

Connective Issues



BSMB Newsletter

Committee:

Prof John Couchman (Chair), Prof Kim Midwood (Secretary),
Dr Tom van Agtmael (Treasurer), Ms. Laura Collins (Student rep),
Dr Michal Dudek (Post doc rep), Prof Qing-Jun Meng,
Prof George Bou-Gharios, Dr James Whiteford,
Dr Giovanna Nalesso & Dr Stephen Robinson

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Editorial

Welcome to the 91st Connective Issues; and as the festive break fades into an ever distant memory, rest assured that BSMB is here to fill 2018 with a host of exciting events and new ventures. This is an absolutely packed issue and so I will not long stand in the way of your enjoying it, except to highlight some of the opportunities on the horizon this year:

- **Programme released** for *Matrix Biology Europe 2018!* Have a look at the website to see the high calibre of speakers from across the world that will talk in the themed plenary sessions and workshops, each focusing on a specific aspect of Matrix Biology!
- **Presentations, poster prizes and bursaries:** get ready to join us at MBE2018!! There are a large number of slots for talks from selected abstracts, two extended poster sessions and an increased number of bursaries available for this meeting! Key dates for applying are within...
- **Young investigators:** applications are now open for the Dick Heinegård European Young Investigator Award, 2018. This prestigious award includes the chance to give a talk at MBE2018 and a substantial cash prize.
- **Photo competition:** with the launch of the BSMB instagram page why not be amongst the first to submit your entries for the photo competition, showcase your work to the public, and maybe even win a prize for the best image...

Kim Midwood, Honorary Secretary

Chair's Letter

In 1968, an increasingly unpopular Harold Wilson was Prime Minister in the UK, and preparations for decimalisation were

underway. A pint of bitter would cost you approximately two shillings. Australia retained the Ashes (some things don't change) and we were listening to the likes of the Rolling Stones (ditto). On the world scene it was a time of upheaval in Eastern Europe and the US, and protests against the Vietnam War were increasingly common in the UK and elsewhere. In science, the Nobel Prize for Physiology or Medicine was shared by Robert W. Holley, Har Gobind Khorana and Mitchell W. Nirenberg for their pioneering work on solving the genetic code, linking DNA to RNA and protein synthesis. This monumental advance had largely passed me by, however, being focussed more narrowly on upcoming "A" level studies. I was also unaware that connective tissue scientists from across Europe met in July 1968 in Cambridge for what would be the first FECTS meeting.

It seems a world away, but this July the BSMB will host Matrix Biology Europe 2018 on the 50th anniversary of that first meeting. We shall convene in Manchester on July 21-24, and we are delighted that the Wellcome Center for Cell-Matrix Research is sharing in the organisation of this meeting. Details of the conference are elsewhere in this newsletter, but I would encourage all our members to attend and help us to showcase UK matrix biology research to our colleagues in Europe. We already know that our meeting is attracting a great deal of interest across Europe, but also in the US where the ASMB have enthusiastically agreed to participate. Our programme of invited speakers is outstanding and I am confident that MBE2018 will be a highlight of the year. As with past MBE meetings, we are pleased that the ISMB have committed their support. We have a generous allocation of bursaries for eligible younger members and I would encourage applications. In summary, I hope you will join me in welcoming our colleagues from across Europe, USA, China, Japan,

Australia and elsewhere who are coming to Manchester for what will surely be an enjoyable and excellent conference.

Since MBE2018 is the major event in our calendar, it will be the only BSMB meeting this year. In 2019 we return to our normal schedule, and already plans are well developed for a joint meeting with Matrix Biology Ireland to be held in Liverpool in early April. The meeting organiser is George Bou-Gharios.

As we begin 2018 I would like to thank all my colleagues on the BSMB Committee for their time, enthusiasm and commitment to the success of our Society. As vacancies appear on our Committee, I hope that some of you will step forward to ensure the future of the BSMB. I am proud to belong to one of the largest and most active matrix societies in the world and I am confident that the BSMB will continue to flourish in the years ahead.

Finally, I wish all our members a happy, healthy and successful New Year.

John Couchman, Chairman BSMB.

BSMB News

Matrix Biology Europe 2018: programme announced! The British Society for Matrix Biology is organising the next Matrix Biology Europe (formerly FECTS) conference together with the Wellcome Trust Centre for Cell-Matrix Research in Manchester (21st- 24th July, 2018). The website is up and running and registration will open soon...

Key dates:

- Registration opens on the 5th March.
- Early Bird registration deadline is on the 15th June.
- Deadline for abstract submission to be considered for an oral presentation: 18th May (outcome communicated 31st May).

- Deadline for late breaking hot topic abstracts for posters: 15th June.
- Bursary application deadline is the 4th May (outcome communicated May 15th).

For further information and to register, please visit:

<http://www.conferecare.manchester.ac.uk/events/mbe2018/>

More details below.

