



IUBMB NEWS

Issue 4

November 2017



President's Message

The training of future scientists should go beyond traditional courses and bench work. This vision is embraced by the IUBMB. In this regard, it has contributed to supporting the 1st European PhD & Postdoc Symposium, organised by the European Academy for Biomedical Science (ENABLE) consortium. ENABLE is an initiative of

four top biomedical research institutes, namely the Institute for Research in Biomedicine (IRB Barcelona), the Radboud Institute for Molecular Life Sciences (RIMLS), the Novo Nordisk Foundation Centre for Protein Research (CPR) at the University of Copenhagen, and the European School of Molecular Medicine (SEMM) in Italy, and the science communications company Scienseed.

This symposium has several features that I wish to highlight in the context of education. First, the event was organised exclusively by PhD students and postdocs from the four centres, although the attendance was much wider. This format allowed them to gain valuable experience in event management and to develop skills in international cooperation. Second, the programme included traditional presentations by leading scientists and also short communications by participants. Furthermore, events such as *Tapas with the speakers* allowed the young scientists to exchange ideas, experiences and knowledge with the speakers in a relaxed setting. Third, one of the three days, called Career Day, showcased employment opportunities beyond the bench, providing direct interaction between PhDs and postdocs and professionals that hold a PhD but moved out of academic research into industry, consultancy, editorial companies, science communication, etc. Moreover, this Career Day included an Employment Opportunity Fair, in which companies presented their openings. Finally, the programme provided a wide range of appealing outreach activities, including round tables not only on scientific topics but also addressing subjects such as "leadership and success". Moreover, participants had the opportunity to give microtalks in various pubs in the city. These talks were open to the general public, who had the chance to learn about science while having a drink.

This event is the first of a series and will be repeated in coming years around Europe. The success of the first ENABLE event and the response of the young participants to the programmed activities serve to strengthen my belief that education must go beyond traditional approaches. Therefore institutions must ensure that the training of future generations of scientists encompasses a wider skill set in a rapidly changing world. The IUBMB prides itself on being among the sponsors of this innovative event.

Joan J. Guinovart, PhD
President, IUBMB

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The Nose Knows

by Gregory A. Petsko

"I've seen a look in dogs' eyes, a quickly vanishing look of amazed contempt, and I am convinced that basically dogs think humans are nuts."

— John Steinbeck

We interrupt this regularly-scheduled column to present an important conversation between two of the most astute observers of the state of science, and indeed, mankind: Mink and Clifford. Mink is a Chocolate Labrador retriever; Clifford is a small poodle-spaniel mixed breed. Although their schedules are heavy (they just got up from their morning nap and are preparing for their afternoon nap), they have deigned to grace us with their insights into the current state of affairs.

— Editor

Mink: Have you been following the current situation in Washington, DC?

Clifford: Of course not. I'm just a puppy. Why would I pay attention to something that will only lower my opinion of people?

Mink: It certainly will do that. The President of the United States just released his budget for 2018, and it would slash funding for science by up to 20% in some agencies.

Clifford (who does his counting on his toes): Is that a lot?

Mink: Let's put it this way: a roughly 20% cut in funding for the National Institutes of Health, the biggest single supporter of biomedical research, would reduce the agency's budget to below what it was in 2003. That noise you hear is America's competitors laughing at us.

Clifford (straining): I don't hear anything.

Mink: You will. The whole world will hear it. Why, the budget proposes to cut funding for the National Cancer Institute alone by \$1 billion.

Clifford: Wow. I guess that means they have cancer beaten, so they don't need so much money for research.

Mink: Not exactly. In the United States, in 2018, it's estimated that about 1.75 million new cases of cancer will be diagnosed and about 600,000 people will die from it. It's the second leading cause of death in the United States, just after heart disease. That's pretty much the same everywhere in the developed world. Why even in much poorer countries like the Democratic Republic of Congo, cancer is the 9th leading cause of death.

Clifford: But that's crazy! If cancer is still a big health problem everywhere, why would anybody in their right mind cut funding for cancer research?

Mink (looking around in case someone from Washington is

listening): You said it, I didn't.

Clifford: How can they even think this is a good idea?

Mink: Well, I don't know for sure, but I think if you asked them, they would say they think there's a lot of waste in the system, and that cutting support will get rid of many of the projects that are likely to fail and leave the good ones that are likely to succeed.

Clifford: I guess that sort of makes sense.

Mink: It sounds like it does, but actually it doesn't. In looking for something that's hard to find, a high failure rate is a good thing, not a bad thing. Suppose you were looking for a big juicy steak.

Clifford: Oh boy! Is it supertime?

Mink: No. I'm just making a hypothetical.

Clifford: T-bone steak, hypothetical steak, flank steak – any cut of steak is fine with me.

Mink (sighing): Let's talk about dinner later. Suppose you wanted to find a ball to play with. Where would you look?

Clifford: In our toy box.

Mink: But what if there wasn't one in the toy box? And there wasn't one in the yard? What if there wasn't one in all the usual places?

Clifford (brightly): I'd go look in the *unusual* places.

Mink: Exactly! And if you didn't find it in the first unusual place you looked, would you stop looking?

Clifford: Of course not. It could be *anyplace*, so I'd just keep looking in more unusual places until I found it.

Mink: And it wouldn't bother you to keep failing to find it?

Clifford: Not if I wanted to play chase the ball.

