Connective Issues:

BSMB Newsletter

BRITISH SOCIETY FOR MATRIX BIOLOGY

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Editorial

Happy New Year and welcome to the 106th Connective Issues!

In 2024, many BSMB members had the pleasure of attending two major matrix research events: the chair-balancing BSMB Spring meeting in Bristol organised by Chrissy Hammond, and the torch-bearing MBE Conference in Lyon. These forums provided ample opportunities for matrix biologists from the UK and Europe to connect and establish collaborations. Indeed, the BSMB has recently signed agreements with the German Society for Matrix Biology (DGMB) and the Danish Society for Matrix Biology (DSMB) on mutual membership status, allowing members of the BSMB to register at their annual meetings' member rate, and vice versa. During the MBE conference, the BSMB also discussed with several other European Matrix Societies (Finnish and French) about a similar arrangement. So, watch this space!

For those new members who recently joined the BSMB, a very warm welcome to your new scientific home! We would like to hear your views about how we can run your society together, so please get in touch. One of the many ways that we help our members to flourish is through bursaries for early career members. So, read on and apply.

Each year, BSMB presents the Society's highest honour, the Fell-Muir Award, to recognise one matrix biologist who has made outstanding contributions to the ECM field and to the Society. I am truly pleased to announce that the BSMB Fell Muir Award 2025 goes to Prof Kim Midwood! The award lecture will be delivered in April at the BSMB Spring 2025 meeting in Nottingham (organised by Anna Piccinini), an occasion not to miss! I hope to see many of you in person soon!

Qing-Jun Meng, Honorary Secretary

Chair's letter

Dear Fellow Matrix Biologists,

Happy 2025 and welcome from me too.

Have you made a New Year's resolution? I generally don't, but perhaps I should. Should I resolve to: meditate, drink more water, drink less wine, get more exercise, don't get too emotional every time my football team lose? So many options, and so to help me decide I searched for inspirational quotes, and I think I may have found one to motivate me during 2025 (or at least until you've finished reading the Newsletter: in 2025, I resolve to '*Celebrate endings, for they precede new beginnings*.'

Looking forward: As MBE2024 took place – to overwhelming acclaim – last September, the BSMB has not met formally since Spring 2024. An age ago now, and so this is a great time to register for our Spring 2025 BSMB meeting, organised by Anna Piccinini and themed upon 'Extracellular Matrix, Immunity and Infection', This will take place on April 14th-15th in the vast parkland venue at the University of Nottingham. This will bring together eminent speakers to speak on the ECM in immunology, pathogen interaction, infection & immune cell crosstalk, and will include a Medal lecture by Prof. Kim Midwood, our own BSMB Fell-Muir Award recipient (Congratulations Kim). Anna has put together a super-exciting programme, carefully organised to allow for networking and socialising. Register now.

European interaction is also possible, via our new reciprocal concord with partner Matrix Societies. You could register *as a member* for 'Matrix Nexus 2025: The ECM from Molecular Foundations to Life' organised by the esteemed German Society for Matrix Biology with help from the Denmark, Sweden, Finland and Belgium Societies that will take place on March 26-28th, 2025 in Freiburg University.

Pencil September 2nd-3rd, 2025 into your diary too, so that you do not miss the opportunity to learn about new cutting-edge technological advances in Matrix research at our Autumn

2025 Meeting: 'Uncovering the Matrisome: Technological Advances and Trends in Matrix Research' organised by Salvatore Santamaria at Surrey University.

Looking back: A big thank-you to Neil Marr, your New Post-Doc Representative, for fully grasping his role which means that members can now follow BSMB on LinkedIn. Finally, I'd like to thank the 'silent' efforts of all BSMB Committee members (ex officio too) for their help in growing BSMB's remit, for bringing us together at super venues for great science and vigorous camaraderie. Extra-special thanks go to James Whiteford and Qin Jun Meng for their enthusiasm, unwavering endeavour, and energy to support BSMB too. Thank-you both.

I hope that the remainder of 2025 is fabulous.

Andy Pitsillides, BSMB Chair

BSMB News

Mark your diary

BSMB Spring 2025 Meeting
Extracellular Matrix, Immunity and Infection
Nottingham, April 14th - 15th, 2025

BSMB Autumn 2025 Meeting
Uncovering the Matrisome: Technological Advances and Trends in Matrix Research.
Guildford, September 2nd-3rd, 2025

BSMB Fell-Muir Award

The Fell-Muir Award Committee have elected Professor Kim Midwood (University of Oxford) as the BSMB Fell-Muir Awardee for 2025, in recognition of her enormous contributions to both extracellular matrix biology and the BSMB. Congratulations to Kim! She will receive the award at the 2025 BSMB Spring Meeting in Nottingham.

Kim graduated with a B.Sc. (HONS) in Biochemistry from Edinburgh University in 1995. She completed her Ph.D. in the Department of Pathology at Edinburgh University in 1999 under the supervision of Dr. Donald Salter, focusing on how changes in the extracellular matrix affect cellular signalling pathways in arthritis. She undertook postdoctoral training in the lab of Professor Jean Schwarzbauer, at Princeton University from 1999, continuing her work investigating the molecular mechanisms by which the cellular environment defines cell phenotype. In 2004 she established the Matrix Immunology group in the Kennedy Institute of Rheumatology at Imperial College London, moving to Oxford University in 2011.

Kim has been a member of the BMSB for nearly 30 years, serving on the committee from 2013-2023. She says: "I was delighted to learn that I would receive the Fell-Muir Award; it's a great honour to join the ranks of previous recipients and I'm very much looking forward to talking at the Spring meeting this year".

ECM special issue across 3 Cell Press journals - Cell Reports, Cell Reports Medicine and iScience

'The Extracellular Matrix in Health & Disease'

Call for papers

Submission deadline: July 31st, 2025

Guest Editors: Dr. James Whiteford, Prof. Kim Midwood and Prof. Qing-Jun Meng

Journal Editor: Cell Reports Medicine (Dr. Charlotte Owen-Woods), Cell Reports (Dr. Kyle Legate) and iScience (Dr. Plinio Casarotto)

In collaboration with Guest Editors Dr. James Whiteford, Dr. Kim Midwood and Dr. Qing-jun Meng, Cell Reports, Cell Reports Medicine, and iScience are excited to announce a joint special issue entitled "The Extracellular Matrix in Health & Disease". In this special issue, we would like to showcase the importance of extracellular matrix biology in health and disease and its relevance to the clinic. Topics of interest include, but are not limited to:

Cancer, Immune system biology, Microbiome, Inflammatory and joint disorders, Neuroscience, Circulatory system, Cardiovascular system, Machine interfaces, Stem cells/Stem cell niche, Reproductive system, Digestive system, Musculoskeletal system, Endocrine/metabolism.

We are interested in primary research manuscripts and may also consider timely and authoritative reviews. We welcome discussion about potential manuscripts. Additionally, we would welcome all of your support in the review process.

