.

IUBMB Whelan Young Investigator Award

We are very pleased to announce a new Award in honor of William "Bill" J. Whelan to recognize his lifelong commitment to training the future of biochemistry. The award will go to a highly promising young investigator in biochemistry or molecular biology with special attention to geographic diversity. The Awardee will deliver a lecture at the Young Scientists Program held in conjunction with the Triennial Congress of the IUBMB and be invited to contribute a review article to IUBMB Life, along with receiving an IUBMB award cube and certificate.

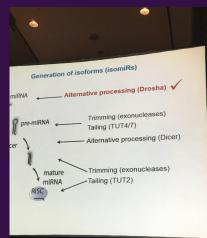




IUBMB Whelan Young Investigator Awardee

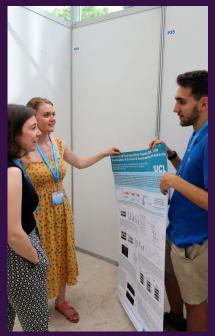
We are also delighted to announce that the inaugural award will be presented to **Élyse Fischer**, a Gates Cambridge PhD Scholar in the MRC Laboratory of Molecular Biology, University of Cambridge, in the laboratory of Professor David Barford. Her research is directed towards understanding the molecular mechanisms of spindle assembly checkpoint (SAC) activation using a variety of structural and biochemical techniques. Elyse also happens to be the grand daughter of Bill Whelan's lifelong friend, biochemist Edmond Fischer, who received the Nobel Prize for reversible phosphorylation. Elyse will be presenting her research at the IUBMB Whelan Young Investigator talk at the Young Scientists Program in Vimeiro, Portugal, 6th to 9th July 2022 directly preceding the 25th IUBMB Congress/FEBS/PAPMB meeting in Lisbon, July 9th-14th, 2022.













NEW I U B M B T R A V E L F E L L O W S H I P S



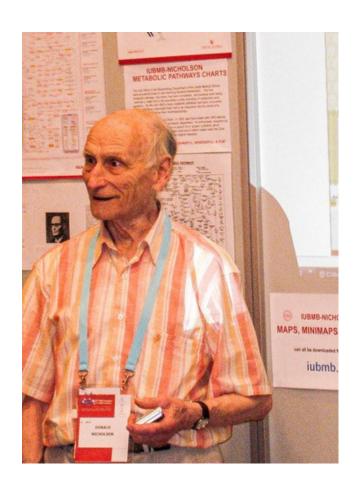
From countries that are full or associate members of IUBMB to travel to and attend meetings in the IUBMB region.

Applicants are required to present a poster or oral presentation in order to be be considered for a fellowship award.

NEW

The IUBMB MilliporeSigma Virtual Meeting Fellowships

This fellowship honors the legacy of the <u>metabolic</u> <u>maps</u> created by Donald Nicholson, who in 1996 gave the copyright of the maps to the IUBMB. We are pleased to collaborate with <u>SigmaMillipore</u>, with whom we have an agreement to secure the future of the maps, to provide virtual meeting registration to trainees in biochemistry and molecular biology.





The IUBMB Virtual Meeting Fellowships are designed to support biochemistry and molecular biology trainees (graduate students and postdoctoral fellows), from countries that are full or associate members of IUBMB to attend virtual meetings in the IUBMB region. Applicants are required to present a poster or oral presentation in order to be considered for a fellowship award.