Mink: Very good. Well, scientific research is like that. If you want to solve big, hard, important problems, if you want innovation, you have to accept the fact that most things won't work. That's not wasting money, it's looking in the unusual places. And big discoveries are not in the usual places; if they were, they'd have already been found. If the idiots who propose cutting funding for scientific research are right that what you'd get would be more funding of stuff that's guaranteed to work, then you'd get lots of incremental, safe, predictable science, which almost never leads to breakthroughs, because it would mostly be people looking in the usual places.

Clifford: I can see that. If a puppy can see that, why can't a smart person?

Mink: Maybe they're not as smart as a puppy. Or maybe, as Upton Sinclair said, "It's difficult to get a man to understand

something if his salary depends on his not understanding it.”

Clifford (concentrating so hard his little head hurts): So are you saying there is more behind this than just a mistake about what science is about?

Mink: Yes, I think there is. After all, this is government whose spokesperson said there were such things as “alternative facts”.

Clifford: “Alternative –” but wait a minute. You taught me that facts were facts.

Mink: That’s right. “Alternative facts” is an oxymoron, a phrase that contains two contradictory terms. Like “jumbo shrimp” or “sad clowns”.

Clifford: I get it: like “friendly cats”.

Mink: Precisely.

Clifford: But why would anyone use a phrase like that unless it was a joke?

Mink: I don’t know, but maybe the word “moron” explains some of it. Anyway, if people in power believe they can call anything that supports their preconceived notions “facts”, even when it isn’t a fact, just something somebody made up, then you know what the biggest threat to them would be, don’t you?

Clifford: Sure. Dogs!

Mink: What?

Clifford: Dogs never believe something just because some other dog or a person tells us. We trust what our noses tell us. Didn’t you say that we have a huge number of smell receptors in our noses?

Mink: Yes; 300 million. Humans have only 5 million.

Clifford: And didn’t you say that we could smell things amazing well as a result?

Mink: I sure did. It’s been estimated we could detect a single rotten apple in 3 million barrels of apples.

Clifford: Why would we want –

Mink (quickly): Forget it. It’s just another hypothe – eh, just forget it.

Clifford: OK. But what I’m trying to say is that we trust our noses because they bring us the facts of smells. We make decisions based on what we smell because smells are evidence for what’s out there. That way we don’t have to guess or make stuff up.

Mink: I get it. Very good! You’re right, dogs would be a great threat to people who don’t want to accept facts that contradict what they believe in, and make up things to support their beliefs. In that sense (or maybe I should say “scents”), dogs are nature’s scientists. We go around sniffing the world –

Clifford: And each other’s –

Mink (very quickly): Yes, that too, and gathering information that we use to make decisions. Well, you know who else does that?

Clifford: I’m guessing not a lot of people in Washington do these days.

Mink: You’re guessing right. But scientists do. Scientists are human so sometimes they get attached to ideas, especially if the ideas are their own, but real scientists – ones worthy of the name – will change their minds if the evidence doesn’t support those ideas. And they will insist that important decisions take facts, evidence-based facts, into account. Scientists are a great threat to ideologues, to self-interested rulers, to anyone whose power and wealth comes from denying facts that would undermine their position. And the best way to eliminate that threat is to cut the funding for scientific research, which is where the “real” facts are discovered.

Clifford (turning to go back to sleep): So it’s pretty obvious to us dogs, and should be obvious to people too, that what’s going on in Washington these days doesn’t pass the smell test!

Mink (impressed): Clifford! That’s very neatly put. You know, you are cleverer than you look.

Clifford (*sotto voce*, glancing sidelong at Mink): Well, that’s better than looking cleverer than you are.

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IUBMB Special Meeting Frontiers in Glycoscience II: Oncology

December 4th – 6th, 2017

Venue: Institute of Biomedical Sciences, Academia Sinica

Speakers

Helen Blanchard

Griffith University (Australia)

Richard D. Cummings

Harvard University (USA)

Jianguo Gu

Tohoku Medical & Pharmaceutical
University (Japan)

Yuh-Shan Jou

Academia Sinica (Taiwan)

Daniel Kolarich

Griffith University (Australia)

Pei-Jen Lou

National Taiwan University (Taiwan)

Frank Schweizer

University of Manitoba (Canada)

Joe Tiralongo

Griffith University (Australia)

Chi-Huey Wong

Academia Sinica (Taiwan)

Ruey-Bing Yang

Academia Sinica (Taiwan)

Alice Lin-Tsing Yu

Chang Gung Memorial Hospital
(Taiwan)

Jin Won Cho

Yonsei University (Korea)

James W. Dennis

University of Toronto (Canada)

Pei-Wen Hsiao

Academia Sinica (Taiwan)

Reiji Kannagi

Academia Sinica (Taiwan)

Kuo-I Lin

Academia Sinica (Taiwan)

Celso Reis

University of Porto (Portugal)

Hsiu-Ming Shih

Academia Sinica (Taiwan)

Yuh-Chin Twu

Yang-Ming University (Taiwan)

Chung-Yi Wu

Academia Sinica (Taiwan)

Chiou-Hwa Yuh

National Health Research Institutes
(Taiwan)

Organizing committee :

Fu-Tong Liu, Andrew H.-J. Wang, Shie-Liang Edmond Hsieh, Kay-Hooi Khoo,
Chun-Hung Lin, Kuo-I Lin



http://web.ibms.sinica.edu.tw/2017_IUBMB/index.php

IUBMB–FEBS Conference on New Horizons in Biochemistry and Molecular Biology Education

6–8 September 2017; Rehovot, Israel

This significant initiative, agreed between IUBMB, FEBS and the Weizmann Institute of Science in 2015, brought together 130 participants (including lecturers) from around the world at the fascinating David Lopatie Conference Center of the Weizmann Institute of Science. Eight scientists were supported by bursaries from FEBS, IUBMB, the Tang Foundation, and the Weizmann Institute of Science.

