Connective Issues:

BSMB Newsletter

BRITISH SOCIETY FOR MATRIX BIOLOGY

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Editorial

Dear BSMB members,

Welcome to the 108th Issue of our Connective Issues newsletter. With the start of the new year, we are introducing a few new changes. We are launching a new "Tenure-track ECR Presenter Bursary" to facilitate junior faculties to attend conferences. We have also unified application criteria and streamlined the application process for all types of bursaries for student/post-doc members. Please read on for more information.

Thanks to the excellent suggestion from ECR Reps (Hannah Evans and Neil Marr), there will be a new section on "ECR Achievements" in future newsletters. We are keen to hear from ECRs, so please submit your success stories to Hannah! Upon your requests, we are also including a brief research profile of each current BSMB committee member in a "Meet the Committee" style.

A warm welcome to Sarah Snelling and Joan Chang, who will join the BSMB Committee from April. A massive thank you to Salvo Santamaria and Neil Marr for your excellent service and contributions to the Committee. It has been an absolute pleasure to work with both of you over the last few years.

There will be several exciting matrix events in 2026. April will see the BSMB Spring meeting in Manchester, featuring the BSMB Medal Award Lecture by Joanne Murphy-Ullrich. In June, the MBE 2026 meeting will be held in the beautiful Oulu in Finland. There will be 5 bursaries for BSMB members to attend the MBE meeting. Relating to the MBE, the Dick Heinegård European Young Investigator Award competition is open. Please send Anna Piccinini (ECR Award Chair) your nomination!

Looking forward to an exciting year ahead!

Qing-Jun Meng, Honorary Secretary

Chair's letter

Dear members,

I hope this newsletter reaches you in good spirits and that you each found the time to relax at some point over the holidays.

I start this issue with sad news about the passing of Professor Allen Bailey and Professor Richard Hynes. Both key figures in our field, you will find a tribute to Richard in the in the upcoming issue of the Matrix Biology journal, and we pay tribute to Allen in this Connective Issues. Alongside his pioneering and internationally recognized work on collagen structure, crosslinking and degradation, Allen was instrumental in bringing together the matrix biology community. Serving as secretary of the Collagen Club, he played a key role in the genesis of the BSMB when it started life as the British Connective Tissue Society. In recognition of this Allen was amongst the earliest of BSMB's Honorary Members, elected in 1982 just two years after its inception, and in 2005 he co-authored a commentary on "The First 25 Years" of the BSMB that you can find online today, and is a valuable guide to the history of our Society. Allen and Richard will be missed by those that worked with, and were mentored by, them, and we will raise a collective glass in their honour at our next BSMB meeting.

Speaking of which, the new year holds plenty of opportunities to engage with fellow Matrix Biologists. Doug Dyer is bringing art to the matrix at our BSMB Spring meeting. Held at the Whitworth Art Gallery in Manchester in April this year, the programme focuses on the function of the extracellular matrix in different locations, including the cell surface glycocalyx, the basement membrane, the musculoskeletal system and the tissue interstitial space. The meeting will be preceded by an ECR Satellite event on the theme of improving research culture,

providing an opportunity for early career researchers to network and discuss. Please see below for more details and the link to sign up - registration is open now! This will be the only BSMB meeting in 2026, as Matrix Biology Europe takes place in Oulu in Finland over the summer, so do come along to Manchester if you can. You can also find details below of our 2027 Spring and Autumn meetings that will take place in Southampton and Liverpool respectively.

Following on from an excellent BSMB Autumn meeting held at the University of Surrey in September of last year, I'd like to thank Salvo Santamaria both for organising such a fantastic event, and for his service to the BSMB as he finishes his term on the committee. His dedicated and enthusiastic approach to supporting the Society for the last 3 years has been very much appreciated. Thanks are also due to Neil Marr as he steps away from his role as Post Doc rep; it has been a pleasure to have Neil on the committee where he has been an active ambassador for our post doc community. We are now advertising for a new Post Doc rep so if you are interested please do send in a nomination. In the last of the committee news, this year we extend a very warm welcome to new members Sarah Snelling from Oxford and Joan Chang from Manchester. We look forward to your contributions to BSMB.

Finally, it was great to see BSMB as the featured member organisation in the January edition of the Royal Society for Biology (RSB) newsletter. We have been long standing members of the RSB, a partnership that enables us to advocate nationally for Matrix Biology. If there are any issues you'd like to see us raise at this level do get in touch.

Wishing you all the very best for the new year ahead.

Kim Midwood, BSMB Chair

BSMB News

Mark your diary

BSMB Spring 2026 Meeting
Extracellular Matrix Biology Across Tissue Sites (Location, Location, Location).
Manchester, April 13th-14th, 2026

Matrix Biology Europe 2026 in Oulu, Finland
29th June -3rd July 2026

BSMB Medal Award

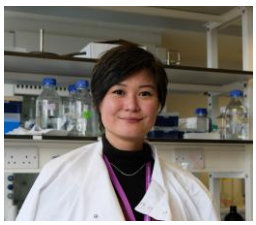
The Medal Award Committee have elected Professor Joanne Murphy-Ullrich, University of Alabama at Birmingham (UAB) as the BSMB Medal Awardee for 2026, in recognition of her outstanding contributions to the matrix biology field. Congratulations to Joanne! She will receive the award at the 2026 BSMB Spring Meeting in Manchester.