https://iubmb.org/activities/fellowship-programs/

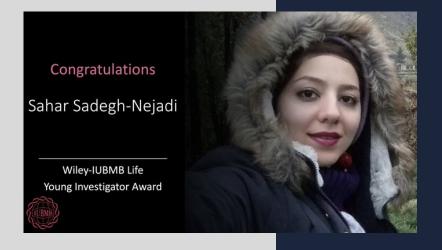
WILEY-BIOFACTORS YOUNG INVESTIGATOR AWARD

Biji Chatterjee

whose paper on "Resveratrol modulates epigenetic regulators of promoter histone methylation and acetylation that restores BRCA1, p53, p21CIP1 in human breast cancer cell lines" was selected for the Wiley-BioFactors Young Investigator Award. Biji is a Postdoctoral fellow in the laboratory of Professor Sadhan Majumder at the Department of Genetics, The University of Texas MD Anderson Cancer Center in Houston, Texas, USA. She is currently engaged in epigenetic and transcriptional mechanisms in chronic pain induced by nerve injury. Prior to this, she completed her Ph.D. in Biochemistry from the Central University of Kerala, Kasaragod, Kerala, India, where in the laboratory of Dr. Santosh R. Kanade, she explored the impact of various natural molecules on the epigenetic modulators known to be associated with oncogenesis. In her spare time, Biji enjoys exploring the piano notes! View article here.



WILEY-IUBMB LIFE YOUNG INVESTIGATOR AWARD



Sahar Sadegh-Nejadi

whose paper on "Influence of plasma circulating exosomes obtained from obese women on tumorigenesis and tamoxifen resistance in MCF-7 cells" was selected for the Wiley-IUBMB Life Young Investigator Award. Sahar is a PhD candidate in the Department of Clinical Biochemistry at Tehran University of Medical Sciences, Iran. View article here.

Applications for IUBMB funding for Educational Activities, Tang Education Fellowships and the Mid Career and Wood Whelan Research Fellowships closed on 1st October 2020 and successful applicants will be notified in December. The next deadline for

applications is 1st April 2021.

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Biochemistry and Molecular Biology Education

Special Issue: Teaching in the Time of COVID-19



This issue contains nearly 40 rapid communications and full-length manuscripts that address the unique challenges and opportunities that have emerged due to the COVID-19 pandemic. Topics addressed include adapting to teaching online,

nities, and other relevant content.



EDUCATION AND TRAINING

The January/February issue of BAMBEd contains an editorial entitled "How does IUBMB support education and training?" authored by IUBMB Executive Committee members Janet Macaulay (Chair of Education), Alexandra Newton (Presidentelect) and Andy Wang (President). It discusses the numerous educational opportunities offered by IUBMB, including the exciting new Tang Education fellowship. This new fellowship provides opportunities for the development of both biochemistry and molecular biology educational programs and educators by increasing both expertise and capacity in biochemistry and molecular biology education.

A special section of the November/December issue of Biochemistry and Molecular Biology (BAMBED) will report on the successful IUBMB Education Conference held in Manila, Philippines in 2019.

Congratulations to

Professor Dafna Bar Sagi presented the IUBMB Jubilee Lecture at the FASEB Cell Signaling in Cancer meeting held online Sept 21-22 2020. She was honored for her outstanding contributions to understanding the function and biology of Ras. In addition, IUBMB was pleased to collaborate with FASEB to provide complimentary registration for graduate students and junior faculty from Argentina, India, Indonesia, Spain, Sri Lanka, Poland, and Venezuela.



Dafna Bar-Sagi



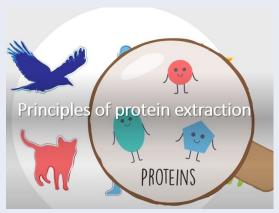
Cesar Ramirez-Sarmiento

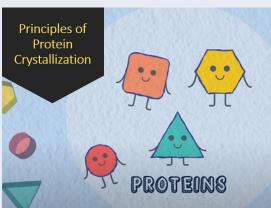
César Ramírez-Sarmiento from Chile. who was awarded a 2019 IUBMB Mid-Career Fellowship to spend time in a lab in the USA. His article "Differential Local Stability Governs the Metamorphic Foldswitch of Bacterial Virulence Factor Rfah," has been selected as the Paper of the Year by Biophysical Journal.

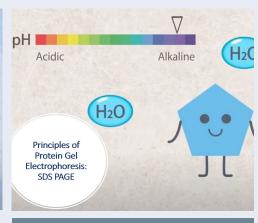
Biochemistry Education Movies

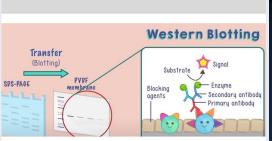
Since 2015, Professor Andrew. H.-J. Wang has been working with a team from the National Taiwan University (Professors, students, assistants, and volunteers) to develop a suit of biochemistry education animation movies, supported by the Biochemical Technology Education Foundation (Founder).