The Conference was opened by Joan Guinovart, President of IUBMB, and Israel Pecht, Former Secretary General of FEBS, followed by introductions and welcomes from Anat Yarden (Host and Co-Chair) and Co-Chairs Janet Macaulay (Chair, IUBMB Education Committee) and Gül Güner Akdoğan (Chair, FEBS Education Committee).

The rich programme (www.weizmann.ac.il/conferences/NHMB2017) included 16 invited lectures (international and Israeli) and three plenary lectures from eminent scientists/educators. The backbone of the programme was five mini-symposia ranging from the high-school stage of biology education, to the BSc level, to PhD training and up to the postdoctoral stage: 'Pre-University Biology Education' (Chair, Anat Yarden, Rehovot), 'Key Knowledge and Skills for Molecular Life Scientists' (Chair, Keith Elliott, Manchester), 'Research in Undergraduate Education' (Chair, Janet Macaulay, Monash), 'PhD Training: New Prospects' (Chair, Gül Güner Akdoğan, Izmir), and 'Rethinking Doctoral Training' (Chair, Michael Walsh,

Calgary). The conference also included eight workshops on current educational topics, involving innovative perspectives and methods. A poster session with 18 posters of high educational value received great interest as well.

The opening plenary talk by Bruce Alberts (UCSF, USA) on 'Why science education is more important for the world than most scientists realize' was inspiring. He stated how 'every society needs the values of science: honesty, generosity, and an insistence on evidence while respecting all ideas and opinions regardless of their source of origin'. To spread these scientific values, he advocated less emphasis in science education on memorizing facts and more active problem-solving. In the second plenary talk, 'The future of the Doctorate', Robert Harris (Karolinska Institute, Sweden) reflected on the radical changes in expectations of both PhD students and supervisors, touching on pressures for publication, global competition, cases of scientific fraud and worsening career prospects, and argued how quality assurance and feedback systems are imperative within doctoral training. Another highlight of the conference was a closing plenary lecture from Ada Yonath, Nobel Laureate (Weizmann Institute of Science) on 'Next Generation Environmental Friendly Antibiotics', which ably demonstrated how scientific research can be explained in an understandable and friendly way.

Altogether, we hope the outcomes of this conference will have impact on how biochemistry and molecular biology education is pursued at all levels, throughout the world.

**Gül Güner Akdoğan, Anat Yarden and Janet Macaulay
Co-Chairs of the Conference**

[First published in *FEBS News* November 2017]



Wiley-BioFactors Young Investigator Prize

Two awardees shared this year's Wiley-BioFactors Young Investigator Prize. Congratulations to **Maria del Carmen Crespo Lorenzo**, first author of the paper "Hydroxytyrosol restores proper insulin signaling in an astrocytic model of Alzheimer's disease" (Crespo MC *et al* (2017) BioFactors 43: 540-548) and **Eduardo Molina-Jijón**, first author of the paper "The nephroprotection exerted by curcumin in maleate-induced renal damage is associated with decreased mitochondrial fission and autophagy" (Molina-Jijón E *et al* (2016) BioFactors 42: 686-702).

Maria del Carmen Crespo Lorenzo has a degree in Molecular and Cellular Biology from the IE University of Spain (2010). In 2013 she obtained a Master degree in pharmacological research from the UAM (Madrid, Spain). She was part of the research project "Genetic and genomic analysis in patients affected by Gorham-Stout Disease and General Lymphatic Anomalies" team at the Hospital Universitario La Paz (Madrid, Spain). In June 2014, she began her Ph.D. program at IMDEA (Madrid Institute of Advanced Studies)-Food Laboratory of Functional Foods. She is playing a relevant part in nutrigenomic and epigenetic projects with different micronutrients (e.g. Hydroxytyrosol, bioactive phospholipids) performing *in vitro*, *in vivo* and placebo-controlled, randomized trials in healthy volunteers to evaluate the possible beneficial effect that these molecules play on chronic diseases and find their molecular targets, in order to develop new therapeutic strategies.

Eduardo Molina-Jijón is a Postdoctoral Research Fellow in the Glomerular Disease Therapeutic Laboratory at the Department of Internal Medicine of Rush University

Medical Center in Chicago, IL, USA. He received his PhD in the Cellular and Molecular Physiology program of the Department of Physiology, Biophysics and Neurosciences of the Center for Research and Advanced Studies (Cinvestav-IPN) in Mexico City under the guidance of Dr. José Luis Reyes. During his postdoctoral stay, supported by DGAPA at the Faculty of Chemistry of the National Autonomous University of Mexico (UNAM), under the guidance of Dr. José Pedraza-Chaverri, he studied the therapeutic effect of curcumin in acute kidney injury and the role of mitochondria and autophagy in this process. He is currently interested in exploring a potential link between hypercholesterolemia and proteinuria in nephrotic syndrome.

