

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 27 October 2017

Editor: Sylvie Ricard-Blum and the Communication Subcommittee

FROM THE PRESIDENT'S DESK



Dear ISMB members:

I am honored and privileged to present this issue of the International Society for Matrix Biology. As a result of our pioneering hard work, we are fortunate to reflect on our past and present efforts, and plan for our future success!

I) With this issue, we celebrate the 25th Anniversary of the ISMB. It is hard to believe that 25 years have passed since our founding on October 29, 1992. Believe the unbelievable! The International Society has relentlessly pursued its mission to promote Matrix Biology on a global scale over the last 25 years, overcoming the early skepticism and questions regarding the relevance and role of the ISMB. The ISMB continues to further its mission by 1) supporting major international meetings; 2) awarding travel fellowships for graduate students and postdocs; 3) awarding prizes to both outstanding young investigators (Rupert Timpl award) and established researchers (Distinguished Investigator award) in recognition of their important contributions to Matrix Biology; 4) advertising PhD and postdoc positions in Matrix Biology; 5) working closely with Elsevier to promote the journal; and 6) editing a regular newsletter (3 issues per year) with up-to-date information on new developments in the field, as well as employment opportunities. Thus, the ISMB supports national Matrix Biology Societies by filling the gaps that cannot be addressed on a national level.

ISMB does all of this through its efficient use of moderate membership fees. I am grateful to all members of the Society, who allow us to continue to promote Matrix Biology around the world. On this 25th Anniversary of the ISMB, I would like to express our greatest appreciation to the founders and members for their contributions to and support of the field of matrix biology over the last two and a half decades (in alphabetical order):

Founders (became the ISMB members in 1992):

Chiquet	Matthias
Eyre	David

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Tryggvason	Karl
Uitto	Jouni
von der Mark	Klaus



Woessner	Fred
Yamada	Ken
Yamada	Yoshi
Yurchenco	Peter

I also would like to thank all past Presidents of the ISMB for their time and efforts to keep the Society alive and growing: Karl Piez, Klaus Kuhn, Bjorn Olsen, Dick Heinegard, Michael van der Rest, Paul Bornstein, John Bateman, Kathy Cheah, Renato Iozzo, David Hulmes, Shireen Lamandé, and Francesco Ramirez. The long-term service of our outstanding Secretaries and Treasurers brings continuity to the ISMB. Michel van der Rest, Peter Bruckner, and David Hulmes, thank you for your advice, reminders, and even punishments for those members who fall behind on membership fees and other obligations.

I cannot say more than thank you to all of the ISMB members, past-Presidents, Secretaries, and Treasures for your tremendous service to the society. In this Newsletter Issue we are reminded of the hope, promise, and vision that Michel van der Rest and Bjorn Olsen had for the Society when they formed it 25 years ago. To our readers, I wish you great pleasure as you join the spirit of our Society's pioneers.

II) Our society is constantly attracting new members. In 2017, our organization grew to 321 members. Our community of matrix biologists extends around the world. Our membership continues to lift up young scientists by encouraging them to participate in matrix-related meetings and joining the ISMB.

III) Our community is more active than ever before. In the spring issue of the Newsletter, we reported about the successful meetings of the British, French, and German Societies for Matrix Biology. In the present issue, we highlight memories from the Annual Meetings of the Dutch and Chinese Societies for Matrix Biology.

Furthermore, we are happy that the ASMB decided to organize thematic workshops in the interval year between their biannual meetings. 2017 marked the first year of their thematic workshop, devoted to the basement membrane. We are pleased to present it in this issue.

This past summer, we enjoyed the Jefferson Matrix Biology and Pathology Meeting and Symposium on Fibrosis and Fibrotic Diseases in Philadelphia; the FEBS-Advanced lecture course on Matrix Pathobiology, Signaling & Molecular Targets organized in Spetses, Greece; and the Collagen GRC, The Elastin GRC, and the 7 Lakes Proteoglycan Conference in Varese, Italy. These meetings attracted many up-and-coming young investigators, who openly discussed their problems and future plans with more established scientists. The ISMB actively participated in these activities by sponsoring meetings and granting travel awards to young scientists. Our work is reinforced by the enthusiastic reports of students and PostDocs who joined matrix biology meetings. These reports remind us how important this dialogue is for young scientists. Many thanks to the Meeting and Travel Grants ISMB Council Subcommittee chaired by Ruud Bank and all members of the ISMB.

We have more in store for 2017. We look forward to an exciting meeting in Lyon that is dedicated to David Hulmes, as well as the Meeting of the Matrix Societies of Australia and New Zealand in Melbourne. The "matrix year" 2017 will end with the Annual Meeting of the Matrix Biology Ireland in Dublin.

IV) We are proud to announce that in 2017, Matrix Biology, the society's journal, reached an impact factor of 7.4. Congratulations to Editor-in Chief Renato Iozzo, the entire Board of Matrix Biology, and Elsevier. You all worked tirelessly to increase our journal's impact factor.

V) Congratulations to Billy Hudson, recipient of the Protein Society's Carl Branden Award and to Chris Overall, who received the Discovery in Proteomic Sciences Award from the Human Proteome Organization. Further details are included in this issue.

VI) Last but not least, I am very proud that the ISMB Newsletter is becoming a global source of information on activities in the matrix community. Matrix societies are submitting reports about their meetings, achievements,



and future plans. We are happy to pass this information along to our members. In this issue, we are all invited to take a closer look at the activities of the Dutch and Italian Societies for Matrix Biology, Finnish Connective Tissue Society, and the Hellenic Matrix Biology Section of the HSBMB. I would like to take the opportunity to thank Sylvie Ricard-Blum and the entire Communication ISMB Council Subcommittee for their efforts to create this issue of the Newsletter.

Please enjoy this anniversary issue of the ISMB Newsletter. I am sure that the new generation of matrix biologists will be able to celebrate the golden anniversary of the ISMB and many World Matrix Biology Meetings. Happy Anniversary to you and to the ISMB!

Finally, I would like to wish successful grant applications and fascinating scientific discoveries to all of our members and readers. Enjoy the golden October and celebrate Thanksgiving and the Christmas holidays with your families and friends.

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)

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and follow the ISMB on Twitter

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25TH ANNIVERSARY OF THE ISMB (1992- 2017)

Creation of the ISMB: the letter pasted below has been sent in 1992 to 162 potential founding members, of which 158 accepted the invitation.

Lyon, September 30th, 1992

Dear Colleague:

Over the last few years, research on the molecular and cellular biology of the extracellular matrix (ECM) has grown at an extraordinarily rapid pace. Extracellular matrix biology is now recognized as a scientific field of its own. Many of us feel that it is time to organize our field better by creating an International Society for Matrix Biology. The purpose of this society will be to promote and develop scientific exchanges between biomedical scientists both in the academic institutions and in laboratories of biotechnology companies, interested in understanding the structure of ECM components, the control of their functions, the control of their biosynthesis, their role in differentiation and development, their interactions with cells and the cellular consequences of these interactions, the mechanism by



which growth factors and cytokines interact with ECM components and affect their synthesis, etc..., and in the application of this knowledge to medical problems.

An ad hoc committee, composed of the signatories of this letter, met on June 10th 1992, at the occasion of the Fourth International Conference on the Molecular Biology and Pathology of Matrix in Philadelphia and made the following proposals:

The Society will be called "International Society for Matrix Biology".

Prominent scientists working in the field will be contacted and invited to become founding members of the Society. Founding members will elect temporarily officers of the Society (President, Vice-president, Secretary and Treasurer). These will be responsible for incorporating and establishing the Society. Until officers are elected by the founding members of the Society, Michel van der Rest will serve as secretary-treasurer.

Founding members will be asked to contribute 50 US\$ to support the initial costs of setting up the Society. Additional support will be sought from other sources (companies, foundations, etc...).

Once the first officers have been elected, a recruitment campaign for members will be launched. It is anticipated that the regular membership fee will be set at \$25.00 for regular members and that a reduced fee for students will be offered. Members will have to be sponsored by two founding members until a membership committee is established.

The Society will be empowered to sponsor and organize scientific meetings, and to publish or to enter into agreements with others to publish journals and other publications, as approved by the Council. The objective will be to help in the coordination and in the further improvement of the scientific quality of existing events or publications. In addition, one important goal of the Society will be to serve as a catalyst to bring together individuals from different fields and different disciplines which could have an impact on an improved understanding of the biology of the ECM. For instance, the Society could sponsor small thematic workshop-type meetings. A business meeting of the Society will be held in conjunction with the 1994 FECTS (Federation of European Connective Tissue Societies) meeting that will take place in Lyon.

A newsletter will be published regularly and sent to members. This newsletter will contain information about meetings, positions, exchange programs, possible collaborations, reagents, etc... and minireviews (style News and Views) submitted by members. Founding members agree to submit one such minireview (hopefully stimulating and provocative...) in the first two years of existence of the Society.

Since funding for this newsletter has already been secured, we plan to publish the first issue in the first two months of 1993. You will find additional information about this newsletter in the enclosed document. You are welcome to contribute to any of the described sections.

We would appreciate your input on this proposal and hope that you will accept our invitation to become a founding member of this Society. You will find herein the circulation of this letter. You are of course welcome to propose additional founding members, in particular in research areas that are not so familiar to the signatories of this letter. We feel however that only candidates proposed by two or more members of this initial list should be approached.

Sincerely yours.

Michel van der Rest

For:

Sherrill Adams
Benoit de Crombrughe
Michael Grant
Kari Kivirikko

Klaus Kühn
Bjørn R. Olsen
Darwin Prockop
Rupert Timpl



Souvenirs from the creation of ISMB

**Michel van der Rest, Emeritus Professor at Ecole Normale Supérieure de Lyon
Treasurer of the ISMB 1992-2000**

I would like to thank ISMB, and in particular Sylvie Ricard-Blum, for the invitation to share some memories about the creation of ISMB. The Society has no real records of what happened before its incorporation in November 1992. I wondered whether I could find something in the computer used in the early years of ISMB. It was in our attic, collecting spider webs. No luck, the hard disk was dead! By chance, I came across a small Macintosh laptop that I had not used for twenty years. I plugged it in and it worked! It contained a folder called ISMB where I had copied most of the very early documents of the Society. Then a lot of souvenirs came to my mind and I could back them with the recovered documents!

It was during a visit of Darwin Prockop in Lyon which happened, I think, in the early months of 1992, that we had a discussion which marks for me the beginning of my involvement in the creation of ISMB. There were at the time many very active local and national societies or clubs for the study of connective tissues. Several meetings of excellent scientific level were organized by them. The Federation of European Connective Societies had accepted the site of Lyon for its 1994 meeting and I had the honor of chairing the organizing committee. There was however a desire shared by many scientists to better organize the discipline of matrix biology (as it was more and more referred to) at the international level. In this discussion with Darwin, we sketched a strategy to test the interest of our colleagues to such a project. The first step was to convey a meeting of a small group of leaders of the field. Darwin volunteered to organize it during the 4th International Conference on the Molecular Biology and Pathology of Matrix in Philadelphia that took place in June 1992.

As a result of this meeting, I was given the charge, as provisional secretary-treasurer, to get things on the way. I found in my old computer the letter I sent to 162 colleagues in September 1992 to invite them to become founding members of the new Society. The response has been overwhelmingly favorable since, after a few months, the creation of the Society was supported by 158 founding members. This letter, which is appended, describes the scientific and managerial strategy laid down for ISMB by the nine scientists who met in Philadelphia.

In parallel with this contact with potential founding members, we had to establish a legal status to the Society and, most importantly, to open a bank account where the modest membership fees coming from all over the world could be cashed without spending more than their values in the transactions!

For the incorporation of the Society, we had the help of the lawyer of the Mérieux foundation. His advice was that the easiest way to proceed was to create an association under a French law dating back to 1901. The process is very light, but we had to have French partners. An ISMB association was then created by Robert Garrone (acting as president of the association), Daniel Herbage (acting as vice-president) and myself (acting as secretary-treasurer). It was incorporated in November 1992. This association served as the legal support to the International Society and enabled us to open a bank account.

Finding the right bank proved to be much more difficult. At the time, internet transactions were still inexistent. We wanted to be able to use credit cards for the payment of the fees since it was the cheapest way to make transactions between many different currencies. Most banks proposed us very expensive terminals. My wife, Chantal, was only working part-time and she accepted to help me (she rapidly became the real secretary-treasurer of ISMB!). She visited many banks and finally found the only one that proposed a reasonable solution. France had in place a very rudimentary and slow phone based network which was called "Minitel" and, with a small key given by the bank, she could enter (manually!) the credit card number and all the information for each member and perform the transactions. I do not know how many days she spent graciously to do this. This system worked fine for several years until it was replaced by real internet transactions at the time when Peter Bruckner took over the function of secretary-treasurer.

