A fibroblast within a tethered lattice, after 13 days, with a cavity surrounding the cell and areas of packed collagen fibrils *(Porter et al. 1998 Wound Rep. Reg. 6: 157-166)*

ISMB NEWSLETTER 26 April 2017
Editor: Sylvie Ricard-Blum and the Communication Subcommittee

FROM THE PRESIDENT'S DESK

Dear ISMB members,

The first months of 2017 went by so fast. Can you believe the flowers are already in full bloom, and a warm breeze hints that summer is not that far away? The European Matrix community is off to a great start, with the renewal of the Wellcome Trust Centre for Cell-Matrix Research (Manchester, UK) until 2021. Congratulations to all colleagues from the Centre, and to the British Society for Matrix Biology! The German Society for Matrix Biology kicked off 2017 with a couple of newly founded or prolonged Collaborative Research Centers including matrix biology projects. CRCs are long-term university-based research projects in Germany, established for up to 12 years, in which researchers work together within a multidisciplinary research program sponsored by the German Research Foundation and the local University. High spirits, enthusiasm and energy prevailed at the Annual Meeting of the German Society for Matrix Biology hosted by our colleagues from Cologne. In March, the meeting of the French Extracellular Matrix Biology Society was held in Marseille. The spring meeting of the British Society for Matrix Biology in April 2017 was dedicated to various aspects of proteoglycan biology and function in Oxford, UK. In a satellite meeting, the BSMB was hosting the Nordic Proteoglycan Workshop, bringing many colleagues from Sweden, Norway and Denmark to Oxford. In this issue of the ISMB Newsletter we are continuing to visit various Matrix Societies. From the US, we are shifting our attention to Europe, and will offer you more information on members, current activities, and scientific efforts of the British, French, German and Irish Matrix Biology Societies.

In Q1 of 2017, ISMB members elected Sylvie Ricard-Blum to become Vice President and President-elect of the ISMB by a majority vote. I'd like to congratulate Sylvie on her scientific achievements, and extend gratitude for her commitment to the matrix community! Sylvie's recognition is certainly well deserved, and I greatly look forward to collaborating closely over the next two years and beyond.

Furthermore, ISMB Council's request to alter ISMB statutes to include the Past President as an executive committee member of the Council was accepted by

a large majority of ISMB members. I would like to thank all members for their participation in this vote. We are grateful to Francesco Ramirez for rejoining the ISMB Council and sharing with us his experience as a Past President.

Early on in 2017, the ISMB Council has created a number of subcommittees for the following tasks: Communication (chaired by Sylvie Ricard-Blum), Travel Grants & Meetings (chaired by Ruud Bank), and Membership (chaired by Jamie Fitzgerald). We believe that this approach is a very effective means to serving the ISMB community. We are grateful to Sylvie Ricard-Blum and Julia Etich (junior scientist representative), for furnishing the ISMB with new flyers and posters, which were distributed at the European matrix meetings this spring. The flyer is available on the ISMB website (http://ismb.org/new-ismb-flyer-available-here). Posters will be distributed upon request. With that in mind, I kindly ask our members to actively support the ISMB by circulating printed versions of the flyer, showing the flyer during your presentations, and thereby helping spread the message of the ISMB at as many scientific meetings as possible. Your support is greatly appreciated and will allow us to continue making a positive impact and further our cause.

Because of increasing requests for meeting support, the subcommittee for Travel Grants & Meetings is accepting applications at least 6 months before the meeting with the following deadlines: January 1, April 1, July 1, and October 1. Applications should be sent to David Hulmes, ISMB secretary. Based on the January and April applications, the ISMB is currently sponsoring: The FEBS Advanced Lecture Course on Matrix Pathobiology, Signaling & Molecular Targets, May 25-30, 2017, Spetses, Greece; Jefferson Matrix Biology and Pathology Symposium on Fibrosis and Fibrotic Diseases, June 4-6, 2017, Philadelphia, PA, USA; Gordon Research Seminar/Gordon Research Conference on Collagens, July 15-21, 2017, New London, NH, USA, and the Seven Lakes Proteoglycans Conference, September 10-14, 2017, Varese, Italy. We are happy to provide this support and wish all participants successful and enjoyable meetings. In addition to the above-mentioned meeting support, several individual travel grants will allow young scientists to attend various meetings in the matrix biology arena. On behalf of the ISMB council, I would like to congratulate the following ISMB travel grant awardees: Nikos Afratis, Bassil Dekky, Stefanie Heumüller, Tatjana Holzer, Raquel Melero-Fernandez de Mera, Mukti Singh, Agnès Tessier, and Chloé Yeung. Many thanks to the members of the subcommittee for Travel Grants & Meetings, who had a tough job to select awardees from the many highly qualified applicants. One only would like to have more resources to attract young scientists to the field of matrix biology. With this in mind, I would like to kindly ask you to pass this newsletter on to your students, fellows and colleagues, who are interested in matrix biology, but are not yet ISMB members. ISMB membership fees are quite low and present an excellent value proposition. Let's get more talent on board!

For our US colleagues, we will keep our fingers crossed that in the week of April 24th Congress will consider wisely during its FY 2017 omnibus funding bill discussions.

Last but not least, I hope you will enjoy a proper *Spring Awakening,* some seriously hot *Midsummer Night's dreams*, great scientific discoveries, high-impact publications, lots of grant moneys, and a slew of really zesty meetings.