Wiley-IUBMB Life Young Investigator Award

Congratulations to **Mauro Danielli**, first author of the paper "Cholesterol can modulate mitochondrial aquaporin-8 expression in human hepatic cells" (Danielli M *et al* (2016) IUBMB Life 69: 341-346).

Mauro Danielli is currently a Research Fellow of the National Scientific and Technical Research Council (CONICET) at the Institute of Experimental Physiology (IFISE), and an advanced PhD student at the University of Rosario (Argentina) where he graduated as Biotechnologist in 2012. His doctoral studies, under the mentorship of Dr. Raúl A. Marinelli, focus on the regulation and function of hepatic mitochondrial aquaporin-8 and its relationship with cholesterol metabolism. The scientific experience of Mauro Danielli involves cell culture, biosynthesis of lipids, and RNA and protein expression studies.



Maria del Carmen Crespo Lorenzo



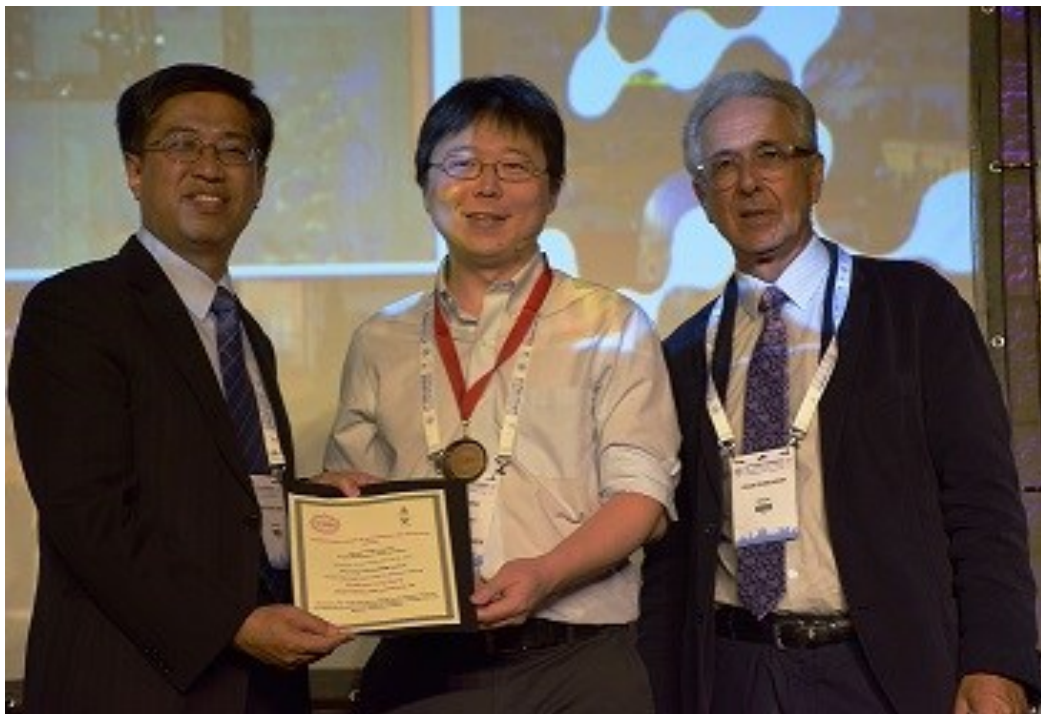
Eduardo Molina-Jijón



Mauro Danielli



Professor Feng Zhang of the Broad Institute of MIT and Harvard University, delivered the Tang Prize/IUBMB Lecture entitled "From microbial immunity to genome editing" at the 42nd FEBS Congress held in Jerusalem, September 10-14, 2018. Professor Zhang received the IUBMB Medal from IUBMB President, Joan Guinovart, for his outstanding contributions to the development of optogenetics and genome editing technologies.



Job Dekker

The inaugural **International Award of The Biochemical Society (UK)** will be awarded in 2018 to Job Dekker from the Howard Hughes Medical Institute and the University of Massachusetts Medical School. Job introduced the concept that matrices of chromatin contact frequencies can be used to determine the three-dimensional structure of chromosomes. Following this, Job invented the chromosome conformation capture (3C) technology to obtain such matrices and solved the first structure of a yeast chromosome in 2002. Since then his group has pioneered development and application of a series of molecular, genomic and computational approaches, such as 5C and Hi-C to map and analyze the three-dimensional folding of genomes at Kb resolution. His work had led to new insights into the internal organization of chromatin fibres, the formation of chromatin looping interactions involved in long-range gene regulation, the organization of the interphase nucleus, the structure of metaphase chromosomes, and the general folding principles of complete genomes. Recently his group has started to use 3D genome folding data for de novo genome assembly.

Of winning the International Award, Job said: "I am truly delighted to have been selected for the International Award. This really honours the work of all my team members, collaborators, and colleagues that is starting to reveal how our genomes are folded." Dr. Dekker will deliver the International Award Lecture at the 24th IUBMB-15th FAOBMB Congress in Seoul, Korea on June 7, 2018.



