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The RMS Mentoring and Application Scheme: Nurturing Microscopists across the world

Joëlle Goulding and Georgina Fletcher, RMS Mentoring Working Group

The RMS mentoring scheme is unique as it is crafted by microscopists for microscopists. Indeed, this is the reason why it came about in the first place, as we aimed to address the distinctive needs of individuals in this specialised field. Originating from conversations among Joelle, Scott, Georgina, Paul, and Alex, aka “the Mentoring Working Group”, we recognised the lack of microscopist-focused guidance. Given the niche nature of our roles, seeking career or specialist advice often means looking beyond our immediate workplace or even country, and building such networks can be challenging.

So, in 2022 and 2023 we conducted a pilot of the mentoring scheme. This provisional programme encompassed 1) personal mentoring for soft skills and 2) application mentoring pairing microscopists with specific instrument or software expertise. Drawing on their professional connections, the Mentoring Working Group matched together eight pairs, catering to early career as well as more established microscopists that were looking for a range of diverse goals, from transitioning to industry to developing core facility management skills. The feedback was very positive, with some examples overleaf...

“It’s been great so far. I am very lucky to have a mentor that is passionate about helping me. She is a brilliant listener and gives me advice that I don’t get from academic supervisors. The insight into industry has been super.”

“Just thanks! It’s been very good so far!”

“Early days, but I’m optimistic about the insights and interest the mentor has shown”

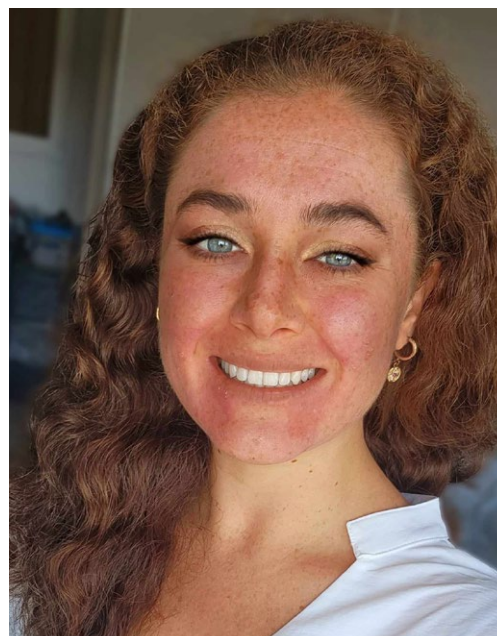
Buoyed by the pilot’s success, we officially launched the scheme in July 2023, with plans for biannual pairing rounds. Applicants are asked to provide detailed information about their mentoring needs, job role, and career stage, with location details being non-restrictive, as most interactions occur virtually. The working group diligently reviews applications, aiming to find the ideal mentor either from our growing database or the wider microscopy community.

The mentorship experience is rewarding for both parties, fostering confidence, career growth, and transferable skills like leadership, empathy, networking, and communication. We encourage more mentors to join our database by completing [the online application form](#). Once pairs are matched, we introduce them via email along with some mentoring resources kindly provided by the Francis Crick Institute. While the pairings are initially designed for six-to-12 months, there’s no strict limit, allowing connections to flourish as long as both parties desire. Periodic check-ins and feedback questionnaires contribute to continuous improvement.

Our first cohort, initiated from the July-August 2023 call, is now 4-6 months into their pairing. The response to the inaugural call surpassed our expectations, with numerous applicants

and successful pairings, including several on the application coaching stream. Applicants hail from various corners of the globe, expanding our network of both mentees and mentors.

Below, some of our pilot cohort reflect on their experiences of mentoring, what they have learned and advice for anyone thinking of getting involved themselves:



**Charlotte Clews: Mentee
(Application mentoring)**
Roslin Institute, University of Edinburgh

Why did you decide to get involved?

As a scientist with a fascination for microscopy and the recent technical and methodical developments in bio-imaging, it seemed a perfect fit for me to get involved with a fantastic society like the RMS, and also be able to receive advice and help from experts in this field, to help me develop in my research career.