Kind regards,

Liliana Schaefer
ISMB President

COMPOSITION OF ISMB COUNCIL SUBCOMMITTEES

Communication
Jo Adams (UK)
Danny Chan (Hong-Kong)
Julia Etich (Germany)
Wei Kong (China)
Sylvie Ricard-Blum (France, chair)

Meetings and travel grants
Anthony Day (UK)
Ruud Bank (The Netherlands, chair)
Barbara Smith (USA)
Gerhard Sengle (Germany)
Barbara Smith (USA)
Hide Watanabe (Japan)
Chloé Young (UK)

Membership
Jamie Fitzgerald (Australia, chair)
Sara Wickström (Germany)
Hide Watanabe (Japan)

Like ISMB on Facebook
https://www.facebook.com/IntSocMatBio/

and follow the ISMB on Twitter
ISMB@IntSocMatBio
https://twitter.com/intsocmatbio

ISMB correspondents of National Societies for Matrix Biology for Facebook and Twitter

The American Society for Matrix Biology
Alexandra Naba, University of Illinois, Chicago (USA)
anaba@uic.edu

The British Society for Matrix Biology
Andrew Hellewell, University of Bristol (UK)
andrew.hellewell@bristol.ac.uk

The Finnish Connective Tissue Society
Piia Takabe, University of Eastern Finland, Kuopio (Finland)
piia.takabe@uef.fi

The French Society for Matrix Biology
Marine Montmasson, Lyon (France)
marine.montmasson@ibcp.fr

The German Society for Matrix Biology
Julia Etich, University of Cologne (Germany)
julia.etich@uni-koeln.de

Matrix Biology Society of Australia and New Zealand (MBSANZ)
Luise Kung, Murdoch Childrens Research Institute, Melbourne (Australia)
louise.kung@mcri.edu.au

THE BRITISH SOCIETY FOR MATRIX BIOLOGY (BSMB)

The BSMB is a thriving organisation of some 400 members whose mission is to support and promote matrix biology research, education and outreach in the UK. We can trace the origins of our Society back to 1980 when The Mucopolysaccharide Club and Collagen Club fused to form the British Connective Tissue Society. From here it grew rapidly and in recognition of the changing nature of the field and its wide impact on many disciplines in biology and biomedicine, underwent a change in name to British Society for Matrix Biology in 1998. In our current form, therefore, we have been growing and developing for the past 20 years.

Our major activity is to organise and hold research conferences twice annually. These meetings are held at various universities across the UK and frequently have an underpinning theme. In turn this has facilitated interactions with other societies and fostered joint meetings. In the recent past we have held joint meetings with The Biochemical Society, British Society for Developmental Biology and the Bone Research Society. Looking beyond the UK we have also fostered joint meetings with other societies in Europe, including two meetings with the German Society for Matrix Biology, one in Frankfurt, the other in Oxford. In early April 2017 we shall hold our Spring meeting in Oxford, and commensurate with the theme of "Matrix proteoglycans: active participants in cell-ECM communication" we are delighted to host the Nordic Proteoglycan Workshop for a special one day satellite meeting immediately after the main BSMB meeting. Many colleagues from Norway, Sweden and Denmark will be attending. In the future, we are exploring the possibility of a joint meeting with the relatively newly formed Matrix Biology Ireland in 2019.

The first Federation of Connective Tissue Societies (FECTS) meeting took place in Cambridge in 1968. Since that time we have hosted FECTS, or Matrix Biology Europe (MBE) as it is now, in Manchester (1986) and in Brighton (2002). To celebrate 50 years of European matrix meetings, the BSMB is very pleased to host the 3rd MBE in a return to Manchester (July 21-24, 2018). Preparations are well underway (http://www.confercare.manchester.ac.uk/events/mbe2018/) and we look forward to participation from across Europe, as well as from the ISMB and ASMB.

From a wider national perspective, the BSMB is a member organisation of the Royal Society of Biology (RSB), which has a key role as a unified voice for the entire biological sciences in the UK and is frequently called upon for expert opinion by government. The RSB has at its core a mission to promote the biological sciences and its practitioners, as well as advancing education and public interest in biology for the future benefit of society. We regard the RSB as an important umbrella organisation that represents and supports our science.

Approximately one-third of our members are students and a major mission of the BSMB is to support these new investigators. We have always promoted our meetings as collegial and supportive of early career stage investigators who are encouraged to present their data, join in chairing sessions and participate at the student and postdoctoral level on the BSMB committee. To this end, we have an extensive bursary programme that provides financial support to enable early career stage BSMB members, students and Post-Doctoral Researchers, to attend our meetings. We also provide bursary support for attendance at relevant national and international meetings not organised by ourselves (e.g. Gordon Conferences, MBE, ASMB). In the past 4 years we have provided 107 bursaries. In addition we have an annual Young Investigator Award that goes to an outstanding junior BSMB member, underwritten in recent years by a bequest from the late John Scott, a strong past supporter of matrix biology and our Society. In addition, the BSMB is an enthusiastic sponsor of the highly competitive Dick Heinegård Young Investigator award that is now an important feature of MBE meetings.

Our second major prize is the Fell-Muir award, named after two pioneers in matrix biology, Professors Dame Honor Fell and Helen Muir. This award is given, usually annually, to a principal investigator who has not only made

outstanding contributions to matrix biology, but also to the BSMB. There have been 10 previous winners of this award, including Mike Grant, Dick Heinegård, Tim Hardingham, Gill Murphy and Bjorn Olsen. This year's awardee is Cay Kielty. As with the Young Investigator awardee, the Fell-Muir awardee is asked to write an article for The International Journal of Experimental Pathology. Indeed the Fell-Muir award and poster prizes for our meetings are underwritten by IJEP. We have enjoyed a close relationship with the journal, and its editor, David Katz for many years, and our meeting reports and abstracts are published regularly in its pages.

