

# FAOBMB Annual Conference in Kobe, Japan

**Paul Gleeson, FAOBMB Representative, reports  
on the FAOBMB Conference and Council  
meeting hosted in Kobe in December 2017.**



The 26th FAOBMB International Conference and 90th Annual Meeting of the Japanese Biochemical Society and 40th Annual Meeting of the Molecular Biology Society of Japan, was held in Kobe at the Kobe Port Island from 6–9 December 2017. The joint FAOBMB meeting was a Consortium of Biological Sciences, flagged as 'ConBio2017' with the participation of more than 20 other Japanese societies. The convenors of ConBio2017 were Professor Shigeo Ohno, President of the Japanese Biochemical Society, and Professor Akira Shinohara, President of Molecular Biology Society of Japan. The hosts for the FAOBMB component of ConBio2017 were Professor Mayumi Nakanishi (Iwate Medical University), the FAOBMB delegate from Japan, and Professor Kiyoshi Fukui, Past President of FAOBMB.

This was the first meeting of ConBio, which brought together 8000 participants, 10 plenary speakers, a very wide range of symposia topics (33) and workshops (129) (often more than 20 parallel symposia) and approximately 4700 posters. The conference was conducted mostly in Japanese, with some sessions in English. This reduced the accessibility of the talks for non-Japanese speakers. Nonetheless, the sessions in English, including the FAOBMB symposia, were of very high quality and well attended.

The winner of the 2017 FAOBMB Award for Research Excellence, given annually to a distinguished biochemist or molecular biologist for work carried out in the FAOBMB region, was Professor Jamie Rossjohn from Monash University, Australia, who gave an outstanding plenary lecture on his pioneering work defining the T cell receptor (TCR) specificity of a population of mucosal-associated invariant T cells, called MAIT cells. Jamie and his collaborators in Melbourne have shown that the TCR of MAIT cells do not recognise peptide antigens complexed by surface MHC molecules, as is the case for classical T cells, but rather recognise vitamin B metabolites, derived from microbial biosynthesis of riboflavin in the gut. Jamie presented his elegant structural data demonstrating the specificity of binding of metabolites to the MHC class I-like protein, MR1, and the recognition of this complex by the TCR of MAIT cells. Jamie highlighted the potential roles of these 'metabolite'-specific MAIT cells in immunity and pathology and how their understanding could have important implications for human diseases.

The FAOBMB Entrepreneurship Award is given triennially, in recognition of outstanding achievement in entrepreneurship in biochemistry or molecular biology, particularly innovation and creativity in research or technology, and their translation to broader aspects. The winner of the 2017 FAOBMB Entrepreneurship Award was Professor Masatoshi Hagiwara, Kyoto University Graduate School of Medicine, Japan. Masatoshi's work beautifully illustrates the ability to translate exciting new basic discoveries in biomedical science and develop chemical therapeutics, which are applicable for a range of diseases. His range of research interests is most impressive with an outstanding record of achievement. His talk focused on his research journey beginning with the conceptual challenge of how to consider drug treatments for patients with congenital diseases. His approach was to consider whether the patterns of mRNAs transcribed from patients DNAs could be manipulated with small chemicals. He successfully identified chemical compounds that target members of kinase family involved in the regulation of gene expression, including chemicals which modulate the level of splicing in a gene-specific manner. His discoveries on kinase inhibitors has led to a venture company, a large number of patents and



*Left: Jamie Rossjohn receives the FAOBMB Award for Research Excellence from Andrew Wang (a Past President of FAOBMB and IUBMB President Elect).*



*Right: Masatoshi Hagiwara receives the FAOBMB Entrepreneurship Award from Zengyi Chang (FAOBMB President) and Andrew Wang (a Past President of FAOBMB and IUBMB President Elect).*

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a diverse range of translational outcomes. He has also made significant contributions to the advancement of science in Japan.

The FEBS-sponsored lecture was delivered by Professor Pura Muñoz-Cánoves, Pompeu Fabra University, Barcelona, and the Spanish National Cardiovascular Research Center, Madrid. Pura is interested in decoding the molecular mechanisms responsible for the reduced ability of stem cells to regenerate with aging. She studies the regeneration of skeletal muscle, a process mediated by resident 'satellite' stem cells, which can differentiate and form new myofibres. Pura described her combined application of bioinformatics and molecular and cellular biology to demonstrate that autophagy is important in maintaining resting satellite cells in their quietest state in healthy tissue, whereas old satellite cells have impaired autophagy leading to oxidative stress and functional decline. Her work has identified a cellular pathway associated with muscle stem cell biology, which could be targeted for rejuvenation.