Can you describe what you have been doing and your experience so far?

So far I have been having 1:1 meetings with my mentor to gain general advice about improving my skills in microscopy, and also guidance while attempting advanced imaging techniques such as Correlative Light and Electron Microscopy (CLEM).

How do you feel you have benefitted from taking part?

Being able to ask questions (both complex and simple!) to gain a broader understanding of the field, the different techniques and different instruments available to me, has been very useful. Also just having a second opinion on my images/figures/experimental design has been very useful indeed, and helped me develop better approaches to answer my biological question.

What have you learned that will be most useful to you going forward?

Imaging and the preparation steps are often (but not always) a multi-step process. Always have extra samples, extra images, extra everything (!) to make sure that by the end you have useful, representative and reproducible data to take forward to analysis.

Why do you think the RMS scheme is important for the microscopy community?

I think microscopy can seem exciting but very daunting to get into – so having experts and a welcoming community like the RMS ready and available to help support those wanting mentoring is a very valuable resource, and one I’m very happy

to be part of.

Is there any advice you would give for anyone thinking of becoming a mentor / mentee?

Mentees: Ask all the questions you feel you need – a great part of this partnership is just getting a more well-rounded understanding of microscopy.

Mentors: Mentees often have gaps in their knowledge that even they are sometimes not aware of. Sometimes we need to go back to the basics to build up a better understanding of the techniques we’re learning/attempting. Clarity and sometimes step-by-step methods (if relevant) are really valuable to us!



**Virginia Silio: Mentee
(Personal mentoring)**
Confocal Technician, University College London

Why did you decide to get involved?

I felt that my career wasn’t progressing at all, and I didn’t know what to do about it. I tried the mentoring programme inside my institution, but

being in a microscope core facility is a very niche set of skills that is difficult to understand for an outsider. I saw the mentoring program in the RMS and I thought it would be a great opportunity to have input from someone senior in the field.

Can you describe what you have been doing and your experience so far? We have met using Teams several times. I am hoping we can catch up in person soon. It was very informal, we discussed my progression and what I want to achieve in the future, and my mentor gave me ideas to work with.

How do you feel you have benefitted from taking part?

I have learnt a lot from my mentor. I discovered some paths I didn't think about or even didn't know existed. During that time, I applied and changed jobs. I was part of the Herschel program too.

I have also benefitted from having an external point of view, the input is very useful.

I also saw photos of puppies, that was a bonus.

What have you learned that will be most useful to you going forward?

We talked about different opportunities for learning new skills that will be useful for career progression (e.g., apprenticeship). Also, we discussed about group dynamics, how to navigate those dynamics, etc. He is in different working groups, so it was very useful to talk to him about that.

Why do you think the RMS scheme is important for the microscopy community?

It allows contacting and connecting with people with a career more related to yours. There are other mentoring opportunities schemes out there (in the workplace, other professional bodies), but I found them very general, and our professional profile is quite different.

As I mentioned, I tried the one offered at my previous institution. The mentor was very nice, but we couldn't connect, and I felt she didn't understand

what I did.

Is there any advice you would give to anyone thinking of becoming a mentor/mentee?

My experience is only as a mentee, and I will recommend anybody thinking about going for it. I would recommend to anybody more senior to become a mentor, as the community needs as much input as possible.



Peter O'Toole – Mentor

RMS President, Head of Imaging and Cytometry Labs, University of York

Why did you decide to get involved?

The simple answer is that I was asked to help! – but mentoring was something I had already been doing with a few people informally, as they took on new roles. I had previously mentored people I had known from conferences who contacted me afterwards for advice. I have also mentored PhD and post-doc students who kept in touch after continuing their careers.

Can you describe what you have been doing and your experience so far?

Having joined the programme as a mentor, I suddenly had multiple requests for mentorship overnight! Sometimes I'm giving help and technical advice as a scientist – on what works best from a science perspective; at other times it's about the intricacies of running a facility – from charging and HR procurement to communication with users. At that level, it is not just about microscopy, and it can involve people from outside the microscopy world.

How do you feel you have benefitted from taking part?