Mark your diary

Matrix Biology Europe 2018
Manchester July 21-24 2018

BSMB Spring 2019 Meeting
Liverpool April 8-9 2019

BSMB Autumn 2019 Meeting
UEA September 9-10 2019



Dear Matrix Biologists - the BSMB is on social media! Like us on Facebook and follow us on Twitter to keep up to date.

And NEW for 2018, the BSMB is delighted to announce the launch of its Instagram page. We know that you possess a treasure trove of stunning images that rarely see the light of day. We want to showcase your work and educate the public using your beautiful pictures and videos. Instagram is an image focused social platform with nearly a billion active users and BSMB has a growing following on it. Send us matrix related pictures that you are proud of with a short description of what is shown in the picture and how it was imaged. We hope to raise

interest of young people in science by sharing the beautiful images generated through the work of our members. Also, if the picture is related to work that has been published we will link to your article so that interested people can read all about it.

In addition, at the upcoming MBE2018 meeting we will award prizes for the best submissions.

Please send your pictures and videos to bsmbinstagram@yahoo.com

You can also follow us on...

Instagram: [@matrixbiologyuk](https://www.instagram.com/matrixbiologyuk)

Twitter: [@BSMB1](https://twitter.com/BSMB1)

Facebook: [@BritishSocietyForMatrixBiology](https://www.facebook.com/BritishSocietyForMatrixBiology)

Laura Collins and Michal Dudek

Welcome to New Members!

(Full members since June 2017)

Ashlea Rowley
Hinke Multhaupt
Aibek Smagul
Isabella Collins
Anis Gammage
Anna Marzeda
Heather Davies
Jenna James
Kate Dowding
Ben Egan
Henry Young
Conor Sugden
Jeremy Turnbull
John Marshall
Douglas Sammon
Laura Collins
Cindy Ikie
Lorenzo Ramos
Hannah Tomlin
Salvatore Santamaria
Ben Calverley
Martina Miotto

Meet your Reps!



Laura Collins is the student rep on the BSMB committee, which she joined in 2017. She's currently in the second year of her PhD at the University of Oxford, investigating the contribution of heparan sulfate proteoglycans to the immune functions of human macrophages. She completed her undergraduate degree in Biomedical Sciences in 2016, also at the University of Oxford. When she's not in the lab, Laura enjoys playing the violin, being outdoors with her bike or her camera, and knitting.



Michal Dudek is the post-doc rep on the BSMB committee, which he joined in 2017. Michal is a post-doctoral researcher at the Wellcome Trust Centre for Cell Matrix Research, Division of Cell Matrix Biology and Regenerative Medicine at the University of Manchester. He works in the laboratory of Prof. Qing-Jun Meng on the role of the circadian clock in health and diseases of the

musculo-skeletal system with focus on osteoarthritis and intervertebral disc degeneration.

Any fellow students and post docs who have issues they would like Laura or Michal to raise with the BSMB committee can contact them at laura.collins@kennedy.ox.ac.uk or michal.dudek@manchester.ac.uk

Michal and Laura are very keen to meet other student and post doc members of the BSMB, and hope to see many of you there at MBE2018 in July!

New BSMB committee members



Giovanna Nalesso graduated in Pharmaceutical Biotechnology from the University of Padua in Italy in 2006. She was awarded a Unipharma Graduates scholarship from the University of Rome to develop a project in collaboration with Glaxo Smith Kline and moved to the UK. In 2007 she undertook a MRC funded PhD at the William Harvey Research Institute (WHRI), part of Queen Mary University of London. She spent a few more years as postdoctoral fellow at the WHRI where she became a Principal Investigator in 2015. She was appointed as Lecturer in Musculoskeletal Biology at the University of Surrey in 2017. Her research focuses on regenerative medicine applied to the musculoskeletal system with a particular interest for the characterization of the role of the Wnt signalling in the articular cartilage in arthritis.



Stephen Robinson is a Senior Lecturer in the School of Biological Sciences at the University of East Anglia. Stephen's group is interested in how integrin engagement with the matrix regulates endothelial cell behaviour. His lab is well known for skillfully blending cellular and molecular studies of endothelial cells in culture with the use of conditional knockout animal models to deliver key insights into integrin mediated angiogenic processes, particularly in the context of cancer.

Join the committee! Positions open ...

We are seeking two new members for the BSMB committee.

Any current member in good standing is eligible. Committee members formulate policy and have a major responsibility for organising BSMB meetings. It is expected that each Committee member will take a major part in planning and organising one BSMB meeting during their tenure, be available to attend most Committee meetings, but also to attend occasional further meetings. Should more nominations than vacancies be received, an election may be held. Nominees should send a CV to the

BSMB Secretary, Kim Midwood. Appointees become BSMB Trustees. It is recommended that those interested read BSMB Constitution and trustee status (www.bsmb.ac.uk).

Closing date: January 31st 2018. Enquiries to Kim Midwood or John Couchman.