For more information visit Call for papers: Cell Press [cell.com]"

By James Whiteford (Treasurer of BSMB)

BSMB Spring Meeting 2025 Nottingham

BSMB 2025 Spring Meeting – Organised by Dr Anna M. Piccinini, University of Nottingham.

Registration is now open and we look forward to receiving abstracts, especially from ECRs! The BSMB strives to support ECRs and this meeting will provide plentiful opportunities for their development, including oral and poster presentations, bursaries, prizes and chair's roles.

This is the first BSMB meeting to be held in Nottingham, the city where the story of the legendary Robin Hood began, and I can't wait to welcome you all.

Our meeting theme will be 'Extracellular Matrix, Immunity and Infection' and will be held at the University of Nottingham, University Park Campus. This Green Flag awarded campus is beautifully placed within 330 acres of rolling parkland featuring the idyllic grounds of Highfields Park with a boating lake, a public arts centre, a museum and cafés. With a mix of stunning architecture, traditional features and modern facilities, the campus offers state-of-the-art meeting rooms, catering and on-site accommodation.

The meeting will run from lunchtime Monday 14th April to mid-afternoon Tuesday 15th April

with sessions on the extracellular matrix (ECM) and the immune system, ECM-pathogen interactions and the immune response, ECM-immune system crosstalk in lung infections and hot topics in ECM, including the microbial ECM. Invited speakers include Judith Allen (Manchester, UK), Janet Lee (St. Louis, USA), Kristian Riesbeck (Lund, Sweden), Joan Geoghegan (Birmingham, UK), Tracy Hussell (Manchester, UK), Charles Frevert (Seattle, USA), Helene Moreau (Paris, France), Oliver Fackler (Heidelberg, Germany), Anna Blom (Lund, Sweden) and Luisa Martinez-Pomares (Nottingham, UK). Moreover, Kim Midwood (Oxford, UK) will deliver the prestigious BSMB Fell Muir Lecture. We encourage you to submit abstracts for invited talks and posters, making this a great opportunity for early career researchers to present and discuss their work not only on "Matrix, Immunity and Infection", but also in associated matrix research in our open session. With matrix biologists and immunologists coming together to share their work revolving around the matrix, expect plentiful fresh discussions and new collaborations!

We had a lot of fun in November teaching primary school pupils about the extracellular matrix. Excellent engagement from the children whose jaws dropped at the sight of bendy and brittle chicken bones. Highlights of the programme, including the children's own 3D models of the extracellular matrix, will be showcased at the meeting.

Key Information:

- Early Bird registration closes March 16
- Late registration closes March 24
- Abstract submission closes March 3

Program highlights:

- ❖ The ECM and the immune system
- ❖ ECM-pathogen interactions and the immune response
- ❖ ECM-immune system crosstalk in lung infections
- ❖ ECM cues and the immune response to infection
- ❖ Hot topics in ECM

- ➢ BSMB Fell Muir Lecture by Prof Kim Midwood (Introduction from BSMB Chair Prof Andy Pitsillides)

For the full programme, further information and updates please visit:

- bsmb.ac.uk
- BSMB Spring 2025 Meeting dedicated webpage

You can also follow us on…
Instagram: @matrixbiologyuk
Twitter: @BSMB1
Facebook: @BritishSocietyForMatrixBiology
Linkedin:
https://www.linkedin.com/company/british-society-for-matrix-biology/posts/?feedView=all
See you all in Nottingham!

Anna Piccinini

BSBM Autumn Meeting 2025 Surrey

BSMB 2025 Autumn Meeting -Organised by Dr. Salvatore Santamaria, University of Surrey. The meeting theme will be 'Uncovering the Matrisome: advances and trends in Matrix Research' and will be held at the University of Surrey, Stag Hill Campus, on the 2nd and 3rd September 2025. The campus is just 10 minutes' walk from the centre of Guildford, offering a vibrant blend of entertainment, culture and history. The borough includes part of the Surrey Hills, a designated Area of Outstanding Natural Beauty. On the morning of the 2nd, the ECR Satellite event will have as a theme "Employing the matrix: pathways to career", providing an opportunity for ECRs to network and discuss career pathways with

prospective funders, employers and senior researchers. The main meeting will include sections on applications of -Omics, novel imaging techniques, gene editing and AI to matrix biology. Confirmed speakers include Dr. Alexander Eckersley (University of Manchester), Prof. Melanie Bailey (University of Surrey), Prof. Alexandra Naba (University of Chicago), Prof. Valerio Izzi (Oulu), Prof. Irit Sagi (Weissman), Dr. Emily Noel (University of Sheffield), Prof. Sarah Snelling (University of Oxford), Dr. Suneel Apte (Cleveland Clinic).

The ECR AWARD and John Scott Lecture will be delivered on the evening of the 2nd, followed by drinks and dinner.

Program highlights:

- Single cell Omics and the matrix
- The Matrisome
- Imaging the matrix
- Extracellular matrix proteomics
- AI and the matrix

Salvatore Santamaria

BSBM Spring Meeting 2026 Southampton

It's early days, but we are excited to say that BSMB will be coming to the deepest, sunniest, South(ampton) for the 2026 Spring meeting. Details are being finessed this year, but the ambition is that this meeting will delve into Natures matrix, potentially even the matrix of the past, to expand our matrix horizons and introduce us to new curiosities, colleagues and collaborations.

Angus Wann

WELCOME TO NEW BSMB MEMBERS!

NEW STUDENT MEMBERS

Grace Needham (Nottingham)
Jay Deng
Ella Shalom (Newcastle)
Leia Worthington (Oxford)
Mahsa Mohammadi (Manchester)

NEW FULL MEMBERS

Nodoka Iwasaki (RVC)
Cathy Park (Manchester)
H Davies-Strickleton (Manchester)
Jessica Robinson (Manchester)

By James Whiteford (Treasurer of BSMB)

In print!

Abstracts from the "British Society for Matrix Biology Spring Meeting 2024: The Dynamic matrix - Mechanics, Ageing and Repair" are currently in print online in the International Journal of Experimental Pathology.

https://onlinelibrary.wiley.com/doi/10.1111/iep.12512

BSMB Committee vacancy - Student Representative

Join the Committee!

There is one Committee position (Student rep) available.

We are looking for someone who is enthusiastic about society work and actively engages with matrix research community and beyond through social media or other approaches. This is ideal for a current PhD student member (ideally in early years of their PhD) to represent voices of fellow PhDs/ECRs in the matrix community, to help formulate BSMB policies, and to gain committee experience in a prestigious and highly supportive research society. Any nominations (self-nomination is welcome), together with

the written consent of the proposed nominee should be forwarded to the Honorary Secretary, Prof Qing-Jun Meng (qing-jun.meng@manchester.ac.uk).

BSMB Bursaries

BSMB Bursaries and Couchman Travel Awards are available. Current BSMB members are encouraged to apply for bursaries to present your matrix related findings in conferences.

1) The Couchman Travel Award, kindly sponsored by Professor John Couchman is open to applications. Each Travel Award will cover up to £150 for a BSMB meeting (~10 awards per year), or up to £300 for a European matrix-related meeting (~2 awards per year, including the biannual MBE meetings). Please follow the link here.