We also worked immediately to publish the Newsletter. Remember, in 1992, the web was in its infancy, so most members still wanted a printed version of the Newsletter. But we had a web expert among our members.



Raymond Dalglish from Leicester was working on databases for heritable diseases of the matrix and had obtained from EU some funding to establish a web bulletin on these disorders. We joined efforts (and money!) and he became the first editor of the Newsletter which thus contained a section on heritable disorders. Ray was taking care of the web version with the services of his University (the first issue is dated January 1994), while Chantal did the printing and the mailing for those members who wanted a paper version.

ISMB owes a lot to these early volunteers who have enabled the Society to get started and they can be warmly thanked for their commitments. There is another person I would like to mention, it is Shmuel Shoshan. Shmuel was on sabbatical leave in our laboratory in Lyon in 1992. Behind the scene, he was a wise man carefully following the development of the Society and he gave me many advices on what to do and what not to do. For example, he was always warning me not to be tempted by launching new ISMB journals or meetings. "If you do things right, those who are in charge of a journal or of a meeting will come to you and ask to have the label of ISMB." And he was right!
Long life to ISMB!

Bjorn Olsen, 3rd president of the ISMB (1997-1998)

**Dean for Research and Professor of Developmental Biology (HSDM) Hersey Professor of Cell Biology
Department of Cell Biology, Harvard Medical School, Boston, MA (USA)**

To members of ISMB,

If anyone had asked me about the age of the International Society for Matrix Biology or some of its members, my answer would definitely be off by a few years – on the low side of reality. On the other hand, if I were prompted to estimate a starting date based on the progress made in the field of matrix biology since then, I would be years off on the high side. So, the conclusion: The Society is in my mind still young and since it was created 25 years ago to promote exchanges between scientists, sponsor scientific meetings and publications on a global scale, the field of matrix biology has come a l-o-n-g and exciting way. Some of the members of the group that started the Society are unfortunately no longer among us. If they could have participated in a 25-year celebration, I believe they would have been as impressed with and grateful for what has been accomplished in the field, as we are of their groundbreaking efforts and contributions to the foundations that we continue to build on.

Every few years members may have been asked to consider the question of whether an organization like ISMB is really needed, given the many "local" societies and research organizations that contribute to the growth of outstanding research in matrix biology. Fortunately, such questions have accomplished what they were meant to do: Solidify the commitment of members to maintain, fertilize, water and prune the Society, like the special tree in a garden of many trees; the tree that brings out the best of a landscape and informs us what really can and needs to be done. With the Newsletter, Prizes and posted News, ISMB has become a global source of information about what is happening and what the exciting opportunities are in the widening and deepening field of matrix biology.

As I read about openings and training opportunities on the website, I wish reality would be more congruent with my fairly optimistic assessment of my own age. Alas, time reversal does not exist; however, in the mind of one member of the group of matrix biologists who started ISMB and served as the third President of the Society, it is easily accomplished. Thus, scrolling back 25 years, I can confidently say that it was a time with great expectations. Through the efforts of many, I also believe that what has been realized during the past 25 years goes beyond these expectations. Members of ISMB can indeed be proud of what has been accomplished by the Society and the advances that have been made in the field of extracellular matrix biology.



NATIONAL SOCIETIES FOR MATRIX BIOLOGY

The Finnish Connective Tissue Society

Finnish Connective Tissue Society has been founded in 1973 and currently it has 108 members (2017). The Finnish Connective Tissue Society is a member of the Federation of Finnish Learned Societies.

The mission of the Society is to advance and support all types of connective tissue research and cooperation between its members. In addition, the Society conveys current, important information to its members, like informs the members about the forthcoming international conferences related to connective tissue/extracellular matrix research.



Connective tissue research is carried out throughout Finland. Our members representing major research groups in the field can be found in Helsinki, Kuopio, Turku and Oulu. In Oulu, the research focuses in cell-ECM interplay, collagens, ECM synthesis and hypoxia response. The aim is to understand how cell-ECM interplay and the ECM microenvironments contribute to tissue development and homeostasis as well as how disruption of these essential conditions influence the integrity of tissues and malignancy development. In Oulu is also situated The Centre of Excellence in Cell-ECM (2012 - 2017). In Turku the research focuses on bone and cartilage biology, structure and function of collagen receptor integrins, cell adhesion mechanisms and cancer cells as well as new molecular mechanisms involved in progression of cutaneous squamous cell carcinoma. In Kuopio, extracellular matrix (ECM) research focuses mainly on hyaluronan and its role in tumor-stroma interaction and inflammation. The aim of these studies is to expand our knowledge on mechanisms how hyaluronan promotes cancer progression to find novel targets for therapy. Moreover, the research in Kuopio concentrates on extracellular vesicles and their role and composition in different diseases like cancer and osteoarthritis. In Helsinki the research focuses on TGF-beta signaling and matrix metalloproteinases in pathogenesis of diseases such as fibrosis and cancer.

Every winter, the Finnish Connective Tissue society organizes an annual meeting with scientific program, where research groups present their latest results and the current research topics are discussed. Moreover, the society aims to increase international cooperation by organizing a joint meeting, Nordic Connective tissue meeting, with Swedish and Danish connective tissue researchers every second or third year.

Sanna Pasonen-Seppänen, PhD, docent, senior lecturer

Chair of the Finnish Connective Tissue Society

<http://www.sidekudostutkijat.fi/>

University of Eastern Finland, Institute of Biomedicine

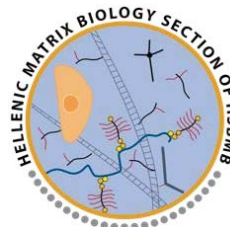
Yliopistonranta 1E, 70211 Kuopio, Finland

email. Sanna.Pasonen@uef.fi

<http://www.uef.fi/en/web/tumor-stroma-interaction-in-melanoma>

The Hellenic Matrix Biology Section of the HSBMB

The Hellenic Matrix Biology Section of the Hellenic Society of Biochemistry & Molecular Biology (HSBMB) has long lasting (over 30 years) contribution to the Matrix Biology research field.



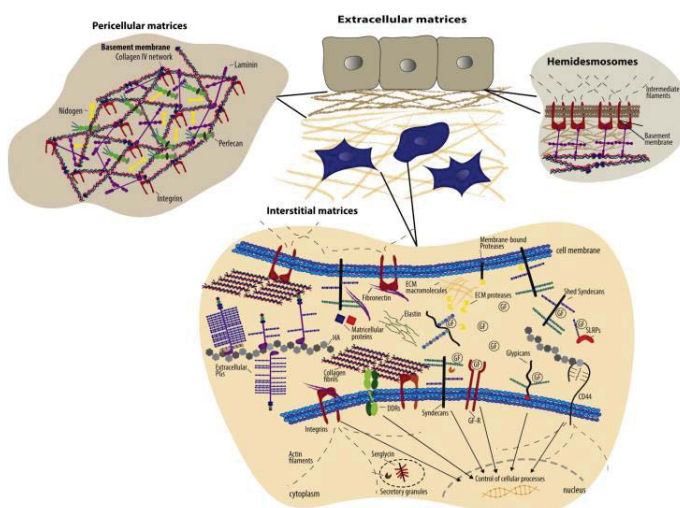
The last two decades several important Meetings have been organized by members of the Hellenic Matrix Biology Section of HSBMB in an effort to emerge and push forward the Matrix Biology field. These include the organization of several National and International meetings, such as the XVII FECTS Meeting organized by Prof. Con. Tsiganos and his Colleagues in 2000, the 2nd Matrix Biology Europe (former XXV FECTS Meeting) organized by Prof. N. Karamanos and his Colleagues in 2016, the FEBS Advanced Lecture Courses on Matrix Pathobiology, Signaling and Molecular Targets (FEBS-MPST) series organized by Prof. N. Karamanos since 2007 every other year and the 22nd Annual Meeting of the European Tissue Repair Society organized by Dr. D. Kletsas in 2012. These international meetings have recruited globally established investigators who have repeatedly accepted to participate and deliver invited lectures and tutorials.



The continuous efforts and active contribution of the Hellenic Matrix Biology Section is substantiated by the organization of a new FEBS Advanced Lecture Course on Extracellular Matrix: Cell Regulation, Epigenetics and Modeling to be held next year (27th September – 2nd October, 2018) in Patras (Chair: Prof. N. Karamanos).

There are several core laboratories in Greek Universities and Research Institutes across the Country (Patras, Athens, Thessaloniki, Crete) that are focused on several key aspects of the field, such as structure-function of ECM macromolecules in health and disease, as well as age-related ECM alterations, angiogenesis, stem cell biology and ECM-based biomaterials.

The research interests of the laboratories of the University of Patras (Biochemistry, Biochemical Analysis & Matrix Pathobiology Research Group; Laboratory of Molecular Pharmacology; Laboratory of Biomechanics and Biomedical Engineering) are focused on the structure and functions of metalloproteinases (MMPs), cell bound and cell-secreted proteoglycans/ glycosaminoglycans, growth factors (such as pleiotrophin) and acidic glyco- and sialoproteins in angiogenesis and malignancy, the evaluation of pharmacological agents at molecular and cellular levels (functional cell properties, receptors and intracellular pathways, gene expression and regulation) as well as the development, validation and biological applications of HPLC & CE methods for fine biochemical and structural analysis of carbohydrates, proteoglycans and glycoproteins in biological samples (cell cultures, tissues, biological matrices) and the development of ECM-based biomaterials.



ECM structure. Theocharis AD, Skandalis SS, Gialeli C, Karamanos NK. Adv Drug Deliv Rev. 2016 97:4-27

The research activities of the laboratories located in Athens (Laboratory of Cell Proliferation & Ageing, NCSR Demokritos, and Alexander Fleming BSRC) are focused on tissue repair during development and ageing with an emphasis on the role of growth factors, and especially that of TGF- β . The action of growth factors on cell proliferation and extracellular matrix production, as well as the responsible signaling pathways are investigated. The elucidation of the molecular mechanisms regulating endothelial cell adhesion properties in disease is also among the main interests of these laboratories.

The research activities of the laboratory of Anatomy-Histology-Embryology in the University of Crete deals with the investigation on the role of specific proteoglycans and glycosaminoglycans on key cellular functions as well as the correlation between diagnostic biochemical analyses with pathologic and cytologic diagnostic methods, whereas a research group of the Biochemistry team in Aristotle University of Thessaloniki is focused on the development of ECM-based stem cell therapeutic protocols. The data that have been produced by all these laboratories have been largely recognized and used by the scientific community.

Prof. N. Karamanos, chairman of the Hellenic Matrix Biology Section of HSBMB



The Dutch Society for Matrix Biology

The Dutch Society for Matrix Biology (NVMB) aims to bring together enthusiastic scientists to learn and discuss the extracellular matrix from basic, translational and clinical perspective. Thus, the molecular and cellular biology of ECM production, processing and composition and its consequences for diseases that range from osteoarthritis to organ fibrosis cover the interest of the members. In addition, the translation of ECM knowledge for the development of novel therapies to repair or regenerate damaged organs and tissues that are based on natural ECM or on chemical mimics has obviously also penetrated the NVMB too. Members are working on cartilage, bone, lung, cardiovascular, renal matrix biology (to mention a few) as hard core or part of their science. The close to hundred members comprise approximately one fifth senior scientists, while the remainder is PhD student. The membership is therefore continuously changing as PhD students come and go after their graduation. This renders our society very dynamic, but also poses a threat, because the funding situation of matrix biology research is challenging and we in fact observe a slight decline in membership the past years.



The board strives to continuously adapt to novel developments in matrix biology and its website (www.matrixbiology.nl) is following accordingly. The members convene for their annual meeting in a two day meeting, during which the junior investigators (PhD students) are given the opportunity to present their research and receive feedback in the always exciting discussions. The meeting is chaired by PhD students too. The sessions follow themes such as basic, translational and clinical matrix biology and also comprise of keynote lectures by experts in the field. The evening, candle light, lecture is often the highlight of the annual meeting, because we invite speakers that know how to think out of the box and thus inspire and excite the audience in multiple ways: young and old alike. During the meeting we organize assignments in which the members have to gather in groups and discuss topics that range from 'pro/con' discussions to 'bear coaster competitions' (make a new collaboration on a joint theme) to mention a few. This semi-forced 'coming into to contact with each other', is often extended to the bar after the lectures and generated/s new collaborations and initiatives. The board is working on innovation on a continuous basis because in current times, scientists have less time to meet but do attend more meetings than decades ago. It seems that the 'cost/benefit' ratio has become more important than science and socializing. One way we approached this in a positive fashion is to organize joint symposia and meetings with sister societies such as the Dutch Society for Biomaterials and Tissue Engineering. Finally, we consider education important for our starting scientists and invite speakers from granting agencies, but also consider to generate a Summer School on Matrix Biology.