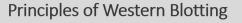
Prof. Wang has dedicated these movies to IUBMB.

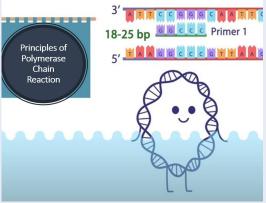


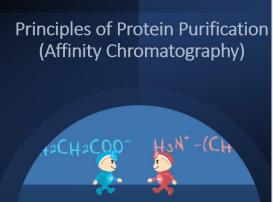


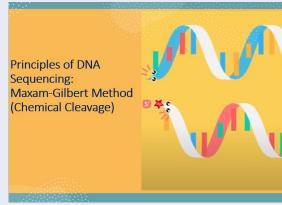


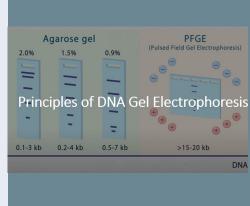




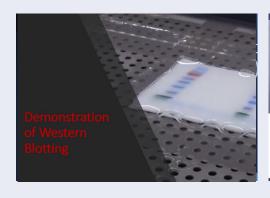






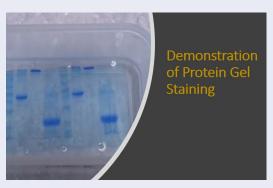








Demonstration of Protein Gel Electrophoresis: SDS PAGE









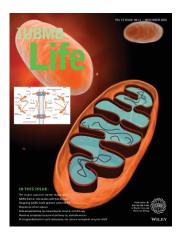
Operation of Centrifuge





Credits to the following team:





Biochemistry and Molecular Biology Education

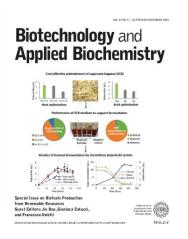
Special Issue: Teaching in the Time of COVID-19



This issue contains nearly 40 rapid communications and full length manuscripts that address the unique challenges and opportunities that have emerged due to the COVID-19 pandemic. Topics authressed include adapting to teaching online, teaching BMB content with COVID-related themes, unique laboratory oppor-









We are excited to highlight new research from the IUBMB Journals

Please also consider <u>submitting your own research</u> to the IUBMB Journals. You can expect to work with distinguished Editorial Board members and benefit from worldwide circulation and readership through our publishing partnership with Wiley. For more information about the journal and submissions, feel free to peruse the <u>IUBMB journals</u> website.

For now, please enjoy highlights of our recent content. Happy reading!

Did you know? Wiley and Jisc just signed an agreement that allows UK authors to publish Open Access in the IUBMB Journals at no cost to them.

Thanks to a partnership our publisher Wiley has signed with Jisc, certain UK institutions now have full access to journals published by Wiley, including the IUBMB Journals. Further, the partnership enables authors at <u>participating UK institutions</u> to publish open access at no cost to them in the IUBMB Journals. Payment of the associated Article Publication Charges (APC) would be covered via the partnership, and authors will not need to cover the APCs from their own pockets.

Wiley has also signed similar agreements with universities in <u>Germany</u>, <u>the Netherlands</u>, <u>Austria</u>, <u>Norway</u>, <u>Hungary</u>, <u>Finland</u>, <u>Sweden</u>, and with the US-based <u>OhioLink</u> And VIVA.

Submit your research to the IUBMB Journals today.





The 4th European PhD and Postdoc symposium **"EXPLORING LIFE DYNAMICS: In and out of equilibrium"** will be held in Milan, in Spring 2021.

ENABLE aims to involve young scientists in opening the academic world from within by promoting crosstalk between biomedical disciplines, collaboration with industry, and engagement with society. The symposia are **organized by and for young researchers** and are inspiring events not to be missed!