2) For bursaries to attend the "Other meetings" category: These bursaries remain open to the early career researchers (ie PhD students or up to 6 years post-doc). The awards are for up to £150 for UK meetings and £400 for meetings elsewhere in the world. Please follow the link here.

3) For bursaries to attend the " Matrix Biology Europe (MBE) or American Society for Matrix Biology (ASMB) meetings" category: These bursaries remain open and fund up to £500 for FECTS/MBE meetings and £600 for ASMB meetings. Please follow the link here.

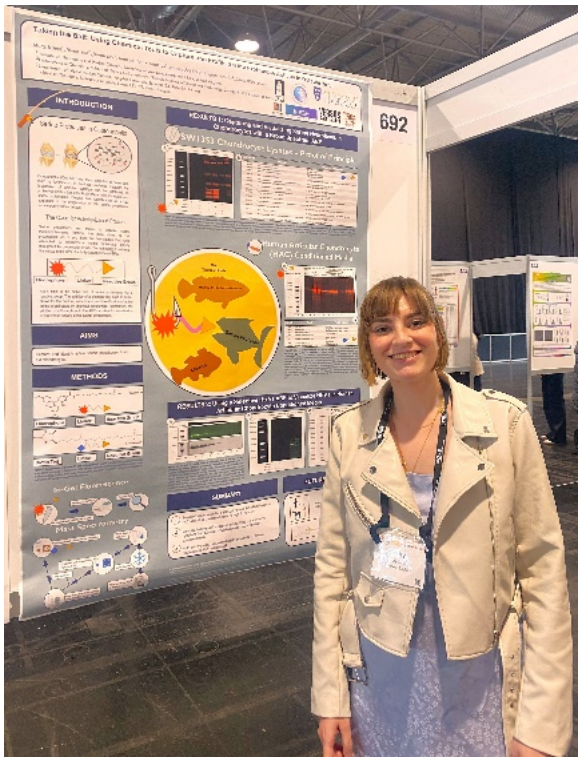
Applications should be sent to Dr Katarzyna Pirog (katarzyna.pirog@newcastle.ac.uk), Chair of the BSMB bursary committee. Please check your eligibility before applying.

Katarzyna Pirog

Meeting Reports

Osteoarthritis Research Society International (OARSI) 2024 World Congress in Vienna, report by Mary Hines, University of Liverpool

The OARSI 2024 World Congress took place in Vienna, Austria from 18th – 21st April. The city greeted hundreds of international researchers with typical European weather: gray skies and chilly wind. Despite this, the conference offered a variety of networking opportunities in the form of breakfast sessions, poster tours, vendor introductions, and several themed sessions comprised of research presentations that tackled the different areas of osteoarthritis research. Notably, the authors of the highest-rated conference abstracts presented their work which included projects ranging from clinical health to epigenetic and biomechanical investigations of issues surrounding OA. The first day closed with an address from the president of OARSI welcoming the attendants to the historic city of Vienna. The concurrent three days were packed with loads of



interesting presentations from presenters

from all backgrounds. While I appreciated all the fascinating science, I was thankful for the opportunity to sneak away and see the local historic Hofburg palace and try Wiener Schnitzel, a local delicacy.

The subsequent day saw sessions dedicated to topics such as Innovation in OA and Molecular Circuits Regulating joint Destruction among others. The day also included poster sessions, giving attendees a great chance to connect with one another through science. Individual presentations included talks by researchers such as industry-representative Alex Goraltchouk who expounded on the effects of Fibroblast Growth Factor 18 gene therapy on OA-related tissues in a rat model of induced-OA. Different doses of FGF18 injections into the joints of OA-induced rats saw effective treatment responses in both cartilage and bone: cartilage thickness was increased by up to 106% and both cartilage and bone morphology remained mostly consistent in FGF18-treated rats while control groups demonstrated cartilage erosion and maladaptive subchondral bone remodelling. Drawbacks from the injections included joint swelling and the need for as many as 12 repeat injections per year to maintain the best treatment. The conference ended the day with an international event designed to strengthen research collaborations between China and Germany-based researchers.

April 20th marked the third day of the conference and another day filled with interesting research presentations. An afternoon research session themed around Molecular Drivers of OA included a fascinating talk exploring the mechanisms of regeneration in lizard tails. Dr Thomas Lozito shared his recent research on genetic drivers of regeneration in green anole lizards and mourning geckos profiling the changes in cell differentiation throughout the regeneration process. Later, another poster session took place wherein both my supervisor and I presented posters to the attendees. We both were able to connect with fellow researchers in our field and I was immensely grateful for the chance to meet and explain my research to potential collaborators.

The conference closed on April 21st with a greatly anticipated year in review session that outlined important research developments in OA research areas. Overall, I felt extremely blessed to have the opportunity to attend the 2024 OARSI Word Congress with my supervisor in such a grand venue as Vienna, Austria.

International Vascular Biology Meeting (IVBM) 2024 Meeting in Amsterdam, report by Laura Gonzalez Trueba, University of Glasgow

The IVBM 2024 was held in Amsterdam from the 2nd of July to the 5th and had as scientific statement “You are as healthy as your blood vessels”. The meeting had cardiovascular disease as main focus centred in the role of vascular dysfunction in driving disease. Uncovering the role of vascular dysfunction in disease and the mechanisms driving vascular dysfunction was addressed by multiple projects presented in this meeting from multiple different angles and techniques.

The meeting was in person, and it had around 1000 attendees, it was structured with keynote speakers talks to begin each day followed by 4 parallel sessions as well as poster sessions during the lunch breaks. The Keynote lectures of the opening day were given by Prof. Kari Alitalo (University of Helsinki), Prof. Hans Clevers (Utrecht University), Prof. Nikolaus Rajewsky (Berlin Institute of Medical Systems Biology) and Prof. Magdalena Zernicka-Goetz (California Institute of Technology). They covered different topics from the role of vascular growth factors and their role in angiogenesis, the use of organoids derived from intestinal

stem cells to model disease and as a therapy for intestinal ulcers, new advances in spatial transcriptomics, a new open source (OPEN-ST) and the generation of human embryos in vitro using stem cells to study pregnancy failure or success. This was followed by an opening reception.

The following days parallel sessions took place as well as poster sessions. On the second day I attended a session focused on the role of non-coding RNAs in the cardiovascular system, in this session multiple researchers highlighted not only the role of long non-coding RNAs and microRNA in modulating endothelial cell phenotype and disease such as vascular calcification but also highlighted their potential as a therapeutic as they showed their potential in preventing pathogenic vascular remodelling. I also attended that day the sessions focused on metabolic targeting of vascular remodelling in which I was captivated by a talk explaining the discovery of a second pathway for glutamine metabolism in endothelial cells that is redox-sensitive. Throughout this meeting sponsors carried out symposiums and I attended the GemPharmatech one, a company that supplies genetically modified mice that explained how they were using wild mice to use as full chromosome donners to account for the effects of inbreeding in the mouse strains used for research. On the third day I attended a session focused on therapies to target ischemic CVD, another focused on neuro-immune modulation of vascular function and vascular pathophysiology unique to the CNS. This talks all highlighted the importance of characterizing the mechanisms not only driving disease but playing a role in healthy development of the vasculature as this knowledge can be used to develop therapies. The third day finished with the conference party. The final day of the meeting I attended a session focused on the interactions in the tumour microenvironment and the triggers of tumour angiogenesis and immune cell recruitment.