Among the many research accomplishments, Professor Murphy-Ullrich identified the cellular de-adhesive role for matricellular extracellular matrix proteins; discovered role of thrombospondin-1 (TSP-1) as an activator of latent TGF-β and elucidated its role in disease pathogenesis (fibrosis, cancer, glaucoma, wound healing) and development of therapeutics; discovered the role of the endoplasmic reticulum and calcium signaling protein calreticulin in regulation of TGF-β transcriptional stimulation of ECM proteins and collagen processing.
Professor Murphy-Ullrich has held several leadership positions in the area of extracellular matrix biology. She was Director of the UAB Cell Adhesion and Matrix Research

Center and co-Director of the BioMatrix Engineering and Regenerative Medicine Center. She has been active in the American Society for Matrix Biology (ASMB) and was a Councilor, Secretary/Treasurer, President, and Past-President of ASMB. She is the Editor-in-Chief of Matrix Biology and Matrix Biology Plus.

New committee members

Professor Sarah Snelling is a musculoskeletal biologist at the University of Oxford, where she leads the Soft Tissue Repair Group in NDORMS. Her research focuses on understanding the cellular and extracellular organisation of matrix-rich musculoskeletal tissues, particularly tendon and bone, using single-cell and spatial multi-omic approaches. A central theme of her work is developing robust strategies to profile cell-sparse, ECM-rich tissues across development, ageing and disease. She is coordinator of the Musculoskeletal Biological Network of the Human Cell Atlas, helping to drive international efforts to generate open, inclusive reference atlases of musculoskeletal tissues.



Dr Joan Chang graduated from Imperial College London, having studied Biochemistry with a year in Industry/Research working on hypoxia and osteoarthritis. She received her PhD under the tutelage of Prof Janine Erler, from the Institute of Cancer Research (University of London), on the effects of the collagen cross-linking enzyme LOXL2 in cancerous and normal breast epithelial cells. She then did a short postdoc with Prof Andrew Dudley at UNC Chapel Hill, on how adipocytes influence the tumour microenvironment and drive cancer progression. In 2016, Joan moved to University of Manchester to join Prof Karl Kadler's group, where she rediscovered her passion in extracellular matrix biology, in particular collagen-I, and how it is regulated in tendon. During that time, with colleagues, she made seminal discoveries on the circadian control of collagen homeostasis, and the role of endocytic recycling in collagen fibrillogenesis, which is implicated in lung fibrosis. In 2022, Joan started her own lab as a UKRI MRC Career Development Research Fellow. Her lab is focused on the intra- and inter-cellular regulation of collagen-I, including how circadian and immune cells influence these processes. She is also developing "living matrix tools", e.g. endogenously-tagged collagen-I mouse models, to understand collagen dynamics.

Dick Heinegård European Young Investigator Award - call for nominations

We are pleased to announce our continued support for the Dick Heinegård European Young Investigator Award, which commemorates the work of the matrix biologist Dick Heinegård. The award will be given to the most promising early career postdoctoral matrix biologist from Europe. Each affiliated European Matrix Biology Society will hold its own competition to select their national nominee for this Award. Nominees will present the abstract orally during the MBE 2026 meeting in Oulu, Finland (June 29 - July 3, 2026). The outcome of the competition will be decided at the meeting. The Young Investigator Awards Committee of MBE will select the winner of the Award based on the overall quality of the science and the oral presentation. The award winner will receive a certificate and a cheque (~€2000),

funded by the Matrix Societies of The Netherlands, Germany and France, and the BSMB. Candidates must be current BSMB members, should have no more than 5 years postdoctoral research experience, and a demonstrable track record of excellence in matrix biology research. Candidates should apply by sending their CV, an abstract of the work to be presented at the MBE conference, and a completed MBE/FECTS bursary application form (available on the BSMB webpage) by email to anna.piccinini@nottingham.ac.uk by February 27, 2026.

By Anna Piccinini (Chair of the ECR Award Committee)

ECM special issue across 3 Cell Press journals – online now!

"Cell Reports, Cell Reports Medicine and IScience special issue on matrix biology.

Led by Kim Midwood, Qing-Jun Meng, and James Whiteford, we worked with the editors of Cell Reports, Cell Reports Medicine, and iScience to develop a special issue on Extracellular Matrix in Health and Disease. To date, 20 research manuscripts are published online at https://www.cell.com/cp/collections-extracellular-matrix-in-health-and-disease-special[cell.com], covering the breadth of matrix biology, with several additional papers still under review.

We are very grateful to all the authors who chose to support this initiative and hope that the published articles achieve the impact and reach they deserve. We would also like to thank Kyle Legate at Cell Press for his significant efforts in helping make this project a success.

At the BSMB, we remain committed to raising the profile of matrix biology and welcome suggestions from our membership on how best to continue this work.

By James Whiteford (Treasurer of BSMB)

ECR Achievements section coming soon!

Introducing a new section coming soon to the BSMB newsletter - ECR Achievements.

Last year we sent around a feedback form to find out what our PhD and early career researcher (ECR) members wanted to see from the society. We had loads of amazing responses, so thank you! Two common requests that we received were people wanted to find out more about what other universities and lab groups are doing, and they also wanted to have a way of sharing and celebrating the successes of fellow PhDs and ECRs.

So, you ask and we deliver! In future issues of the BSMB newsletter (and maybe the occasional LinkedIn post if we just can't wait that long to celebrate your wins) ECR Achievements will be dedicated to the successes of our student and early career researcher members. This is your chance to share what you or another student or ECR has done that you think should be celebrated. This could be a paper that you've had published in the last year, an award that you've won, a new project you've started, or even that you've been trained on an exciting piece of kit! Whatever you are excited to share, we are excited to hear about it!