BSMB Bursaries and Awards

MBE 2018 Bursaries:

To promote participation of junior researchers in this exciting international conference, BSMB will provide up to 15 bursaries for members of the BSMB. Each bursary will include free registration to the meeting, complementary conference dinner and 3 nights of accommodation. Please note that unlike conventional BSMB bursaries, the MBE 2018 bursaries will not involve a reimbursement process. Instead, the above costs will be paid upfront by the conference. The bursary criteria for BSMB members will remain the same as regular applications to attend “MBE/ASMB bursaries” (<http://www.bsmb.ac.uk/bursaries-page/facts-asmb-bursaries/>).

Bursary application deadline is the 4th May (outcome will be communicated by the 15th May).

Qing-Jun Meng

Chair of the BSMB Bursary Committee
qing-jun.meng@manchester.ac.uk

Bursaries awarded

(July – December 2017)

BSMB 2017 Autumn Meeting

Reporters: Afshan Dean, David Bardell, Jamie Thompson, Neil Marr.

Presenters: Martina Miotto, Ed Horton, Victoria Juskaite, Sean Giblin, Sara Falcone, Richa Garva, Joan Chang, Saima Ahmed.

Other Bursaries

ISDB, Beth Gibson, Reporter.

9th International Workshop on the CCN Family of Genes. Amy Horwell, Presenter.

ASCB-EMBO: Sean Giblin, Reporter.

GRC Collagen: Afshan Dean, Lauren Fleming, Jade Gumbs, Reporters.

BRS: Cleo Bonnet, Presenter.

Dick Heinegård European Young Investigator Award, 2018

The BSMB is hosting MBE2018 in Manchester (July 21-24, 2018). We shall include the Dick Heinegård European Young Investigator Award as part of the programme. This award is targeted at early career post-doctoral researchers and is named in memory of the great European Matrix Biologist, Dick Heinegård. The outcome of the competition will be decided at the MBE2018 conference in Manchester, U.K.

<http://www.conferecare.manchester.ac.uk/events/mbe2018/>

Each affiliated European Matrix Biology Society has been invited to hold its own competition to select their national nominee for this Award. The Young Investigator Awards Committee of MBE 2018 (to be appointed) will then consider each nomination and select the 6 strongest for oral presentation during the Young Investigator Award Session of the Conference. Those that are not included in final competition Session will, as far as possible, be invited to give an oral presentation in an appropriate Workshop. The Awards Committee will select the winner of The Dick Heinegård MBE Young Investigator Award 2018 based on the overall quality of the science and the oral presentation. The prize to the award winner will be €2000, funded as in past MBE meetings by the Matrix Societies of The

Netherlands, Germany and France and the BSMB.

On behalf of the BSMB Committee I would like to request and encourage nominations for the BSMB candidate for the Heinegård Award. Candidates must be current BSMB members and should have no more than 5 years postdoctoral research experience as of October 01, 2017. We ask that nominations reach me (j.whiteford@qmul.ac.uk) by March 01, 2018 at the latest. Each nomination should include an abstract of the presentation and full CV. Nominations received after this date may not be considered. A small panel of senior matrix biologists will adjudicate the selection process. The successful BSMB candidate will receive financial support to meet the costs of registration, 3 nights accommodation at one of conference venues and conference dinner.

James Whiteford
Chair, BSMB Young Investigator Award committee

'Good news'

In Print: Meeting Reports and Abstracts from the Oxford Spring 2017 meeting are now in print in the International Journal of Experimental Pathology.

In Press: Meeting Reports and Abstracts from the QMUL Autumn 2017 meeting will soon appear in the International Journal of Experimental Pathology.

Funding opportunities:

<http://www.sfi.ie/funding/funding-calls/epsrc-sfi-partnership/>

<http://www.sfi.ie/funding/funding-calls/sfi-hrb-wellcome-biomedic/>

To share good news contact *Kim Midwood*.

International Society for Matrix Biology News

A reminder to student and post-doctoral members who are also members of ISMB that the next deadline for **ISMB International meeting travel awards** is April 1 2018. These awards are for international travel to matrix biology-related meetings only and are awarded on the basis of scientific excellence and relevance to matrix biology. Successful candidates will be notified no more than one month after each deadline.

To apply for an ISMB travel award, you will need to prepare a single pdf file containing: (1) a letter with information about the meeting you wish to attend, the amount requested and a justification for the travel award support, (2) the abstract of your poster/short talk, and (3), curriculum vitae and list of publications. The application should be sent to the ISMB Secretary, david.hulmes@ibcp.fr

Following the meeting, awardees are expected to send to the ISMB a certificate of attendance and a short report on their experience at the meeting.

Membership fees to join ISMB are 20 euros for junior members (graduate students and postdocs up to 5 years after Ph.D.) and 50 euros for regular members. For more information about ISMB, visit the website ismb.org or take part in our Facebook (www.facebook.com/IntSocMatBio/) and twitter posts ([@IntSocMatBio](https://twitter.com/IntSocMatBio))

Jo Adams, University of Bristol.