Dick Heinegård receiving his Fell-Muir award from Bruce Caterson and John Couchman

The structural underpinning of the BSMB is its Committee working under a governing Constitution. Consisting of three officers, Chairman, Honorary Secretary and Honorary Treasurer together with a small number of elected members, including student and postdoctoral representatives, the committee has planning, oversight and meeting organisational responsibilities. Members usually join the committee for a three year term, and in that time undertake the organisation of one BSMB meeting. It is a vital role, but with the collective experience of the officers and support of colleagues, nevertheless it is enjoyable and rewarding. Meeting organisers have a mandate to nominate a theme for the meeting and suggest speakers. We have enjoyed many meetings over the past 20 years, featuring some of the most talented matrix biologists from around the world as our guests and speakers. Given the enthusiasm of our younger members, we are optimistic that just as the field continually expands in its importance to human health and disease, so will the BSMB continue to provide a platform for scientists from inside and outside the UK to meet, network and drive matrix biology forward.

John R. Couchman, PhD, FRSB (Chairman)
Andrew A. Pitsillides, PhD, FRSB (Hon. Secretary)
Tom van Agtmael, PhD (Hon. Treasurer)

http://www.bsmb.ac.uk/

THE FRENCH SOCIETY FOR MATRIX BIOLOGY

For more than 50 years now, the French Society for Matrix Biology's mission has been to promote basic, translational, and clinical research on all aspects of extracellular matrix (ECM). Since the ECM is a complex network of proteins and polysaccharides that are secreted locally by cells and remain closely associated with them to provide structural, adhesive and biochemical signalling support, the French Society for Matrix Biology community benefits from an extreme diversity of research areas. These include the study of its composition, molecular organisation and function in various tissues in both normal and pathological situations, the biochemical structure of its constituents and their interactions, and their gene regulation machinery. It also comprises cell-ECM interactions and signalling pathways, ECM-based therapies and devices. The society addresses mechanisms involved in physiological situations such as development, ageing, tissue homeostasis and repair as well as pathologies including cancer, inflammation, cardiovascular disease, metabolic disorders, osteoarthritis and chronic wounds.

The French Society for Matrix Biology achieves this mission by promoting interactions among academia, scientific societies, industry, and hospitals; facilitating dissemination of knowledge and new findings; providing mentoring opportunities to junior scientists and students and providing funding for young researchers (through national and international travel awards, young investigators awards; best poster or presentation awards). This not-for-profit organization counts around 100 members throughout France including researchers, physicians, dentists, pharmacists, veterinarians, and students, who actively participate each year in the national scientific meeting. The society regularly invites investigators to speak from other research areas and often welcomes international participants. Joint meetings are regularly organized either with other European societies such as the German Society for Matrix Biology or with other French societies that focus on different but related topics (such as dermatology or mineralized tissues). The board also organises short focus meetings on a regular basis. For example, a couple of one-day meetings were co-organised with the European Center for Dermo-cosmetology in 2016 and 2017 which focused on the extracellular matrix in skin ageing. These are great opportunities for members to meet industrial partners and establish collaborations. In addition, the society encourages communication between members through a website (http://www.sfbmec.fr) and a newsletter, the next issue of which will come out shortly. To attract and involve young members and be aware of their wishes, expectations and suggestions concerning the future goals or emphasis of the Society, a decision was taken recently to welcome a Ph.D student as a board member of the society. Together with a board of 10 members, the current president Patricia Rousselle together with her secretary Hervé Emonard and treasurer Nathalie Theret work together to fulfil these ambitious goals.

From left to right : Nathalie Theret, Patricia Rousselle, Hervé Emonard

The Annual meeting of the SFBMEc, March 16-17, Marseille (France)

http://www.sfbmec.fr/

THE GERMAN SOCIETY FOR MATRIX BIOLOGY

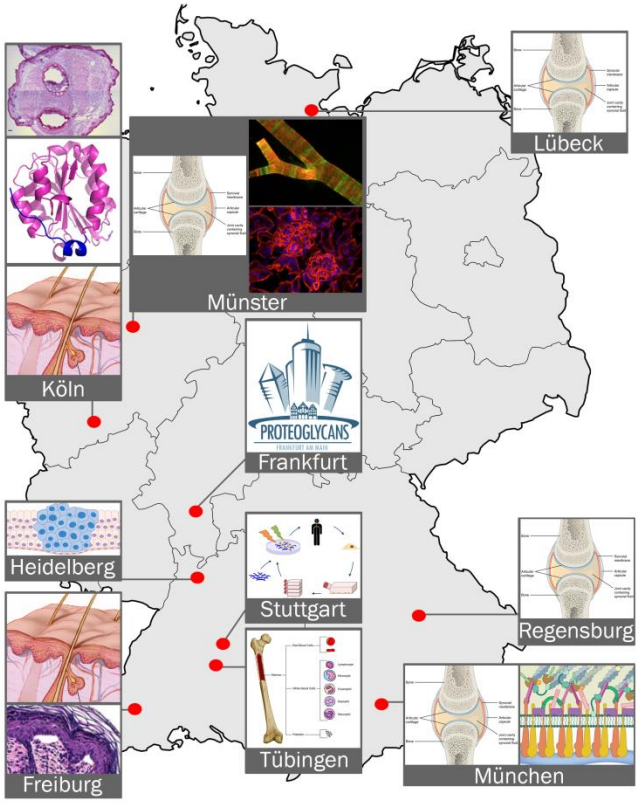
GSMB or Deutsche Gesellschaft für Matrixbiologie (DGMB)

Ever since the first descriptions of "Bindegewebe" (connective tissue) by German anatomists, Germany has been one of the leading countries for matrix biology research. Since the German Society for Matrix Biology was established in 1987, we are happy to celebrate our 30th anniversary this year! We represent a very active society dedicated to promote matrix biology research and to increase awareness of the importance of our field. By giving out awards and travel grants to PhD students and young postdocs we would like to especially support the career development of young matrix biology researchers. We promote international scientific exchange in our collaborations with MBE and ISMB, and together with these societies we are also involved in conferring the biennial MBE YIA and Rupert Timpl Award to outstanding young investigators.