Marco Harmsen, chair NBVM

The Italian Connective Tissue Society



The Italian Society for the Connective Tissue (SISC) is a non-profit association, founded in 1982 in Pavia with the aims to promote and support the studies of connective tissues in Italy. SISC takes care of disseminating information about all the subjects related to the connective tissue, it acts as an authoritative corporation for the consultation of public and professional interest questions. SISC is actually composed of members whose activities concern disciplines with different methodological and/or application nature mainly in life sciences area. Congresses, meetings, symposia and SISC scientific activities, among them seminars and courses about subjects of topical interest, are organized by the Council Members.

The society President is Alberto **PASSI University of Insubria (Varese)** and vice-president is **Antonella FORLINO of University of Pavia**. SISC has 16 groups active in the research in matrix biology with about 50 members.

1- Molecular basis of skeletal disorders, Pavia mail: antrossi@unipv.it

Expertise: Generation of animal models (mouse and zebrafish) for skeletal disorders; Cell extraction and culture of fibroblasts, osteoblasts, chondrocytes and mesenchymal stem cells from humans and mice; Collagen and proteoglycan purification from different sources (in vitro and in vivo) and biochemical characterization; Expression studies of cartilage and bone at the RNA and protein level.

Facilities and equipment: Cell culture facility; zebrafish and mouse animal facility; mass spectrometry facility; confocal facility; chromatography equipment (HPLC and FPLC); Real-time PCR; histological platform used for cartilage and bone histology (microtome, cryostat, light and fluorescent microscope), microinjection platform (microinjector and dissecting microscope), X-ray digital imaging apparatus for small size animals.

2- Collagens and proteoglycans in connective tissue function, Pavia mail Gianni.guidetti@unipv.it

3- BioPaSCT - Biology and Pathology of Soft Connective Tissues, Modena mail daniela.quaglino@unimore.it

Facilities and equipment: Cell culture; structural analysis (light and electron microscopy, fluorescence and confocal microscopy, AFM); flow cytometry; DNA sequencing; proteome analysis (2D-PAGE); mass spectrometry.

4- Department of Experimental Oncology and Clinical Applications-Palermo <http://www.dosac.unipa.it/>

Facilities and equipment: Fully equipped cell cultures laboratory; fully equipped laboratory for proteomics and protein sequencing (ProCise and Maldi-Toff); PCR and Real Time PCR; Microarray Genomics Platform.

5- Extracellular matrix and Inflammation, Messina mail gcampo@unime.it

Facilities and equipment: Basic Instrumentation for the biochemical laboratory – Oligo-sequencer analyser – Incubators – Basic PCR and RealTime PCR – Cellular micromanipulator - Capillary electrophoresis – HEPA and laminar flow hoods - CO2 incubators - Microplate reader - UV-VIS readers - Apparatus for Western blot.

6- Department of Human Anatomical Sciences and Physiopathology of Locomotor apparatus, Bologna mail marco.franchi3@unibo.it

Facilities and equipment: Light Microscopy Laboratory with light microscopes and fluorescence and polarized light microscopes, microtomes, cryostat, saw and grinding system; Electron Microscopy Laboratory housing: ultramicrotomes, freeze-etching, TEM, SEM, high resolution SEM, metallizers and critical point drying apparatus.

7- Extracellular Matrix Lab, Milano www.scibis.unimi.it

Expertise: cell biology, gene expression analysis, Western blot, zymography, immunofluorescence, histological techniques.

8- Laboratory of Cell Biology and Neuroanatomy, Milano www.sbb.unimi.it

Facilities and equipment: Fully equipped laboratory for light and electron microscopy. Core facility of advanced microscopy (Centro Interdipartimentale di Microscopia Avanzata, CIMA, Università degli Studi, Milano).



- 9- Extracellular Matrix (ECM) Pathobiology, Padova** mail maurizio.onisto@unipd.it
10- Extracellular Matrix of the Cardiovascular System, Padova mail spina@bio.unipd.it
11- Department of Experimental Medicine and Pathology, Roma mail Ermanno.bonucci@uniroma1.it
12- Molecular Pathology: modulation of gene expression in bone and cartilage Roma mail roberto.scandurra@uniroma1.it

Facilities and equipment: SEM and AFM microscopes, RTPCR, all biochemistry equipments.

- 13- Dipartimento di Scienze Fisiologiche, Biochimiche e Cellulari Sassari** mail formato@uniss.it

Facilities and equipment: Ultracentrifuges (Beckman instruments), HPLC (Beckman instruments), CZE (Beckman Instruments), 2D electrophoresis apparatus (Amersham Biosciences).

- 14- Biochemistry of Extracellular Matrix, Varese** mail alberto.passi@uninsubria.it

Expertise: Gene expression, GAG structural analysis, cell cultures, epigenetic analysis, cellular functional tests.

Facilities and equipment: The group is equipped with most advanced technologies available, including chromatographic devices for GAG analysis (HPLC, FPLC), video imaging system, full-equipped cell culture laboratories, real time PCR, nucleofector, fluorimetric and spectrophotometric devices (plate readers), luminometer, QUELLS laser light scattering, mass spectrometer, confocal microscope with different lasers, ultra and super centrifuges, cell impedance meter.

- 15- Laboratory of Human Morphology “Luigi Cattaneo”, Varese** mail mario.raspanti@uninsubria.it

Expertise: Light microscopy, scanning electron microscopy, atomic force microscopy. All techniques of staining, digestion and dissection of the specimens.

Facilities and equipment: PFM Slide 2002 Microtome; RMC MT-XL Ultramicrotome; Emitech K550; Sputter/Coater w/ K250 Carbon Evaporator; Polaron CPD 7501 Critical Point Dryer; Nikon Eclipse E600 Optical Microscope with Nikon DS-5M CCD Camera; FEI XL30-FEG Field Effect Scanning Electron Microscope EDAX Sirion 200/400 dispersive X-ray spectroscopy attachment Digital Instruments MultiMode/Nanoscope IIIa Atomic Force Microscope.

- 16- Laboratory for the structural characterization and evaluation of biological and pharmacological properties of complex natural polysaccharides named glycosaminoglycans** mail volpi@unimore.it

Facilities and equipment: HPLC with UV and fluorometric detectors and online ESI-MS. Capillary electrophoresis. Radioactive room equipped for working with tritium and ³⁵S. Cell cultures. Mass spectrometers, X-ray diffractometers and confocal microscopes are in the Interdepartmental Centre of Big Instruments (www.cigs.unimore.it).

Registered office: SISC

Department of Biochemistry

“Alessandro Castellani”

via Taramelli 3/b, 27100 PAVIA – Italy

Web page <http://www-3.unipv.it/sisc/welcome.php>

MEETING REPORTS

The annual meeting of the Dutch Society for Matrix Biology, May 12-13, Lunteren (The Netherlands)

The annual meeting of the Dutch Society for Matrix Biology (NVMB) took place 12 and 13 May 2017. With near eighty participants the majority of the members were present. As usual, this meeting is/was an opportunity for young investigators (PhD students) to present and in particular discuss their research in a fruitful environment. Besides, keynote speakers from various areas of matrix biology held lectures that varied from vitreous matrix biology via collagen biology to integrin signaling and back via cartilage destruction and tissue engineering to generation of organotypical 3D culture environments to study cell – matrix interaction. The absolute highlight of this year's meeting was the evening keynote delivered by prof. Liliana Schaefer. It was a lecture that inspired the entire audience in particular the young scientists that always seem to be looking for 'where to go' in science and how to make the right decisions. Liliana made it clear that passion and following your heart, are all it takes to pursue a successful career in matrix biology.



Lecture by a PhD student



Dr. Leonie Los talking about vitreous ECM



Ample time reserved for participants to meet & greet, discuss science and cook up future collaborations



Evening keynote on proteoglycan biology by Prof. Liliana Schaefer

The 2nd National Conference of Chinese Society of Matrix Biology (CSMB) and Youth Forum in Jishou University (China), June 8-10, 2017

Cell-matrix interaction and matrix biology have become one of the most exciting focuses among life science researchers in China. The 2nd National Conference of Chinese Society of Matrix Biology (CSMB) and Youth Forum was held on June 8th to 10th in Jishou University, Hunan Province. Over 150 scholars from six countries attended the conference to discuss new topics in matrix biology realm. Among the themes featured in the conference were: cell-matrix interaction, ECM and mechano-transduction, cell-matrix crosstalk, ECM assembly and regulation, ECM in development and diseases.



中国生理学会基质生物学专业委员会
第二次全国基质生物学学术会议及青年论坛
The 2nd National Conference of Chinese Society of Matrix Biology (CSMB) & Youth Forum



Young Scientists Awards
for Oral Presentation



Youth Forum



Smiling Volunteers

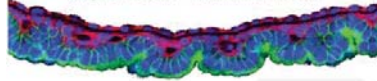


Exchanging ideas



ASMB Workshop 2017 on Basement Membranes

July 12-14, 2017 • Nashville, TN USA



The highly successful ASMB Workshop 2017 on Basement Membranes was held at Vanderbilt University Medical Center in Nashville from July 12-14. The Workshop, which was co-organized by Roy Zent of Vanderbilt and Jeff Miner of Washington University in St. Louis, brought together a diverse group of 71 basement membrane researchers from the US, Canada, Europe, and Japan. In keeping with a workshop format, the great majority of the presentations were 31 short talks selected from submitted abstracts. In addition, 8 leaders in the field were invited very diverse, ranging from in vitro approaches to studies in mice, ascidians, *C. elegans*, *Drosophila*, and ctenophorans. Thanks to support from the Burroughs Wellcome Fund and the NIH (NIAMS), 12 Young researchers received ASMB Travel Awards. On the final night the registrants were treated to a taste of Nashville food, music, and dancing at BB King's downtown on the Cumberland River. The workshop also included the presentation of posters by high school and college summer students, who were participating in the Aspirnaut summer school sponsored by the Center of Matrix Biology at Vanderbilt Medical Center.

The enthusiastic group of attendees agreed that a similar Workshop should be held again at Vanderbilt in 2019.





MEETING REPORTS FROM YOUNG SCIENTISTS FUNDED BY ISMB TRAVEL GRANTS

Gordon Research Seminar and Conference on Cartilage Biology and Pathology

Understanding Biology to Achieve Better Cartilage Health

April 2 - 7, 2017, Lucca (Barga) (Italy)

It was a great pleasure to participate in the Gordon Research Seminar (GRS) and Conference (GRC) on Cartilage Biology and Pathology. I just finished my PhD and this conference provided me the chance to present my research on an international conference for the first time. The GRS is a two-day seminar that is organized and held by PhD students and Postdocs and it provided an excellent platform to get in touch easily with other junior scientists and discuss our projects in an open and unintimidating atmosphere.

The GRC is one of the most distinguished conferences in the field of cartilage research and it was very exciting to meet many leading experts in personal and to see their latest results on cartilage research. I was very surprised that they presented a lot of unpublished data and did not focus on already published results. I really liked that I could communicate easily with established senior researchers and present and discuss my project with them even outside of the poster sessions. I got an immense feedback on my project and I am sure that some suggestions will have a high impact for the progress of my research. During the discussions it turned out that some important experiments are missing and we used the chance to build up a cooperation with another group.

Besides the extensive scientific program, the free time between lunch and the poster sessions provided an excellent platform to interact with junior and senior scientists and to extend my research network. I met a lot of nice and fascinating people and I still have contact to some of them. As I just graduated and I am interested in doing my Postdoc abroad the conference provided an excellent opportunity to meet some group leaders from other countries in personal and discuss my possibilities with them. It was a great experience for me to join the GRS and GRC that will be very beneficial for my current research and my future career. Therefore I am extremely grateful to the ISMB for their support.

Tatjana Holzer, Postdoc, University of Cologne (Germany)

6th FEBS Advanced Lecture Course on Matrix Pathobiology, Signaling and Molecular Targets

May 25-30, 2017, Spetses (Greece)

In 25th - 30th of May, I participated in the 6th FEBS Advanced Lecture Course on Matrix Pathobiology, Signaling and Molecular Targets, held in Spetses, Greece. This meeting was mainly sponsored by the Federation of European Biochemical Societies and it is one of the most important meetings for the Matrix Biology society. In order to participate in this meeting, I was awarded with the International Travel Grant from ISMB. This award gave me the ability to present my PhD work to the field experts. This study was associated with the role of syndecan-4 in ER α -positive breast cancer and especially on its role in regulation of cytoskeleton arrangement as well as cellular functions, such as cell adhesion and migration.