Upcoming BSMB Meetings

Matrix Biology Europe 2018 **Saturday July 21 – Tuesday July 24** **Manchester**

Local organisers: Ray Boot-Handford & Qing-Jun Meng

MBE2018 will be held in Manchester from July 21 to July 24 2018. The conference will include 5 plenary sessions and 8 workshops each centered on a specific theme of Matrix Biology, plus the BSMB Fell-Muir Award Lecture, the ISMB Rupert Timpl award Lecture and the Dick Heinegard Young Investigator Award Session....plus talks from selected abstracts and posters galore....

Programme:

Saturday 21st July 2018
16.00-20.00 Registration

Plenary Session 1

Chairperson: Ray Boot-Handford

18.00 – 19.00 Reinhard Fassler (Martinsried)
Keynote Address, 'The Kindlin Universe'

Sunday 22nd July 2018

Plenary Session 2

Chairperson: Kim Midwood

9.00 – 9.30 Farshid Guilak (Washington Uni): 'Engineering new biologic therapies for arthritis.'

9.30 – 10.00 Janine Erler (BRIC Copenhagen): 'ECM remodelling during cancer progression.'

10.00 – 10.50 *Coffee break*

10.50 – 12.30 Workshop 1: Stem cells and Matrix Engineering

Chairperson: John Bateman

10.50 – 11.10 Gerjo van Osch (Erasmus MC, Netherland): 'Adult human Mesenchymal Stem Cells; heterogeneity and cartilage matrix engineering capacity.'

11.10 – 12.10 4 x 15 min talks selected from abstracts

12.10 – 12.30 Dimitrios Zeugolis (NUI Galway, Ireland): 'Extracellular matrix rich supramolecular assemblies in regenerative medicine.'

10.50 – 12.30 Workshop 2: Fibrillar/Matricellular Signalling

Chairperson: Patricia Rousselle

10.50 – 11.10 Laurent Duca (Reims, France): 'Elastin modification during vascular aging and pathophysiological consequences.'

11.10 – 12.10 4 x 15 min talks selected from abstracts

12.10 – 12.30 Wei Kong (Beijing, China): 'Cartilage Oligomeric Matrix Protein Interactome in Vascular Homeostasis.'

12.30 – 14.30 LUNCH and POSTERS

14.30 – 16.10 Workshop 3: Rhythms and Matrix Dynamics

Chairperson: Qing-Jun Meng

14.30 – 14.50 Karl Kadler (Manchester) 'On the existence of a circadian matrix that is mechanoprotective and able to respond quickly to injury.'

14.50 – 15.50 4 x 15 min talks selected from abstracts

15.50 – 16.10 Kazuhiro Yagita (Kyoto, Japan):
'Regulation and mis-regulation of cellular
differentiation-coupled circadian clock
functionality in mammals.'

**14.30 – 16.10 Workshop 4: ECM
Microenvironment, Adhesion and Cell Fate__**

Chairperson: Zhigang Zhang

14.30 – 14.50 Christa Maes (KU Leuven,
Belgium): 'Osteolineage Cells.'

14.50 – 15.50 4 x 15 min talks selected from
abstracts

15.50 – 16.10 Alberto Passi (University of
Insubria, Italy): 'Epigenetic control of
hyaluronan synthesis.'

16.10 – 16.40 Tea Break

Plenary Session 3

Chairperson: Liliana Schaefer

16.40 – 17.10 Taina Pihlajaniemi (Uni Oulu,
Finland): Collagen XVIII and its contributions
to development of tissues and
tumourigenesis

**17.10 – 18.00 ISMB Rupert Timpl Award
Lecture followed by Reception**

Monday 23rd July

Plenary Session 4

Chairperson: Sylvie Ricard-Blum

9.00 – 9.30 Joanne Murphy-Ullrich
(University of Alabama at Birmingham): The
ER stress and calcium regulatory protein
calreticulin in fibrosis in diabetic
nephropathy.

9.30 – 10.00 Andy Blanchard (GSK
Stevenage): 'Translating research to
therapies for lung fibrosis.'

10.00 – 10.50 Coffee break

**10.50 – 12.30 Workshop 5: ASMB
sponsored session: Pathobiology and
Therapeutics to fibrosis.**

Chairperson: Joanne Murphy-Ullrich

10.50 – 11.10 Rebecca Wells (UPenn): 'The
effect of a complex matrix on the mechanics
of liver fibrosis.'

11.10 – 12.10 4 x 15 min talks selected from
abstracts

12.10 – 12.30 Tom Barker (Uni Virginia):
'Post-translational modifications of
Fibronectin as therapeutic targets for
Fibrosis?'

**10.50 – 12.30 Workshop 6: Mechanisms of
matrix disease.**

Chairperson: Kathy Cheah

10.50 – 11.10 Nikos Karamanos (Univ. of
Patras, Greece): 'ERs as regulators of ECM:
from epigenetics to breast cancer cell
behaviour.'

11.10 – 12.10 4 x 15 min talks selected from
abstracts

12.10 – 12.30 Mike Briggs (Newcastle): 'New
therapeutic targets in genetic skeletal
diseases.'