Each year the GSMB organizes an annual conference, usually taking place in spring. Every other year this meeting is held jointly with one of the European societies. In 2016 we had a very successful joint meeting with the French Society for Matrix Biology in Freiburg. This year the meeting took place in Cologne, and although a national meeting, renowned speakers from all over the world presented and discussed their findings. At this meeting, we launched a *Junior Scientist Session* as pre-symposium serving as new platform for PhD students and postdocs to exchange ideas and network. In 2018 we are looking forward to the joint Swiss-German meeting in Stuttgart.

We are an interdisciplinary society with chemists, clinical chemists, biologists, biochemists, and researching and practicing clinicians as members. This versatility of our members is reflected by our research activities, encompassing projects focused on structural biology to translational research and everything in between. Groups with a research focus on matrix biology that are active in the GSMB are localized throughout Germany.

The funding system in Germany has allowed for creation of multiple research networks and collaborative research centers (SFBs) involving matrix research. Currently, there are five research centers on infectious diseases and autoimmune or rheumatic disorder, lipid signaling, autophagy, redox-regulation, skin homeostasis and four research networks on cell motility, ubiquitination, bone degradation and regeneration, and the cardio pulmonary system.



*The map shows active matrix biology centers with some of their research areas***.**

To exemplify the versatile research activities within the GSMB, we would like to introduce our board members and highlight some of their research interests.

President Liliana Schaefer, Goethe University, Frankfurt/Main. Research interests: Contribution of the ECM in inflammatory kidney disorders, signaling of small leucine-rich proteoglycans in innate and adaptive immunity as endogenous danger molecules and triggers of "sterile" inflammation.

Treasurer Gerhard Sengle, University of Cologne. Research interests: Mechanisms of how a fibrillin microfibril scaffold coordinates growth factor activity and bioavailability in order to develop new therapies for Marfan Syndrome and related disorders and to give rise to novel opportunities for tissue engineering.

Secretary Rita Dreier, University of Muenster. Research interests: Molecular control mechanisms of chondrocyte maturation during endochondral ossification (physiological condition) and degenerative joint diseases (pathological condition).

Susanne Grässel, University of Regensburg. Research interests: Chondrogenic and osteogenic differentiation of mesenchymal stem cells in the context of peripheral nervous system and to investigate pathophysiological mechanisms of cartilage and bone degradation in osteoarthritis and bone regeneration after trauma.

Katja Schenke-Layland, University of Tuebingen. Research interests: Cellular and extracellular matrix components relevant for normal human development and leverage that knowledge to develop applications in the field of tissue engineering and regenerative medicine.

Alexander Nyström, Medical Center – University of Freiburg. Research interests: Dermal microenvironment, collagen VII, and dystrophic epidermolysis bullosa.

Julia Etich (representative of junior scientists), University of Cologne. Research interests: Role of hypertrophy-related miRNAs and extracellular proteins in skeletogenesis and osteoimmunology and the contribution of miRNAs and mesenchymal cells in wound healing.

http://www.matrixbiologie.de/

The Annual Meeting of the German Society for Matrix Biology, March 9th-11th, 2017, Cologne, Germany

For the first time the Annual Meeting of the German Society for Matrix Biology was preceded by a Young Scientist Session, which provided in the spirit of the Gordon Research Seminar series ample opportunity for young scientists to network and share and discuss ideas.

The proud winners of the GSMB Poster Prizes and Young Investigator Award (YIA) conferred by the GSMB President Liliana Schaefer. From left Anna Otte, University of Kiel; Maria Benito-Jardón, University of Valencia; Liliana Schaefer; Raphael Reuten (YIA), University of Copenhagen.

MATRIX BIOLOGY IRELAND

The scope of Matrix Biology Ireland – the Irish Society for Matrix Biology – is to promote and consolidate scientific interest and expertise around extracellular matrix research in all its forms within Ireland and to link this with the international scientific community of matrix biology. Our brief encompasses education, training, research, development, clinical translation and outreach activities related to matrix biology. Key thematic groups within the Matrix Biology Ireland community include:

- Advanced microscopy techniques
- Biomaterials / Tissue engineering / Regenerative medicine
- Delivery of therapeutics / biologics
- Developmental biology
- Extracellular matrix synthesis and degradation
- Glycobiology
- Immunology
- *In vivo* and *in vitro* models
- Modelling
- Pathophysiology / Degenerative conditions / Injury

MBI MATRIX BIOLOGY IRELAND

http://www.mbi.ie
Twitter: @MBIreland

Although Matrix Biology Ireland is still in its infancy (established 2013), we have >150 members. Our annual meetings (end of November / early December) exceed 100 participants, both national and international. Our Council is renewed every 3 years and the current Council members (2017-2019) are:

- Dr Manus Biggs (National University of Ireland Galway)
- Dr Neil Docherty (University College Dublin)
- Dr Róisín Dwyer (National University of Ireland Galway)
- Dr Tom Flanagan (University College Dublin; Secretary)
- Dr Michael Monaghan (Trinity College Dublin; Treasurer)
- Prof Fergal O'Brien (Royal College of Surgeons in Ireland)
- Dr Cian O'Leary (Royal College of Surgeons in Ireland)
- Prof Abhay Pandit (National University of Ireland Galway)
- Prof Fabio Quondamatteo (University of Glasgow; Immediate Past President)
- Dr Aideen Ryan (National University of Ireland Galway)
- Mr Alexandre Trotier (National University of Ireland Galway; Student Member)
- Dr Dimitrios Zeugolis (National University of Ireland Galway; President)

The 3rd Annual MBI meeting, 16th- 18th of November 2016, Galway, Ireland

From left to right : Joao Quintas Coentro, Dimitrios I Zeugolis, Kyriakos Spanoudes, Ana Carolina Mourao Fradinho, Anna Sorushanova, Diana Gaspar, Valeria Graceffa, Rita Peixoto, Eugenia Pugliese.
At the back: Dimitrios Tsiapalis, Hector Monsonis-Capella.