The meetings give the mentees a lot of enthusiasm, and when you hear that they feel really motivated and itching to get back and put some of the ideas you have been talking about into practice, that is very rewarding.

There's an element of worry in case you give the wrong advice to someone – but overall it is a really positive process which can help both the mentor and mentee to come up with new ways of working.

What have you learned that will be most useful to you going forward?

Every time you mentor someone, you inevitably reflect on what you are doing yourself. Mentees will ask difficult questions and challenge your thinking, and you question yourself as to whether you are still enacting best practices. Working practices are always evolving, so that process of self-reflection is a very healthy and helpful thing.

Why do you think the RMS scheme is important for the microscopy community?

I think that sometimes people don't have the confidence to ask for help – or to know who to ask. That is why having a formal mentoring programme is so important – because it really empowers people to come forward and removes that barrier.

For anyone thinking of becoming a mentor, it does take time to grow into the role, and there is obviously the time commitment in general. But it can be very rewarding, and the self-reflection that comes from taking part is really important. From a moral perspective, I also think it is a good thing to give something back, and to help your community in general.

Paul Verkade: Mentor

Professor of Bioimaging, University of Bristol

Why did you decide to get involved?

Before we even discussed setting up the scheme, I had been contacted by Scott Dillon who was setting up a new facility and asked if I wanted to mentor him in that process – dealing with users, career progression and those kind of issues. That was a very useful experience for both of us and it was then only natural to be engaged when it grew into the RMS scheme.



Can you describe what you have been doing and your experience so far?

We meet up every now and then, mainly depending on the need, and we have a chat about questions the mentee has and I try to share my thoughts and experiences from my career. It depends what kind of mentorship it is, "soft skills" or more technical.

With the soft skills you always have to remember that these are my own experiences and don't always translate one-to-one to another situation.

How do you feel you have benefitted from taking part?

For me, personally, it has been a very useful exercise in reflecting on my own career - the decisions I have made, how I have learned from my experiences, why am I in the position I am now (that sounds quite grand!).

What have you learned that will be most useful to you going forward?

That the microscopy community is a very friendly and open community and because of that, it is very easy to discuss and engage with other people. It is my second family.

Why do you think the RMS scheme is important for the microscopy community?

We can learn so much from each other and we should not let that know-how go to waste.

Is there any advice you would give for anyone thinking of becoming a mentor / mentee?

Everyone has been in the situation where they started something and were not sure how to tackle this. Most likely you will have thought, who can I ask? Maybe there was someone, maybe there wasn't. Both are the perfect reason to get involved, because there are a lot of microscopists out there very willing to share their experience.

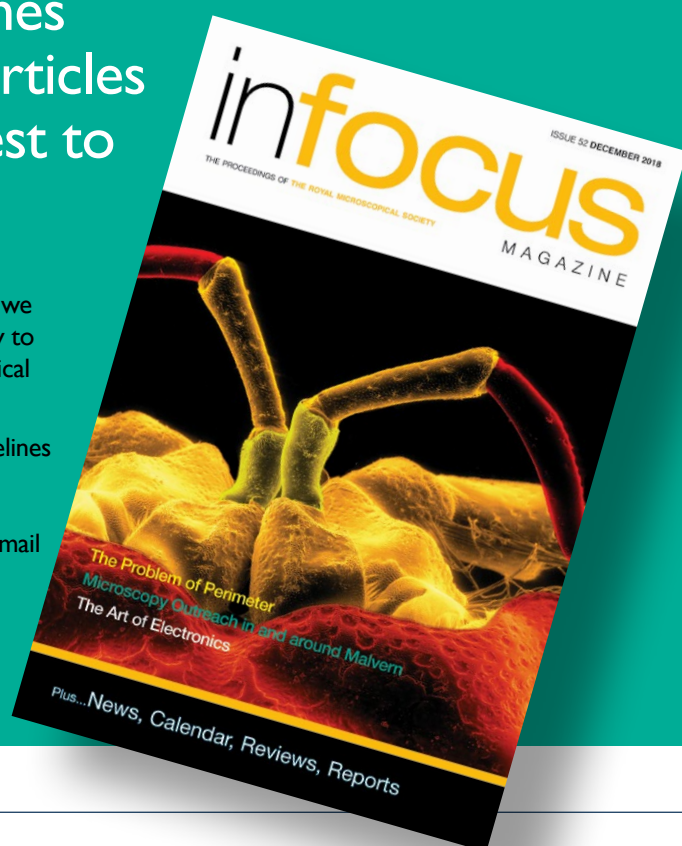
Find out more about the RMS Mentoring and Application scheme