12.30 – 14.30 LUNCH and POSTERS

**14.30 – 16.10 Workshop 7: The
Immunology/Matrix Interface.**

Chairperson: John Whitelock

14.30 – 14.50 Liliana Schaefer (Goethe
University, Germany): 'Small leucine-rich
proteoglycans in inflammation: two sides of
the coin.'

14.50 – 15.50 4 x 15 min talks selected from abstracts

15.50 – 16.10 Judi Allen (Manchester): 'Regulation of Matrix by Type 2 cytokines: Learning from Helminths.'

14.30 – 16.10 Workshop 8: Matrix Mechanobiology.

Chairperson: Checco Ramirez

14.30 – 14.50 Martin Schwartz (Manchester/Yale): 'Modulation of mechanotransduction responses by extracellular matrix.'

14.50 – 15.50 4 x 15 min talks selected from abstracts

15.50 – 16.10 Maria Dolores Martin Bermudo (Sevilla, Spain): 'Cellular contractility controlled by cell-ECM interactions sculpt organs and tissues.'

16.10 – 16.40 Tea Break

16.40 – 17.30 BSMB Fell-Muir Award.

Chairperson John Couchman

Ray Boot-Handford (Manchester): Gene cloning to clinical trials - the trials and tribulations of a life with collagen. (Followed by reception).

Tuesday 24th July 2018

9.00 – 10.45 Dick Heinegård Young Investigator Award Session

10.45 – 11.30 Coffee Break

11.30 – 12.00 Erhard Hohenester (Imperial College London): 'Biosynthesis and function of (honorary) glycosaminoglycans: insights from structural studies.'

12.00 – 12.30 2 x 15 min Hot topics (selected from abstracts)

12.30- 13.30 MBE AGM, Prizes, closing ceremony and lunch.

Accommodation: A variety of accommodation is available to suit all budgets including a large number of student en-suite rooms at very reasonable costs to encourage the widest participation. Further details are available on the meeting website.

Social events

Conference dinner: will be held at Old Trafford Football Stadium on the Monday evening and will cost £60.00.

Bursaries

Reporter bursaries will be available for eligible BSMB members: please see BSMB website for details (<http://www.bsmb.ac.uk/bursaries-page/>) and email your applications to Qing-Jun Meng (qing-jun.meng@manchester.ac.uk) by 4th of May 2018. Successful applicants will be notified by 15th May 2018.

Prizes: Prizes will be awarded for poster presentations.

Important deadlines

Abstract submission: 18th May 2018.

Early bird registration ends: 15th June 2018.

Registration fees

Full £360

Students £290

Please note that these are early-bird fees, which will increase by £40 (£30 for students) on 15th June 2018.

For further information and to register, please visit <http://www.confercare.manchester.ac.uk/events/mbe2018>

BSMB Spring 2019 Meeting
Liverpool University
April 8-9th 2019

Stroma, Niche, Repair

Organised by George Bou Gharios

This will be a joint meeting held together
with Matrix Biology Ireland.

BSMB Autumn 2019 Meeting

University of East Anglia

September 9-10th 2019

Organised by Stephen Robinson

Meeting reports

BSMB Autumn 2017 Meeting Queen Mary University London

Translating the Matrix

Organised by James Whiteford

This report is a compilation of the reports written by our reporter bursary awardees: David Bardell, Afshan Dean and Neil Marr. Many thanks for your efforts.

The BSMB autumn meeting was held at Queen Mary University, at the mile end campus in London. The two-day meeting was organised by James Whiteford and was attended by 70 attendees. The meeting presentations and discussions provided impressive evidence of the progress being made in not only understanding the matrix but importantly how we can use this to benefit human health. The meeting was sponsored the British Journal of Pharmacology.

Session 1. Pharmacological targets in the matrix (1). Chairs: Dr Linda Troeburg and Dr Michal Dudek

Dr Nunzio Bottini from San Diego, the first of the invited speakers kicked off the session of talks with a tour de force describing the role of fibroblast like synoviocytes (FLS) in the

pathogenesis of rheumatoid arthritis and how his research has identified and validated the role of the transmembrane protein tyrosine phosphatase PTPRS in modulating FLS behaviour via the proteoglycan switch mechanism. This provides an exciting alternative potential therapeutic mechanism to traditional immunosuppressive agents.

Victor Martinez (UCL) followed with a short talk describing the influence of CLEC-2 receptor activation on ECM deposition by fibroblastic reticular cells and the influence this has on the delicate internal architecture and functional capacity of lymph nodes.

The role of ER stress in disruption of collagen synthesis and deposition was explored by Dr Adam Pickard (Manchester) and Dr Afshan Dean (Glasgow). Dr Pickard described the interplay between circadian rhythm, collagen chaperone molecules HSPA5 and 4-PBA and Type I collagen homeostasis, whilst Dr Dean focussed on the effect of defective collagen IV deposition in basement membranes and how supplementation with chemical chaperones PBA and TUDCA can ameliorate the clinical symptoms in a tissue specific manner.