My participation gave me also the opportunity to meet and discuss with other scientists, which helped me to focus on solutions concerning experimental problems, questions and to better understand certain theoretical concepts. Furthermore, I had the opportunity to communicate with experts of the field, which stimulated me and gave me new ideas for my postdoctoral research as well as for my future plans. Moreover, during this course I had the honour to be a member of the young scientist committee. As an organiser, I had to organize the first day session of the conference and participate in it as a chairperson. This session was constituted by general lectures, panel discussion and career development session. Additionally, the young scientist organizing committee was responsible for



organizing social events that created a friendly atmosphere and provided the opportunity for interactions between the young scientists and the outstanding experts.

To conclude, I highly suggest this meeting for all scientists who are working on the matrix biology field and I would like to thank ISMB for supporting me to travel from Israel to Greece, in order to participate on this course and gain all these experiences.

Nikolaos Afratis, Postdoctoral Research Fellow, Weizmann Institute of Science, Rehovot (Israel)

I am a second year PhD student under the supervision of Dr. Nathalie Theret and Dr. Vincent Legagneux at University of Rennes1 in France. My project aims to study the involvement of matrix metalloproteases in tissue remodeling events that occur in chronic liver diseases and tumor progression. With matrix biology being the main focus of my research, it was a great opportunity for me to attend for the first time an international meeting on Matrix Biology. My abstract was selected for a poster presentation for the 6th FEBS Advanced Lecture Course on Matrix Pathobiology, Signaling and Molecular Targets in Spetses - Greece the past 25th to 30th of May 2017.

As member of the International Society for Matrix Biology (ISMB), I candidate to the international travel grants and I am very grateful for having obtained this grant.

I was very excited to attend my first International meeting and to present our work on "*In silico* screening identified ADAMTS12 as a new actor in liver injuries" in a poster session. This gave me the ability to discuss with great experts in this research field. Finally, I got a poster prize from the Matrix Biology of Ireland (MBI), which is very encouraging for the rest of my thesis work.

These five scientific days with outstanding researchers all over the world were a good opportunity for me to enrich my scientific knowledge. This meeting covered a large range of themes in the field, illustrating to what extent the Extracellular Matrix (ECM) and its components are pivotal for the future of researches in biology. The program was divided in different sessions separated by lectures from worldwide experts, selected talks of PhD students and very helpful sessions of career development. In addition, speaker corner sessions gave me a unique chance to discuss with outstanding researchers like "Liliana Schaefer" and "Geir Christensen" who gave me new exciting ideas for my research project. Moreover, social activities organized beside scientific sessions, like boat trip, Museum visit, and football game, have been very pleasant moments that allowed me to meet other international researchers and PhD students, as well as my former professors and colleagues from University of Reims.

In summary, FEBS meeting has been personally a successful and an excellent seminar to acquire much useful information about current research in ECM field, and to interact with both junior and senior researchers for future collaborations and hopefully postdoctoral research position. Finally, I am profoundly thankful to the ISMB for providing me the international travel grants, and to the MBI for the poster prize that give me even more enthusiasm to evolve in my scientific research.

Bassil Dekky (University of Rennes 1, France)

I had the great pleasure to attend and participate in the 6th FEBS Advanced Lecture Course on Matrix Pathology, Signaling and Molecular Targets (6th FEBS-MPST 2017) held from 25th to 30th May in Spetses, Greece. The conference theme was especially relevant to my professional development. Even though I am a postdoctoral researcher, I am a young scientist in the field. I have started my researcher in Hyaluronan two years ago, and therefore I highly appreciate the opportunity organizers gave to participate in the event, gather by professionals from all over the World and to the International Society of Matrix Biology for its much needed economic support in these difficult times. I was especially interested in the presentation of Dr Paraskevi Heldin from Uppsala University, Ludwig Institute for Cancer Research, and Dr Alberto Passi from University of Insubria, Department of Surgical and Morphological Sciences. Their works on posttranslational modifications on HAS2 have inspired my research, so I was looking forward to hear about their latest findings. Moreover, I specially enjoyed the presentation of Dr Rashmin



Savani from University of Texas, USA, who showed really interesting findings about RHAMM, receptor of Hyaluronan, as potential therapeutic target to limit the consequences of acute lung injury. Besides the lectures, the course had a very tight schedule, full of selected talk, flash presentation, poster sessions, discussion groups, and speakers' corner, being able to cover in different aspects the broad field of the matrix biology. I was really enthusiastic about the speakers' corner, and I was not disappointed. The atmosphere was quite relaxed and I could openly talk about my work with noticeable scientists from the field. I got valuable piece of advice to move forward on my research, and furthermore I discussed about potential collaborations. In conclusion, the 6th FEBS Advance Lecture course was a very inspiring scientific event. It allowed me to advance in my own research with new ideas and suggestions provided during the meeting. Furthermore gave me the exceptional opportunity of networking with other professionals from Matrix Biology field and help me with possible employment options in the future. I am really grateful to ISMB for the travel grant award.

Raquel M Melero, PhD, University of Eastern Finland, Institute of Biomedicine, Kuopio (Finland)

The FEBS-MPST 2017 was held on the beautiful Greek island of Spetses. The aim of the six-day meeting was to showcase the latest research in the fast growing field of matrix biology and to provide essential training and information to young researchers like myself so that we could transfer back in our own research environment.

The meeting was organised by an international organising committee and a young scientists' committee, which was made up of young researchers from around the world. There were over 100 participants at the meeting. Over 30 attendees were senior experts from around the world and the remaining majority were eager junior scientists like myself. The meeting opened with addresses from contributors to the meeting: Chairman of the FEBS Advanced Lecture Courses for matrix biology since 2007 – Nikos Karamanos (University of Patras), Chair of the FEBS Advanced Courses Committee – Beáta Vertessy, President of the Hellenic Society of Biochemistry and Molecular Biology – Dimitris Kletsas, and the president of the ISMB – Lilliana Schaefer. The first day closed with an International Union of Biochemistry and Molecular Biology plenary lecture on 'Matrikines' by François-Xavier Maquart (University of Reims).

The program comprised of general lectures or tutorials aimed to fill in any gaps in extracellular matrix knowledge of the junior audience, presentations of the latest research from leaders in the field, and plenty of opportunities for junior scientists to present – in the form of selected talks, flash presentations and poster presentations. There were also career development sessions designed for PhD students presented by representatives of the FEBS Education Committee and by Maria Papatriantafyllou, the Editor of FEBS Letters.

In line with my research interests in matrix homeostasis, highlight presentations for me were: Yoshifumi Itoh (University of Oxford) presented various studies his lab has been conducting on the potential therapeutic role of MT1-MMP; Irit Saga (Weizmann Institute of Science) presented an elegant study on how intrauterine matrix remodelling by MMP1 improved embryo implantation in mice; Cecile Gauthier-Rouvere (University of Montpellier) showed how flotillins mediate the loading of MT1-MMP into multivesicular endosomes and exosomes; Ralph Sanderson (University of Alabama) then continued the hot topic of exosomes, giving us a tutorial on the isolation techniques; Manuel Dauchez (University of Reims) and Sylvie Ricard-Blum (University of Lyon) both presented their collaborative efforts in generating computer models of matrix protein-protein interactions in 3D based on published matrix interaction networks and protein kinetics and biochemistry; Dimitrios Zeugolis (University of Galway) enlightened the cell culturists amongst us on molecular crowding with a sugar called carrageenan to concentrate matrix molecules closer to the cells to enable faster assembly into a network. I also enjoyed talks from long-standing leaders in the extracellular matrix field, Lilliana Shaefer (Goethe University), Peter Bruckner (Münster University), John Couchman (University of Copenhagen), who gave engaging and comprehensive lectures. I most enjoyed the panel discussion at the start of the meeting, where 6 of the invited speakers discussed what they think has been the



most significant discoveries in their respective fields and what emerging aspects of matrix biology we should keep an eye out for.

Other highlights from the meeting include the excursion during which we were given a guided tour of Bouboulina's Museum, all the amazing food we were treated to at the local restaurants, and the night where Nikos Karamanos and the Young Scientists' Committee showed us how to do traditional Greek dancing! I really enjoyed the meeting and the location. I've also returned to the lab with refreshed enthusiasm and exciting new ideas to try, which is essential for junior researchers to continuing advancing. And thus, I thank the organisers for a successful meeting and both BSMB and ISMB for awarding me with travel bursaries that allowed me to attend and present at the meeting.

Chloé Yeung, Institute of Sports Medicine Copenhagen (Denmark)



The 4 ISMB Travel Fellowship Awardees: from left to right Raquel Melero (Finland), Bassil Dekky (France), Nikolaos Afratis (Israel), and Chloé Yeung (Denmark).

Gordon Research Conference (GRC) and Seminar (GRS) on Collagen The Multifaceted Nature of Collagens in Development, Disease and Tissue Repair July 15-21, 2017, Colby-Sawyer College, New London, NH (USA)

I really appreciate that ISMB awarded me a travel grant to attend the GRS and GRC meeting, 15-21 July, 2017, at Colby-Sawyer College in New London NH in United State. It was the first time I went to GRC conference. I was a bit nervous, but more excited! I still remember that jet lag was a big challenge when I arrived. Luckily people there are very friendly and helpful, which made me getting better over time.

The schedule of conference was tight. Generally, scientific programs started at 8am, and finished about 9pm. As a result, more interesting talks can be fit into the tight schedule. I really like these talks. They nearly cover all aspects of the collagen research. Meanwhile, some of the research models are highly relevant to ours. As these are still unpublished, therefore it was a great opportunity for me to learn the cutting-edge techniques in the first place.

Also, I enjoyed presenting our project there very much. As our project was selected as a talk in GRS and GRC, therefore I presented both the talks and poster. After my talk, a few scientists told me that our study brought new insights to their research. This is very encouraging to me. Also, when I presented the poster, some junior and senior researchers asked me a lot of the details of our study. They suggested me how they think about our findings, and also told me what they know that might be helpful to our further research.

Furthermore, taking a photo of all GRS and GRC participants was very special and thoughtful.



Overall, the GRC conference is a very friendly and open platform to share your project with top researchers in the world. I am very looking forward to the GRC 2019. Meanwhile I would like to encourage all researches to try your best to attend the GRC meetings, as you will gain much more than what you expect!

Richa Garva, Postdoc, University of Manchester (UK)

Thanks to the ISMB, which awarded me with an international travel grant, I was able to attend the GRS/GRC on Collagen in July 2017. Being my first international conference in the U.S I was very excited and looking forward to all the new experiences and encounters I would make.

The seminar, held by and for graduate students and post-docs, resembled a unique platform to meet and present data to scientist at the same age and a few senior scientist, who participate the GRS as additional discussion leaders. No situation arose, where I felt uncomfortable or unwelcome, the exact opposite was the case. The friendly, relaxed and open-minded atmosphere invited to ask questions and discuss projects even if the scientific content was not directly linked to my own field of research and helped gaining confidence for the following conference. My highlight during the GRS was the "Mentorship Component: Career Panel". Within this session we, as young scientist, were allowed to ask leading scientist like John Bateman (Murdoch Childrens Research Institute, Australia), Melinda Duer (University of Cambridge, United Kingdom), Joseph Freeman (Rutgers University, USA) or Sufi M. Thomas (University of Kansas Medical Center, USA) how work-life balance is managed, what daily struggles they have to go through, what encouraged them as a scientist the most or how important and valuable a good mentor is. And to my surprise all answered in an honest and humanly way and pointed out that you can achieve leading scientific positions also on a roundabout way. Encouraged by the GRS I felt prepared to join the conference.

The GRC unites leading investigators of a variety of interconnected and interrelated disciplines essential for a comprehensive and encompassing study and understanding of collagens involved in development, signaling, disease, and regeneration. For that reason I was pleased not to find any hierarchical structures. World famous senior scientist approached young scientist where stimulating and exciting scientific discussions, helpful suggestions and valuable feedback on their and most importantly also on my current work were combined with worldly wisdoms. I did not only gain more insight into the field of collagens, particularly being surrounded by all the expertise, new ideas and state-of-the-art methodologies inspired me and will help me improve my PhD thesis.

Not hesitating to ask a leading scientist for advice might give me the opportunity to visit Taina Pihlajaniemi lab (University of Oulu) to refine my techniques. The conference opened me a scientific landscape of collagen I was not aware of. Especially as a female scientist I was encouraged to step up and take the lead, being able to become successful in a scientific or non-scientific environment. I am grateful for this unique experience and can, like former participants, only encourage graduate students and post-docs to attend this conference and experience on their own the "The Spirit of Gordon Conference".

