

In 1959 one of the most well-known scientists Richard Feynman in his now famous "There's Plenty More Room At The Bottom" talk set out the challenge "Is there no way to make the electron microscope more powerful?".

Over the three days of mmc2015 in Manchester this was the challenge being undertaken by numerous scientists from across the EMAG theme. Whether that was in improving the resolution, novel imaging techniques or new methods of analysis, the microscopy community was rising to the challenge and showing what was at the forefront of current TEM capacities. This was the theme kicked off in the oral sessions with plenary talks, one of which was by Professor Dirk van Dyck. His talk on "Atomic Resolution tomography and dynamics of nano-objects" discussed the latest generation of aberration corrected Transmission Electron Microscopes (TEM). Highlighting that at the forefront of research is TEMs capable of resolution and sensitivity enough to detect even single light atoms. This also encompasses resolution reaching the wavelength of the imaging electrons, showing that microscopists really had risen to Feynman's challenge. However his talk highlighted that despite the amazing advances being made in resolution in TEM, the depth information remains less certain. This concept was further explored in talks over the next few days in themes ranging from 3D diffraction to novel spectroscopy techniques, showing what was being done to improve depth information in the TEM. On the other side of the spectrum were 2D materials. A talk in this subject area which was a personal highlight was that of Quentin Ramasse entitled "Single atom chemistry

of two-dimensional materials". This talk focused on Graphene's properties being manipulated and tuned through the use of dopants which can be moved around the 2D lattice. This amazed me, not only are we in the realms of seeing these single light atoms, but also tuning materials by manipulating the smallest building blocks in the world.

I was fortunate enough to give an oral presentation entitled "Assessing Chiral Crystallography Using Convergent Electron Vortex Beam Diffraction". This was an incredible opportunity for me to give a talk to one of the largest gatherings of researchers in my field and provided a great opportunity for discussion of my work. There were also a wide variety of posters covering the area of my research which generated discussion outside of the formal talks.

Also outside of the formal talks, there were great opportunities for networking and informal talks with some of the leading microscopists in the dinners and drinks receptions which took place in the evenings. This included within EMAG a trip to Taps bar where guests could pour their own pint, which was perhaps the biggest learning curve from the conference for some! The conference social events were capped with the Congress banquet that wrapped the events up nicely.

It was one of the first international conferences that I have attended and what will stay with me was the spirit of community and buzz that surrounded the conference and Manchester Central. From the question sessions after talks, to the discussions over lunch there was a great opportunity to engage with the wider microscopy community from across Europe who were so welcoming and wanted to know what I was researching.

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