



It was a balmy December night at the MSSA 2013 gala dinner - hosted at the Farm Inn east of Pretoria - when my name was announced as the winner of the JEOL/ALS sponsored: ‘Most promising microscopist award.’ This prize included an all-expenses

paid trip to present at an international microscopy conference in 2014. After normalizing my heart rate realising that I had indeed won this coveted prize, I knew that I wanted to attend what I like to refer to as the “Olympics of microscopy” – The International Microscopy Congress (IMC). This congress is hosted once every four years and the 18th edition was this year hosted by The Czechoslovak Microscopy Society (CSMS) at the Prague Congress Centre (PCC) in the beautiful city of Prague, Czech Republic. Sponsored by the International Federation of Societies for Microscopy (IFSM), the IMC represents the leading – and largest – series of meetings on microscopy anywhere on the planet.



The opening ceremony was a visual treat as it showed of light art focussing on microscopy and microscopists (http://youtu.be/VcQdS_K3YaU). 546 Oral presentations and 1742 poster presentations were split across 4 days covering a plethora of symposia divided into 4 broad categories: Instrumentation and techniques, materials science, life science and interdisciplinary. Friday was reserved for the IFSM symposium. These talks were delivered by the winners of the 4 IFSM medals: John Spence (winner of the John Cowley Medal), Chunlin Jia (winner of the Hatsujiro Hashimoto Medal), Alasdair Steven (winner of the Eduard Kellenberger Medal) and Ondřej Křivánek (winner of the V. Ellis Cosslett Medal). Kazuo Furuya was also announced as the new IFSM president, taking over from C. Barry Carter who was elected as the new vice-president.

I found the instrumental techniques and materials science symposia most interesting. (My current research is biased toward these fields). From in-situ conversion of amorphous to crystalline materials, using force field molecular dynamics, electron holography and exit wave reconstructions, I was amazed at the thought processes and technical ability of researchers to carry out experiments with exceptional degrees of accuracy.

Even with my bias, I was intrigued by the research carried out by the Xiaowei Zhuang group. During the plenary, Xiaowei described bioimaging at the nanoscale with super-resolution fluorescence microscopy. Other talks of interest included the ability to map orbitals in the TEM and the use of low-kV TEM to observe phase changes. I dare say that I have acquired a new appreciation for low-kV TEM. During his plenary, Kazutomo Suenaga described imaging and spectroscopy of individual atoms in nanostructured materials. Other talks describing the use of microscopy in forensic science and to determine the differences between original and fake paintings gave a sense of the penetration that microscopy has in the world.



The 4 poster sessions offered an opportunity to meander through the poster exhibition area and have a chat with like-minded researchers. These sessions provided an idyllic environment for networking and it was interesting to note the number of presenters

willing to thoroughly explain their work and discuss problem areas. As interesting and captivating as my posters were (on the effects of precursor variation on resin-gel synthesis and the formation of rutile nanodandelions), it came as no surprise that the free, unlimited Czech beer offered during the poster sessions captivated the largest audience. 8000 Glasses of free beer were served in total!



There was plenty to see and sample during coffee and lunch breaks (20 400 cups of coffee and 1990 lunch boxes were served) among the 82 exhibitors occupying 1400 m² of exhibition space. Demonstrations of new generation atomic imaging microscopes (such as the





JEOL GRAND ARM (left) – capable of 63 pm resolution), heating cells, detectors, reconstruction software, remote analysis and consumables produced a masochistic trepidity after whispers of the associated price-tags.

Admittedly, the sheer number of talks, presentations and exhibitions were overwhelming; and to counter this effect, IMC 2014 had a dedicated wifi and relaxation zone. This zone may or may not have been used in response to the consumption of a large quantity of beer by a few delegates...



For the more adventurous, IMC 2014 offered several day tours designed to give delegates an authentic Czech experience. These included

trips to the famous Charles Bridge, Prague Castle and **Old Town Square (bottom)** including the intriguing



astronomical clock. A 4 km ‘health run for microscopy’ was also included as part of the social events.

The ‘Labyrinth of Microscopy’ was a side event held concurrently

with the conference. Its purpose was to excite school learners about the use of microscopy in everyday life and science through a series of well-conceived puzzles and interactive problem-solving exercises.



The congress party was hosted at *Municipal house (left)* which is a building generally not open to the public. A gastronomic labyrinth featuring a full buffet awaited delegates in the ambiance of live music and Art Nouveau.

I was pleasantly surprised by an invitation to a JEOL dinner at the Triton restaurant by the managing director of JEOL (U.K.) LTD.: Yasuo

Takemitsu. This restaurant is situated in a stalactite cave with the original 1912 interior. In addition to the 7 course meal offered, I found the experience to be very informative and enjoyable. Listening to the JEOL employees, I could hear the passion they have for their jobs and for pushing the limits of microscopy. They are also talented when it comes to party tricks such as: “Recalling the digits of π ”.



IMC 2014 was an experience of a lifetime! The experience will go a long way in assisting me to complete my PhD research

with fresh ideas and new research collaborators. I am thankful to the MSSA 2013 adjudicators for deeming



my work worthy of the prize. I attribute the quality of my work to my supervisor, Dr. Paul Franklyn, who has been instrumental in my development as a microscopist and researcher. My work is a reflection of Dr. Franklyn’s passion, drive and enthusiasm for the science; and if I can amount to half the microscopist that is Dr. Franklyn, then I will be a great microscopist. I am grateful to ALS/JEOL for sponsoring this generous prize. To put the

value of this prize in context, of the 3125 participants, only 1% originated from Africa and of those 32 people, 21 were South African... and I was there!



I am especially grateful to Dave Perrett for going out of his way to ensure that all travel arrangements were handled appropriately and swiftly and for making my stay at the Adria Hotel, Prague, a pleasant and memorable one.

Dave Perrett (left), Ashvir Narrandes (Middle), Shaun Quill (Right)

IMC 2018 will be hosted in Sydney, Australia and after IMC 2014, the Aussies truly have a tough act to follow!