I would like to extend my heartfelt gratitude to BSMB for their very generous support, which enabled me to attend this event. It was a fascinating and collaborative meeting that provided me with a fantastic opportunity to present my research through a poster presentation.

GRC Proteoglycans 2024 conference in New Hampshire, report by Megan Priestley, Manchester University

From 6-12th July, Proteoglycans researchers from across the world gathered in New Hampshire, USA for a week of all things PGs! The conference began with the Gordon's Research Seminar (GRS), a weekend solely for PhD students and post-docs to present their work, discuss new ideas and pre-published data, as well as to build collaborative relationships with their peers. The GRS began with a keynote talk from Kaori Oshima (Massachusetts General Hospital) on fluid therapy for sepsis and its effects on the endothelial glycocalyx, setting the tone for the interesting talks to come. The standard of presentations amongst GRS attendees was impressively high, with highlights including Amrita Basu (University of Georgia) presenting her work on drug discovery for the treatment of Sanfilippo syndrome, and Rebecca Dodd (University of Manchester) on the role of IL-13 as a modulator of hyaluronan the lung ECM. With the bar set high by our young scientists, the rest of the GRC conferees arrived on Sunday afternoon. The main GRC meeting began on Sunday evening with a session on Proteoglycans in Health and Disease, chaired by Tony Day (University of Manchester) and Meg Critcher (Scripps Institute).

GRS attendees 2024.

Monday began with talks on proteoglycan and glycosaminoglycan biosynthesis, with excellent talks from Ryan Weiss (University of Georgia) on targeting heparan sulphate assembly during a rare bone disease called Multiple Hereditary Exotoses, and Rebecca Miller (University of Copenhagen) on her cell-based libraries of glycosaminoglycans. A personal highlight of the GRC for me, was the 'Power Hour' led by Tina Termini (Fred Hutchinson Cancer Centre) where she led discussions on mentoring in academia and how we can do better with supporting our peers, particularly those from underrepresented or disadvantaged backgrounds. Monday finished with the development and stem cells session, highlighting the importance of PGs in cell differentiation and how we may be able to harness this for the treatment of disease. James Smith's (University of East Anglia) talk on perlecan in myocardiocyte development was a great example of this as he walked us through his work on targeting perlecan to promote heart repair.

Tuesday had a heavy focus on the role of proteoglycans in disease, with the morning session on GAG and PG biosynthesis disorders in humans and the afternoon on inflammation and sepsis. Highlights included talks from Yannic Becker (Mount Desert Island Biological Laboratory, USA and Hannover Medical School, Germany) on the novel role of heparanase-2 in vascular homeostasis, over its more well-known counterpart heparanase-1, and a clinical perspective from Eric Schmidt (Massachusetts General Hospital) on randomised control trials to study endothelial glycocalyx degradation in human sepsis.

One of my favourite aspects of Gordon's conferences is the free time given in the afternoon in order to explore the surrounding area (this is a great time to network as well as free time in the sun!). On Wednesday, many conferees visited a nearby lake and spent the afternoon hiking, kayaking or swimming. We returned refreshed and rejuvenated for the day's talks on PGs in bioengineering and PGs in cancer. Dorothea Erxleben (Wake Forest University School of Medicine) gave an excellent talk on her method of measuring hyaluronan chains using nanopores, and Anna Bång-Rudenstam (Lund University) provided an exciting look into chondroitin sulphate in brain tumours.

Thursday marked the final day of the GRC, with the morning session on machine learning, AI, large data and GAGs. This session was packed with interesting talks, including a session on hyaluronan in the lung from Charles Frevert (University of Washington), a glimpse into the exciting future of robotics in research from Melanie Simpson (North Carolina State University) and a new method for predicting the risk of any type of cancer using GAG profiling from Francesco Gatto (Elypta, Sweden). In the afternoon, we put on our walking shoes and trekked up the nearby Mt Kearsage, a hike which proved much more challenging than many of us expected but yielded some incredible views from the top!

(Sweaty) GRC conferees at the peak of Mt. Kearsarge.

The final session of the GRC focussed on novel applications of GAGs and PGs and featured a fishy talk from Mauro Pavao (Federal University of Rio de Janeiro) on mollusc-derived heparan sulphate as an inhibitor of tumour metastasis as well as a wonderful talk from Philip Gordts (University of California, San Diego) on modulating FGF signalling for the treatment of type 2 diabetes. The day closed with poster and talk prizes, followed by the PG party, which this year was 'Pop and Glow' themed! On the final morning before the coaches left, the traditional PG GRC 'Iron man' event was held, pitting drowsy conferees against one another in a race across land, pond and twinkie.

Thank you to GRS chair Anna Gray (University of Manchester), social secretaries Ryan Weiss (University of Georgia) and Kimberley Alonge (University of Washington) as well as GRC chairs Cathy Merry (University of Nottingham) and Alyssa Panitch (Georgia University of Technology) for organising such a welcoming and engaging conference. This was my first time attending a GRC and I was overwhelmed with the positivity and wholesomeness that I experienced during this week. I can't wait to go back in 2026!

Day 2 of the conference continued with two parallel workshops. Workshop 3 focused on the ECM in development and morphogenesis. Brian Stramer kicked off this session with a talk about basement membrane (BM) dynamics in Drosophila. Marie Breau discussed ECM's dual role in force transmission and the formation of the olfactory placode and the adjacent brain boundary in zebrafish models. Stephan Harmansa's presentation explored how mechanical stresses during growth drive epithelial cell shape transitions in the Drosophila wing. Omar El Oakley introduced models of disordered ECM in radial dysplasia. Marion Marchand then showcased work using 3D gastruloids, which are aggregates of embryonic stem cells used to recapitulate the gastrula-stage of embryonic development. Finally, Mark Becker discussed his use of cryoEM in furthering the understanding of the biochemical basis of the role of mammalian tolloid in ECM regulation and assembly.

Preparation for the PG GRC Iron man.

The concurrent session (Workshop 4) hosted speakers with an interest in the ECM in tissue repair and tissue engineering. Catherine Moali first spoke about procollagen C-proteinase enhancers 1 and 2 (PCPE-1 and -

2), key glycoproteins in connective tissues that regulate collagen fibril assembly. José Carlos Rodríguez Cabello introduced elastin-like recombinamers, which are recombinant proteins from synthetic biomaterials that combine the benefits of natural and synthetic polymers to guide cells and impact tissue formation and function. Renate Gehwolf examined SPARC's many varied roles in tendon healing. Jennifer Ashworth described a workflow integrating biomaterial design with multiscale imaging to develop personalised tumour ECM models for precision medicine. Elizabeth Maughan discussed her work focused on epidermolysis bullosa patients who present with rare airway complications. Giulio Gatto presented human osteochondral cylinder cultures as an alternative to animal models for studying degenerative disorders relevant to osteoarthritis.