The 3rd Annual MBI meeting, 16th- 18th of November 2016, Galway, Ireland

T. Jarvinen (Finland)

D. Dotcheva (Germany)

M. Gomes (Portugal)

M. Alini (Switzerland)

T. Pihlajaniemi (Finland)

MEETING REPORT

The first matrix biology symposium of young investigators Shenzhen University (China) December 9-10, 2016 under the sponsorship of the Chinese Society of Matrix Biology

Cell-matrix interaction and matrix biology have become one of the exciting focuses among life science researchers in China. With the sponsorship of Chinese Society of Matrix Biology (CSMB), the first matrix biology symposium of young investigators has been hold in the Health Science Center of Shenzhen University on December 9-10, 2016.

The symposium was hosted by **Baohua Liu** (Shenzhen University) and comprised of 18 speakers in four scientific sections. Firstly, the role of microvascular niche in liver injury and repair was presented by **Lin Wang** and coworkers (Xijing Hospital, Fourth Military Medical University). Dr. **Jian Luo** and colleagues (East China Normal University) discussed the identification and characterization of LGR4 as the novel receptor of the osteoclastogenesis factor Rankl. The cross-talk between immune cells and pancreatic stellate cells during chronic pancreatitis progression was described by **Jing Xue** and colleagues (Shanghai Jiaotong University). **Xiaomei Lu** and coworkers (China Medical University) provided evidence from the study of lumican overexpression exacerbating LPS-induced multiple organ dysfunctions in mice. The cardiovascular protective role of COMP in inhibiting thrombin activity and alleviating atherosclerotic calcification was interpreted by **Yi Fu** and colleagues (Peking University). With the focus of regenerative medicine, **Qiang Zhao** and coworkers (Nankai University) elaborated the application of biomimetic extracellular matrix for cardiovascular regeneration.

Min Guan and colleagues (Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences) presented that transcription factor ERRα guides mitochondrial glutamine anaplerosis during osteogenic differentiation of mesenchymal stem cells, which meets energy expenditure for new protein synthesis for matrix formation and

mineralization. Bioactive hydrogel-mediated stem cell therapy in renal diseases was elaborated by **Guowei Feng** and colleages (Cancer Institute and Hospital, Tianjin Medical University). **Jianqiang Xu** and coworkers (Dalian University of Technology) elucidated the redox sensor-like function of a conserved/surface-exposed Trp114 residue of mammalian selenoprotein TrxR1. Mechanobiology plays an important role in cell-matrix signaling, and **Cheng-han Yu** and colleagues (University of Hong Kong) introduced the mechano-transduction of integrin signaling by super-resolution microscopy. Epigenetic regulation of integrin-interacting protein Kindlin-2 on non-coding RNA in breast cancer metastasis was discussed by Dr.**Yu Yu** and coworkers (Peking University). A mechanistic study of Kindlin-2 protein stability and degradation was elaborated by **Xiaofan Wei** and coworkers (Peking University).

Jiangguo Lin and colleagues (South China University of Technology) applied single molecular techniques to reveal the mechanisms underlying protein-protein and protein-DNA interactions. Matrix biology is one of the key factors in cancer development and metastasis, and **Helen He Zhu** and coworkers (Ren Ji Hospital, Shanghai Jiao Tong University) reported the recent work on cellular and molecular mechanisms governing the symmetric and asymmetric division of hTert highly expressed prostate cancer stem cells. **Baohua Liu** (Shenzhen University) presented a story that SIRT7 antagonizes TGF-β signaling and inhibits breast cancer metastasis. The abrogation of antitumor activity and stability of FHL1 by HDAC6-UBE-dependent deacetylation was introduced by **Lihua Ding** and coworkers (Academy of military medical sciences). **Bingli Wu** and collaborators (Shantou University Medical College) discussed the role of LOXL2 and its interacting proteins in the promotion of metastasis and invasion of esophageal cancer. Molecular mechanisms of LCN2 in the development of malignant tumor regulated by inflammatory

POSITIONS AVAILABLE

PostDoctoral Research Associate (Job Ref: 007108)
Health and Life Sciences, Institute of Integrative Biology, University of Liverpool (UK)
Contact: Dr Addolorata Pisconti (pisconti@liverpool.ac.uk)
Tenure: Until 31 August 2018
Closing Date: 23 May 2017
We are looking to recruit a postdoctoral researcher for an exciting project funded by the Medical Research Council (MRC) and by three charities (Charlie's Fund, Duchenne UK and Joining Jack) aimed at testing a novel therapeutic approach for the treatment of Duchenne muscular dystrophy. The successful candidate will be able to demonstrate strong motivation, good knowledge of the literature on muscular dystrophy and an interest in pre-clinical studies. We would particularly like to encourage applicants with experience in studies involving mice and histology. Previous experience with preclinical studies is desirable. The successful candidate should have a PhD in a relevant biological science discipline.
The project is funded by an MRC grant to Dr Dada Pisconti, a Lecturer in the Institute of Integrative Biology at the University of Liverpool, UK (https://www.liverpool.ac.uk/integrative-biology/). The work will be based in well-equipped laboratories in the Institute of Integrative Biology, which hosts a cutting-edge Centre for Cell Imaging (http://cci.liv.ac.uk/) and is associated with a state-of-the-art Animal Facility and a word-class Centre for Preclinical Imaging (https://www.liverpool.ac.uk/technology-directorate/facilities/)
The project aims to test selective neutrophil elastase inhibitors as potential therapeutic agents for the treatment of screen assays and cell culture assays) the rest of the project will involve a significant amount of work using mice, followed by histology and data analysis. Your main responsibility will be to ensure that the project runs smoothly according to the protocols developed together with the supervisor, Dr Dada Pisconti, and that the milestones are met.