*Presenters at the IUBMB-sponsored Education Symposium. From left: Janet Macaulay, Maurizio Costabile, Keiichiro Suzuki, Marilou Nicholas and Masha Smallhorn.*

The IUBMB-sponsored FAOBMB Education Symposium and Workshop focused on interactive teaching strategies and all speakers in this session promoted considerable audience participation. Professor Keiichiro Suzuki (Hyogo College of Medicine, Japan) discussed approaches to team-based learning and basic skills analysis in biochemical education to medical students. Keiichiro outlined examples relating to diet and metabolism, which were analysed by small groups of first year students. Dr Marilou Nicolas (University of the Philippines, Manila, Philippines) presented strategies to ensure students understand basic concepts and how to identify misconceptions in students' understanding. Professor Janet Macaulay (Monash University, Australia) summarised the vision and role of the International Union of Biochemists and Molecular Biology (IUBMB) in biochemistry and molecular biology in the 21st century. The IUBMB Edward John Wood Fund was established in

2009 to promote of biochemistry and molecular biology education ([www.iubmb.org](http://www.iubmb.org)). A major effort of the IUBMB was the organisation of the New Horizons in Biochemistry and Molecular Biology Education Conference, designed to bring the international community of biochemistry and molecular biology educators together to discuss current practices in the way we teach and what we teach. Janet summarised the outcomes of the conference held in Rehovot, Israel, during September 2017. Dr Maurizio Costabile (University of South Australia, Australia) gave a lively talk on the development of an interactive simulation for teaching enzyme kinetics and the assessment of student performance following implementation of this simulation. Likewise, Dr Masha Smallhorn (Flinders University, Australia) also gave an engaging presentation on inquiry-based laboratory to large cohorts of first year students.



*FAOBMB Travel Fellowships winners. From left: Sheila Nathan (FAOBMB Fellowships Chair), Danaya Pakotiprapha (Thailand), Matias Caldez (Singapore), Siti Asmaa Mat Jusoh (Malaysia), Dominic Ng (Australia), Anirban Basu (India), Steven Heaton (Australia) and Zengyi Chang (FAOBMB President).*

Dr Steven Heaton (Monash University, Australia) and Dominic Chi-Hiung Ng (University of Queensland, Australia) were two of six scientists who received FAOBMB Travel Fellowships to attend the conference and to deliver oral presentations on their work. Steven Heaton presented his work on the DEAD-box helicase 3, X-linked (DDX3X) protein, which has a number of roles in an antiviral signalling pathway against a wide range of divergent viruses. Steven analysed the nuclear import of DDX3X using confocal microscopy and analytical ultracentrifugation, and defined the minimal exportin-1 binding motif that is necessary and sufficient for both Ran-GTP-dependent binding of DDX3X. Dominic Ng described his elegant *Drosophila* models to dissect the functions of a commonly mutated gene associated with autosomal recessive primary microcephaly, namely wd40-repeat protein 62 (wdr62). Dominic has dissected the lineage-specific contributions in glial and neural-stem cell populations using specific depletion and

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overexpression of WHDR62. His studies have shown that glial-specific WDR62 regulates neural stem cell populations for optimal brain growth.

The FAOBMB Council meeting was held on Tuesday 5 December 2017, prior to the conference program, with Paul Gleeson as the Australian delegate (ASBMB representative). The meeting was attended by delegates from 15 of the 21 constituent member countries, the six members of the executive committee, Honorary Member and Past President of FAOBMB Professor Andrew Wang (now IUBMB President Elect) and several observers from Japan and other countries in the FAOBMB region. The Council meeting was chaired by the FAOBMB President, Professor Zengyi Chang (Japan) and the Secretary General, Professor Phillip Nagley (Australia). In his President's report, Professor Chang called for suggestions of other national societies that could be eligible to join FAOBMB, where strengths in education and scientific training are considered alongside research. Zengyi has also initiated strategies to obtain stable funding for the FAOBMB awards and he encouraged delegates to be proactive in working with local community to support nominations for the various FAOBMB awards. Elections for the President Elect of FAOBMB will be held during 2018, to take up that office in 2019.

The FAOBMB Council discussed matters relating to maintaining income through subscriptions for FAOBMB membership, and strategies for an improved gender balance for the FAOBMB awards. The Council also confirmed support for the ASBMB to bid for the IUBMB congress in Melbourne in 2024. The bid, which is being led by Professor Leann Tilley, President of ASBMB, will be considered by the IUBMB Executive Committee at the IUBMB-FAOBMB Congress in Seoul, Korea, 4–8 June 2018.



*Phillip Nagley receives a gift at the Council dinner in recognition of his six-year term as Secretary General of FAOBMB from Zengyi Chang (FAOBMB President, centre) and Kiyoshi Fukui (FAOBMB Past President).*

Professor Phillip Nagley completed his six-year term as Secretary General and stepped down at the end of 2017. He will remain active within the FAOBMB as the Archivist,

an important role to ensure the history of the organisation is embedded and stored electronically for the future. At the Council dinner, Phillip was very warmly thanked by Professor Chang for his outstanding contribution to the FAOBMB and Phillip gave a wonderful response outlining the history of the FAOBMB and the active participation by previous Australians in establishing the organisation, with notable contributions from previous Presidents Edwin Wood, Tony Linnane and William Sawyer, as well as Fyfe Bygrave and John de Jersey as Secretary General.