The final session of the day was a talk by the new awardee of the prestigious Rupert Timpl prize, Chloé Yeung (Institute of Sports Medicine, Copenhagen). Chloé gave an inspiring talk on her work investigating circadian-driven collagen turnover in tendons and her findings offer new insight into mechanisms behind tendinopathies and suggest that physical exercise may help resolve tendon injuries in a clock-dependent mechanism.

Day 3 of MBE began with a downpour in Lyon, but the soggy start to the day didn't dampen spirits as we started the day with the second plenary session, titled: 'ECM targeting and signalling in homeostasis and cancer'. Alexandra Naba began with a talk about SNED1, explaining how it has roles in both cancer and development and showing its role in the adhesion of breast cancer cells with neural crest cells via integrin interactions. Secondly, Ellen van Obberghen-Schilling discussed the ECM's involvement in promoting tumour therapy resistance. Finally. Papdakos Konstantinos gave a talk about intracellular cartilage oligomeric matrix protein (COMP) and its inhibitory interactions with calpain, which drive chemoresistant breast cancer.

The afternoon continued with Workshops 5 and 6. Workshop 5 focused on ECM biomechanics and mechanobiology. Francesco Pasqualini introduced both a live-cell imaging tool and a system to automate production of gelatine hydrogels for cell cultures. Marco Harmsen then discussed his work on tuneable ECM hydrogels to study fibrosis and tissue repair. Eva Faurobert highlighted the role of mechanosensitive calcium channels in triggering ECM degradation and cell behaviour. Arnaud Mieville talked about their lab's discovery, which showed that fibronectin fibers lose tension in invasive breast cancer, making untensed fibers a novel hallmark of invasive breast carcinomas. Helen Dietmar then explained her work in FGFR and integrin signalling and how they contribute to ERK phosphorylation and mechano-regulated gene expression in chondrocytes during mechanical stimulation. Xinyang Zhang then closed the session by showing a 2.7Å Cryo-EM structure of the fibrillin1-integrin αvβ3 complex. The complex has high-affinity binding and a novel synergistic binding site.

In the concurrent workshop titled 'ECM remodelling and fibrosis', Vassilis Aidinis presented work showing versican expression in lung fibroblast is crucial for podosome formation and ECM invasion. Luca Urbani showed patient-derived 2D and 3D models of chronic liver disease to investigate ECM production and remodelling in response to matrix-targeting therapies. Athiramol Sasi showed that a versican KO in mice led to improved cardiac function and reduced inflammation and fibrosis. I (Katie Lowles)

then presented my PhD work, showing that macrophages enhance collagen deposition in fibroblasts through circadian rhythms-mediated mechanisms. Finally, Marie-Claire Schanne-Klein presented work using polarisation-resolved second harmonic microscopy, to quantitatively analyse collagen remodelling in the murine cervix during pregnancy.

Matrix Biology Europe 2024 meeting in Lyon, report by George Thompson from Bristol University, Roufaida Bouchenafa from Newcastle University and Katherine Lowles from Manchester University

The Matrix Biology Europe Meeting 24 – 27th of September 2024 started mysteriously with the words "I hope you enjoy the next moments" and the playing of a video on the big screen of the Mérieux Amphitheater. We watched MBE delegates carrying the torch of matrix biology over five continents before arriving in Lyon. The spectacle reached a climax when the chief organiser Professor Florence Ruggiero ran on stage carrying the lit torch to raucous cheers and applause. The Hollywood levels of video production reflected the excellent standard of hospitality we received all week at the Ecole Normale Supérieure de Lyon.

Earlier that morning students and early career researchers had attended the satellite conference Youth@MBE. This conference was brilliantly organised and well attended. We heard stimulating talks from students and keynote addresses from Julie Di Martino and Anna Hennino to enlighten us about the highs and lows of careers in academia and start-ups.

Later in the afternoon at the MBE conference the science was kicked off by keynote speaker Professor Rachel Lennon from the University of Manchester. Rachel presented her groups expansive work on the dynamics of basement membranes in Alport syndrome. Rachel and her group used pioneering proteomics

Florence Ruggiero lifts the torch of matrix biology

experiments to define the basement membrane proteome and showed how these changes in the disease. She then introduced the circadian basement membrane transcriptome and showed how basement membrane thickness increases during the rest period. After this the first poster session was opened and attendees had the chance to explore the huge number of excellent posters. The evening was finished with a welcome party complete with live band and champagne.

The next morning, the excellent talks continued with Prof. Johanna Myllyharju from the University of Oulu. She presented expansive research on the role of different prolyl 4-hydroxylase enzyme isoforms in health and disease. Joan Chang from the University of Manchester then continued the popular theme of circadian-matrix dynamics in a stimulating presentation on circadian

control of collagen homeostasis. She spoke about the sacrificial circadian tendon matrix and then introduced exciting new data generated using the new tool of fluorescent labelled rat tail collagen. Joan used this tool to show collagen I fibrillogenesis and secretion took place through distinct pathways and that fibrillogenesis can take place through a clock regulated endocytic recycling pathway, even when collagen I transcription is blocked. This fascinating talk was followed by Alaa Al-Shaer from the Simon Fraser University. Alaa used captivating atomic force microscopy (AFM) images to demonstrate just how unstable collagen IV is at body temperature and identified micro unfolding domains to be important for facilitating assembly. She linked AFM images to sequence maps to show how collagen IV instability is exploited to facilitate flexibility and degradation by MMPs. The session was finished by Scott Dillon from the University of Cambridge who used solid state NMR to study the impact of LOX crosslinking enzymes on collagen structure and dynamics. His data demonstrated that local dissociation of the collagen triple helix is enhanced when LOX is disrupted.

Workshop one was for speakers interested in the stem cell niche and tissue regeneration. It began with Daniel Wehner from the University of Erlangen. He spoke about how the composition of ECM affects axon regeneration after CNS injury in zebrafish models. He then identified small leucine-rich proteoglycans as mediators of inhibitory scarring with cross species matrisome comparison. This was followed by a fascinating exploration of the role of fascia in organ health and disease by Yuval Rinkevich from the institute of regenerative biology and medicine, Munich. He showed how the interaction of fascia and specific fibroblast subtypes mediated wound healing in animal models. The next talk, from Shireen Lamande of the Murdoch Children's Research Institute, introduced powerful new induced pluripotent stem cells (iPSCs) models of

Professor Johanna Myllyharju introduces her talk: What's up Prolyl-4-Hydroxylase?

skeletal disorders. She differentiated (iPSCs) into chondrocytes and introduced patient mutations to identify pathogenic pathways and test candidate drugs. We next heard from Bénédicte Chazaud of the Universite Claude Bernard, Lyon. Bénédicte presented exciting research which used healthy, regenerating, and dystrophic decellularized mouse ECM. He showed how the ECM determined muscle stem cell differentiation and proliferation with implications for tissue repair and disease processes. After this, we heard interesting research from Eleni Chrysostomou of the Université Le Paris-Est Créteil, Paris. They presented work uncovering the role of the ECM glycoprotein Fibrillin-1 (FBN1) in the maintenance of skeletal muscle satellite cells. Linking mouse models to patients with Marfan syndrome, Eleni showed that Notch signalling induces FBN1 to protect satellite cells from aberrant TGFβ signalling. The final talk of the workshop was from Claire Masson of the Université de Strasbourg, who presented on the 3D cage of ECM produced

by megakaryocytes in the vascular niche. Claire described a stabilising network of laminin and collagen IV which surrounds individual megakaryocytes to regulate maturation and intravasation of these platelet producing cells.