Further positions on ISMB website (http://ismb.org/career/)

NEWS FROM THE EDITOR-IN-CHIEF OF MATRIX BIOLOGY

Dear fellow Matrix Biologists,

The journal that represents you is becoming the premier journal in the field. We had nearly 300 new submissions last year with over half a million downloads. The predicted (my prediction) impact factor will be abundantly greater than 6, which positions Matrix Biology in the high impact journals. The new metrics system based on Scopus, CiteScore, has reached a very high value, 6.23, which places the journal in the 91st percentile of all molecular biology journals. Matrix Biology is now ranked 31 out of 351 molecular biology journals.

There are two main reasons for this rapid rise. The first is the launch of first-class Special Issues starting in 2014 with the Special Issue on Proteoglycan (edited by Liliana Schaefer), followed by those focused on Matricellular Proteins (2014, edited by Joanne Murphy-Ulrich), MMPs (2015, edited by Bill Parks and Suneel Apte), and Mineralized Tissue (2016, edited by Marian Young).

The second is the launch of several thematic minireview series with leading experts in the field including members of the National Academy, USA. In 2017, we will have two Special Issues, one on Basement Membranes, the current issue of the journal (edited by Ambra Pozzi) and one to be soon completed on Provisional Matrix (edited by Tom Barker and Adam Engler). For 2018, there will be additional special issues focused on ECM-Driven Diseases and Hyaluronan Biology.

I like to thank you for helping me in reviewing all the papers and for your contribution to the field. I wish you the best for 2017!

Renato V. Iozzo, MD PhD (Honoris causa)
Editor, Matrix Biology

RECENT PAPERS

Lumican effectively regulates the estrogen receptors-associated functional properties of breast cancer cells, expression of matrix effectors and epithelial-to-mesenchymal transition.

Karamanou K, Franchi M, Piperigkou Z, Perreau C, Maquart FX, Vynios DH, Brézillon S.

Sci Rep. 2017 Mar 23;7:45138

Corresponding author**:** Stéphane Brézillon (stephane.brezillon@univ-reims.fr)

Abstract: L*umican is a small leucine-rich proteoglycan that has been shown to contribute in several physiological processes, but also to exert anticancer activity. On the other hand, it has been recently shown that knockdown of the estrogen receptor α (ERα) in low invasive MCF-7 (ERα+) breast cancer cells and the suppression of ERβ in highly aggressive MDA-MB-231 (ERβ+) cells significantly alter the functional properties of breast cancer cells and the gene expression profile of matrix macromolecules related to cancer progression and cell morphology. In this report, we evaluated the effects of lumican in respect to the ERs-associated breast cancer cell behaviour, before and after suppression of ERs, using scanning electron and confocal microscopies, qPCR and functional assays. Our data pinpointed that lumican significantly attenuated cell functional properties, including proliferation, migration and invasion. Furthermore, it modified cell morphology, inducing cell-cell junctions, evoked EMT/MET reprogramming and suppressed the expression of major matrix effectors (matrix metalloproteinases and EGFR) implicated in breast cancer progression. The effects of lumican were found to be related to the type of breast cancer cells and the ERα/β type. These data support the anticancer activity of lumican and open a new area for the pharmacological targeting of the invasive breast cancer.*

Probing glycosaminoglycan spectral signatures in live cells and their conditioned media by Raman microspectroscopy.

Brézillon S, Untereiner V, Mohamed HT, Hodin J, Chatron-Colliet A, Maquart FX, Sockalingum GD.

Analyst. 2017 Apr 10;142(8):1333-1341.

Corresponding author: Stéphane Brézillon (stephane.brezillon@univ-reims.fr)

Abstract: *Spectroscopic markers characteristic of reference glycosaminoglycan molecules were identified previously based on their vibrational signatures. Infrared spectral signatures of glycosaminoglycans in fixed cells were also recently demonstrated but probing live cells still remains challenging. Raman microspectroscopy is potentially interesting to perform studies under physiological conditions. The aim of the present work was to identify the Raman spectral signatures of GAGs in fixed and live cells and in their conditioned media. Biochemical and Raman analyses were performed on five cell types: chondrocytes, dermal fibroblasts, melanoma (SK-MEL-28), wild type CHO, and glycosaminoglycan-defective mutant CHO-745 cells. The biochemical assay of sulfated GAGs in conditioned media was only possible for chondrocytes, dermal fibroblasts, and wild type CHO due to the detection limit of the test. In contrast, Raman microspectroscopy allowed probing total glycosaminoglycan content in conditioned media, fixed and live cells and the data were analysed by principal component analysis. Our results showed that the Raman technique is sensitive enough to identify spectral markers of glycosaminoglycans that were useful to characterise the conditioned media of the five cell types. The results were confirmed at the single cell level on both live and fixed cells with a good differentiation between the cell types. Furthermore, the principal component loadings revealed prominent glycosaminoglycan-related spectral information. Raman microspectroscopy allows monitoring of the glycosaminoglycan profiles of single live cells and could therefore be developed for cell screening purposes and holds promise for identifying glycosaminoglycan signatures as a marker of cancer progression in tissues.*

ISMB MEMBERSHIP: BECOME A MEMBER OF ISMB!

ISMB is dedicated to promoting matrix biology research on a global scale and to facilitating communication among matrix-related organizations and researchers from different countries. Members are eligible for discounted registration fees at matrix meetings supported by ISMB. The Society sends out newsletters highlighting recent research advances, descriptions of matrix biology resources, new appointments and awards, together with announcements of relevant meetings.

Every two years, the Society presents the Rupert Timpl Award to a young scientist (<40 years old) for the best paper related to matrix biology published in the previous two years and gives the Distinguished Investigator Award for lifetime achievement in the field of matrix biology. ISMB sponsors travel grants for young scientists to attend international matrix meetings. If you work in the matrix biology area, consider becoming a member of ISMB to support the international matrix community and give your input on ways to improve interactions and communication. See the website www.ismb.org to join, and for recent job postings and newsletters.