If you have anything that you'd like to be included in the next BSMB newsletter, please fill in the form below and we'll get celebrating your achievements in the next issue.

https://forms.cloud.microsoft/e/8QRqeMSi12 [forms.cloud.microsoft]

We look forward to hearing about your big wins in the future!

By Hannah Evans (PhD Rep)

BSMB committee vacancies

Join the Committee! Post-doc rep position available…

There is a Post-doc Rep position available on the BSMB Committee. 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 post-doctoral matrix biologist to represent voices of post-docs 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 Prof. Qing-Jun Meng, the Honorary Secretary (qing-jun.meng@manchester.ac.uk).

WELCOME TO NEW BSMB MEMBERS!

STUDENT MEMBERS
Maxie Ter-Grigoryan
Sejal Kapoor (RVC)
Kate Qian
Zoe Pagett (Manchester)
Sherry Qian (Cambridge)
Agne Kuraite (Cambridge)
Hannah Warren (Cambridge)
Lorna Milne (Nottingham)
Kristen Burgess (Cambridge)
Yong Heng Tan (Manchester)
Davide Verdolino
Ella Milne (Surrey)
Gulsev Ozorun

FULL MEMBERS
Mychel Morais (Manchester)
Ayman Ibrahim (Cambridge)
Yasmin Yasmin (Surrey)
Fatma Scerif
Hong Xu (North China University of Science and Technology)
Eric Vancauwenberghe (Sheffield)
Scott Dillon (Cambridge)
Sabeeha Malek (Warwick)
Cecilia Pennica
Claire Davison (KCL)
Elisa Villalobos (Newcastle)
Yanhong Wang (Liverpool)

By James Whiteford (Treasurer of BSMB)

Meeting highlights:

BSMB Spring 2026 Meeting in Manchester
Extracellular Matrix Biology Across Tissue Sites (Location, Location, Location)
April 13th-14th, 2026

We are excited to announce that registration for the BSMB Spring 2026 meeting in Manchester, April 13th-14th, is now open. Hosted by Dr. Douglas Dyer from the University of Manchester. We look forward to welcoming you to the Whitworth Art Gallery, near the centre of action-packed Manchester. Amid artful surroundings, we invite you to a stimulating two-day immersion into the function of the cellular and extracellular matrix in different locations. Namely the cell surface glycocalyx, the basement membrane,

the Musculo-skeletal system and the tissue interstitial space.

In an open, friendly environment we will discuss how the community is working across the tissue context to make advances in our understanding of basic biology and how this informs disease pathology. We will also try to agree on the key outstanding questions that need to be addressed in each of these contexts.

Important dates:

Registration start: Jan. 5, 2026
Registration late date: Feb. 23, 2026
Registration end date: March 9, 2026
Abstract start: Jan. 5, 2026
Abstract end date: Feb. 23, 2026

By Doug Dyer

Matrix Biology Europe 2026 in Oulu, Finland
29th June 2026 -3rd July 2026

Matrix Biology Europe 2026 will be held at the Kontinkangas Welfare Campus in the Nordic city of Oulu, 29.6-3.7.2026. We are putting together a super-exciting scientific program, with many excellent confirmed speakers from around Europe and the world, and some more updates to come (soon!). What's even better, Oulu is European Capital of Culture 2026, meaning the city will be buzzing with event, shows, life and opportunities to explore and connect with what we call the cultural climate change at the top of the world! Oh, and did I mention that MBE2026 will be under the midnight sun yet? Come join us! Registrations and submissions are open until 1.5.2026!

By Valerio Izzi

BSMB Spring 2027 Meeting in Southampton: Nature's matrix: Evolution to Innovation
Dates to be confirmed.

ECM is ubiquitous- defining, supporting, sustaining microbial, plant and animal cells and also, increasingly, engineered in the laboratory to recreate these worlds and beyond.

This meeting will feature an all-inclusive range of extracellular matrix research. It will aim to draw together ideas and innovations from across the matrix research Bridging Natural systems and laboratory biomedical innovation from natural to the synthetic, fundamental to biomedical.

Please join us on the South coast to hear about and share your matrix.

By Angus Wann

BSMB Autumn 2027 Meeting in Liverpool: The Matrix in Balance
September 2027

The 2027 Autumn BSMB will be held in early September in Liverpool. The meeting will have a theme of "The Matrix in Balance", exploring how extracellular matrix synthesis and degradation drive major diseases including fibrosis, cancer and arthritis, and how harnessing our understanding of these mechanisms can drive translational opportunities. Bringing together national and international leaders, while showcasing superb work of ECRs in the field, the meeting will provide an open, inviting and engaging forum to discuss progress in this important area.

By David Wilkinson

BSMB Bursaries

BSMB Bursaries and Couchman Travel Awards are available. Current BSMB members are encouraged to apply for bursaries to present their **matrix related findings** in conferences. To apply, please submit a Bursary form, a pro-forma CV and your abstract for the meeting.

1) **Reporter bursaries (national)**: These bursaries are maximum £250 and are designed to support participation of the non-tenured early career researchers (i.e. PhD students or post-docs) in our BSMB Spring and Autumn meetings and in national (UK) meetings. Presenting at the meeting (either oral presentation or a poster) is the main condition of the bursary, and bursaries are given under the condition that the recipient produces a short (500 words) report of the meeting. **Applicants should have been a member of the BSMB for at least 3 calendar months prior to the opening (first day) of the meeting**. Membership subscription status should be up-to-date at the time of sending in the application.