Workshop two encompassed talks on the ECM in inflammation and immunity. It began with an illuminating talk by Lydia Sorokin from the University of Münster about mechanisms of leukocyte migration across cerebral blood vessel basement membranes. She showed how extravasation occurs in regions of low laminin α5 expression with beautiful videos of labelled leukocytes moving through the soft vessel wall and then the stiffer basement membrane outside it. Thomas Kammertoens from Charité Universitätsmedizin then spoke about interferon gamma (IFNγ) in the context of the ECM. He convincingly showed the role heparan sulphate in binding and sequestering IFNγ through the evolutionarily conserved KRKR motif to prevent immunopathology. Following this Alexander Nyström from the University of Freiburg presented an interesting story detailing how mesenchymal collagen VII supports vaccination response. He introduced how people with mutations in the collagen VII gene who have recessive dystrophic epidermolysis bullosa (RDEB) also suffer from a poor response to vaccinations. He showed how this was because of altered laminin distribution reduced T cell activity leading to lower B cell activation and antibody production. We next heard from Mark Naven of the University of Bristol, who used zebrafish models to study the impact of circadian clock disruption on wound healing and collagen deposition. Mark presented beautiful live imaging videos which demonstrated time of day differences in the numbers and speed of macrophage recruitment, which lead to impaired collagen fibre organisation and angiogenesis. The next talk was from Sophie Bachy of the Cancer Research Centre of Lyon based spin out company: Stromacare. She showed how the BIGH3 protein was highly expressed in the stroma of solid tumours and mediates stiffening of the stromal matrix. BIGH3 targeting antibodies were able to reduce tumour stiffness and increase anti PD-1 treatment efficacy in models of pancreatic cancer. The session was finished with an excellent talk by Rebecca Dodd from the University of Manchester. Rebecca demonstrated how the ECM polysaccharide hyaluronan is upregulated following lung injury with an IL-13 dependent mechanism. She used nematode-mouse models of lung injury to show this was through upregulation of the HA producing enzyme Has2 and downregulation of HA breakdown enzymes.

Day two of the conference continued with two parallel workshops. Workshop three focused on the ECM in development and morphogenesis. Brian Stramer kicked off this session with a talk about basement membrane (BM) dynamics in Drosophila. Marie Breau discussed ECM's dual role in force transmission and the formation of the olfactory placode and the adjacent brain boundary in zebrafish models. Stephan Harmansa’s presentation explored how mechanical stresses during growth drive epithelial cell shape transitions in the Drosophila wing. Omar El Oakley introduced models of disordered ECM in radial dysplasia. Marion Marchand then showcased work using 3D gastruloids, which are aggregates of embryonic stem cells used to recapitulate the gastrula-stage of embryonic development. Finally, Mark Becker discussed his use of cryoEM in furthering the understanding of the biochemical basis of the role of mammalian tolloid in ECM regulation and assembly.

The concurrent session (Workshop 4) hosted speakers with an interest in the ECM in tissue repair and tissue engineering. Catherine Moali first spoke about procollagen C-proteinase enhancers 1 and 2 (PCPE-1 and -2), key glycoproteins in connective tissues that regulate collagen fibril assembly. José Carlos Rodríguez Cabello introduced elastin-like recombinamers, which are recombinant proteins from synthetic biomaterials that combine the benefits of natural and synthetic polymers to guide cells and impact tissue formation and function. Renate Gehwolf examined SPARC's varied roles in tendon healing. Jennifer Ashworth described a

Katie Lowles presents her research

workflow integrating biomaterial design with multiscale imaging to develop personalised tumour ECM models for precision medicine. Elizabeth Maughan discussed her work focused on epidermolysis bullosa patients who present with rare airway complications. Giulio Gatto presented human osteochondral cylinder cultures as an alternative to animal models for studying degenerative disorders relevant to osteoarthritis.

The final session of the day was a talk by the new awardee of the prestigious Rupert Timpl prize, Chloé Yeung (Institute of Sports Medicine, Copenhagen). Chloé gave an inspiring talk on her work investigating circadian-driven collagen turnover in tendons and her findings offer new insight into mechanisms behind tendinopathies and suggest that physical exercise may help resolve tendon injuries in a clock-dependent mechanism.

Day 3 of MBE began with a downpour in Lyon, but the soggy start to the day didn't dampen spirits as we started the day with the second plenary session, titled: 'ECM targeting and signalling in homeostasis and cancer'. Alexandra Naba began with a talk about SNED1, explaining how it has roles in both cancer and development and showing its role in the adhesion of breast cancer cells with neural crest cells via integrin interactions.

Chloé Yeung presents her work after receiving the Rupert Timpl prize

Secondly, Ellen van Obberghen-Schilling discussed the ECM's involvement in promoting tumour therapy resistance. Finally, Papdakos Konstantinos gave a talk about intracellular cartilage oligomeric matrix protein (COMP) and its inhibitory interactions with calpain, which drive chemoresistant breast cancer.

The afternoon continued with Workshops 5 and 6. Workshop 5 focused on ECM biomechanics and mechanobiology. Francesco Pasqualini introduced both a live-cell imaging tool and a system to automate production of gelatin hydrogels for cell cultures. Marco Harmsen then discussed his work on tuneable ECM hydrogels to study

fibrosis and tissue repair. Eva Faurobert highlighted the role of mechanosensitive calcium channels in triggering ECM degradation and cell behaviour. Arnaud Mieville talked about their lab's discovery, which showed that fibronectin fibres lose tension in invasive breast cancer, making untensed fibres a novel hallmark of invasive breast carcinomas. Helen Dietmar then explained her work in FGFR and integrin signalling and how they contribute to ERK phosphorylation and mechano-regulated gene expression in chondrocytes during mechanical stimulation. Xinyang Zhang then closed the session by showing a 2.7Å Cryo-EM structure of the fibrillin1-integrin αvβ3 complex. The complex has high-affinity binding and a novel synergistic binding site.

In the concurrent workshop titled 'ECM remodelling and fibrosis', Vassilis Aidinis presented work showing versican expression in lung fibroblast is crucial for podosome formation and ECM invasion. Luca Urbani showed patient-derived 2D and 3D models of chronic liver disease to investigate ECM production and remodelling in response to matrix-targeting therapies. Athiramol Sasi showed that a versican KO in mice led to improved cardiac function and reduced inflammation and fibrosis. I (Katie Lowles) then presented my PhD work, showing that macrophages enhance collagen deposition in fibroblasts through circadian rhythms-mediated mechanisms. Finally, Marie-Claire Schanne-Klein presented work using polarisation-resolved second harmonic microscopy, to quantitatively analyse collagen remodelling in the murine cervix during pregnancy.