Save the date!

https://enablenetwork.eu/



AMERICAN SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY

2021 ASBMB Annual Meeting







The 2021 ASBMB Annual Meeting will be held in conjunction with Experimental Biology 2021. Details to come

Abstract deadline

Important dates

Jan. 7, 2021

Nov. 2, 2020 Abstract submission open

Program planning committee co-chairs





Haltiwanger
University of Georgia

Carla Koehler
University of California, Lo

https://www.asbmb.org/meetings-events/2021-annual-meeting



Molecular Targets for Anti-aging Interventions 5-10 May 2021 | Spetses Island, Greece







https://antiaging2021.febsevents.org/



ICGEB-IUIS-ALAI-ASCAI2 Immuno-Argentina "Immunological memory in infection and vaccination: current knowledge and future directions"



Córdoba, Argentina – POSTPONED – to be confirmed

The ICGEB aims at strengthening the research capability of its Members through a comprehensive training programme and approach to promoting biotechnology internationally. The active participation of ICGEB Member States nationals in the ICGEB Meetings and Courses is therefore highly encouraged. For more information on the terms of participation and funding opportunities for this event please access the meeting website or contact the local organisers directly.

Organiser:

Adriana Gruppi (CIBICI, CONICET, Universidad Nacional de Córdoba, Argentina)

Contact:

ascai2cordoba2020@gmail.com

https://www.icgeb.org/advanced-immunology-course-2020/





IUBMB Focused Meeting / FEBS Workshop
Crosstalk between Nucleus and Mitochondria in Human Disease
18-21 May 2021 | Seville, Spain





https://crossmitonus2021.iubmb-febs.org/



It is our great pleasure to invite you to participate in the 45th FEBS Congress, entitled "Molecules of Life: Towards New Horizons", which will be held from July 3rd to July 8th, 2021, in Ljubljana, Slovenia, hosted by the Slovenian Biochemical Society together with the Croatian Society of Biochemistry and Molecular Biology.

The 45th FEBS Congress was planned to be organized in July 2020, but in the light of the COVID-19 pandemic it has been postponed to July 2021. We will keep the same schedule and scientific programme as prepared for the Congress in the year 2020 and we believe that it will provide much of interest and value for you.

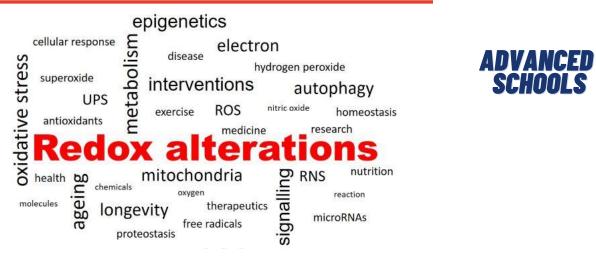
https://2021.febscongress.org/welcome-message

IUBMB Ordinary General Assembly June 15, 2021

The IUBMB Executive Committee is planning to have the next Ordinary General Assembly after the 45th FEBS Congress on Thursday, July 15, 2021. Because of the COVID19 pandemic, the meeting will be held virtually.



Redox Alterations and Cellular Responses:
From Signalling to Interventions
20–26 September 2021 | Spetses Island, Greece



https://redoxalterations2021.febsevents.org/





https://www.faobmb2021.org/



postponed from 2021

Miami Winter Symposium 2021 Molecular Neuroscience: Focus on Sensory Disorders

January 13-15, 2021 Hyatt Regency Miami, FL, USA

As the global situation regarding Coronavirus remains uncertain and putting the safety of participants and speakers above all else, we have made the difficult decision to postpone the Miami Winter Symposium: Molecular Neuroscience: Focus on Sensory Disorders until 2022.

We will be announcing the new dates soon: Please sign-up to the mailing list to receive information when available

http://www.miamiwintersymposium.com/

Young Scientists Program

July 6 - 9, 2022

Save the date!