2) **Reporter bursaries (international)**: These bursaries remain open to the non-tenured early career researchers (i.e. PhD students or post-docs). The awards are for up to £400 for meetings elsewhere in the world (~5 awards per year). Presenting at the meeting (either oral presentation or a poster) is the main condition of the bursary, and bursaries are given under the condition that the recipient produces a short (500 words) report of the meeting. **Applicants must be an active member of the BSMB for at least one year prior to the meeting** and must have attended one or more BSMB meetings. Membership subscription status should be up-to-date at the time of sending in the application.

3) In addition, we would like to announce a new **Tenure-track ECR Presenter Bursary scheme** (up to £250 for national meetings and up to £400 for international meetings) for ECRs at the start of their tenured or tenure-track position, who have been accepted for an oral presentation. Applicants should have been **a member of the BSMB for at least 3 calendar months prior to the opening (first day) of the national meeting** and **an active member of the BSMB for at least one year prior to the international meeting** and must have attended one or more BSMB meetings. For more details and to apply, please contact the Bursary Committee.

4) **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). Applicants should submit an abstract of the work to be presented at the meeting, and wherever possible, the awardees should use ground (public) transportation to the meeting site. **For a national meeting, the applicants must have joined the Society at least 3 calendar months before the opening day** of the relevant meeting. **European meeting applicants must be BSMB members in good standing, who have attended one or more BSMB meetings in person** and are affiliated to a recognised academic institution. Preference will be given to applicants who have not previously received an award via this scheme. For conditions of the award and to apply, please follow the link here.

5) **Bursaries to attend the "Matrix Biology Europe (MBE) or American Society for Matrix Biology (ASMB) meetings**". These bursaries remain open and fund up to £500 for MBE meetings (~5 awards per meeting) and £600 for ASMB meetings (~2 awards per meeting). Applicants should be non-tenured scientists, should have been **a member of the BSMB for at least 6 calendar months prior to the opening (first day) of the meeting** and must have attended one or

more BSMB meetings prior to the conference start date.

6) Early bird registration is now open for the **ECM2026 Congress**, taking place 14–17 June 2026, organised by the International Society of Extracellular Matrix Pharmacology (ISECMP). This event will bring together leading experts in matrix biology, fibrosis, cancer, immunology, and related fields. We have **one free place available for an ECR (preferably student) BSMB member**. To apply, you should have been a BSMB **member for at least 6 months** prior to the opening of the meeting. The place will be given by competition, the deadline to apply is the 1st of April, with the Committee decision announced by the 8th of April. To apply, please send your **CV, abstract and the cover letter** to the BSMB Bursary Committee before the 1st of April.

All bursary applications should be made within the early bird window of the conference registration. Applications should be sent to Dr Kasia Pirog (katarzyna.pirog@newcastle.ac.uk), Chair of the BSMB Bursary Committee. Please check your eligibility before applying.

By Kasia Pirog (Chair of Bursary Committee)

News from the International Society for Matrix Biology

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

Meet the Current BSMB Committee

Chair, Prof. Kim Midwood
University of Oxford
kim.midwood@kennedy.ox.ac.uk
Kim Midwood's group examines how homeostatic cell-matrix networks are altered by tissue remodelling following injury or infection, providing biochemical and biomechanical cues that contribute to inflammation and tissue repair, with the goal of developing ways to prevent or cure immune-mediated diseases such as rheumatoid arthritis, inflammatory bowel disease, fibrosis and cancer.

Honorary Secretary, Prof. Qing-Jun Meng
University of Manchester
qing-jun.meng@manchester.ac.uk
Qing-Jun Meng's group focuses on the two-way interactions between circadian rhythms and extracellular matrix in tissue homeostasis and age-related diseases, such as osteoarthritis, intervertebral disc degeneration, breast cancer, and skin ageing.

Honorary Treasurer, Dr. James Whiteford
Queen Mary University of London
j.whiteford@qmul.ac.uk
James Whiteford's lab focuses on the role of extracellular matrix receptors, particularly the syndecans, on the process of new blood vessel formation in development and disease.

Elected Members:

Dr. Douglas Dyer
University of Manchester
douglas.dyer@manchester.ac.uk
The glyco-immunology (Dyer) lab researchers how glycans within the extra cellular matrix and on cell surfaces regulate the immune response in complex biological contexts.

Dr. Angus Wann
University of Southampton
A.K.T.Wann@soton.ac.uk
Angus Wann's group is interested in mechanobiology of cells and the matrix, how they communicate and regulate each other's responses, to integrate decisions at cell, tissue and organ level, with a focus on a nanoscale cell organelle called the primary cilium in the skeleton.

Dr. David Wilkinson
University of Liverpool
david.wilkinson@liverpool.ac.uk
David Wilkinson's lab focuses on how extracellular proteinase families and their inhibitors interact to regulate matrix destruction and synthesis.

Dr. Sarah Snelling
University of Oxford
sarah.snelling@ndorms.ox.ac.uk
Sarah Snelling's research combines functional analysis with single-cell and spatial multiomic approaches to define the cellular basis of human musculoskeletal tissue development, disease, surgical response and homeostasis.

Dr. Joan Chang
University of Manchester
joan.chang@manchester.ac.uk
Joan Chang's group is interested in collagen-I regulation (intracellular trafficking, extracellular regulatory controls such as circadian rhythms and immune-fibroblast crosstalk) in health and disease, including fibrosis and rare genetic diseases.