Job Dekker

IUBMB Focused Meeting “Molecular Aspects and Longevity”

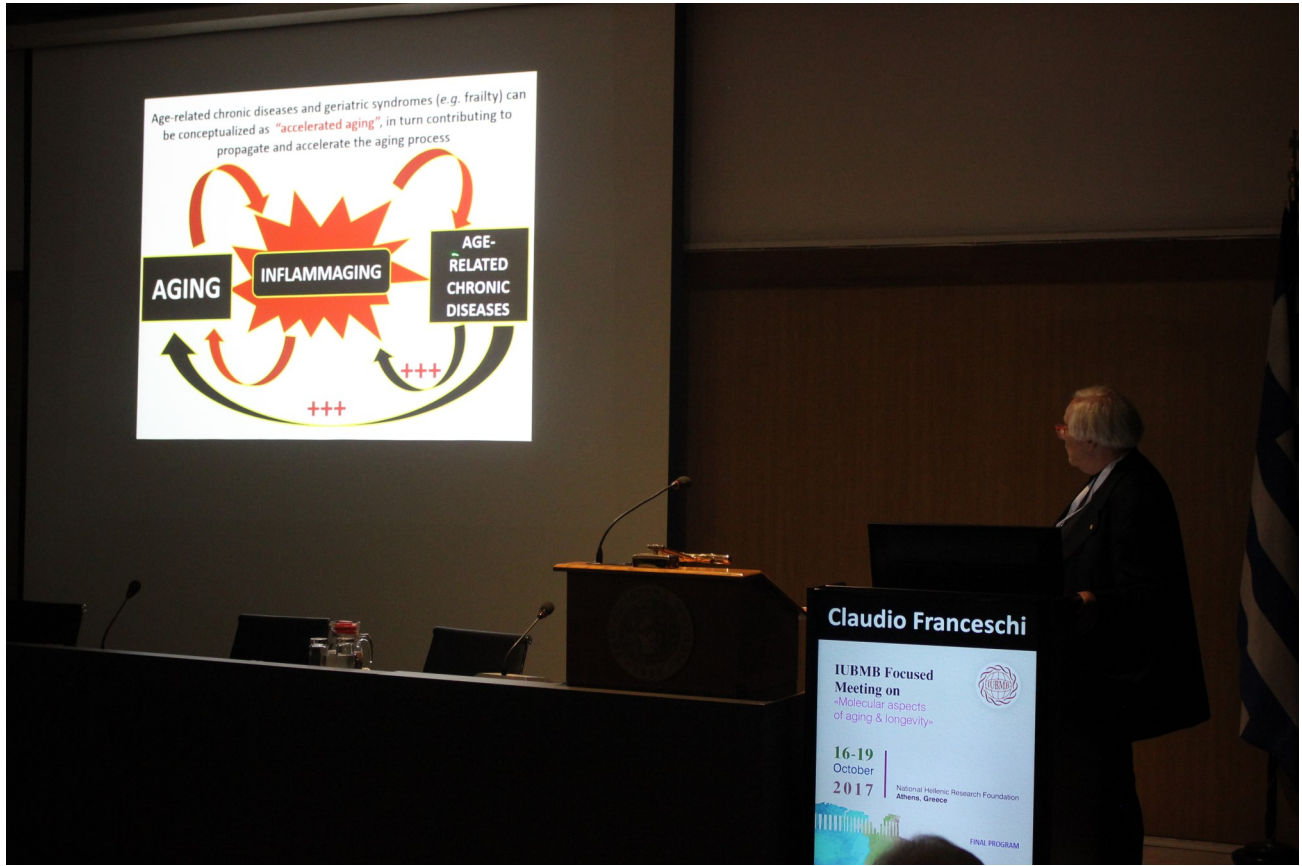
by *Efstathios S. Gonos*

IUBMB has entrusted the organization of a Focused Meeting on “Molecular aspects and longevity” to Stathis Gonos (Director of Research, National Hellenic Research Foundation). The meeting took place on October 16th-19th 2017 at the National Hellenic Research Foundation (NHRF), which is located in the heart of the cultural centre of Athens (Greece).

The core scientific program comprised of inspiring plenary lectures from internationally acknowledged experts working in areas of high topical interest, including John Sedivy, David Sinclair, Claudio Franceschi and Jan Hoeijmakers. The program also included ten lecture-based sessions on the following topics: **Human ageing and diseases, Protein damage and turnover, Epigenetics and macro-molecular damage, Biomarkers of senescence, MetAGEn & proteolysis, Immunosenescence, Age-related diseases & Therapies, EuroCellNet: An integrative action for multidisciplinary studies on cellular structural networks, Signaling in human ageing and senescence, Geroprotectors: the road to clinical translation and novel agents and New approaches to preclinical testing of interventions.** These sessions aimed at integrating the latest research developments and new technologies on the axis of aging and longevity, featuring lectures both from distinguished researchers and

young scientists, including Barbara Demeneix, Christos Zouboulis, Vassilis Gorgoulis, Nektarios Tavernarakis, Bertrand Friguet, Nicholas Hannah, Ram Nagaraj, Peter Adams, Stathis Gonos, Olivier Coux, Patty Opresko, Alexander Burkle, Giovanni Grillari, Keetae Kim, Daegu, Pidder Jansen-Duerr, Martin Denzel, Louis Lapierre, Hildegard Mack, Tilman Grune, Graham Pawelec, Valérie Haydont, Maria De Luca, Aleksandra Mladenovic, Milena Georgieva, Leire Moreno-Cugnon, Kelvin Davies, Parmjit Jat, Dimitris Kletsas, Karl Riabowol, Liset Rietman, Ilaria Bellantuono, Sebastian Groenke, Angelo Azzi, Dudley Lamming, Peter de Keizer, Michaela Kneissel, Michael Hagn and Marco Viceconti. The Meeting was very well attended by participants coming from all parts of the world (including Japan, S. Korea, Thailand, Australia, Nigeria, Israel, Brazil, USA, Canada and 23 European countries). Moreover, several travel fellowships were awarded to young scientists, especially from the developing countries.