Stefanie Heumüller, Graduate student, University of Cologne (Germany)

As a third year PhD student, this year was my last chance to attend the internationally recognized Gordon Research Conferences (GRC). Thanks to the travel grant provided by the International Society of Matrix Biology, I got the opportunity to attend the Collagen Gordon Research Seminar and Conference in New London (New Hampshire), USA. It was an incredibly rewarded experience because of the excellent quality of the talks and discussions, the mix between PhD students, post-docs, young and senior investigators, and the very nice and friendly atmosphere.

Firstly, I attended the Collagen Gordon Research Seminar (GRS) two days before the conference with other PhD students and post-docs; it was a very good way to meet young scientists in the field of collagens and to get to know each other before the GRC started. Unfortunately, I did not get the chance to present my work during the oral



presentation, but discussed my PhD project on Procollagen-C Proteinase Enhancers (PCPEs) with other PhD students and post-docs during the poster session. Furthermore, I have been selected for being the chair of the session “Collagens Expression and Molecular Intricacies in Cell Microenvironments as Drivers of Cell Biology”. It was a great way to be part of the GRS organization and to feel more comfortable by talking in front of other young scientists and asking questions, without the fear of judgement. The Seminar was very well organized and very interesting; I thank Celestial Jones-Paris and Richard Williams for organizing it and giving me the chance to be chair of a session.

The Collagen GRC, which followed the GRS, brought together in a same place, the Colby-Sawyer College, all the collagen experts from all around the world. This meeting covered a broad range of collagens and associated-diseases and a diversity of expertise, approaches, and techniques. I learned a lot thanks to the excellent quality of the conferees. All the attendees were very enthusiastic and passionate about their researches and it really made me want to continue in this field. I really felt as a member of the “collagen family”. Moreover, during the poster session, I discussed my results with scientists with high expertise in wound healing and procollagen processing, which are the main focuses of my PhD project. It gave me the opportunity to get feedbacks and suggestions for my work and think about new perspectives. The Gordon Conference was a great place to meet researchers and talk to all the attendees, especially during the coffee breaks, the meals and the organized activities. It was an honor and pleasure to meet and talk to recognized scientists that have worked for so many years on extracellular matrix, collagen processing and PCPEs. Finally, the karaoke session organized by Florence Ruggiero and Marion Gordon, the GRC organizers, was a friendly and great moment, where everybody – PhD students, young investigators as well as senior researchers – grouped together to sing and dance, there were no hierarchy and we all enjoyed it.

In summary, I really recommend to participate to the GRC and, importantly the GRS for students. It is an excellent platform to acquire knowledge in your field, know what other researchers are working on all around the world and interact with junior and senior investigators. I hope it will be the bases of futures collaborations. I really thank the ISMB for giving me this great opportunity.

Agnès Tessier, PhD student, University of Lyon (France)

Gordon Research Seminar and Conference on Elastin, Elastic Fibers & Microfibrils Elastic Tissues and Regulation of Growth Factor Signaling in Development, Homeostasis and Disease July 29 - August 4 2017, University of New England, Biddeford, Maine (USA)

I am a first year PhD student in Professor Clair Baldock's research group in the Wellcome Trust Centre for Cell-Matrix Research at the University of Manchester. Prior to beginning my PhD, I was a research technician in Professor Baldock's lab, during which I completed a part-time MPhil investigating the structure and interactions of A Disintegrin and Metalloprotease with Thrombospondin type 1 motifs-like (ADAMTSL) proteins, and the aim of my PhD project is to further these investigations.

Earlier this year I had the opportunity to attend the Gordon Research Seminar and Conference on Elastin, Elastic Fibers & Microfibrils held at the University of New England in Maine, USA. This renowned conference is focused on the role of elastic fibres and microfibrils in the regulation of growth factor signaling in development, homeostasis and disease. Having worked in this area of science for several years, the research presented at this conference was highly relevant to my own work, and I am honoured that the ISMB granted me the International Travel Grant for Young Scientists award to attend this prestigious meeting.

The sessions at both the GRS and the GRC covered several areas of matrix biology such as elastic fiber assembly, disease, metabolic function and signalling; each provided me with insights into various aspects and of the research field. The meeting was led by plenary lectures and discussions from experts in the field which were inspiring as well



For example a presentation given by Dr Dirk Hubmacher (Cleveland Clinic Lerner Research Institute, USA) titled “Limb- and tendon-specific deletion of ADAMTSL2 results in a short-limb phenotype mimicking Geleophysic Dysplasia”, not only deepened my understanding of the research area, but also helped me develop my own concepts to further my own research. In addition to this, research presented on areas of matrix biology such as elastic tissue regeneration and translational approaches informed me of the revolutionary advances the field was making. In particular research presented by Dr Willeke Daamen (Radboud University, The Netherlands) on “Tubular scaffolds with shape recovery resulting in radial elasticity” was fascinating.

I was given the opportunity to showcase my own research at the GRS after my abstract was selected for a presentation. My talk entitled “Structure and interactions of ADAMTSL2” presenting the 3D structure of ADAMTSL2 obtained through cryo electron microscopy and novel interactions with other ECM proteins drew in a lot of interest and was also appreciated by the audience. This was my first ever presentation at an international conference and not only has it honed my presentational skills, but the whole experience was invaluable. I also presented my research findings as a poster at both the GRS and GRC. This was a fantastic opportunity for me to directly interact with other researchers and leaders in the field, as well as obtain valuable feedback and advice.

Attending the GRS and GRC meeting allowed me to learn about emerging research, trends and techniques in my field as well as network with other scientists working in this and related fields. However, the GRS and GRC were not only learning experiences for me but they also allowed me to develop my own interpersonal skills through interactions with fellow scientists. I was able to form valuable connections that will in the future benefit my research as well as enhance the research efforts of the lab I work in. I have also made several friends through the great social atmosphere present at the meeting.

I would personally describe the meeting as a positive and successful experience as not only did I get to learn from the experts in my field and present my research, but I also was honoured to be elected as the vice-chair of the next GRS which will be held in 2019! I am greatly looking forward to the privilege of getting involved with organising this impressive meeting as well as participating in it again.

The GRS and the GRC meetings not only celebrate the ground-breaking progress matrix biology is making, but also inspire and motivate researchers to contribute towards this rapidly growing field. I would once again like to thank the ISMB for making my participation in the conference possible and for supporting young scientists like myself.

Mukti Singh, Wellcome Trust Centre for Cell Matrix Research, Manchester (UK)

7 Lakes Proteoglycans conference, September 10-14, 2017, Varese (Italy)

First I would like to thank the International Society of Matrix Biology for this travel award that allowed me to attend the 7 lakes proteoglycans conference. This international meeting gathered PhD students, post docs and senior investigators working on proteoglycans. As a final year PhD student working on Heparan Sulfate sulfotransferases, it was a fantastic opportunity for me to show my results by giving an oral and a poster presentation.

I have met some researchers and students at the GRC Proteoglycans 2016 and it was excellent to catch up with what they have been working on. The environment was very friendly and the scientific content of the talks very inspiring. Professor Ralph Sanderson gave an excellent talk about chemoexosomes’ (chemotherapy-induced exosomes) composition in heparanase and their implication in chemoresistance and Professor Jeremy Turnbull had very interesting data on Alzheimer disease and HS sulfotransferases and new results on HS-based compounds to inhibit BACE, a beta secretase which cleaves beta-amyloid precursor protein.



At the first poster session I had many suggestions and comments on my poster which will help my on-going work. It was very enjoyable to exchange ideas and hypothesis with a broad range of researchers with different background. The 7 lakes proteoglycans conference has been an excellent opportunity for me to enjoy excellent scientific discussions in a welcoming atmosphere. Finally I am very thankful to Professor Alberto Passi and Professor Nikos Karamanos who chaired this great meeting and awarded me the best oral presentation award. I would encourage young researchers like me to attend the next Proteoglycans conference that gathers a great community of out standing and very welcoming scientists.

Laura Ferreras. Institute of Cellular Medicine, Faculty of Medical Sciences, Newcastle University (UK)

POSITIONS AVAILABLE

Group leaders

Major new recruitment opportunities in the Wellcome Centre for Cell-Matrix Research, Manchester (UK)

The Wellcome Centre for Cell-Matrix Research at the University of Manchester is recruiting new Group Leaders who have an interest in the biology of extracellular matrix. Our vision is to understand the physical, chemical, and temporal crosstalk between cells and the extracellular matrix. We expect to generate profound insights into the mechanisms that regulate tissue assembly and function, and identify the cause of tissue homeostasis dysregulation, which is a major factor in many chronic diseases. We are recruiting new members to the Centre at all levels from early career research fellows to professors, whom we invite to play a leading role in developing the research vision of the Centre.



Research Focus

The trajectory of the Centre builds on exciting new discoveries that have opened up matrix research in themes we have named ChronoMatrix (highlighting the importance of the circadian clock in matrix homeostasis and disease), ImmunoMatrix (building on the importance of matrix in regulating innate and adaptive immunity) and MechanoMatrix recognising the fundamental importance of matrix stiffness on determining cell fate and function). Many aspects of our research across all themes directly relate to fibrosis, which is a new initiative in the Centre.

Facilities

Centre members benefit from outstanding laboratory space and research core facilities in genomics (including a new CRISPR facility), mass spectrometry, imaging (including electron microscopy and super-resolution light microscopy), bioinformatics, and biomolecular analysis. The Centre is embedded within the Faculty of Biology, Medicine & Health, which was formed in 2016 to bring together more than 800 staff with expertise in basic and clinical science to work together in an integrated structure enabling a translational approach to biology, medicine and health. For information about the Faculty of Biology, Medicine and Health, visit <https://www.bmh.manchester.ac.uk>

Opportunities

We invite researchers with an interest in matrix to contact us to discuss their ambition and how their interests might flourish here and add to the vision of the Centre. We extend this invitation to researchers at all levels, from those



just embarking on their independent research careers to those at the top of their field seeking new challenges and new opportunities. We offer support to those seeking competitive fellowships and established researchers moving to the Centre. For members joining mid-career, there are excellent opportunities for promotion to full tenured positions as professor.

The Time is Now

There is no deadline for expressions of interest; however, we are keen to have a first wave of recruits join us during 2018. Those wishing to explore this opportunity further (with no obligation) should send a brief summary of how their research ideas would flourish in the Centre, plus a short CV to either karl.kadler@manchester.ac.uk (Centre Director) or anna.fildes@manchester.ac.uk (Centre Administrator). This is an open invitation so please forward this e-mail to researchers you feel might be interested. For further details about the latest developments and publications from the Cell-Matrix Centre, visit <http://www.wellcome-matrix.org>.

Post-doctoral positions

Postdoctoral fellowships in proteomics and biology of cardiovascular development and disease

Suneel S. Apte, Cleveland Clinic, OH (USA)

Postdoctoral fellowships are available in the laboratory of Dr. Suneel Apte to investigate the proteomics and biology of cardiovascular development and disease. These positions will suit recent PhDs, MD/PhDs, or MDs with a career interest in proteases, extracellular matrix, proteomics, mouse genetics, cardiovascular disease, and systems biology.

The research project will involve the following:

1. Proteomics of cardiovascular tissues.
2. Cardiovascular disease, specifically, aortic aneurysms.
3. Degradomics to identify substrates of ADAMTS proteases.
4. Developmental biology using mouse models.
5. Systems biology.
6. Matrix biology, cell-matrix interactions, and biology of vascular smooth muscle cells.

Applicants must be highly motivated, energetic, well-organized, and independent, with a well-developed ability and the appropriate temperament to work amicably and collaboratively within a multidisciplinary team. A strong work ethic, integrity, and professionalism are expected. Exceptional writing skills and a track record of relevant publications are preferred. Fellows will join a laboratory with expertise in mouse genetics, developmental biology, biochemistry, and cell biology (<http://www.lerner.ccf.org/bme/apte/>). Proteomics will utilize Orbitrap Fusion Lumos Tribrid and Orbitrap Elite LTQ mass spectrometers in the Lerner Research Institute's Proteomics Core.

The Lerner Research Institute (<https://www.lerner.ccf.org/>) is a large, leading biomedical research institute with diverse research activities, a strong academic program with local universities, a medical school and outstanding core facilities. The Cleveland Clinic (<https://my.clevelandclinic.org/>) is internationally recognized for treatment of cardiovascular disease. Cleveland is an affordable, medium-sized city with a wealth of cultural and outdoors opportunities.