PhD representative, Miss Hannah Evans
University of Nottingham
mzyhe3@nottingham.ac.uk

Co-opted Members:

Chair of ECR Award and Membership Committee, Dr. Anna Maria Piccinini
University of Nottingham
Anna.Piccinini@nottingham.ac.uk
Anna M. Piccinini's group investigates the reciprocal crosstalk between the extracellular matrix and immune cells in tissue homeostasis and infection, with a focus on macrophages and their contribution to local tissue integrity and identity.

Chair of Bursary Committee, Dr. Kasia Pirog
University of Newcastle
Katarzyna.Pirog@newcastle.ac.uk
Kasia Piróg's group studies molecular mechanisms involved in rare and common skeletal diseases, with emphasis on the abnormalities in the extracellular matrix (ECM) production, secretion and ultrastructure, and the impact on the biomechanical properties of musculoskeletal tissues.


(BSMB committee at the Surrey meeting Sept. 2025)

Meeting Reports

BSMB 2025 Autumn meeting at the University of Surrey – report by Anna Hoyle (University of Oxford) and Roufaida Bouchenafa (Newcastle University)

The meeting started with a session specifically dedicated to ECRs entitled 'Employing the matrix: pathways to career". Invited speakers for this session included representatives from prospective funders (British Heart Foundation), industry (Parse Biosciences), the network of ECRs working on extracellular matrix (the Meshwork), and medical writing firms (Envision Pharma Group), who provided their perspective on employability, transferable skills and different career pathways. Two lecturers from the University of Surrey provided career coaching and discussed the challenges for women and carers in academia. Chairs were ECR members of the University of Surrey support team. During the following 45-minutes panel discussion, which included Dr. Legate, Cell Reports' Scientific Editor, ECRs had the chance to address their questions to the speakers. A point which was particularly discussed was the use of AI in scientific writing with different perspectives from different stakeholders.

Dr Salvatore Santamaria and his team welcomed matrix biologists at the University of Surrey for a fantastic two days of "Uncovering the Matrisome: advances and trends in Matrix Research". The first session focused on the Matrisome which Alexandra Naba kicked off with an excellent discussion of how making sense of big data can further our understanding of ECM biology, presenting exciting updates to the Matrisome Portal and Matrigo. Fabio Grundland Freile then presented his work on the distinct ECM signature of the CMS4 subtype of colorectal cancer, finding the matrix largely upregulated. Jennifer Ashworth next talked about the production of tissue matched biomaterials, discussing how altering stiffness, matrix modifications and collagen patterning can impact clinical outcomes. Kazuhiro Yamamoto then revealed novel insights into the various, and tissue specific, roles of LRP1 through his characterisation of both its secretome and interactome. Valerio Izzi then closed the session with a fascinating tour of the different exploratory tools his lab has developed to focus on the matrix, including annotating spatial ECM expression and characterising matrix interactions. The second session of the day covered transcriptomics, single cell-omics and the matrisome. This started with a presentation from Sarah Snelling outlining her cell atlas for tendons and the musculoskeletal system, displaying cellular diversity across different anatomies and microanatomies. We then heard about how sponsors of the event, Parse Bioscience's, new scRNAseq technology supports scaling up. Chloe Yeung then presented about different fibroblast subsets identified in muscle tendon junctions having differential responses to exercise. This was followed by a talk from Christabel Dube on spatial transcriptomics and proteomics of the developing intervertebral disc, identifying notochordal cells as essential for matrix development. This session was finished by Alejandro Brenes who's work on single cell proteomics focused on neutrophils in glioblastomas, outlining the use of this technique to define subsets and functional states of neutrophils. ECR award winner Nicola Stevenson then closed the day with a fascinating John Scott lecture discussing the roles of golgins in ECM secretion, modification and assembly. Touring us through the roles of Giantin, GMAP210 and Golgin160 she detailed their substantial but also distinct roles in terms of the matrix. This was followed by a lovely conference dinner with some beautiful musical

accompaniment and a chance to connect with fellow matrix biologists.