A break in the rain allows a whole conference picture

Prof. Collin Y. Edward (Switzerland) opened the ECM ageing session explaining that late-life longevity interventions like calorie restriction combined with rapamycin administration slow the age-related biomechanical decline of extracellular matrices in the mouse tail tendon. Next, Dr Timothy Mead (USA) presented data about the role of in *vivo* conditional knock out of ADAMTS6 in smooth muscle cells in increasing longevity and improving aortic wall structure in a mouse model of Marfan syndrome. Since ADAMTS6 is responsible for the cleavage of fibrillin-1, its inactivation favours the retention of fibrillin-1 microfibrils and regulation of TGFb signalling pathway. Sarah Girardeau- Hubert1 (France) demonstrated the potential of macro- and microstructural observations to investigate age-related changes in the dermis. They have successfully designed specific assays to monitor the expression signature of ECM fragments in skin biopsies of young and old donors. The next speaker, Seyda Ünsal (Denmark) talked about the distinct roles of MFAP4 in mesenteric arteries during ageing and hypertension. Their results showed that MFP4 maintains the elastin/collagen ratio of resistance arteries in ageing while aggravating the arterial stiffness in hypertension. The final talk by Zara Msoili (France) presented a new in silico model developed in their lab to decipher the impact of carbamoylation on collagen I ageing at the atomic level. Carbamoylation is a post-translational modification (PTM) that was associated with altered collagen I properties and correlates with skin ageing. Combining quantum mechanics, molecular dynamics

(MD), and NMR, their data has shown that the accumulation of carbamoylated-derived products does not impact the overall structure of collagen I but affects locally the dynamics of triple helices of the protein.

The last parallel workshop was entitled ECM breakthrough session and covered diverse topics around the ECM. Dr. Ekasit K. Sonpho (USA) started off the session presenting

Conference attendees at poster session

interesting data on the role of different cell types in extracellular matrix remodelling during planarian regeneration. Using mass spectrometry and RNAseq, they have demonstrated how multiple cell types, including epidermis, intestinal cells, and muscle cells, all secrete ECM proteins and contribute to the remodelling of the planarian microenvironment with different modes of action. Next, George Thompson (UK), spoke about the impact of the circadian rhythm on extracellular matrix secretion and organisation using BMAL1 knockout (KO) cell lines generated by CRISPR/cas9 technology. Their data from High-Speed Atomic Force Microscopy showed the considerable changes in the organisation of fibrillar collagen upon clock perturbation. Dr Ambroise Lambert (France) presented a new tool to study the function of integrin in specific cell-cell interactions. Cells engineered through hot-wired clathrin-mediated endocytosis resulted internalisation of α5β1 integrins thus acutely control multiscale processes like cell migration, extracellular matrix remodelling and tissue formation. Panagiota Moraiti (Germany) explored the relationship between loss of lymphoid collagen VII and autoimmunity. They have used medullary thymic epithelial cells (mTECs)-specific knock out mice of collagen VI. A subset of these mice has developed a progressive inflammatory disease and presented autoreactive antibodies, thus suggesting the importance of collagen VII in maintaining immune tolerance and reducing the risk of autoimmunity. The next speaker, Natasha Chavda (UK) discussed the advanced tools developed in their lab to analyse laminin LM and laminin N-terminus α31 (LaNt α31) network assembly in live human cells. These tools allowed the super-resolution analysis of LM332 secretion and deposition, enabling real-time observation of LM orientation changes and interactions with LaNt α3. Prof. Bernhard Wehrle-Haller (Switzerland) concluded the session presenting their data about the new intracellular single chain antibodies developed in their lab. These antibodies react specifically with the acetylated but not the de-acetylated version of the integrin tail. Their data gave more insights about the posttranslational modification in integrins and understanding the metabolic coupling between cancer cells and CAFs. After the break, people enjoyed the final slot for the second poster session.

Dick Heinegård Award session

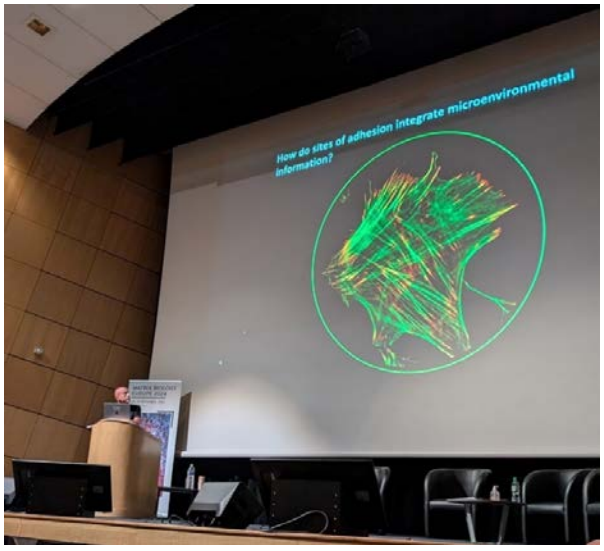
The Dick Heinegård Young Investigator Award kicked off the final day of MBE2024, with seven interesting talks by inspiring young matrix biologists from Europe. Evelina Poletto (Italian Society for Matrix Biology) presented a talk on the key role of the extracellular matrix protein Multimerin-2, specifically deposited by endothelial cells (EC), in the maintenance of vascular homeostasis. Their data showed that Multimerin-2 ensures the proper formation

of cell-cell junctions via VEGFR2 signalling to stop the escape of cancer cells. Next, Aki Stubb (Finnish Society for Matrix Biology) addressed interesting questions about how embryonic cells sense their position and couple it to fate selection, and the mechanisms relaying the information of cell location to the transcriptional machinery. Their study nicely established the link between physical forces and biochemical signalling for coordination of mammalian embryogenesis. Lasse G. Lorentzen (Danish Society for Matrix Biology) shared interesting data to explain the complex dynamics of ECM remodelling associated with atherosclerotic plaque formation and destabilisation. The study highlighted a critical interplay between ECM remodelling and proteolytic activity. Shi-Yang Li from our British Society for Matrix Biology shared their recent data about the importance of circadian rhythms in human breast cancer and linked circadian disruption to EMT (Epithelial-Mesenchymal Transition), expression of ECM genes, metastasis, and prognosis. These results interestingly demonstrated the promising use of circadian medicine in the treatment of breast cancer. Next, Karina A. Zeyer (German Society for Matrix Biology) shared data on how the Dipeptidyl Peptidase-4- DPPF4+ modulates ECM deposition through proteolysis of the fibronectin N-terminus in a severe dermal fibrosis mouse model. Laurie Nemoz-Billet (French Society for Matrix Biology) discussed how dual topologies of myotomal collagen XV and tenascin C act in concert to guide and shape developing motor axons. Cor J. Ravensbergen (Dutch Society for Matrix Biology) concluded this session with a talk on the facilitating role of loose ECM morphology in single tumour cell invasion and lymph node metastasis in early T-stage colon tumours.