Welcome to new members of ISMB since January 2017

Mukti Singh	PhD student	University of Manchester (UK)
Anne Barrett	PhD student	University of Manchester (UK)
Johanna Howson	PhD student	University of Manchester (UK)
Karen Lim	PhD student	University of Manchester (UK)
Richa Garva	Postdoc	University of Manchester (UK)
Joe Swift	Research Fellow	University of Manchester (UK)
Alan Godwin	Research Associate	University of Manchester (UK)
Ewa Mularczyk	Research Associate	University of Manchester (UK)
Jonathan Humphries	Senior Research Associate	University of Manchester (UK)
Victoria Juskaite	PhD student	Imperial College, London (UK)
Ines Marques	Assistant	University of Bern (Switzerland)
Collin Ewald	Professor	ETH Zurich (Switzerland)
Stefanie Heumüller	PhD student	University of Cologne (Germany)
Frank Gondelaud	PhD student	University of Lyon (France)
Adriana Miele	Professor	University of Lyon (France)
Manuel Dauchez	Professor	University of Reims Champagne-Ardenne (France)
Dvir Mintz	Postdoc	Weizman Institute of Science, Rehovot (Israel)
Gloria Bellin	PhD student	University of Verona (Italy)
Thomas Neill	Postdoc	Thomas Jefferson University, Philadelphia (USA)
Raman Devarajan	PhD student	University of Oulu (Finland)
Raquel Melero	Postdoc	University of Eastern Finland, Kuopio (Finland)
Chun-Yu Lin	PhD student	Ludwig Institute for Cancer Research, Uppsala (Sweden)

MATRIX BIOLOGY LABS

The group of **Matyas Mink**, studying type IV collagen mutations in the fly *Drosophila*, has moved to the Institute of Medical Biology, University Szeged, Hungary.
Contact: mink@bio.u-szeged.hu
University of Szeged, Institute of Medical Biology, Somogyi B. u. 4, H-6720 Szeged, Hungary
Telephone (office): (+36) 62 54 55 98

MATRIX MEETING ANNOUNCEMENTS

FEBS Advanced Lecture Course Matrix Pathobiology, Signaling & Molecular Targets
May 25-30, 2017
Spetses, Greece,
Course Organizer: Nikos K. Karamanos
Application deadline for YTF applicants: 15 February 2017
Application deadline for registration and abstract submission: 28 February 2017
http://www.febs-mpst2017.upatras.gr

The 6th FEBS Advanced Lecture Course on Matrix Pathobiology, Signaling and Molecular Targets (6th FEBS-MPST 2017) follows the previous successful FEBS-MPST 2015, 2013, 2011, 2009 and 2007 meetings.

Matrix Biology is a fast growing field with significant impact in all areas of Biosciences. The 6-days FEBS-MPST 2017 will offer oral sessions with invited plenary lectures, talks by confirmed speakers, general lectures and tutorials, selected talks related to the topics of the presented abstracts, poster presentations, panel discussions and speakers' corner/meet the expert. These sessions will address both basic and applied science topics that appeal to the range of participants working in the fields of Matrix Biology, Biochemistry, Cell & Molecular Biology, Glycobiology, Structural Biology, Pharmacology, Biotechnology and Medicine.

The Organizing Committee has put together an outstanding group of internationally recognized experts as invited speakers. Open slots for talks will include selected short talks and confirmed registered speakers as well. The lectures and tutorials will provide you with an update of important new knowledge covering key areas of the field. Young Travel Fellowships and Young Investigator Awards will also be available upon application/selection procedure for graduates and fellows up to 5-years after their PhD.

Traditionally, the most important goal of the FEBS-MPST Meetings is to bring together scientists from life sciences on an important and rapidly developing scientific field and to create the environment for a superb science, warm collegiality, an all-around rewarding experience and social events during this special time of year.

12th International Conferences on the Chemistry and Biology of Mineralized Tissues (ICCBMT)
May 28 - June 1, 2017
Potsdam (Germany)
www.iccbmt.net

Gordon Research Seminar Tissue Repair and Regeneration
June 3-4, 2017
Colby-Sawyer College, New London, NH (USA)
Chairs: Roshini Prakash and Irene de Lazaro
Scientifically informed strategies to turn pathologic tissue repair into perfect regeneration
https://www.grc.org/programs.aspx?id=14874

Gordon Research Conference on Tissue Repair and Regeneration
June 4-9, 2017
Colby-Sawyer College, New London, NH (USA)
Chair: Boris Hinz
Scientifically informed strategies to turn pathologic tissue repair into perfect regeneration
https://www.grc.org/programs.aspx?id=12413

The 2nd National Conference of the Chinese Society of Matrix Biology
June 7-9, 2017
Jishou, Hunan province (China)
Chair: Wei Kong
http://www.chinasmb.org/index.php?siteid=2

Hyaluronan 2017
June 11-15, 2017
Cleveland, OH (USA)
https://www.ishas.org/

2017 TERMIS-EU Conference
26-30 June, 2017
Davos, Switzerland
http://www.termis.org/eu2017/

ASMB Workshop 2017 on Basement Membranes
July 12-14, 2017
Vanderbilt University, Nashville, TN (USA)
Organizers: Roy Zent, Jeff Miner, Billy Hudson, Jay Bhave, Jeff Davidson and Ambra Pozzi