The second day opened with Session 3, focusing on the role of the extracellular matrix (ECM) in both development and disease. Prof. Irit Sagi (Weizmann Institute) delivered the opening invited lecture, introducing the concept of ECM "memory" of damage and its role in chronic disease and tissue regeneration. Drawing on more than 20 years of work on ECM remodelling, she presented her group's most recent unpublished findings. Using a mouse model of acute DSS colitis, they developed an ex vivo organoid co-culture system combining epithelial stem cells from GFP mice with regenerated ECM. This approach revealed that ECM damage imprints have long-lasting effects: cytokine expression was increased, and stem cells shifted toward an inflammatory phenotype. These results suggest that persistent ECM imprints can reprogram cell fate and impair effective tissue repair, offering a new perspective on chronic inflammatory disease mechanisms. The first selected talk was given by Dr. Joe Swift (University of Manchester), who examined the co-existence of circadian and non-circadian ECM in tendon. Using a mouse tail tendon model with a ^13C-lysine diet and omics-based protein turnover analysis, he showed that while the soluble fraction of ECM proteins displayed rhythmicity, the insoluble fraction did not. Importantly, circadian-regulated matrix proteins exhibited faster turnover rates than non-circadian proteins in adult mice, but this difference was lost with ageing, pointing to a potential mechanism for age-related matrix dysfunction. Dr. Kavitha Kirubendran (King's College London) presented a novel patient-derived model for liver fibrosis designed for antifibrotic drug discovery. This system enabled characterization of ECM composition in fibrotic liver tissue and validated two ECM-modulating enzymes, TG2 and P4HA1, as potential therapeutic targets through inhibition studies. The model demonstrates translational potential for identifying and testing new antifibrotic therapies. The invited lecture by Dr. Emily Noel (University of Sheffield) introduced MorphoHeart, an integrated 3D analysis pipeline for studying the cardiac ECM during heart morphogenesis. Using live zebrafish embryos imaged with light-sheet microscopy, her team generated high-resolution z-stacks, applied image segmentation, and reconstructed 3D heart morphology in vivo. Volumetric and geometric analyses revealed regional expansion and reduction of the cardiac ECM during development. To quantify ECM (cardiac jelly) thickness, they developed a 3D heatmap approach, which could be projected into 2D to identify conserved patterns across embryos. This methodology provides a powerful framework for linking ECM remodelling with heart morphogenesis. After the scientific programme, the session concluded with trade stands, refreshments, poster viewing (odd- and even-numbered boards), and networking opportunities, allowing participants to discuss the talks and engage with industry and academic colleagues. Session 4 brought together a series of complementary talks showcasing cutting-edge methodologies to probe the structure, activity, and composition of the extracellular matrix (ECM). Together, these approaches offered a multi-layered perspective on how the matrisome can be studied at the levels of protease structure and activity, glycosaminoglycan (GAG) chemistry, and synthetic ECM modelling. The session opened with an invited lecture by Dr. Rens de Groot (University College London), who highlighted the power of computational modelling using AlphaFold to predict ADAMTS protein conformations and their substrate

interactions. His group's predictions included novel cleavage sites, such as ADAMTS4 acting on cartilage COMP, and identified TIMP4 as the most potent inhibitor of ADAMTS7. These structural insights extended beyond osteoarthritis, with implications for autoimmune conditions such as TTP through predicted autoantibody epitopes. De Groot's work provided a structural framework that set the stage for subsequent talks on how to experimentally track protease activity in tissues. Picking up from this, Mary Hines (University of Liverpool) presented experimental evidence using activity-based probes (ABPs) to directly visualize active serine proteases (SPs) in osteoarthritis. Since SPs

activate MMPs and thereby regulate ECM degradation cascades, her approach allowed the detection of active proteases in human cartilage and synovial fluid. Selective probes, including one for urokinase-type plasminogen activator (uPA), exemplified how precise tools can validate and expand upon computational predictions such as those presented by de Groot. While protease activity reflects one dimension of ECM regulation, the session then shifted towards chemical and spatial characterization of ECM components, particularly glycosaminoglycans. Lorna Milne (University of Nottingham) described the development of ToF-SIMS for label-free, in situ analysis of GAGs. By building a reference spectral library, her team was able to identify GAG types and sulphation patterns directly from tissue samples and integrate these findings into multi-omics pipelines. This complemented Anthony Devlin's presentation, which introduced ion mobility spectrometry imaging to resolve isomeric GAG structures, such as chondroitin sulphate variants, within tissue. His work demonstrated how disease states alter spatial glycan distributions, providing an unprecedented view of ECM remodelling in both mouse disease models and human cancers. The invited lecture by Prof. Cathy Merry (University of Nottingham) drew these strands together by emphasizing how GAG structures orchestrate cell–cell and cell–matrix communication. Using gastruloid stem-cell models of early development and advanced SIMS/OrbiSIMS imaging, her group demonstrated spatial differences in heparan sulphate (HS) and chondroitin sulphate (CS) deposition. Strikingly, HS was reduced in ependymoma samples while CS remained unchanged, highlighting disease-specific ECM alterations. Merry's talk underscored that GAG biosynthesis is non-template-driven and highly complex, but SIMS-based methods now enable high-throughput analysis across developmental and pathological contexts. Finally, the sponsor talk by Dr. Dammy Olayanju (PeptiMatrix) introduced tuneable, animal-free peptide hydrogels as customizable, reproducible ECM mimics. These synthetic platforms can be adapted for cell culture, disease modelling, and drug discovery, providing an experimental testbed to apply insights from both structural predictions and chemical imaging. Following the talks, participants moved to the Lower Concourse for lunch, poster sessions, networking, and engagement with trade stands, providing an interactive break before the afternoon programme.

The final scientific session focused on proteomics-driven approaches to studying ECM dynamics across ageing, disease, and tissue-specific contexts. Invited speaker Dr. Alexander Eckersley (University of Manchester) opened with novel proteomic strategies for detecting ECM damage in ageing and disease. He introduced peptide location fingerprinting (PLF), demonstrating how environmental factors such as UV or X-ray radiation cause region-specific structural modifications in ECM proteins, such as fibronectin and collagen. The development of