The contribution of participants towards the scientific discussion at the event was encouraged by the opportunity to present their work through extensive poster sessions. The interaction of young scientists with peers and experts was also stimulated at the welcome drinks, coffee breaks and during meals. The lively discussion and exchange of knowledge and ideas in an informal setting during the Meeting’s dinner at Aegli restaurant-Garden of Zappio deserves a special mention. In this context, it was an honor to welcoming the participants in Athens, the heart of European culture and civilization, according to the traditional Greek hospitality.





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- Paul-Sylvain Frenette, Albert Einstein College of Medicine, USA
- John Gurdon, University of Cambridge, UK
- Konrad Hochedlinger, Harvard University, USA
- Donald Ingber, Harvard University, USA
- Rudolf Jänisch, MIT, USA
- Gordon Keller, University Health Network, USA
- Timothy Kieffer, University of British Columbia, Canada

- Katarina Le Blanc, Karolinska Institutet, Sweden
- Tak W. Mak, University Health Network, Canada
- Hiromitsu Nakauchi, Stanford University, USA
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- Joyce M. Slingerland, Sylvester Comprehensive Cancer Center, USA
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IUBMB Focused Meeting “Aminoacyl tRNA Synthetases”

by Michael P. Walsh

Many of the leaders in the field of aminoacyl tRNA synthetases convened at Clearwater Beach in Florida, USA from October 29–November 2, 2017 to discuss the latest advances in the field, identify future directions and establish collaborations. The meeting attracted 160 registrants from 21 countries (USA, Korea, Japan, France, China, Israel, Canada, Belgium, Germany, Brazil, India, Netherlands, Spain, UK, Australia, Croatia, Hong Kong, Mexico, Switzerland, Taiwan and Ukraine). The meeting was organized by Chris Francklyn (University of Vermont), Rebecca Alexander (Wake Forest University) and Hervé Roy (University of Central Florida) with the very capable assistance of Sheilah Jewart (Conference Coordinator, Amazing Occasions, Windermere, Florida).

This meeting was the 11th in a series that began in Autrans (France) in 1990. Subsequent meetings were held in Taos (New Mexico), Mittelwehr (France), Asilomar (California), Seoul (Korea), San Diego (California), Veyrier du Lac (France), Salt Lake City (Utah), Hakone (Japan) and Barcelona (Spain).

A central message from the meeting was how the field has expanded rapidly in recent years from focusing on the structure, mechanism and function of the tRNA synthetases in protein synthesis and their interactions with tRNA to embrace exciting new areas including ribosomal evolution, high-resolution structures of various tRNA synthetases in complex with tRNAs and other proteins, non-canonical functions of the tRNA synthetases (including translational control), unexpected sub-cellular locations of the synthetases (nuclear, mitochondrial, plastid and even extra-cellular), human disease mutations, development of novel therapeutics including anti-bacterials, anti-malarials, as well as agrochemicals targeting aminoacylation in plants, and regulation by post-translational modifications such as phosphorylation, acetylation and S-nitrosylation.

There was a lot to cover during the 4-day meeting and this was achieved through 65 oral presentations (20 minutes each), 4 keynote lectures and two evening poster sessions. Participants were very engaged as indicated by a full room at all talks, enthusiastic questioning of speakers and lively poster sessions, the latter being greatly appreciated by the trainees who received useful feedback about their work.

Paul Schimmel (Scripps Research Institute) opened the scientific program with a concise overview of the tRNA synthetase field, nicely setting the stage for what was to come later regarding roles of these enzymes beyond protein translation and their involvement in human diseases via mutations that do not affect protein synthesis. A striking