Professor Sheila Nathan (Malaysia) has been elected as the incoming Secretary General and took up her three-year appointment in January 2018. Paul Gleeson has been elected to take up the Chair of the FAOBMB Fellowships committee (previously held by Sheila Nathan) and, as an FAOBMB Executive Committee member, will now relinquish his role as the Australian delegate on the FAOBMB Council. The ASBMB has nominated Associate Professor Terry Piva (RMIT University) to be the incoming Australian delegate on the FAOBMB Council.

*Yang Mooi Lim and Anthony Ho Siong Hock from MSBMB at their booth advertising the 27th FAOBMB Conference to be held in Malaysia in 2019.*



The next triennial IUBMB Congress will be held as a joint meeting with the FAOBMB Congress in Seoul, Korea, 4–9 June 2018. In 2019, the 27th FAOBMB Conference will be held in Malaysia as a IUBMB 'welcome meeting' hosted by Professor Yang Mooi Lim and Associate Professor Anthony Ho Siong Hock (from the Malaysian Society for Biochemistry and Molecular Biology). The 28th FAOBMB Conference will be held from June 10–13, 2020, in Colombo, Sri Lanka. Finally, a bid for the 16th FAOBMB Congress by the New Zealand Society for Biochemistry and Molecular Biology (presented by Dr Wayne Patrick) to the Council was carried unanimously. This Congress in New Zealand will be in November 2021.

*Thanks to Professor Phillip Nagley for comments and for providing some of the photographs.*

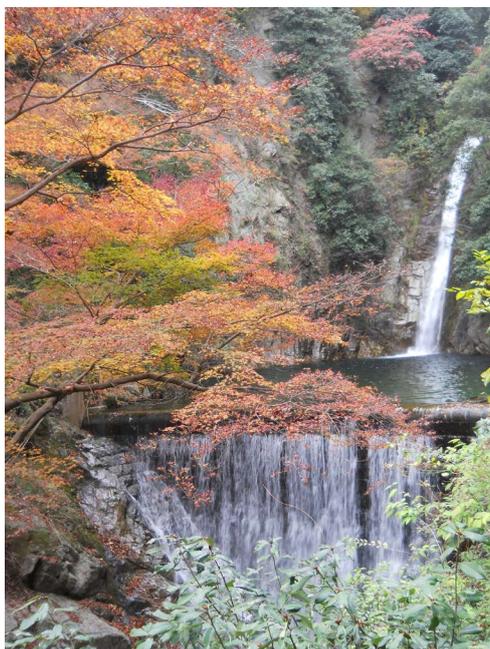
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*Members of FAOBMB Executive Committee, Delegates to FAOBMB Council and Observers at the Council meeting held in Kobe, Japan on 5 December 2017.*

*Front row, seated, from left: Professor Shigeo Ohno (Japan, Co-chair of ConBio2017 Organising Committee, observer), Professor Kiyoshi Fukui (FAOBMB Past President), Professor Zengyi Chang (FAOBMB President), Professor Andrew Wang (IUBMB President Elect and Honorary Member of FAOBMB), Professor Phillip Nagley (FAOBMB Secretary General), Professor Sheila Nathan (Chair of FAOBMB Fellowships Committee), Professor Piamsook Pongsawasdi (FAOBMB Treasurer), Ms Siok Im Koh (Chair of FAOBMB Education Committee).*

*Second row, standing, from left: Professor Mayumi Nakanishi (Japan), Professor Gracia Fe B. Yu (Philippines), Professor Yau-Huei Wei (Taipei, China), Professor Ali Akbar Saboury (Iran), Dr Wayne Patrick (New Zealand), Associate Professor Tuangporn Suthiphongchai (Thailand), Associate Professor Anthony Ho Siong Hock (Malaysia, observer), Ms Pungguri Ayu Nega Sarsanti (Indonesia, observer), Professor Myo Win (Myanmar), Dr Rahmawati (Emma) Ridwan (Indonesia), Dr Sharmila Jayasena (Sri Lanka), Professor Yang Mooi Lim (Malaysia), Professor Joon Kim (Korea, observer), Associate Professor Wen Shan Yew (Singapore), Professor Hyunsook Lee (Korea), Professor Paul Gleeson (Australia), Professor Dong-Yan Jin (Hong Kong), Professor Cong-Zhao Zhou (China).*



*Nunobiki Falls on the outskirts of Kobe bathed in Japanese late autumn colours.*

*This report, written by Paul Gleeson, was published in the April 2018 issue of the *Australian Biochemist* and is reproduced with his permission.*