The 46th FEBS, 25th IUBMB and 15th PABMB Joint Congress

July 9 - 14, 2022 | Lisbon, Portugal

postponed from 2021





We are thrilled to announce that Melbourne will host the 26th Congress of International Union of Biochemistry and Molecular Biology (IUBMB) from 22-26 September 2024. We look forward to seeing you there!

https://www.asbmb.org.au/iubmb-2024-melbourne/

IUBMB Programs and Benefits of Membership

Vision. Enhancing pedagogy and discipline-based knowledge in biochemistry and molecular biology through international collaboration.

The IUBMB is committed to improving education in biochemistry and molecular biology at all levels. The IUBMB Committee on Education and Training provides sponsorship for a range of activities which contribute to this goal. The Committee considers applications from all IUBMB Adhering Bodies and Associated Adhering Bodies. When an activity is to take place at a meeting of one of the Regional Organizations (FAOBMB, FASBMB, FEBS and PABMB), it is often appropriate for the application to be made through that organization.

In addition to funding activities which are organized through these organizations, the Committee on Education and Training takes a lead in organizing specific IUBMB Education Workshops around themes which are seen to be of strategic importance for BMB education. Prior advice about these initiatives and their outcomes will be widely disseminated through this website and through IUBMB social media channels.

Providing opportunities for the next generation of biochemists and molecular biologists is a primary mission of the IUBMB. In addition to specific Education initiatives described below, the IUBMB supports trainees through Research Fellowships such as the Wood-Whelan and Mid-Career Fellowships, and by providing funds to Focused Meetings to be used for travel awards to trainees.

IUBMB Programs. The wide range of programs available to scientists resident in IUBMB member countries, include:

Congresses. are held triennially in countries that are members of the Union and have a record of being outstanding and memorable scientific events for the world community of biochemists and molecular biologists.

Focused Meetings. replaced Conferences and Symposia in 2017. Up to 3 per year will be sponsored to a maximum of US\$30,000 each.

Young Scientists' Programs. are competitive awards covering travel, accommodation and meals for participation in the YSP held in conjunction with Congresses and Focused Meetings.

Advanced Schools. provide advanced training of PhD students and young postdoctoral fellows in the field of biochemistry, molecular biology and cell biology. This competitive funding covers support for the school related to travel, accommodation and meals for successful applicants.

Educational Activities. The IUBMB is involved in a broad range of educational programs. The Union holds or sponsors symposia on education at regional biochemical meetings around the world.

It also cooperates with the editors of the journal Biochemistry and Molecular Biology Education in identifying timely topics for presentation at symposia and workshops.

Tang Education Fellowships. The IUBMB Tang Education Fellowships provide opportunities for the development of both biochemistry and molecular biology educational programs and educators with the specific aims of: increasing expertise and capability in biochemistry and molecular biology education, supporting engaged educators, promoting change/innovation in approaches to education, improving student learning experiences, outcomes, and engagement with biochemistry and molecular biology, building an evidence base on which to make future recommendations on biochemistry and molecular biology education and supporting biochemistry and molecular biology education in developing countries.

Wood-Whelan Research Fellowships. are competitive awards covering travel, incidental costs and living expenses for visits of 1-4 months to other laboratories in the IUBMB region for the purpose of carrying out experiments that require special techniques or for other forms of scientific collaboration or advanced training.

Mid-Career Research Fellowships. were established in response to an increased demand for further training of mid-career biochemists in the Developing World. These are short-term Fellowships (1-2 months), covering travel and incidental costs to a maximum of US\$5,000, to enable researchers to work in an established laboratory to learn state-of-the-art techniques that are not readily available in their own countries.

PROLAB Fellowships. This collaboration between the IUBMB, PABMB, and ASBMB allows Latin American graduate students and postdoctoral fellows to spend short stays (1-6 months) in the laboratory of a scientist affiliated with ASBMB, in order to develop part of his/her thesis research work.

Travel Fellowships. are available for young scientists in or from developing countries who wish to attend the Miami Winter Symposium.

MilliporeSigma Virtual Meeting Fellowships. This collaboration between IUBMB and MilliporeSigma provides support to trainees to attend virtual meetings in the IUBMB region.