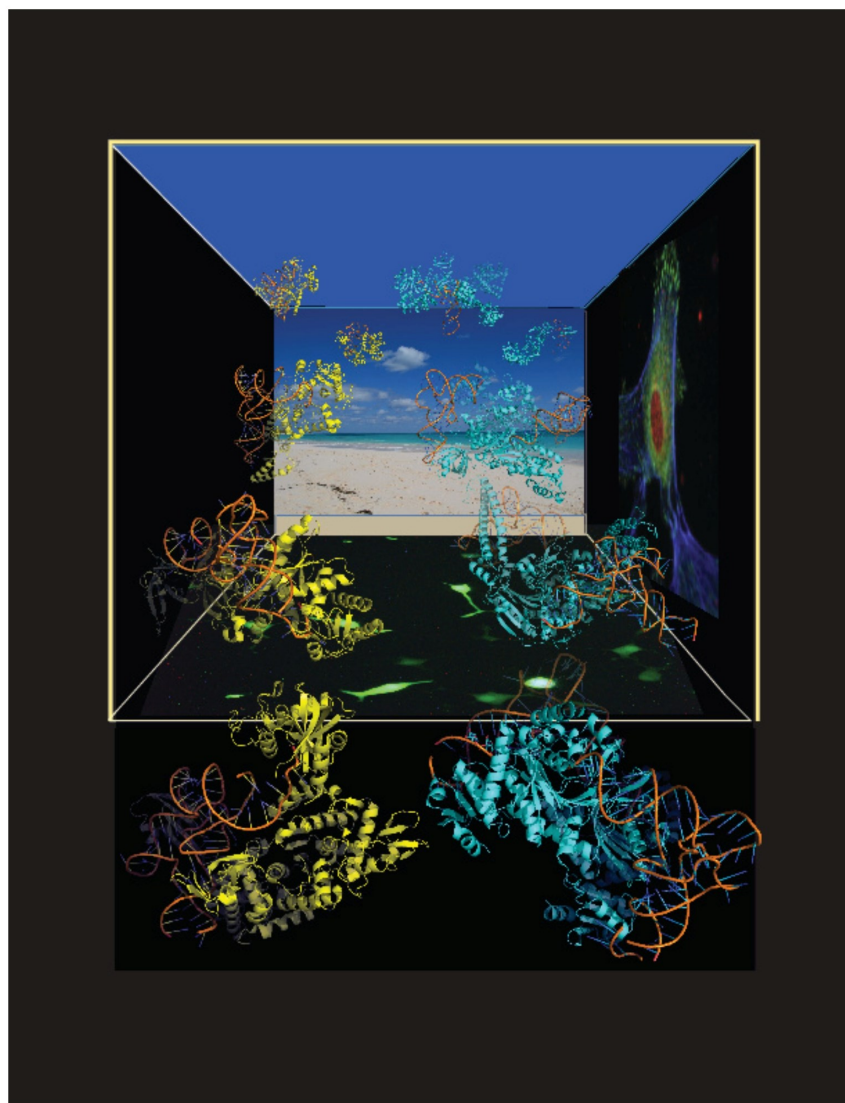
statistic in this regard is the observation that each tRNA synthetase has at least 15 interacting proteins in a human cell.

In the second keynote lecture, Susan Ackerman (University of California San Diego) described her group's genetic approaches in mice to study neurodegenerative diseases. Specifically, an amino acid substitution in the editing domain of alanyl tRNA synthetase causes ubiquitinated protein aggregates and Purkinje cell death and she identified a modifier gene encoding the ankyrin repeat domain-containing protein, Ankrd16, that suppresses formation of the protein aggregates and neurodegeneration in mutant mice, with important implications for translational fidelity.

The third keynote lecture, delivered by Michael Shy (University of Iowa), focused on the clinical features associated with aminoacyl tRNA synthetase gene mutations in patients with Charcot-Marie-Tooth (CMT) Disease (a family of genetic peripheral neuropathies). >90 genes have been associated with genetic peripheral neuropathies and ~10% of CMT-associated genes belong to the aminoacyl tRNA synthetase family.

The final keynote lecture was presented by Dieter Söll (Yale University) who reviewed work in his lab focused on the modification of tRNA synthetase systems to expand the palette of natural and unnatural amino acid incorporation into proteins. This work, which set the tone for other talks in the session, described developments in the pyrrolysine and selenocysteine systems, as well as unusual “allo-tRNAs”. Collectively, these experiments set the stage for extensive modification of the proteome, and provide a highly effective platform for studying the effects of post-translational modifications (i.e., phosphorylation and acetylation) on protein function.

It was clearly evident from this meeting that the aminoacyl tRNA synthetase field is alive and well with much to be done, for example, in the areas of human disease and diversity of function. The collaborative atmosphere that prevailed at the meeting, and the enthusiasm of the many bright young scientists who participated, bodes well for the future. Congratulations are due to the organizers for putting together such an excellent program in a delightful location which was conducive to interaction and cooperation. It was fortunate that Clearwater was largely unaffected by the recent Hurricane Irma, but we had a mild taste of what it must have been like during the first two days of the meeting when Tropical Storm Philippe passed through the area bringing high winds and unseasonably cold temperatures. Happily, the winds calmed down and temperatures got back to normal Floridean levels, which allowed participants to enjoy meals together on the beach for the rest of the meeting.



Artwork courtesy of Chris Francklyn (University of Vermont)



The organizers of the IUBMB Focused Meeting “Aminoacyl tRNA Synthetases”. From left to right: Rebecca Alexander, Chris Francklyn, Sheilah Jewart and Hervé Roy.





