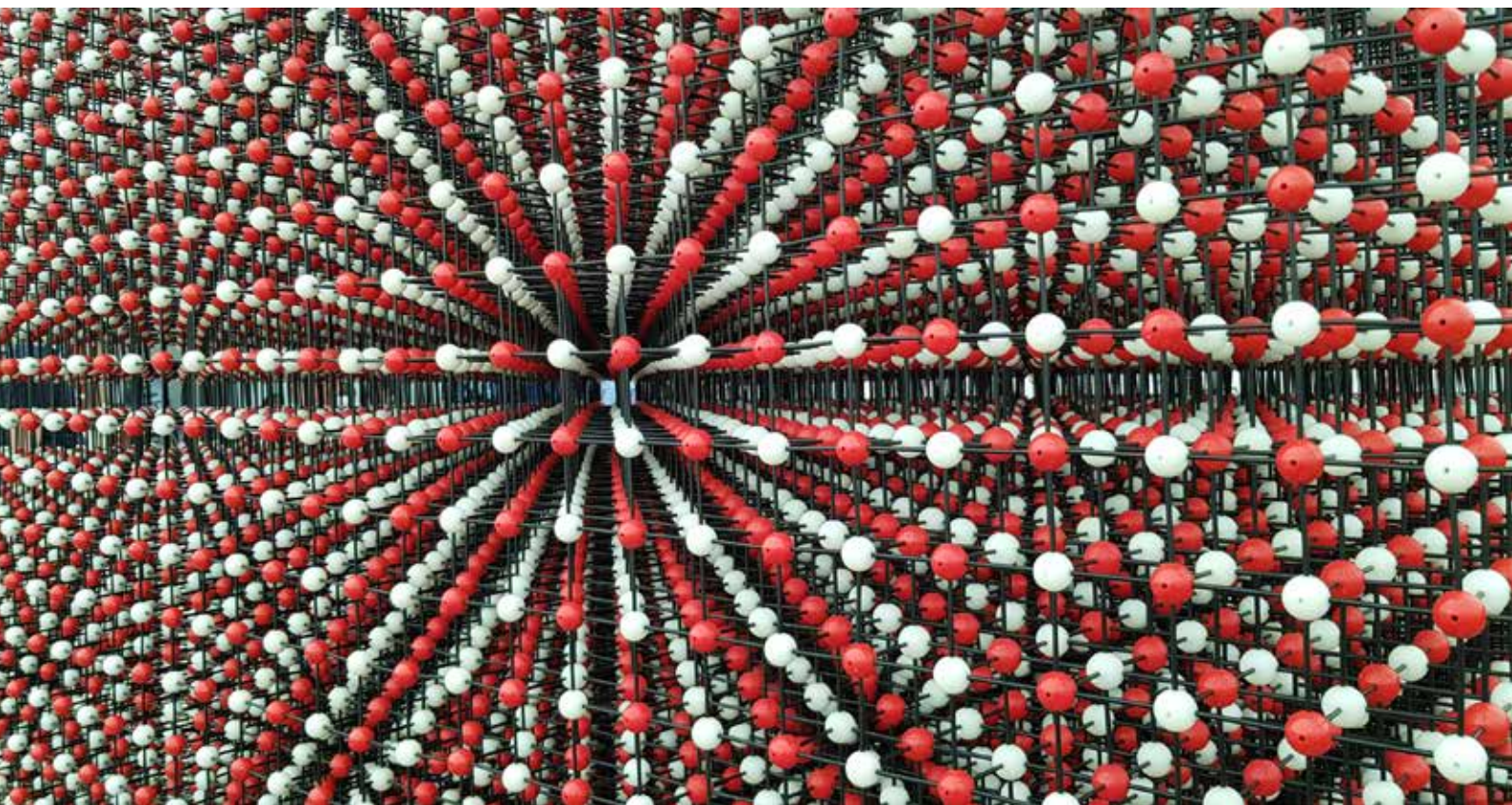


# Australian Biochemist



**The Magazine of the Australian  
Society for Biochemistry and  
Molecular Biology Inc.**

**December 2019, Volume 50, Number 3**



**ISSN 1443-0193**

# ASBMB Shimadzu Education Award Report

## BIOCHEMISTRY ON BROADWAY

When Melbourne Fringe 'Living Legend' Rinske Ginsberg told me that we were headed to New York to present 'The Performing Sciences' on Broadway, I was giddy with excitement.