The winner of the Dick Heinegård Award was announced later in the afternoon at the end of the conference. Evelina Poletto was chosen by an international panel of experts and honoured with the prestigious Dick Heinegård Young Investigator Award for her inspiring work.

Mechanisms of Mechanosensing by Integrin Adhesion Complexes (Closing conference and prizes)

Prof. Martin J Humphries (UK) closed the conference with a great talk about the mechanisms of mechanosensing by integrin adhesion complexes in the context of pancreatic ductal adenocarcinoma (PDA). The presentation was driven by interesting questions about the causes of the desmoplastic response in PDA and the consequent effects of the highly rigid stromal extracellular matrix on tumour cell. Their approach aimed to define tumour-specific alterations in force-sensitive components of the adhesion nexus and rigidity-dependent changes in signalling networks in stromal fibroblasts (they contribute to the desmoplastic response in PDA). Using the proximity-dependent labelling method BioID to assemble an in situ adhesome network, they could identify adhesome components and potential new candidates. Moreover, to understand the effector mechanisms that drive the initial steps of mechanosensing, a whole cell phosphoproteomic analysis was



Prof. Martin J Humphries delivers the closing lecture

performed on PDA organoids. Data defined a core signalling network that connected adhesion almost exclusively to cell cycle regulation and DNA damage responses. Overall, the presentation sums up promising insights to future therapeutic strategies in cancer.

At the end of the conference, Florence- the chair of MBE2024 delivered the prizes for the best oral presentation and poster for Youth@MBE and best oral presentations (2 prizes) and posters (3 prizes) to the winners and wrapped up the event by giving the MBE torch to Johanna for the next MBE at University of Oulu, Finland in two years' time.

Florence Ruggiero giving the MBE torch to Johanna Myllyharju - from France to Finland

News from the International Society for Matrix Biology

International travel grants & meeting reports of the awardees

ISMB provides international travel grants (on average 500 Euros) for young scientists (graduate students or postdocs up to 5 years after Ph.D., with extensions for maternity leave, military service, etc) to allow them to attend major meetings in matrix biology anywhere in the world. While priority will be given to meetings directly supported by ISMB (including Matrix Biology Europe, the American Society for Matrix Biology and the Pan Pacific Connective Tissue Societies Symposium), applications are accepted for any meeting, provided that the scope of the meeting agrees with the aims of the Society.

Candidates should be members of the ISMB (see membership page for details), and a graduate student or postdoc. up to 5 years after Ph.D., with extensions for maternity leave, military service, etc. Grants will be paid out in the form of reimbursement to grant awardees, after reception of proof of participation. To this aim, users must send a receipt of the expenses (e.g., meeting subscription fees, etc.) within 3 months from the end of the meeting they received support for.

To apply for a travel grant, please fill the the form available on ISMB web site (https://www.ismb.org/copy-oftravel-grants) and append a single pdf file containing:

(1) a letter giving information about the meeting, the amount requested and a detailed justification for support

(2) the abstract of your poster/short talk
(3) your curriculum vitae and list of publications.
Please apply several months in advance of the meeting, before one of the following deadlines: January 1, April 1, July 1, October 1.

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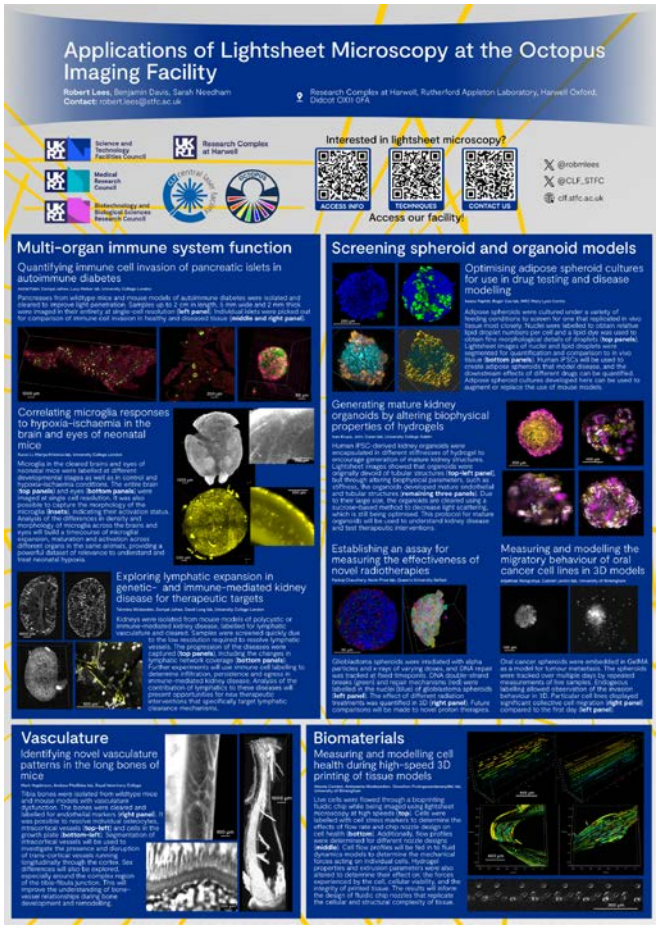
Access Lightsheet microscopy at the Octopus imaging facility

The Octopus facility [clf.stfc.ac.uk] is a national advanced fluorescence and electron microscopy facility primarily funded by STFC. Octopus offers FREE access to equipment, expertise and the potential for collaboration on academic research projects and technology development. This is available to researchers based in the UK or those working on projects with UK researchers. The intention is to work with other research institutes and augment existing capabilities.

Octopus is primarily employed to image biological samples at scales from a few nanometres to centimetres with super resolution and macroscale imaging techniques. One technique Octopus offers is Lightsheet (see attached poster) with the ability to image small live 3D cell models (spheroids and organoids) or small live organisms (zebrafish, embryos), as well as fixed large samples of entire mouse organs or even entire adult mice. Marine and plant biology can also benefit from Lightsheet microscopy.

Applications are only 2 pages of A4 and, if successful, access will be fully funded (facility overheads, UK travel, accommodation and food). Any interested academics are encouraged to contact a link scientist at the facility to discuss their requirements and the feasibility of their proposed imaging experiment.

Information about applying can be found here: https://www.clf.stfc.ac.uk/Pages/Access-to-Octopus-and-Ultra.aspx [clf.stfc.ac.uk]. Applications are open for 6 weeks every 6 months starting in May or November for access in the second or first half of the year, respectively. I.e. apply in May for Jan-June the following year, or November for July-Dec the following year.



SEE YOU IN APRIL IN NOTTINGHAM

British Society for Matrix Biology

https://bsmb.ac.uk/ https://paacr4.wixsite.com/bsmb-spring2025

SEE YOU IN SEPTEMBER IN GUILDFORD