IUBMB Focused Meeting on GATA Transcription Factors

May 28-June 1, 2018 - Kalimera Kriti Resort, Crete, Greece

Local Organizer

John Strouboulis

Institute of Molecular Biology
and Biotechnology-FORTH, Crete, Greece

Organizing Committee

John Crispino

Northwestern University, Chicago, USA

Doug Engel

University of Michigan, Ann Arbor, USA

Mona Nemer

University of Ottawa, Canada

Roger Patient

Weatherall Institute for Molecular Medicine
& University of Oxford, UK

Masayuki Yamamoto

Tohoku University, Sendai, Japan

Invited Speakers

Avinash Bhandoola

National Institutes of Health, Bethesda,
USA

Venetia Bigley

Newcastle University, UK

Yehudit Birger

Sheba Medical Center, Tel Hashomer, Israel

Emery Bresnick

University of Wisconsin, Madison, USA

Ruud Delwel

Erasmus Medical Center, Rotterdam, the
Netherlands

Elaine Dzierzak

University of Edinburgh, UK

Laura Gutierrez

Instituto de Investigación Sanitaria San
Carlos (IdISSC), Madrid, Spain

Anna-Katerina Hadjantonakis

Memorial Sloan Kettering Cancer Center,
New York, USA

Rudi Hendriks

Erasmus Medical Center, Rotterdam, the
Netherlands

Marshall Horwitz

University of Washington, Seattle, USA

Tomonori Hosoya

University of Michigan, Ann Arbor, USA

Jacqueline Matthews

University of Sydney, Australia

Jim Mc Ghee

University of Calgary, Canada

Anna-Rita Migliaccio

University of Bologna, Italy

Claus Nerlov

Weatherall Institute for Molecular Medi-
cine and University of Oxford, UK

Catherine Porcher

Weatherall Institute for Molecular Medi-
cine and University of Oxford, UK

Rolf Reuter

University of Tübingen, Germany

Irene Roberts

University of Oxford, UK

Anabel Rojas

Andalusian Molecular Biology and Regen-
erative Medicine Centre, Seville, Spain

Ellen Rothenberg

Caltech, Pasadena, USA

Heikki Ruskoaho

University of Helsinki, Finland

Bob Schulz

University of Notre Dame, USA

Ritsuko Shimizu

Tohoku University, Sendai, Japan

Mikiko Suzuki

Tohoku University, Sendai, Japan

Sergei Tevosian

University of Florida, Gainesville, USA

Paresh Vyas

Weatherall Institute for Molecular Medi-
cine and University of Oxford, UK

Ryan Wilcox

University of Michigan, Ann Arbor, USA

Jingfang Jeff Zhu

National Institutes of Health, Bethesda,
USA

Topics will include GATA factors in:

- Transcriptional regulation
- Invertebrate development
- Hematopoiesis
- Development of the immune system
- Organ development
- Human disease

Additional speakers will be selected from the abstracts
Abstract submission deadline: April 15, 2018

For more information: www.gata2018.org

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Young Scientist Program (YSP) 2018 at the IUBMB-FAOBMB Congress to be held in Seoul in June 2018

YSP event takes place 2-4 June 2018 at Yonsei University, Seoul, Korea

IUBMB-FAOBMB Congress takes place 4-8 June 2018 at CoEx, Seoul, Korea

Details on HOW TO APPLY and the APPLICATION FORM are available on the Congress webpage at: www.iubmb2018.org

Just click on the YSP link for details

Inquiries about the YSP in 2018 can be made by email to:

Secretary of YSP Seoul 2018, Dr. Kyung-Hee Chun: khchun@yuhs.ac

or

The Congress Secretariat at: info@iubmb2018.org

Closing Date for Applications to the YSP 2018 is 26 January 2018



IUBMB Focused Meeting “tRNA Biology at the Crossroad”

Website: trna2018.sciencesconf.org

IUBMB Focused Meeting “Signal Transduction and Molecular Medicine—SISTAM 2018”

Bariloch, Argentina

16-20 October 2018

Contact: Dr. Omar Coso (ocoso@fbmc.fcen.uba.ar)

Advanced Schools 2018

Title: Frontiers in Infection-Associated Cancer
Place: Department of Biochemistry, Faculty of Science, Mahidol University, Salaya, Thailand
Dates: 13-16 June 2018
Contact: Associate Professor Dr. Tavan Janvilisri, tavan.jan@mahidol.ac.th

Title: Redox-omic Technologies and Their Application in Health and Disease
Place: Spetses Hotel, Spetses Island, Greece
Dates: 17-23 September 2018
Contact: Professor Corinne M. Spickett, c.m.spickett@aston.ac.uk
Website: <http://www.masstrplan.org/event/summerschool2018/>

Title: Protein-Protein and Protein-Membrane Interaction: Experimental and Theoretical Approaches
Place: Hotel Mercure Playa de Oro, Varadero Beach, Matanzas, Cuba
Dates: 22-26 October 2018
Contact: Professor Doctor Carlos Álvarez Valcárcel, calvarez@fbio.uh.cu

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[Identification of a malonyl CoA-acyl carrier protein transacylase and its regulatory role in fatty acid biosynthesis in oleaginous microalga *Nannochloropsis oceanica*](#)

Biotechnology and Applied Biochemistry, DOI: 10.1002/bab.1531

[Biochemical characterization of argininosuccinate lyase from *M. tuberculosis*: significance of a c-terminal cysteine in catalysis and thermal stability](#)

IUBMB Life, DOI: 10.1002/iub.1683

And a new “Global Ethics Corner” article *Biochemistry and Molecular Biology Education*:

[The Global Ethics Corner: foundations, beliefs, and the teaching of biomedical and scientific ethics around the world](#)

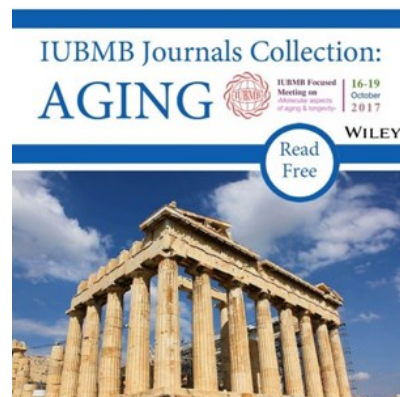
Biochemistry and Molecular Biology Education, DOI: 10.1002/bmb.21059



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