Professor Kim Midwood (Oxford) posed the question 'Is the matrix playing an active role in driving inflammation?' With much research focussed on pathogen pattern recognition in the host and its role in reactive inflammatory response, less is understood



about the process in situations of sterile inflammation. Using tenascin-C as an example of a matrix protein which is upregulated in non-pathogen associated tissue injury, Prof Midwood described how this molecule plays a role in driving site specific inflammation via induction of inflammatory cytokine synthesis, stimulating production of anti-self antibodies subsequent to citrullination and its ability to generate a tumour-tolerant micro-environment in the ECM. This protein, which has already shown promise as a biomarker for predicting RA development in clinically asymptomatic patients and as a prognostic marker in primary and metastatic neoplastic disease, may offer a new avenue for treating conditions such as RA.

Session 2. Matrix Pharmacology (1). Chairs: Dr Samantha Arokiasamy and Prof George Bou-Gharios

After a short coffee break, session two kicked off with Giulia De Rossi (QMUL, UK) showing that inhibition of syndecan-2 can reduce neo-vascularisation in macular degeneration. QMUL's presence at the meeting continued, with Christopher Schultz demonstrating that latent progranulin can serve as a chondrogenic and anti-inflammatory treatment for arthritis. The third speaker Rens de Groot (ICL, UK) presented work comparing COMP proteolysis by ADAMTS7 and ADAMTS4, whilst David Wilkinson (Newcastle, UK) delivered the penultimate talk on the role of transmembrane serine proteinases in osteoarthritis.

The Sir John Scott lecture was then given by Elena Rainero (University of Sheffield) who won the BSMB young investigator award which was presented by Graham Riley. Dr Rainero has uncovered that ligand bound

integrins are internalised at fibrillary adhesions located under the nucleus. This internalisation is regulated by tensins -1, -2, -3 as well as the class II Arf4 and suppression of any of these, disrupts the flow of ligand bound integrins. To close the first day, attendees were treated to some wine and a poster session, before gathering for an evening meal and even more wine.



The John Scott lecturer Elena Rainero.

Session 3. Matrix Pharmacology (2). Chairs: Dr James Whiteford and Dr Giulia De Rossi

Dr Jessica Bertrand (University Hospital Magdeburg) described the regulatory role Syndecan 4 plays in OA, mediating articular chondrocytes sensitivity to WNT signalling.

Dr Blandine Poulet (Liverpool) presented data on fibrillin-1 expression patterns in trauma induced and spontaneous OA models and demonstrated joint specific changes in expression from the pericellular expression pattern in articular and growth plate chondrocytes of healthy joints.

Dr Richa Garva (Manchester) returned to the theme of circadian changes in tendon homeostasis addressed earlier, with identification of distinct temporal differences

in expression of genes responsible for synthesis, trafficking and degradation of a small pool of 'sacrificial' collagen.

Dr Richard Stratton (UCL) described the identification of genetic variants in the LEPREL-1 gene, responsible for encoding prolyl 3-hydroxylase 2, and their role in inappropriate collagen synthesis in dermal fibroblasts. LEPREL1 deletion was shown to be protective against pathological fibrosis.

Dr Tero Jarvinen (University of Tampere, Finland) gave a fascinating talk on his work developing CAR peptide, a 9 amino acid sequence homologous to the heparin binding site of BMP4 which can be conjugated to therapeutic molecules such as decorin to target delivery to areas of active angiogenesis, to accelerate tissue regeneration and minimise scar tissue formation.

Session 4. Open session for early career researchers. Chairs: Dr Giovanna Nalesso and Dr Stephen Thorpe

The talks given by the early career researchers evidenced the great breadth of novel research being done in matrix biology. Victoria Juskaite (ICL) presented her work in unravelling the redistribution and novel collagen induced activation mechanism of the receptor tyrosine kinase DDR1. Richa Garva of Karl Kadlers lab discussed how the chonomatrix is regulated by proteins controlled by the circadian rhythm, Richa's data illustrated day and night proteins provide a regulatory control for procollagen secretion. Neil Marr followed by presenting how ageing can affect tendon stem progenitor cells and discussed a unique population of tendon stem cells within the interfascicular matrix. Sara Falcone presented

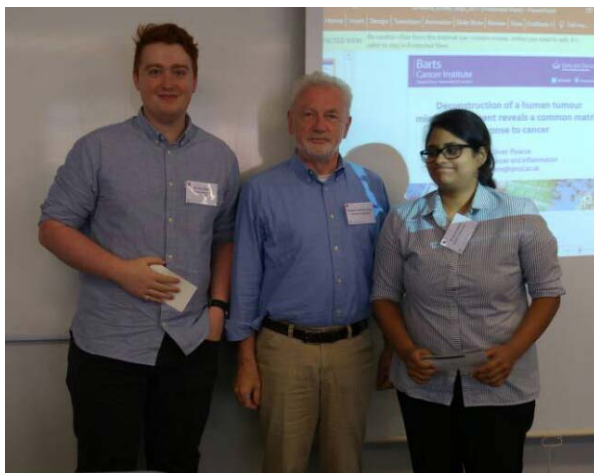
novel results indicating that a point mutation in the gene which encodes the laminin alpha-5 chain can cause nephrotic syndrome in a mouse model. The talks were concluded by a presentation by Michele Scotto di Masse who spoke of the effects of ageing on Col1a1 in lung fibroblasts.

