

Spotlight on...

Alfonso Schmidt, President of Microscopy New Zealand

As an international society, the RMS has always sought to strengthen links with other organisations dedicated to furthering the science of microscopy around the world.

Earlier this year, the Society was proud to sign a ‘Memorandum of Understanding’ with Microscopy New Zealand (MNZ), which is the collective voice of microscopists in Aotearoa, fostering collaboration, advancing education, and ensuring that the country remains at the forefront of global imaging science.

The agreement encourages both parties to seek new opportunities for collaborative working – such as helping to promote each other’s events, and opportunities for joint working on outreach and education initiatives.

Microscopy New Zealand (MNZ) emerged in 1978 as a periodic newsletter, enabling electron microscopists to share advice and news around New Zealand. In July 1980, the New Zealand Society of Electron Microscopy Incorporated was officially registered, and in 1996, its scope was broadened to include all microscopy techniques as it became Microscopy New Zealand Incorporated.

Today it aims to drive scientific discovery and innovation by promoting the study and application of microscopy, along with associated techniques. Its core objectives include the provision of professional expertise, encouragement of education and collaboration, and the strengthening of international and regional connections.

in**focus** was delighted to catch up with the organisation’s recently elected president, Alfonso



Alfonso Schmidt.



Attendees of the 31st New Zealand Conference on Microscopy in front of Ivey Hall, Lincoln University, Lincoln, New Zealand.

Schmidt, to find out more about his journey in microscopy, and the work of Microscopy New Zealand.

Can you provide a brief overview of your career in microscopy and your current role?

I am currently the Head of Bioimaging at the Hugh Green Technology Centre, part of the Malaghan Institute of Medical Research. Earlier this year I was elected president of Microscopy New Zealand (MNZ) Society.

Since childhood I have been fascinated with photography – the ability to capture light and time, combined with technological expertise. Microscopy is a fascinating field combining all these elements. I have a background in biological sciences, specifically marine biology.

In my continuous learning philosophy over the past eight years, I have been very privileged to build my expertise in microscopy and image analysis by attending several courses in Europe and Australia. Furthermore, just before the Covid-19 pandemic, I enrolled in the RMS diploma program with the aim to receive a formal qualification in microscopy, complementing my working conditions. The RMS diploma program surpassed my expectations; not only did it endorse my knowledge in the field, but it has also boosted my career by facilitating

professional connections. Currently I am part of the RMS mentorship program, and I have applied to be a RMS ambassador in New Zealand.

How did you get into microscopy and what inspires you most about it?

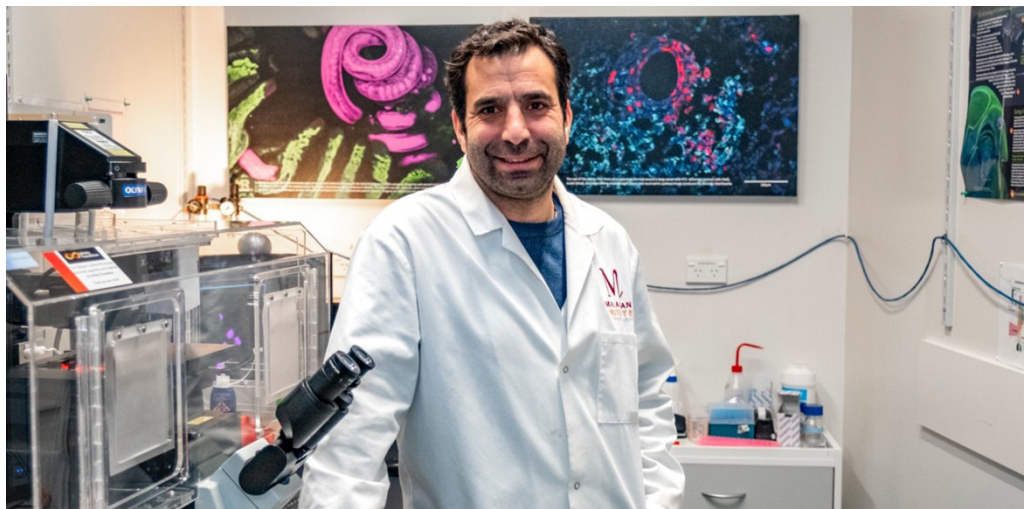
Microscopy has the power to transport you and reveal the unseen. It is a powerful experience glimpsing never-before-seen worlds, and has an intrinsic “wow” factor for everyone working with this technology.