Interested applicants should submit a letter of application, complete curriculum vitae, 1- to 2-page statement of research/career goals, contact details of three references with intimate knowledge of their work

Send the above materials and direct any inquiries to:

Suneel S. Apte, MBBS, DPhil Department of Biomedical Engineering / ND20, Cleveland Clinic, 9500 Euclid Avenue, Cleveland, OH 44195, E-mail: aptes@ccf.org





Postdoctoral Position Available in Wound Healing / Fibrosis Research

Professor Ernst Reichenberger, University of Connecticut Health Center (USA)

A postdoctoral position is available in a lab interested in genetics and mechanisms of wound healing disorders, especially keloid formation.

Candidates must have PhD, MD/PhD, or MD and must be highly motivated.



The successful applicant will have strong background in **wound healing, skin research, fibrosis or inflammatory disorders with technical expertise in induced pluripotent stem cells (iPSCs), immunology, cell biology or signal transduction**.

Our newly renovated laboratory is embedded in the Center for Regenerative Medicine and Skeletal Development at UCHC within a vibrant research environment. We study the roles and molecular mechanisms of candidate genes for keloid formation. As we identify genetic variants in candidate genes we investigate the effects of candidate variants on a cellular and molecular level by *in vitro* and *in vivo* models.

Candidates must be innovative, enthusiastic and have solid background in at least one of the identified areas (**wound healing, skin research, fibrosis, induced pluripotent stem cells (iPSCs), inflammatory disorders, immunology, cell biology or signal transduction**) and must be capable of engaging into other areas of expertise as required by the project. The dynamics of this research project requires the ability for multitasking, to work independently as well as collaboratively with other lab members and external collaborators. A broad biological and technical background will be of advantage.

Please send CV, statement of research interests and research accomplishments, and contact information for 3 references to: Professor Ernst Reichenberger, PhD, University of Connecticut Health Center (UCHC)

Center for Regenerative Medicine and Skeletal Development, Department of Reconstructive Sciences

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email: reichenberger@uchc.edu

visit us at: <https://health.uconn.edu/reichenberger-lab/>

Trainees from underrepresented racial/ethnic groups are specifically encouraged. UCHC is an equal opportunity employer M/F/V/PwD.

Postdoctoral Fellow Position, Icahn School of Medicine, Mount Sinai, New York (USA)

Dr. Dirk Hubmacher

A position for a postdoctoral fellow is available in the newly established laboratory of Dr. Dirk Hubmacher (Ph.D.) located in the Orthopaedic Research Laboratories (ORL) at the Icahn School of Medicine at Mount Sinai, New York.



The laboratory will be studying how extracellular matrix (ECM) proteins guide musculoskeletal tissue development and homeostasis. Specifically, we are interested in the biology and pathology of secreted ADAMTS proteases and ADAMTS-like proteins which are mutated in acromelic dysplasias; a group of human genetic connective tissue disorders that include geleophysic dysplasia and Weill-Marchesani syndrome (*Hubmacher et al., 2015, Matrix Biol.*). Because the same disorders can also be caused by mutations in fibrillin-1 (FBN1), the NIH-funded research project aims to elucidate the functional connection between ADAMTSL2 and fibrillin microfibrils in the ECM of tendon, skeletal muscle, and other tissues. The research uses new animal models for geleophysic dysplasia, cell-based systems to analyze ECM formation and turnover, and biochemical and molecular biological assays for protein-protein interaction studies (*Hubmacher et al, 2017, Sci. Rep.; Hubmacher et al, 2015, Dis. Model. Mech.*).



I am looking for a highly motivated postdoctoral fellow with a Ph.D. or M.D./Ph.D. degree in the life sciences, preferably in areas related to ECM biology or musculoskeletal biology. Demonstrated experience in protein biochemistry, cell-based assays, or in mouse genetics are desired. Excellent communication skills in spoken and written English and excellent organizational skills are required. Interested candidates should submit a cover letter, a curriculum vitae (CV), a brief description of their current research, a brief statement of future research and career goals, and the names and contact information for three references to Dr. Dirk Hubmacher (hubmacd@ccf.org). The ORL are a highly collaborative and interdisciplinary research environment in the Department of Orthopaedics at Mt. Sinai covering basic, clinical, and translational research projects (<http://icahn.mssm.edu/research/labs/orthopaedics-research-laboratory>). The ORL maintain core facilities for morphology/histology, biomechanical testing, and musculoskeletal injury models. Salary will be commensurate with experience according to the guidelines from NIH and the Icahn School of Medicine at Mt. Sinai. A comprehensive benefits package and subsidized housing are available.

Post-doctoral Position in Extracellular Matrix, Wound-Healing and Skin Regeneration Institut de Génomique Fonctionnelle de Lyon, France

A 18-months post-doctoral position is available in Lyon (France) in the group of Florence Ruggiero at the IGFL (<http://igfl.ens-lyon.fr>). The position is open immediately and will be closed when a suitable candidate is found. The position is funded by the ANR to work on the role of the extracellular matrix in wound healing and skin regeneration using zebrafish.



Location: The “Institut de Génomique Fonctionnelle de Lyon” (<http://igfl.ens-lyon.fr>) is a research institute run by the ENS-Lyon (<http://www.ens-lyon.fr>), the CNRS and the University of Lyon 1 that conducts basic research in evolutionary sciences, developmental biology and physiology. IGFL has developed an inhouse sequencing platform and has easy-access to state-of-the-art core services, including zebrafish facility (<http://www.sfr-biosciences.fr>).

Qualification: Candidate should be within three years from obtaining their PhD degree. Candidates with background in functional genomics and zebrafish model are invited to apply. Prior experience in extracellular matrix and skin biology is positively considered. We are seeking a creative and highly motivated scientist with ability to work in an independent fashion.

How to apply: Please send your application containing your CV, a short letter describing your motivation and research experience and the names and email addresses of two references to florence.ruggiero@enslyon.fr

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

RECENT PAPERS

Mayorca-Guiliani AE, Madsen CD, Cox TR, Horton ER, Venning FA, Erler JT. ISDoT: in situ decellularization of tissues for high-resolution imaging and proteomic analysis of native extracellular matrix. *Nat Med.* 2017 23:890-898.

Corresponding author: Janine.erler@bric.ku.dk

Abstract: *The extracellular matrix (ECM) is a master regulator of cellular phenotype and behavior. It has a crucial role in both normal tissue homeostasis and disease pathology. Here we present a fast and efficient approach to enhance the study of ECM composition and structure. Termed in situ decellularization of tissues (ISDoT), it allows whole organs to be decellularized, leaving native ECM architecture intact. These three-dimensional decellularized tissues can be*



studied using high-resolution fluorescence and second harmonic imaging, and can be used for quantitative proteomic interrogation of the ECM. Our method is superior to other methods tested in its ability to preserve the structural integrity of the ECM, facilitate high-resolution imaging and quantitatively detect ECM proteins. In particular, we performed high-resolution sub-micron imaging of matrix topography in normal tissue and over the course of primary tumor development and progression to metastasis in mice, providing the first detailed imaging of the metastatic niche. These data show that cancer-driven ECM remodeling is organ specific, and that it is accompanied by comprehensive changes in ECM composition and topological structure. We also describe differing patterns of basement-membrane organization surrounding different types of blood vessels in healthy and diseased tissues. The ISDoT procedure allows for the study of native ECM structure under normal and pathological conditions in unprecedented detail.

Dai J, Ma M, Feng Z, Pastor-Pareja JC. Inter-adipocyte adhesion and signaling by collagen IV intercellular concentrations in *Drosophila*. Curr Biol. 2017 27:2729-2740.

Corresponding author: jose.pastor@biomed.tsinghua.edu.cn

Abstract: Sheet-forming Collagen IV is the main component of basement membranes, which are planar polymers of extracellular matrix underlying epithelia and surrounding organs in all animals. Adipocytes in both insects and mammals are mesodermal in origin and often classified as mesenchymal. However, they form true tissues where cells remain compactly associated. Neither the mechanisms providing this tissue-level organization nor its functional significance are known. Here we show that discrete Collagen IV intercellular concentrations (CIVICs), distinct from basement membranes and thicker in section, mediate inter-adipocyte adhesion in *Drosophila*. Loss of these Collagen-IV-containing structures in the larval fat body caused intercellular gaps and disrupted continuity of the adipose tissue layer. We also found that Integrin and Syndecan matrix receptors attach adipocytes to CIVICs and direct their formation. Finally, we show that Integrin-mediated adhesion to CIVICs promotes normal adipocyte growth and prevents autophagy through Src-Pi3K-Akt signaling. Our results evidence a surprising non-basement membrane role of Collagen IV in non-epithelial tissue morphogenesis while demonstrating adhesion and signaling functions for these structures.

Ma M, Cao X, Dai J, Pastor-Pareja JC. Basement membrane manipulation in *Drosophila* wing discs affects Dpp retention but not growth mechanoregulation. Dev Cell. 2017 42:97-106.e4.

Corresponding author: jose.pastor@biomed.tsinghua.edu.cn

Abstract: Basement membranes (BMs) are extracellular matrix polymers basally underlying epithelia, where they regulate cell signaling and tissue mechanics. Constriction by the BM shapes *Drosophila* wing discs, a well-characterized model of tissue growth. Recently, the hypothesis that mechanical factors govern wing growth has received much attention, but it has not been definitively tested. In this study, we manipulated BM composition to cause dramatic changes in tissue tension. We found that increased tissue compression when perlecan was knocked down did not affect adult wing size. BM elimination, decreasing compression, reduced wing size but did not visibly affect Hippo signaling, widely postulated to mediate growth mechanoregulation. BM elimination, in contrast, attenuated signaling by bone morphogenetic protein/transforming growth factor β ligand Dpp, which was not efficiently retained within the tissue and escaped to the body cavity. Our results challenge mechanoregulation of wing growth, while uncovering a function of BMs in preserving a growth-promoting tissue environment.

Collagen IV And the evolutionary dawn of animals

The transition from unicellular organisms to multicellular animals was a major event in metazoan evolution, however the role of the cellular microenvironment in enabling and supporting this transition has been unclear until now. A



new study published in eLife by Billy Hudson's group examines the evolution of several basement membrane (BM) components across the earliest branching metazoans, with a focus on sponges and ctenophores.

Across these animals, collagen IV correlated most precisely with the emergence of BMs within these early taxa, indicating that collagen IV was a key evolutionary innovation for enabling BM development. Furthermore, ctenophores shed light on the unprecedented experimentation of collagen IV within the phylum, with species ranging from 4 to 20 distinct genes, standing in stark comparison to most animals with only 2 genes, and vertebrates which have 6 genes. Together, these findings provide a new understanding of collagen IV as a primordial component of the extracellular microenvironment, and as a component of the BM, provided the foundation for a fundamental architectural unit in the genesis and evolution of multicellular tissues. This unit served as a building block for the ever-increasing complexity and size of organisms, and for the expansion and diversity of the animal kingdom.