Trans-Continental Youth Travel Fellowships. This collaborative activity between the IUBMB and the Federation of European Biochemical Societies (FEBS) provides trans-continental Youth Travel Fellowships to FEBS Advanced Courses and is financed by IUBMB.

IUBMB Programs and Benefits of Membership

Vision. Enhancing pedagogy and discipline-based knowledge in biochemistry and molecular biology through international collaboration.

Plenary and Jubilee Lectures. At IUBMB Congresses, several endowed lectures feature prominently in the program: IUBMB, Osamu Hayaishi, Chester Beattie, IUBMB Life, Feodor Lynen, Severo Ochoa, EC Slater and Edward Wood Lectures. In addition, IUBMB Jubilee and Special Letures are intended as Plenary Lectures at scientific meetings, in particular of the smaller Adhering Bodies or Associate Adhering Bodies for which the budget would normally allow only for local speakers.

FEBS-IUBMB Events. This collaboration between IUBMB and FEBS provides financial support for invited speakers at FEBS Advanced Lecture Courses, FEBS Workshops and FEBS Special Meetings. Up to 10 invited speakers are supported per annum (up to US\$2,000 each) from outside Europe.

IUBMB Publications. Trends in Biochemical Sciences, IUBMB Life, Biochemistry and Molecular Biology Education (BAMBEd), Biotechnology and Applied Biochemistry, Molecular Aspects of Medicine, BioFactors. In addition, the following books/pamphlets are produced by IUBMB: Wiley-IUBMB Book Series, Standards for Doctoral Degrees in the Molecular Biosciences, and Metabolic Pathways Maps and Animated Maps (Animaps) prepared by the late Don Nicholson, University of Leeds.

Biochemical Nomenclature. The International Union of Pure and Applied Chemistry (IUPAC) and the IUBMB have established the IUPAC-IUBMB Joint Commission on Biochemical Nomenclature (JCBN) and the Nomenclature Committee of the International Union of Biochemistry and Molecular Biology (NC-IUBMB).

In order to maintain and enhance these programs, IUBMB depends on the financial support of its Adhering Bodies. It is important to note that the annual dues have not been increased for many years. Rather, the Executive Committee has preferred to pursue additional sources of income. Publications represent the major source of income for IUBMB but, with the rapid changes occurring in the publication business, particularly with the advent of open access publishing, maintenance of this income at current levels is challenging. The Executive Committee is continuously working hard to develop alternative funding sources, but the Union is still very dependent on the support of its Adhering Bodies.

Adhering Body status in the IUBMB is an investment rather than an expense. The direct financial benefits from membership in the IUBMB surpass the actual cost, and there are many other associated non-monetary benefits. Finally, it is also important to note that IUBMB is an international organization that, in addition to providing opportunities to all member countries, emphasizes programs that support young scientists, particularly from developing countries. The Union's philosophy has always been that rich countries can afford to contribute more than poorer countries to this end. Of course, situations change over time and one of the roles of the Executive Committee is to keep track of such changes and, for example, encourage emerging economies to contribute in proportion to their capacity, and to recruit new members to the Union. The IUBMB is strongly committed to diversity and opposes any type of discrimination.

More details about the extensive list of IUBMB programs can be found on the Union's website: www.iubmb.org



IUBMB EXECUTIVE COMMITTEE

President Andrew H.-J. Wang | ahjwang@gate.sinica.edu.tw

President-Elect Alexandra Newton | anewton@health.ucsd.edu

Past President Joan J. Guinovart | guinovart@irbbarcelona.org

General Secretary Open Position

Treasurer Francesco Bonomi | francesco.bonomi@unimi.it

Member for

Education & Training Janet Macaulay | janet.macaulay@monash.edu

Member for

Congresses & Focused Meetings Ilona Concha Grabinger | conchagrabinger@uach.cl

Member for

Publications Zengyi Chang | changzy@pku.edu.cn



(from left to right) Andrew H.-J. Wang, Francesco Bonomi, Alexandra Newton, Ilona Concha Grabinger, Janet Macaulay, Zengyi Chang, Joan J. Guinovart