the MLPF web tool enables screening for structural alterations in proteomic datasets. Applications included analysis of photoaged human skin, ageing intervertebral discs (showing region-specific peptide changes in Col1a2 and Col2), and age-associated reductions in basement membrane proteins such as Col4 in human kidney and mouse lung. Importantly, he highlighted the potential of macrophages to contribute to basement membrane repair and outlined future prospects with spatially resolved PLF and next-generation DIA-based proteomics. Tina Burkhard (University of Surrey) presented a TAILS-based degradomics pipeline to identify the substrate repertoire of ADAMTS8, a protease upregulated in pulmonary arterial hypertension. His work revealed numerous ECM substrates, including collagens, fibronectin, decorin, laminins, SPARC, and thrombospondins, expanding ADAMTS8's degradome beyond osteopontin and suggesting a central role in fibrosis and ECM remodelling. Alexander Minns (University of Surrey) introduced a chromatography-based enrichment strategy to study proteoglycans and ECM regulators in thoracic aortic aneurysm tissue. Anion exchange fractions were enriched in proteoglycans (biglycan, lumican, decorin), while cation exchange fractions enriched regulators such as TIMPs and proteases. Pathway analysis confirmed distinct functional clustering (proteoglycan processes vs. ECM degradation), providing a robust platform for characterising ECM changes in disease. Invited speaker Dr. Suneel Apte (Cleveland Clinic) delivered a translational talk on the osteoarthritis degradome. He outlined forward and reverse degradomics approaches using terminomics to map proteolytic cleavage events in cartilage and synovial fluid. His work showed heterogeneity between patient-specific cartilage degradomes and highlighted protease-specific mechanisms, including MMP13-mediated cleavage and autocatalytic truncation of ADAMTS5 that influences substrate docking. By comparing degradomes across diseases, his group aims to identify both unique and overlapping mechanisms of ECM degradation, advancing the prospect of precision management strategies for OA, a major global health challenge. The scientific programme was complemented by Sponsor Talk 3: Baidurja Das (Sarstedt Ltd), who presented Sarstedt's sustainability solutions, including their Refill Revolution system designed to reduce packaging and plastic waste through a modular "one system, four options" approach. The session closed with Valerio Izzi's remarks on the importance of building a cell–matrix atlas, combining ECM profiling, computational biology, and spatial biology, calling for collaborative efforts across laboratories.

Finally, Dr. Douglas Dyer (University of Manchester) announced the next BSMB meeting, "ECM Biology Across Tissue Sites", to be held in Manchester, 14–16 April 2026.

The meeting concluded with the prize presentations:

- Oral prizes: Antony Devlin (The Rosalind Franklin Institute, IJEP), Lorna Milne (Nottingham, BHF), Christabel Dube (Manchester, BHF).
- Poster prizes: Anna Hoyle (Oxford, IJEP), Mohamed Ghafoor (Manchester, IJEP), Constance McManus (Liverpool, BHF), and Lorna Milne (Nottingham, BHF)

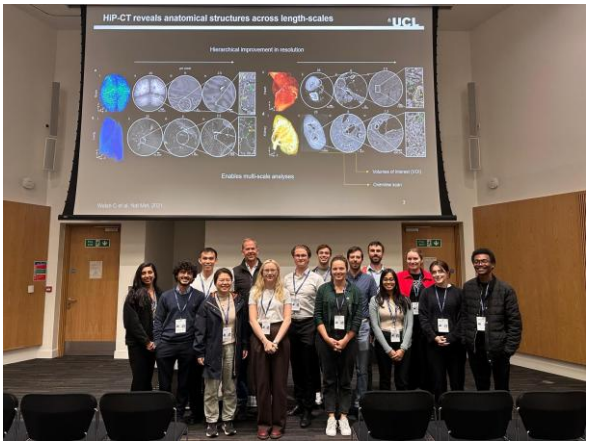
BioMedEng25 – report by Dr Aikta Sharma (University College London) The BioMedEng25 conference was held on 4th-5th September 2025 at the University of Strathclyde's Technology and Innovation Centre in Glasgow, Scotland. As the UK's largest gathering of biomedical engineers, the meeting attracted a variety of delegates from across academia, healthcare and industry to share the latest developments across imaging, digital health, tissue engineering, prosthetics, cardiovascular medicine and rehabilitation.

I was delighted to contribute by presenting my postdoctoral research in an oral session. My talk focused on the biomechanics of the tibial epiphysis in female STR/Ort mice, specifically how tibial architecture may provide resistance to load-induced strain using the combination of micro-computed tomography, synchrotron X-ray computed tomography and digital volume correlation. Presenting in this environment was both extremely rewarding and I greatly valued the thought-provoking feedback I received and the opportunity to thoroughly discuss my findings with senior experts and peers. These stimulating conversations sparked new perspectives that I am eager to take forward in future experiments.

The breadth of the program ensured that there was something for everyone and the plenary lectures were particularly inspiring. Professor Keith Mathieson from the University of Strathclyde showcased his group's pioneering work on photovoltaic subretinal prostheses to restore the sight of patients with age-related macular degeneration. An equally engaging plenary lecture was presented by Professor Praminda Caleb-Solly from the University of Nottingham on assistive robotics and intelligent sensing which explored how cyber-physical systems can be designed to support independent living for individuals with disabilities.

The keynote lectures further broadened the scope of the conference program. Professor Johnathan Cooper from University of Glasgow spoke on his work on community-based diagnostics that employ mobile phone based platforms with artificial intelligence to monitor the prevalence of infectious diseases in East Africa in both rural villages and urban communities. Professor Maiwenn Kersaudy-Kerhoas from Heriott-Watt University shared her work on sustainable and cost-effective manufacture of polymer-based microfluidic tools for the extraction of circulating nucleic acids for the diagnosis of cancer, infectious diseases and also for the non-invasive prenatal testing. Professor Will Shu from the University of Strathclyde introduced the exciting potential of bioprinting and 3D biofabrication and highlights its application in surgical training to the creation of functional tissues for drug screening. Professor Adriana Tavares from the University of Edinburgh shared her work on the development of novel positron emission tomography radiotracers and analysis pipelines her team has developed to enhance disease diagnosis, prognosis and monitoring of therapeutic responses.