Fidler AL, Darris CE, Chetyrkin SV, Pedchenko VK, Boudko SP, Brown KL, Jerome WG, Hudson JK, Rokas A, Hudson BG. Collagen IV and basement membrane at the evolutionary dawn of metazoan tissues. eLife. 2017;6:e24176

Corresponding author: billy.hudson@vanderbilt.edu

Abstract: *The role of the cellular microenvironment in enabling metazoan tissue genesis remains obscure. Ctenophora has recently emerged as one of the earliest-branching extant animal phyla, providing a unique opportunity to explore the evolutionary role of the cellular microenvironment in tissue genesis. Here, we characterized the extracellular matrix (ECM), with a focus on collagen IV and its variant, spongin short-chain collagens, of non-bilaterian animal phyla. We identified basement membrane (BM) and collagen IV in Ctenophora, and show that the structural and genomic features of collagen IV are homologous to those of non-bilaterian animal phyla and Bilateria. Yet, ctenophore features are more diverse and distinct, expressing up to twenty genes compared to six in vertebrates. Moreover, collagen IV is absent in unicellular sister-groups. Collectively, we conclude that collagen IV and its variant, spongin, are primordial components of the extracellular microenvironment, and as a component of BM, collagen IV enabled the assembly of a fundamental architectural unit for multicellular tissue genesis.*

Additional Reading: Sherwood D. F1000 Prime Recommendation. Retrieved September 11, 2017 from <https://f1000.com/prime/727513301> DOI: 10.3410/f.727513301.793535029

Recommendations: *Basement membranes are a thin, dense form of extracellular matrix that underlies and surrounds most tissues in animals. Basement membranes play numerous roles important for tissues, including mechanical support and shaping, as well as harboring cues that mediate cell polarization, differentiation and proliferation. Basement membranes contain many proteins, but their structure is thought to arise primarily from two self-assembling and independent polymeric networks: one meshwork built from laminin and one from covalently crosslinked type IV collagen. In the current study, Fidler, Daris, Chetyrkin and colleagues from the Hudson group have ambitiously examined the presence of several key basement membrane proteins in numerous protists (amebozoans, choanoflagellates, filastereans, apusozoans) basal nonbilaterian animals (Ctenophora, Porifera, Placozoa, and Cnidaria), and more recently evolved bilaterian animals (Drosophila, Homo sapiens). They found that while some basement membrane components were present in protists (laminin, fibronectin) and others appeared later in animal evolution (perlecan, nidogen, tenascin), only the presence of the collagen IV gene was precisely correlated with the emergence of basement membranes in animals. The implication from this work is that collagen IV a trimer of collagen IV proteins assembled into a triple helix was required for the development of basement membranes. Further, through sequence comparison, electron microscopy, and immunofluorescence studies, the authors discovered that while collagen IV and laminin are found in all animals, basement membranes are not apparent in animals such as Placozoans, some Porifera (sponges), and some Ctenophore species that lack complex tissues. These observations suggest that basement membranes were likely required for the formation of sophisticated tissues and the dramatic (and highly successful) expansion of more complex animals. Further, the absence of basement membranes in these animals suggests that fundamental "basement membrane" proteins such as laminin and collagen IV play roles*



outside of their canonical functions in basement membranes. A separate intriguing finding from this study is that collagen IV underwent numerous gene duplications in Ctenophores while most animals harbor two type IV collagen chains (vertebrates have six), the Ctenophore species examined contain between 4 and 20 collagen IV genes. With the development of Crispr/CAS9 gene knockout studies, it will be fascinating to explore the function of these collagens in Ctenophores, as their specialized roles might give insight into the diverse functions that collagen IV molecules can have in animals. Overall, this article contains an absolute treasure trove of important observations that have implications for how we view collagen IV, basement membranes, and the evolution of animals.

Annabi N, Zhang YN, Assmann A, Sani ES, Cheng G, Lassaletta AD, Vegh A, Dehghani B, Ruiz-Esparza GU, Wang X, Gangadharan S, Weiss AS, Khademhosseini A. Engineering a highly elastic human protein-based sealant for surgical applications. Sci Transl Med. 2017 9(410)

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Abstract: Surgical sealants have been used for sealing or reconnecting ruptured tissues but often have low adhesion, inappropriate mechanical strength, cytotoxicity concerns, and poor performance in biological environments. To address these challenges, we engineered a biocompatible and highly elastic hydrogel sealant with tunable adhesion properties by photocrosslinking the recombinant human protein tropoelastin. The subcutaneous implantation of the methacryloyl-substituted tropoelastin (MeTro) sealant in rodents demonstrated low toxicity and controlled degradation. All animals survived surgical procedures with adequate blood circulation by using MeTro in an incisional model of artery sealing in rats, and animals showed normal breathing and lung function in a model of surgically induced rat lung leakage. In vivo experiments in a porcine model demonstrated complete sealing of severely leaking lung tissue in the absence of sutures or staples, with no clinical or sonographic signs of pneumothorax during 14 days of follow-up. The engineered MeTro sealant has high potential for clinical applications because of superior adhesion and mechanical properties compared to commercially available sealants, as well as opportunity for further optimization of the degradation rate to fit desired surgical applications on different tissues.

‘Squirtable’ elastic surgical glue seals wounds in 60 seconds. Emergency treatments could be transformed, saving lives A highly elastic and adhesive surgical glue that quickly seals wounds without the need for common staples or sutures could transform how surgeries are performed.

Biomedical engineers from the University of Sydney and the United States collaborated on the development of the potentially life-saving surgical glue, called MeTro. MeTro’s high elasticity makes it ideal for sealing wounds in body



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tissues that continually expand and relax – such as lungs, hearts and arteries – that are otherwise at risk of re-opening. The material also works on internal wounds that are often in hard-to-reach areas and have typically required staples or sutures due to surrounding body fluid hampering the effectiveness of other sealants. MeTro sets in just 60 seconds once treated with UV light, and the technology has a built-in degrading enzyme which can be modified to determine how long the sealant lasts – from hours to months, in order to allow adequate time for the wound to heal. The liquid or gel-like material has quickly and successfully sealed incisions in the arteries and lungs of rodents and the lungs of pigs, without the need for sutures and staples. The results were published today in Science Translational Medicine, in a paper by the University of Sydney’s Charles Perkins Centre and Faculty of Science; Boston’s Northeastern University, the Wyss Institute for Biologically Inspired Engineering at Harvard University and the Beth Israel Deaconess Medical Center (BIDMC) in Boston. MeTro combines the natural elastic protein technologies developed in collaboration with author and University of Sydney McCaughey Chair in Biochemistry Professor Anthony Weiss, with light sensitive molecules developed in collaboration with author and Director of the



Biomaterials Innovation Research Center at Harvard Medical School Professor Ali Khademhosseini. Lead author of the study, Assistant Professor Nasim Annabi from the Department of Chemical Engineering at Northeastern University, oversaw the application of MeTro in a variety of clinical settings and conditions.

"The beauty of the MeTro formulation is that, as soon as it comes in contact with tissue surfaces, it solidifies into a gel-like phase without running away," she said. "We then further stabilise it by curing it on-site with a short light-mediated crosslinking treatment. This allows the sealant to be very accurately placed and to tightly bond and interlock with structures on the tissue surface." The University of Sydney's Professor Anthony Weiss described the process as resembling that of silicone sealants used around bathroom and kitchen tiles. *"When you watch MeTro, you can see it act like a liquid, filling the gaps and conforming to the shape of the wound," he said. "It responds well biologically, and interfaces closely with human tissue to promote healing. The gel is easily stored and can be squirted directly onto a wound or cavity. "The potential applications are powerful – from treating serious internal wounds at emergency sites such as following car accidents and in war zones, as well as improving hospital surgeries."* Professor Khademhosseini from Harvard Medical School was optimistic about the study's findings. *"MeTro seems to remain stable over the period that wounds need to heal in demanding mechanical conditions and later it degrades without any signs of toxicity; it checks off all the boxes of a highly versatile and efficient surgical sealant with potential also beyond pulmonary and vascular suture and staple-less applications," he said. The next stage for the technology is clinical testing, Professor Weiss said. "We have shown MeTro works in a range of different settings and solves problems other available sealants can't. We're now ready to transfer our research into testing on people. I hope MeTro will soon be used in the clinic, saving human lives."* Elastagen Pty Ltd is commercialising the technology.

Nauroy P, Hughes S, Naba A, Ruggiero F. The in-silico zebrafish matrisome: A new tool to study extracellular matrix gene and protein functions. *Matrix Biol.* 2017 Jul 21. pii: S0945-053X(17)30155-5.

Corresponding author: florence.ruggiero@ens-lyon.fr

Abstract: Extracellular matrix (ECM) proteins are major components of most tissues and organs. In addition to their crucial role in tissue cohesion and biomechanics, they chiefly regulate various important biological processes during embryonic development, tissue homeostasis and repair. In essence, ECM proteins were defined as secreted proteins that localized in the extracellular space. The characterization of the human and mouse matrisomes provided the first definition of ECM actors by comprehensively listing ECM proteins and classified them into categories. Because zebrafish is becoming a popular model to study ECM biology, we sought to characterize the zebrafish matrisome using an in-silico gene-orthology-based approach. We report the identification of 1002 genes encoding the in-silico zebrafish matrisome. Using independent validations, we provide evidence for the robustness of the orthology-based approach. Moreover, we evaluated the orthology relationships between human and zebrafish genes at the whole-genome and matrisome levels and showed that the different categories of ECM genes are differentially subjected to evolutionary pressure. Last, we illustrate how the zebrafish matrisome list can be employed to annotate big data using the example of a previously published proteomic study of the skeletal ECM. The establishment of the zebrafish matrisome will undoubtedly facilitate the analysis of ECM components in "-omic" data sets.



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 April 2017

Jazmin Ozsvar	PhD student	University of Sydney	Australia
Fariba Poosti	Postdoc	Rega Institute, Leuven	Belgium
Laurent Duca	Associate Professor	University of Reims	France
Essak Khan	PhD student	Leibniz Institute for New Materials, Saarbrücken	Germany
Javier Redondo-Munoz	Principal Investigator	University of Madrid	Spain
Ras Ayse Kocak	PhD student	Dokuz Eylul University, Izmir	Turkey
Lauren Fleming	PhD student	University of Glasgow	UK
Angela O'Connor	Postdoc	University of Michigan, Ann Arbor, MI	USA
Rahmin Savani	Professor	UT Southwestern Medical Center, Dallas, TX	USA

AWARDS

Collagen Triple Helix and Science Education The Protein Society bestowed the Carl Brändén Award to Billy Hudson

Vanderbilt University biochemist, Billy Hudson, received the 2017 Carl Brändén award in July at The Protein Society's 31st Annual Symposium in Montreal, Canada. The Carl Brändén Award, bestowed by The Protein Society, recognizes exceptional contributions in science, education, and service. The Protein Society, an international society of scholars in the field of protein science, cited Dr. Hudson's key discoveries on the structure and function of collagen IV scaffolds in basement membranes, which have led to potential treatments for diabetic kidney disease, and his development of the Aspirnaut education pipeline. The Aspirnaut program is designed to increase diversity within the STEM (science, technology, engineering, and math) workforce of the U.S. The award included Dr. Hudson delivering a keynote lecture at the annual meeting, and an invitation to write a review on the assembly of collagen IV scaffolds on the outside of cells. This comprehensive review summarizes key advances over the last 50 years in understanding the collagen IV scaffold assembly pathway, from the formation of triple-helical protomers within the cell to the formation of scaffolds in the extracellular microenvironment. These findings include solving the crystal structure of the noncollagenous domain (NC1) of collagen IV, which served as a turning point for understanding collagen IV research, and the numerous mechanistic discoveries of collagen IV scaffold assembly. Together, these discoveries of biology and chemistry of collagen IV played key roles in elevating the importance of the extracellular matrix.

Full text: Brown KL, Cummings CF, Vanacore R, Hudson B. **Building collagen IV smart scaffolds on the outside of cells**. Protein Science. Accepted Author Manuscript. doi:10.1002/pro.3283

Corresponding author: billy.hudson@vanderbilt.edu

Abstract: *Collagen IV scaffolds assemble through an intricate pathway that begins intracellularly and is completed extracellularly. Multiple intracellular enzymes act in concert to assemble collagen IV protomers, the building blocks of collagen IV scaffolds. After being secreted from cells, protomers are activated to initiate oligomerization, forming insoluble networks that are structurally reinforced with covalent crosslinks. Within these networks, embedded binding sites along the length of the protomer lead to the "decoration" of collagen IV triple helix with numerous functional molecules. We refer to these networks as "smart" scaffolds, which as a component of the basement membrane enable the development and function of multicellular tissues in all animal phyla. In this review, we present key molecular mechanisms that drive the assembly of collagen IV smart scaffolds.*

International Proteomics Organization (HUPO) bestows highly regarded award to Chris Overall

Dr. Christopher Overall, University of British Columbia, Canada, recently won one of the most prestigious annual awards of the Human Proteome Organization (HUPO): the Discovery in Proteomic Sciences Award was presented to him at the 16th HUPO World Congress, held in Dublin, Ireland, from September 17 to 21, 2017.

HUPO is an international scientific organization that represents and promotes proteomics, the large-scale study of proteins, particularly their structures and functions. His award lecture, titled "Protein TAILS Tell Remarkable Tales," was given at the general assembly of the meeting to 1300 delegates from over 30 countries. "The Human Proteome Project, which Overall is Co-Chair of, is the 'human genome





project of proteins'. To complete this, researchers use advanced techniques known as proteomics" Overall says. "Proteins are what make all cells, tissues and organisms grow, have shape, form and function. The human proteome is the product of the human genome that gives us life and makes us human. By understanding and identifying all proteins expressed in humans much will be learned of how we grow, develop, maintain life and respond to disease and illness throughout our lives." Moreover, Overall points out that proteomics is enabling personalised medicine by identifying the actual components of human tissues and what happens to them when they go wrong. This knowledge, he says, is enabling rapid advances in medical diagnostics and is leading to new cures.

Overall, who is the Canada Research Chair in Protease Proteomics and Systems Biology, has pioneered a suite of proteomic techniques known as terminomics and degradomics. These techniques have been developed with his team of researchers at UBC and have led to multiple discoveries using mass spectrometry that have impacted the understanding of immunodeficiency diseases and inflammatory diseases reported in some of the highest impact scientific journals today.