Session 5. Pharmacological Targets in the Matrix (2). Chairs: Prof Francesco Dell'Accio and Dr Victor Martinez

The final session of the conference started with John Marshall (QMUL, UK) giving a riveting story of the past, present, and future of targeting integrin $\alpha\beta6$ to treat cancers. Annele Saino (Turku, Finland) demonstrated how decorin-mediated mechanisms can be targeted for oncosuppressive treatments in breast cancer, then Francesco Dell'Accio (QMUL, UK) delivered an excellent impromptu performance, discussing Suzanne Eldridge's work on agrin as an inhibitor of the canonical WNT signalling cascade. Next, Edward Horton (Copenhagen, Denmark) gave excellent insight into targeting tissue-specific fibroblast-derived matrix components to inhibit metastasis. The final talk of the conference was delivered by Oliver Pearce (QMUL, UK), describing his work on the development of a matrix index that tracked evolving tumour microenvironments, which can now inform 3D in vitro models of tumour progression.

To close the meeting, awards were handed out, with best oral award to Victoria Juskaite and best poster awards to Sean Giblin and Saima Ahmed for excellent presentations. With the conference being a huge success, it came as no surprise that James Whiteford received a huge applause for putting together an excellent conference, and attracting an incredible group of researchers.

The Global Matrix



Prize winners pictured: best oral presentation Victoria Juskaite (top) and best poster awards Sean Giblin and Saima Ahmed (bottom).



Qing-Jun Meng and John Couchman were invited speakers at the 2nd annual meeting of the Chinese Society for Matrix Biology. The meeting was held in Jishou, Hunan Province in June 2017 and was well attended, particularly by younger scientists. A wide array of high quality science was presented, demonstrating rapid growth of matrix biology in China.

***Gordon Research Conference:
the multifaceted nature of collagens in
development, disease and tissue repair.***

July 16th to 21st July 2017

***This report is a compilation of the reports
written by our reporter bursary awardees:
Afshan Dean, Lauren Fleming and Jade
Gumbs. Many thanks for your efforts.***

The Collagen Gordon Conference was held at Colby-Sawyer College in New London, in the USA, in July. The meeting was organised by Florence P. Ruggiero and Marion Gordon. The first Collagen Gordon meeting was held in 1970 making it 47 years old, and one of the longest-running Gordon conferences, with many people returning year on year.



This 5-day meeting was attended by 126 attendees and sponsored by NIH, Fibrogen, Rutgers, Silab, ISMB, The company of Biologists, Integra, BioMeca, Geistlich, IGFL and L'oreal. The meeting was organised such that there were morning sessions, an afternoon break, followed by an evening session, each session covering a specific angle of collagen research. In the afternoon breaks, there were activities organized, as well as a woman in research power session and business meetings. This format allowed for excellent networking opportunities. There were also poster times in between the

sessions and all posters remained on display throughout the conference giving ample time to visit all poster stands. All meals were provided on-site, the food was outstanding and the dining area layout lent itself to a great way to sit and talk with/meet/network with other attendees.

The underlying theme of the conference aimed to highlight the diversity of Collagens and their roles in development, disease and tissue repair. The conference scheduled was jam packed with exciting presentations, while still allowing for two hours of free time to explore sunny New Hampshire. With over 50 years of collagen research there an abundance of information known and numerous collagen myopathies, however what was especially apparent was much more is still to be elucidated utilizing a range of novel techniques, engineering, 'omic' approaches and model organisms to further our understanding.

The programme:

The Keynote session on the first evening of the conference was led by John Bateman and was focussed on research involving Collagen biosynthesis. There were three great talks within this session. The last of these was delivered by Hans-Peter Bachinger from Shriners Hospital, USA. This fascinating presentation detailed the use of genetics based approaches to demonstrate the intracellular and extracellular consequences of mutations affecting proteins involved in the proper biosynthesis of Collagen molecules.

The following morning, Erhard Hohenester chaired a session which provided a platform for researchers to discuss their work with relation to Collagens as dynamic regulators of networks. As part of this session, Adam Pickard, from the University of Manchester, gave a very interesting talk explaining the novel methodology their group is employing to study the rates of synthesis and turnover of new Collagen fibres. Morning sessions were followed by a break in the

afternoon, where there were planned excursions on offer, allowing delegates to explore the beautiful areas surrounding the conference grounds. Poster sessions began late afternoon between Monday and Thursday and lasted for two hours at a time. They provided a great opportunity to discuss my research directly with other delegates as well as to hear/see the exciting recent developments they have been making in their group, especially given that the majority of work presented at these conferences is yet to be published. The evening session on day two of the conference focussed on the interaction of cells with their surrounding Collagen microenvironment. This session was comprised of four interesting and varied presentations, and discussion was led by Alessandra Sacco from Sanford Burnham Prebys Medical Discovery Institute. During this session, Peter Friedl gave a very interesting talk regarding the effects of invading cancer cells on the remodelling of the extracellular matrix, and how this process can lead to a passive spread of cancer cells within the affected tissue.