The term Broadway is synonymous with the pinnacle of theatrical performance. It means your name will be up in lights, with your show running in one of the major theatres in Midtown Manhattan, near Times Square.

West  
15th  
Street,  
New  
York  
City,  
from the  
High  
Line.



However, the reality was somewhat different. If 'On Broadway' is the big time and 'Off-Broadway' is the next step down, then we were best described as 'Off-Off-Broadway'. We presented 'The Performing Sciences' to a small, but enthusiastic audience of STEM (Science, Technology, Engineering and Mathematics) educators from around the world at the New York Institute of Technology, which is on Broadway halfway between Columbus Circle and the Lincoln Centre. This was CESTEMER, the most inspiring and fun conference I've ever attended. To give some context and to explain what 'The Performing Sciences' is, I'd better take you back to where it all began...

For decades, I've been explaining the structure and function of biomolecules by physically embodying them. For me, there is a seamless connection between the cognitive and the physical worlds. When I start talking about molecules, I am suddenly inside them and I become them. I enjoy it and so do my students. But a few years ago, I experienced a career defining moment.

In 2016, along with a dozen teaching colleagues from across the Biomedical Sciences, I attended a two-day Acting Skills Workshop for Lecturers run by Rinske Ginsberg, Lecturer in Theatre at the Victorian College of

the Arts. Rinske and I hit it off immediately. By morning tea time on the second day, we had hatched a plan to turn my embodied approach to teaching into something bigger. And so, our first collaboration, 'Physical Biochemistry', was born. Rinske directed me in this one man show, where I perform all twenty naturally occurring amino acids and students vote on which one is which using their smart phones. Our next production was 'The Electron Transport Chain', where a cast of black-clad academics acted out oxidative phosphorylation using hats and coloured plastic balls, again with students trying to work out what the hell we were doing! You know you're onto something when the Head of Department auditions for the role of Complex IV. For the last two years, we have harnessed student creativity in 'The Performing Sciences' where students devise, script and present short performances illustrating biochemical concepts. We've had ballet, musicals, pop song parodies and a spoof nature documentary. The students continually surprise and impress us with their imaginative and hilarious takes on Biochemistry.

Rinske and I have presented on our projects at numerous teaching and learning symposia and I've even been 'half-time entertainment' at a 3-minute thesis competition. Our performance-based teaching has featured on the pages of the ASBMB *Australian Biochemist* magazine several times. My amino acids featured briefly in the documentary film 'It Started in the Sunderland' about medical education at the University of Melbourne starring comedy great (and Melbourne Medical School alumnus) Rob Sitch. We have published papers and been invited to speak at local, national and now international science education conferences. Which brings us back to CESTEMER and New York.

Rinske  
Ginsberg  
(left) and  
Terry  
Mulhern.



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*CEMESTER 2019 participants.*

CESTEMER stands for Cultivating Ensembles in STEM Education and Research and the theme of the 2019 conference was The Power of Connection: Performance, Play, and Creativity. This is STEAM – the fusion of the visual and performing arts with science communication and education. It was great to meet others from around the world who use drama, dance and movement in their university teaching. Among many other things, CESTEMER 2019 also explored another interest of mine – storytelling. On the first morning, Holly Walter Kerby

from the University of Wisconsin taught us how to tell stories better by using the process of ‘storyboarding’. On the second day, Marion Leary from the University of Pennsylvania showed us how explicit training in story telling has helped in nursing education. The storytelling theme was continued later in the day by Chelsea Collison from the Florida Museum of Natural History. She presented an inspiring session showing how communication training can turbo charge public outreach by ‘back room’ scientists working at museums. However, the most impactful and fun workshop I attended was on how to devise humorous Far Side-like cartoons to engage students. Marisa Holzapfel from the University of Duisburg-Essen showed us a simple process to create the conceptual incongruity at the heart of what makes a cartoon funny.

Rinske and I came away from CESTEMER with so many ideas and connections that it will be difficult to choose which one to pursue in our next project. In New York City, I found my ‘tribe’ and it will be full STEAM ahead!

**Terry Mulhern is the Director of Teaching and Learning for Biochemistry and Molecular Biology in the School of Biomedical Sciences at the University of Melbourne.**

## ASBMB Honours Loyal Members

**In 2019, John Ballard, James Camakaris, Ross Davey and Geoff McKenzie reached the milestone of 50 years of membership to the Society. They received certificates in recognition of their outstanding loyalty.**



*John Ballard.*



*James Camakaris.*



*Geoff McKenzie.*