Submit to infocus

infocus welcomes submissions of articles of general interest to microscopists.

You provide the text and images and we take care of the rest. It's the ideal way to share your work with the microscopical community.

Full submission information and guidelines are available at www.infocus.org.uk. To submit an idea or if you have any questions about the process please email the Editor (editor@infocus.org.uk)



COMPANY NEWS

Updates from FocalPlane

2023 was an exciting year for FocalPlane, our online microscopy community site. We've seen upgrades to the site, new contributors and fresh content from our regulars! The number of people using and contributing to the site is also growing, as we continue to reach out to the global community of imaging scientists, engineers, bioimage analysts and cell biologists.

We recently implemented two main upgrades to the site: a new partnership with MicroscopyDB, and a new look for the site thanks to our image competition finalists. The partnership with MicroscopyDB means that our events calendar and jobs board are now powered by MicroscopyDB, making the calendar and board essential viewing for planning your conference travel or finding for a new position. On the FocalPlane homepage, we have released a series of banner images which now appear alongside our characteristic lens apertures. We thank Marie-Charlotte Domart & Chris Peddie, Nick Gatford, Oona Paavolainen, Rebecca Simkin and Till Stephan for sharing their images with us.

2023 was also a busy year for our FocalPlane correspondents, Mariana de Niz and Mai Rahmoon. Mariana continued her excellent 'Latin American Microscopists' series, while also starting a 'Toward Global Access' series with Constadina Arvanitis. Mai



has been introducing us to imaging communities through interviews with their founders. We look forward to continuing to work with Mariana and Mai, and we are excited to announce

our new team of correspondents, Daniel Doucet, Subhajit Dutta and Greg Redpath. Visit our website to read our announcement post introducing the three of them and find out what topics they will be writing about for FocalPlane.

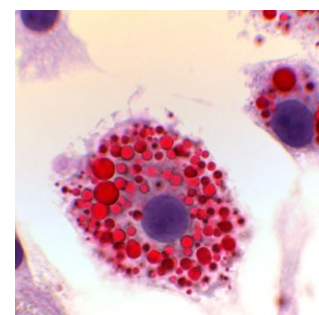
We've also been busy planning some new initiatives for 2024 and hope to announce these soon. The easiest way to stay up to date with the latest news from FocalPlane is by getting our weekly digest or our quarterly newsletter delivered straight to your inbox. Simply register with the site and select the appropriate box.

Finally, we would like to thank all our readers, subscribers, and most of all, our contributors in 2023. Remember, FocalPlane is *your* site. Once registered, you are free to post, and if you have suggestions or feedback, you can contact the team at focalplane@biologists.com.

<https://focalplane.biologists.com>

Labtech appointed as a distributor for Tomocube and Nikon

Labtech International has been appointed as exclusive UK distributor of Tomocube, the innovative manufacturer of cutting-edge label-free 4D Holotomography systems. Holotomography



utilises 360° quantitative refractive index measurement to build 3D holograms with high resolution and temporal specificity while minimising cellular stress.

The Tomocube range includes the HT series for live cell imaging, the HT-XI series for higher throughput using multiwell plates, and analysis software to unleash the full potential of Holotomography.

In addition, Labtech has been appointed as one of the UK distributors for Nikon's range of life science microscopes. Nikon is a leader in microscope-based imaging technologies for the life sciences and Labtech is delighted to be working alongside their team of UK specialists. We can supply and support your imaging needs, especially within the private sector.

<https://www.labtech.com>