The parallel sessions reflected the breadth of biomedical engineering research being undertaken across the UK and beyond. The topics ranged from musculoskeletal biomechanics and women's heath to cutting-edge advances in biosensing and digital twins for surgery. The early career researcher sessions stood out as a supportive platform for discussions between PhD students and postdoctoral researchers, exchange of feedback and importantly, the opportunity to exploring and establishing new collaborations was provided. Outside of the lecture theatres,



the workshops offered hands-on-learning opportunities covering the creation of digital health in addition to technical skill training led by Ansys and ThermoFisher Scientific. The conference dinner was a great opportunity to continue discussions in a relaxed setting, while the ceilidh and karaoke added a fun Scottish flavour to the social program.

Overall, attending BioMedEng25 was an enriching and motivating experience that broadened my knowledge of current topics and advances being made in the field of biomedical engineering research. I am very grateful for the support from the BSMB that enabled me to attend, and I look forward to BioMedEng26 in Liverpool next year.

SEE YOU IN APRIL IN MANCHESTER

Extracellular matrix biology across tissue sites. Location, location, location

13-14th April 2026, Whitworth Art gallery, University of Manchester

Confirmed speakers:

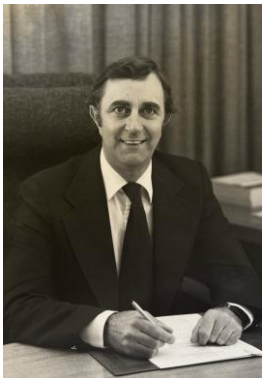
Eric Schmidt (Boston), Rebecca Miller (Copenhagen), Franck Pichaud (London), Chloé Yeung (Copenhagen), Tara Sutherland (Aberdeen), Oliver Pearce (London), Sarah Woolner (Manchester), Karen Piper-Handley (Manchester)

SEE YOU IN JUNE IN OULU

Obituary
Allen J. Bailey

Professor Allen J. Bailey, who died peacefully on New Year's Day not long before his 95th birthday, was one of the twentieth century's defining figures in connective tissue research. He was internationally recognised as a leader in collagen biology, and greatly respected by those who worked with him.

Educated at the Universities of London and Birmingham, Allen trained at a time when the discipline of biochemistry was still in its infancy. He began his research at Cambridge in the 1960s, when collagen was known to be important but was poorly understood at a molecular level. By the 1970s, Allen had emerged as a leading authority through his work elucidating the nature and chemistry of collagen cross-links. He demonstrated that collagen is not a static scaffold but is chemically modified as it matures with profound consequences for tissue strength, stiffness, and behaviour.



His research interests soon broadened from the chemical basis of biological stability to encompass the discovery of new genetic types of collagen, the elucidation of the protein's role in the ageing process, collagen's role in pathologies such scleroderma and systemic sclerosis, heritable connective tissue diseases, osteoarthritis, and several others. His research provided molecular explanations for observations long familiar to clinicians in the fields of rheumatology, orthopaedics, gerontology, and various others.

"AJB", as he was affectionately known to his core team, was driven by a burning curiosity and seemingly boundless energy. Espousing a multidisciplinary approach, he gathered around himself a focused and loyal group of scientists and enjoyed many national and international collaborations, which led to his hundreds of research publications, many highly respected reviews and several textbooks.

In 1979, Allen was made Director of the Institute of Food Research-Bristol while continuing his basic research on collagen and connective tissue. In the 70s and 80s he had a central role in the early development of the British Connective Tissue Society from its beginnings as the Collagen Club, through to its evolution to become the British Society for Matrix Biology helping to shape those organisations' intellectual foundations and interdisciplinary principles. He was elected to Honorary Membership in 1982 in recognition of his status as a founding father in connective tissue research.

Those who worked for him remember above all the high standards he set as a leader, valuing good work above everything. He was a strong supporter of young scientists, with a particular gift for setting people on a path of discovery that served both their own development and the wider cause of connective tissue research. Scientists came to work with him from across the world, including the United States, New Zealand, Canada, Brazil, Finland, and beyond. Many went on to be research leaders in their own right.

With his penetrating blue eyes, equally penetrating intellect, and sharp and dry sense of humour, Allen was a formidable presence. His co-workers wanted to impress him, and more than that, they wanted to earn his praise. He did not give it quickly, which meant that when it came, it really meant something. He knew exactly what he wanted to achieve scientifically and pursued it with focus, giving his team a sense of rigour, purpose, and pride.

L: John Petruska, M: Allen J. Bailey, R: John Fessler: Studying a model of a collagen molecule. March 1965.

Allen was delighted when, among his many other awards, he was made an Honorary Fellow of the Royal College

of Physicians, but he always said that his proudest achievement was his close knit and loving family. He and his wife, Beryl, loved to travel; in their long life together they visited over 86 countries. His family celebrate his life and many achievements, but he will be sorely missed by his two daughters, two sons, and his beloved twelve grandchildren.

Allen retired from active research in the late 1990s, but his influence never faded. His legacy lives on not only in his many publications, but also in the very long list of scientists who passed through his lab. Long after he published his final papers, Allen Bailey's work remains essential reading. He will be remembered with great affection, respect, and no small amount of awe; a giant in his field, a demanding but fair mentor, and a man of formidable scientific intellect.

Written by Dr Nicholas D Light, Colleague and Friend of Allen J Bailey