I feel very passionate about the importance of experimental design and the implementation of robust methods to develop quantitative microscopy. Nowadays, it is mind blowing just how much technology is behind each piece of equipment, and the huge advances made around image analysis with the incorporation of artificial intelligence.

How did you first become involved with Microscopy New Zealand?

I had previously been part of the society for a decade or so with only a little involvement – specifically during our biennial national conference. However, in 2024 with local collaborators, we decided to implement a regional symposium to complement the MNZ conference.

The first symposium was a great success and



Alfonso in action at the lab.

revealed the need to engage more often and more deeply with the microscopy community (including academics, technicians, students and vendors) and organise additional activities to build a stronger community.

During last year's annual general meeting, members saw an opportunity for me to bring fresh ideas and connectivity, and so I was elected president of the society.

What are the top priorities for MNZ at the moment?

"The society has three main objectives: providing professional expertise in microscopy and microanalysis, fostering education and collaboration, and strengthening international partnerships and regional connections. Our mission is to advance scientific discovery and innovation by promoting the study and application of light and electron microscopy, as well as related techniques."

We are committed to enhancing communication with our members through several initiatives, including a brand-new, regularly updated website, our *Microscopy in Focus* newsletter (published twice a year), and monthly email updates with news and opportunities at the national, regional, and international levels.

In addition, we continue to support the AU–NZ

Knowledge Exchange Scheme and are actively seeking further professional development opportunities for society members.

Complementing these efforts, we also organise a fully-sponsored image competition to encourage creativity and celebrate the art of imaging and visual storytelling.

How do you hope to build on the progress the Society has made during your time as President?

During my time as President, I would like to see a more cohesive community with well-established communication channels and an up-to-date database of technology platforms and techniques available across the country. It would be thrilling to see the society more interconnected with organisations at both regional and international levels. Finally, I would like to ensure that any progress made is done with a long-term vision of the future.

Do you feel there are any challenges or issues that are unique to the microscopy community in New Zealand?

Challenges in the microscopy community are primarily associated with the limited support and funding available for specialised imaging scientists.

Universities and research institutions often have little to no funding for specialisation, professional development, or conference attendance. 'Brain drain' is also a significant issue in New Zealand, as many of the brightest minds are leaving the country in search of better opportunities.

On a more anecdotal note, the geographic isolation of New Zealand remains a challenge in engaging with the wider global community. However, thanks to global connectivity, this has become more manageable through links with major microscopy centres.

I would also like to highlight that MNZ maintains a strong connection with Australia and its microscopy infrastructure, providing access to cutting-edge technology and training through the AU–NZ Knowledge Exchange Scheme.

Where would you like to see the Society in 10 years' time?

I envision the society in 10 years' time to be a stronger, more robust professional body with a collaborative spirit to advance the scientific environment of New Zealand through microscopy. I would like to see the biennial conference as a celebration of professional collaboration, and a space to network and share knowledge and expertise within the community.

I would like to see a vibrant microscopy society with training activities across the country, seminars highlighting the applications, techniques and impact of microscopy in science as well as consistent outreach activities, such as image competitions and newsletter publications.

Ultimately, I would like to see an engaged and diverse microscopy society that celebrates and showcases the amazing and magical world under the microscope!

What is the one thing the global microscopy community could be doing better?

The Global Bioimaging network is a good example of international collaborations working together

to identify challenges in microscopy and pursue long-term solutions. The number of bioimaging communities worldwide has been steadily increasing, showing promising signs of the growing development and influence in the field.

Looking ahead, I see further development focusing on training standardisation and curriculum certification, which would allow core facilities to deliver standardised courses. Additionally, it would be innovative to establish a facility recognition program, where facilities could be certified for their training, operations, and management.

What do you think is the single biggest issue in microscopy at the present time?

Imaging scientists play a cornerstone role in our scientific community—training new generations and developing innovative approaches that drive new discoveries.

However, the scientific field is advancing at a rapid pace, where the integration of multiple techniques is a critical approach to building robust knowledge. In microscopy, technical expertise must be further developed and promoted to stay relevant and keep pace with these technological advancements.

Technical knowledge and capability are essential to providing well-informed training, accelerating discovery, and standardising scientific procedures. We must also work to ensure the dissemination of long-term knowledge held by veterans in the field, so we don't risk losing any crucial hard-won gains.

It is encouraging to see the global efforts in establishing and promoting technician engagement in microscopy, particularly in the United Kingdom led by Kelly Vere. However, technical staff often lack professional development opportunities and clear career paths to keep them in this exciting field. I would like to see the microscopy community more engaged and committed to strengthening this key role within the scientific ecosystem.