Day three began with a session focussed on Collagens within the basement membrane. Discussions were led by Leena Bruckner-Tuderman of the University of Freiburg, and the section included talks from seven delegates, covering a range of Collagens, pathologies and novel treatment avenues. Billy Hudson, from Vanderbilt University, gave a talk on the evolution of Collagen IV and its importance in enabling multicellular organisms to evolve from single celled organisms. I particularly enjoyed hearing about the Aspirinaut summer research program students who had aided the research in this study, with the program enabling undergraduates from disadvantaged backgrounds to gain hands-on laboratory research experience for those who are interested in a biomedical research career.

Sally Horne-Badovinac, from the University of Chicago, led the Wednesday morning session

which focussed on the role of Collagens in Development and Tissue Regeneration. Catherina Becker gave a very interesting talk on axonal regeneration in zebrafish. Following the talks on the Wednesday evening, night time entertainment included a karaoke room and was a great opportunity to interact with other delegates in a more informal setting!

The final morning session involved talks related to Collagens in inherited and common diseases and potential therapies and was chaired by Alexandra Naba of the University of Illinois. Antonella Forlino, from the University of Pavia, gave an interesting talk on the beneficial effects of chemical chaperone treatment on an osteogenesis imperfecta model in zebrafish. This lecture series was followed by the traditional lobster and steak conference dinner which was enjoyed by all! Following dinner, the exciting lecture programme was rounded off with a final session focussed on technological advances and emerging directions for Collagen Research.

Comments from the reporters:

"An excellent meeting! I am new to the field of collagen and this meeting provided a plethora of relevant knowledge. I have never been to a meeting where unpublished data was shown so frequently and with such trust. The small size of the meeting meant I got to network with a majority of the attendees and talk about my research as well as that of others. It was an incredibly valuable meeting and I am grateful to the BSMB for the financial support aiding my attendance."

"The GRC is a closed conference, with researchers actively encouraged to present cutting edge unpublished research, with the knowledge that photos and tweeting of data is strictly prohibited. Networking and sharing techniques and experiences were prominent features of the GRC, and I left the conference with new ideas and plans for experiments moving further. I had the opportunity to give oral presentations at both the GRS and GRC and came away with numerous ideas for further work, received valuable feedback and had opportunities to network. I'm extremely grateful for the BSMB for providing a travel grant to enable me to attend this conference."

"The Gordon Collagen Conference was full of fascinating talks and posters and I feel lucky to have been given the opportunity to experience such an event and to discuss my research with those of similar interests."

Current BSMB Committee

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University of Copenhagen;
john.couchman@bric.ku.dk

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University of Oxford;
kim.midwood@kennedy.ox.ac.uk

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University of Glasgow;
tom.vanagtmael@glasgow.ac.uk

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Prof. Qing-Jun Meng
University of Manchester;
Qing-Jun.Meng@manchester.ac.uk

Dr. James Whiteford
QMUL, London;
j.whiteford@qmul.ac.uk

Prof. George Bou-Gharios
University of Liverpool;
G.Bou-Gharios@liverpool.ac.uk

Dr. Giovanna Nalesso
University of Surrey;
g.nalesso@surrey.ac.uk

Dr. Stephen Robinson
University of East Anglia;
Stephen.Robinson@uea.ac.uk

Co-opted Members:

Prof. Jo C. Adams
University of Bristol;
jo.adams@bristol.ac.uk

Dr. Graham Riley
University of East Anglia;
graham.riley@uea.ac.uk

Laura Collins
Student rep, University of Oxford;
laura.collins@lincoln.ox.ac.uk

Dr. Michal Dudek
Post Doc Rep, University of Manchester;
michal.dudek@manchester.ac.uk

Prof. Ray Boot-Handford
University of Manchester;
ray.boot-handford@manchester.ac.uk

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Matrix Biology Europe 2018
Celebrating 50 years of FECTS
Manchester, United Kingdom. 21-24 July 2018



Confirmed speakers
Judith Allen, Maria Dolores Martin Bermudo, Tom Barker, Andy Blanchard, Ray Boot-Handford
Mike Briggs, Janine Erler, Reinhard Fässler, Laurent Duca, Farshid Guilak, Erhard Hohenester
Karl Kadler, Nikos Karamanos Wei Kong, Christa Maes, Joanne Murphy-Ullrich, Liliana Schaefer
Gerjo van Osch, Alberto Passi Taina Pihlajaniemi, Martin Schwartz
Rebecca Wells, Kazuhiro Yagita, Dimitrios Zeugolis
(Rupert Timpl Award; Fell Muir Award; Dick Heinegård Young Investigator Award)



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REGISTRATION OPENS MARCH 5th 2018