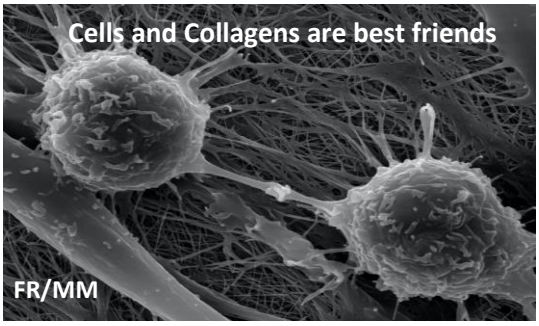
Gordon Research Seminar Collagen
July 15-16, 2017
Colby-Sawyer College, New London, NH (USA)
Chairs: Celestial Jones-Paris & Richard L. Williams
Collagen Biochemistry to Physiology: Relevance to Living Tissues and Exploitation in Medical Technologies
https://www.grc.org/programs.aspx?id=14698 see announcement below

Gordon Research Conference Collagen
July 16-21, 2017
Colby-Sawyer College, New London, NH (USA)
Chair: Florence Ruggiero
The theme of the meeting is "The Multifaceted Nature of Collagens in Development, Disease and Tissue Repair"
https://www.grc.org/programs.aspx?id=12176 see announcement below

Dear Matrix Lovers,

It is our great pleasure to announce that the registration for the 2017 Collagen GRC is now open! This prestigious conference will be held at Colby-Sawyer College in New London, NH (USA) during the week of July 16 – 21. The theme of the 2017 Collagen GRC is " The multifaceted nature of collagens in development, disease and tissue repair". We aim at bringing together a diverse set of basic and translationally-oriented scientists interested in various aspects of collagens. The program of the GRC is posted at https://www.grc.org/programs.aspx?id=12176. Slots for short talks selected from abstracts are still available! Note that this year we organized an inaugural session at the Collagen GRC for 2017: the Power Hour, an afternoon session open to all meeting participants to address the challenges women

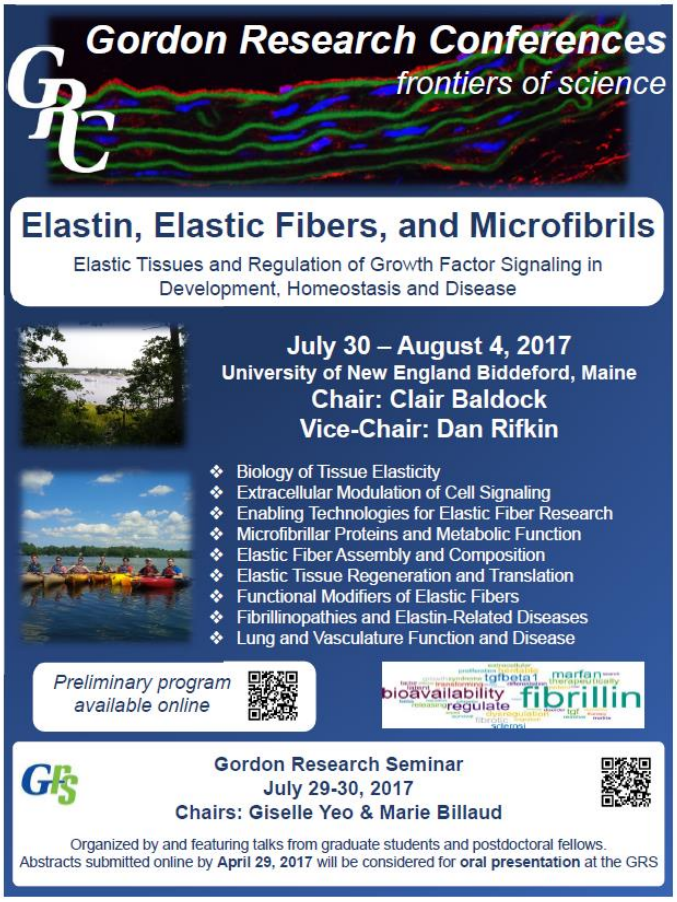
face in science and ways to support the scientific careers of women. Continuing with a great tradition for the fourth time, the GRC will be preceded by a Gordon Research Seminar (GRS), which is planned by postdocs and graduate students for students, postdocs, and early career scientists. The program of the GRS is posted at https://www.grc.org/programs.aspx?id=14698. Abstract submission deadline is on April 15th for those that want to be considered for a short talk!!! Don't miss it! Significant time is devoted to exchange of ideas amongst attendees and discussions following each talk, during meal-time, during recreational time (including while playing tennis or swimming in the afternoon), or during poster-and-refreshment sessions each evening. We really hope to see you in NH! We will do our best to make the 2017 Collagen GRC both informative and highly enjoyable!



Florence Ruggiero, Chair, 2017 Collagen GRC
Marion Gordon, Vice-Chair, 2017 Collagen GRC
Celestial Jones-Paris, Chair, 2017 Collagen GRS
Richard Williams, Associated-Chair, 2017 Collagen GRS

Gordon Research Seminar Elastin, Elastic Fibers & Microfibrils
Elastic Tissues and Extracellular Regulation of Growth Factor Signaling
July 29-30, 2017
University of New England, Biddeford, ME (USA)
Chairs: Giselle C. Yeo & Marie Billaud
https://www.grc.org/programs.aspx?id=14714

Gordon Research Conference Elastin, Elastic Fibers & Microfibrils
Elastic Tissues and Regulation of Growth Factor Signaling in Development, Homeostasis and Disease
July 30 - August 4, 2017
University of New England, Biddeford, ME (USA)
Chair: Clair Baldock
The theme of the meeting is "Elastic Tissues and Regulation of Growth Factor Signaling in Development, Homeostasis and Disease"
https://www.grc.org/programs.aspx?id=11200



7 Lakes Proteoglycans conference
September 10-14, 2017
Varese (Italy)
Chairs: Alberto Passi & Nikos Karamanos
http://www.proteoglycans2017.org/

The 3rd Matrix Biology Europe Conference 2018
July, 21-24, 2018
Manchester (UK)
http://www.confercare.manchester.ac.uk/events/mbe2018/