"By knowing the ends of proteins, known as termini, we found that the function of many key proteins in the immune system and of growth factors switches between 'on and off' states," Overall says. Without identifying these features, conclusions made from genomics alone can be completely opposite to what is really happening in the cell and tissues. These features of a protein also make for accurate biomarkers of disease to aid in diagnosis and monitoring of treatment. In addition, the use of terminomics has opened a wealth of new doors of understanding many diseases and the body's response in fighting illness.

Recently terminomics has been applied by the Overall Lab to B and T cells of the blood in patients with immunodeficiency. Other research that is forthcoming includes new insights into the mechanism of chronic inflammatory diseases including the processes underlying rheumatoid diseases and lupus as well as rare immunodeficiency diseases.

Relevant papers

- Fortelny N, Overall CM, Pavlidis P, Freue GVC. Can we predict protein from mRNA levels? *Nature* 2017 547(7664):E19-E20.
- Kappelhoff R, Puente XS, Wilson CH, Seth A, López-Otín C, Overall CM. Overview of transcriptomic analysis of all human proteases, non-proteolytic homologs and inhibitors: Organ, tissue and ovarian cancer cell line expression profiling of the human protease degradome by the CLIP-CHIP™ DNA microarray. *Biochim Biophys Acta* 2017 1864(11 Pt B):2210-2219.
- Jobin PG, Butler GS, Overall CM. New intracellular activities of matrix metalloproteinases shine in the moonlight. *Biochim Biophys Acta* 2017 1864(11 Pt A):2043-2055.
- Butler GS, Connor AR, Sounni NE, Eckhard U, Morrison CJ, Noël A, Overall CM. Degradomic and yeast 2-hybrid inactive catalytic domain substrate trapping identifies new membrane-type 1 matrix metalloproteinase (MMP14) substrates: CCN3 (Nov) and CCN5 (WISP2). *Matrix Biol.* 2017 59:23-38
- Abbey SR, Eckhard U, Solis N, Marino G, Matthew I, Overall CM. Comparison of the human odontoblast cell layer and dental pulp proteomes and N-terminomes. *Journal of Dental Research*, in press

MATRIX BIOLOGY MEETING ANNOUNCEMENTS

Scientific day in honour of David Hulmes

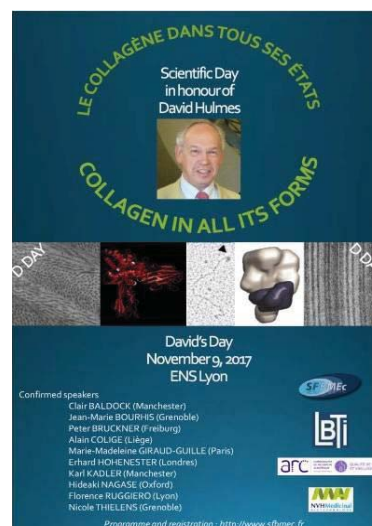
Collagen in all its forms

November 9, 2017

Ecole Normale Supérieure de Lyon, Lyon, France

Organizing committee : Catherine Moali, Sandrine Vadon-Le Goff, Patricia Rousselle, Florence Ruggiero

www.sfbmec.fr



Matrix Biology Society of Australia and New Zealand, November, 17, 2017, Melbourne (Australia)

On behalf of the Matrix Biology Society of Australia and New Zealand we would like to invite you to join us in Melbourne for a local scientific meeting followed by the AGM of the Society. The conference will be held at the Larwill Hotel, 48 Flemington Road, Parkville (within the Royal Childrens Hospital complex, Larwill Hotel @ Royal Childrens Hospital) on Friday, November 17.



Confirmed keynote Speakers

Prof Andy Carr, Director, Botnar Research Centre, University of Oxford "Mechanisms of inflammation in tendinopathy"

Dr Daniel Heath, School of Chemical and Biomedical Engineering, University of Melbourne. "Designing ECM mimetic materials"

Assoc Prof Natalie Sims, Associate Director, St Vincent's Institute Medical Research, University of Melbourne. "Using the synchrotron to study the regulation of bone matrix mineralization"

Dr Kate Poole, School of Medical Sciences, University of NSW. "Activation of mechanosensitive channels at the cell-substrate interface"

Program

The day long program (10.00-17.00) will be divided into 4 sessions, and in addition to keynote presentations, there will be ample time for short talks chosen from submitted abstracts.

There will be no poster presentations, but students/postdocs are encouraged to submit abstracts for short "3-minute thesis" style presentations in a dedicated session. The MBSANZ AGM will follow the scientific presentations at 17.00.



We welcome abstracts on all aspects of ECM biology. We are keen to include areas where the extracellular matrix is emerging as a key issue. For example, interactions of stem cells with ECM, ECM disease mechanisms, new functional matrices in tissue engineering and regenerative medicine.

Key dates and contact information www.mbsanz.org

Registration costs:

Student members \$10; Student non-members \$25 (or \$30 to include annual membership)
Full members \$30; Non-members \$75 (or \$90 to include annual membership)

Accommodation before or after the meeting can be arranged at the onsite Larwill Hotel:
www.artserieshotels.com.au/larwill/

For further information contact the local organising committee:

Eleanor Mackie ejmackie@unimelb.edu.au
Shireen Lamandé shireen.lamande@mcri.edu.au
John Bateman john.bateman@mcri.edu.au

MBI 2017 Meeting, November 30th - December 1st, Trinity College Dublin, Ireland

This year's meeting takes place in Trinity College Dublin, the University of Dublin at the Trinity Biosciences Institute. We are looking forward to an excellent program with leading international experts working to share and discuss latest advances in the fields of matrix biology. The scope of the meeting 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 community on Matrix Biology. The main theme of this year's meeting is from Development to Engineering Therapeutics'.

Abstract Submission Deadline: 10th October

Early Bird Registration: 13th October

Confirmed speakers: George Bou-Gharios, John Baugh, Caitríona Lally, Tanya Levingstone, Charles D. Little, Aideen Ryan, Liliana Schaefer, Charles Streuli

Track Themes

- Immunology and Immunotherapy
- ECM Signaling in Development
- ECM Signalling in Fibrosis
- Matrix Biology and the Tumour Microenvironment
- Bioengineering Approaches using Matrix Proteins
- ECM and its interactions with Immunotherapy
- Advanced Emerging Imaging Technologies of ECM
- Harnessing ECM as a Therapeutic





This year's meeting schedule will provide ample opportunity for informal discussions and networking. Guided poster tours, rapid-fire presentations as well as poster prizes will be dedicated to your scientific contributions. Additionally, a strong focus on emerging and young investigator presentations will be facilitated during the meeting.

Silver Sponsor: Merck is a leading science and technology company in healthcare, life science and performance materials. Around 50,000 employees work to develop technologies that improve and enhance life—from biopharmaceutical therapies to treat cancer or multiple sclerosis, systems for scientific research and production, to liquid crystals for smartphones and LCD televisions. The life science business' purpose is to solve the toughest problems in the industry by collaborating with the global scientific community. With a broad portfolio of more than 300,000 products for protein research, cell biology and chemical-based and biopharmaceuticals, the business covers the bioprocessing value chain.

**Gordon Research Conference on Transglutaminases in Human Disease Processes
Towards Understanding and Modulating Transglutaminases in Human Diseases
June 17-22, 2018**

Les Diablerets Conference Center, Les Diablerets, Switzerland

Chair: Mari Kaartinen, Vice-Chair Jeffrey Keillor

Email: mari.kaartinen@mcgill.ca

GRC: <http://www.grc.org/programs.aspx?id=14565>



Associated Gordon Research Seminar: June 16-17, 2018

Chairs: Magdalena Adamczyk & Huifang Sun

ad.magdalena.ba@gmail.com

GRS: <http://www.grc.org/programs.aspx?id=17699>



Gordon Research Seminar on Proteoglycans

July 7-8, 2018

Proctor Academy, Andover, NH (USA)

Chairs: Aaron Petrey and Rogier Reijmers

[Proteoglycans: Structure, Mechanisms and Applications in Health and Disease](#)

Weblink for GRS: <https://www.grc.org/proteoglycans-grs-conference/2018/>



Gordon Research Conference on Proteoglycans

July 8-13, 2018

Proctor Academy, Andover, NH (USA)

Chairs: Anthony Day, Carol de la Motte and Liliana Schaefer

[Proteoglycans in Homeostasis and Disease: Cracking the PG Code](#)

Weblink for GRC: <https://www.grc.org/proteoglycans-conference/2018/>



Extracellular Matrix: Cell Regulation, Epigenetics and Modeling - FEBS Advanced Lecture Course

27th September - 2nd October 2018

Conference & Cultural Center of the University of Patras, Patras, Greece

The FEBS Advanced Lecture Course on Extracellular Matrix: Cell Regulation, Epigenetics and Modeling (FEBS-ECM 2018) will be held in Patras (Greece) from September 27th to October 2nd (Chair: Prof. N. Karamanos) under the auspices of FEBS and the University of Patras, and the support of ISMB and private sectors. This ALC adds to the previous FEBS-MPST series (*organized by Prof. Karamanos and his Colleagues since 2007*) in an effort to emerge and push forward the Matrix Biology field. Issues related to matrix-mediated cell signaling and regulation, as well as the structure/function/dynamics of the matrix macromolecular effectors, namely proteoglycans and glycans, integrins, novel collagen types, matrikines, growth factors and matrix metalloproteinases and other matrix degrading enzymes that affect the cell behavior, will be the target of the FEBS-ECM 2018. Furthermore, epigenetic control of gene expression in extracellular matrix proteins is an important emerging aspect of disease onset. These topics are of great importance to understand the maintenance of normal tissue homeostasis and disease initiation and development, signaling elicited by interactions of cell surface receptors with matrix components and growth factors, as well as to establish rapid and sensitive structure analysis and cell imaging methods.



Key Dates
Applications
31 May 2018
YTF applications
15 May 2018

Extracellular Matrix: Cell Regulation, Epigenetics and Modeling
27 September - 2 October 2018, Patras, Greece
Venue Conference and Cultural Center of the University of Patras
Website <http://extracellularmatrix.febsevents.org>

THEMATIC AREAS

- Cell surface, interactions and signaling
- Matrix-remodeling enzymes
- Matrix organization and assembly
- Epigenetics
- Novel insights in molecular modeling of ECM components

ORGANIZING COMMITTEE
Nikos K. Karamanos (*chairman*), Renato V. Iozzo, Alberto Passi, Stéphane Brézillon, Dimitris Kleitsas, Achilleas Theocharis, Spyros Skandalis, Chrysostomi Gialeli, Zoi Piperigkou

SPONSORS SUPPORTING FELLOWSHIPS & AWARDS

- FEBS Young Travel Fellowships (YTF)
- Young Investigator Awards
- Poster Prizes by FEBS Press Journals
- ISMB Travel Awards

FEBS Journal | FEBS Letters | FEBS openbio | Molecular Oncology

The “**Extracellular Matrix: Cell Regulation, Epigenetics and Modeling**”, will cover topics related to ongoing development in the fields of:

1. **Cell surface, interactions and signaling**
2. **Matrix-remodeling enzymes**
3. **Matrix organization and assembly**
4. **Epigenetics**
5. **Novel insights in molecular modeling of ECM components**

The above fields will focus also on bioinformatics, glycomics, matrix-mediated epithelial to mesenchymal transition (EMT), and domain mapping of interactions with matrix effectors and their importance for disease treatment and diagnosis. Key areas of cancer stem cell biology and biomarkers, and pharmacological targeting in malignancies are also included.

Following the 2015 and 2017 very successful set-up of the FEBS Matrix Pathobiology courses (<http://www.feb-mpst2017.upatras.gr/>) a young scientists’ committee will organize general lectures/tutorials in the first days of the meeting as well as pubquiz during the entire course providing in this way the necessary brainstorming for those



entering the field of Extracellular Matrix Pathobiology. A career development session to promote the motivation of students including general presentations/tutorials will be also organized by the young scientists' committee. These ALC courses aim at providing support to young scientists by interacting with established investigators (*i.e.* *Meet the Experts/Speakers' Corner*) and gain information that can be applied to their academic environment and research institutes. Moreover, they can promote their work by presentations in form of selected talks, selected poster flash presentations, posters).

For further info, applications, fellowships, travel, accommodation and key dates visit <https://extracellularmatrix.febsevents.org>.

The 3rd Matrix Biology Europe Conference 2018, July, 21-24, 2018 Manchester (UK)

The BSMB is organising the next Matrix Biology Europe (Formerly FECTS) conference together with the Wellcome Trust Centre for Cell-Matrix Research in Manchester (21-24 July, 2018). Sponsorship from ISMB and ASMB is gratefully acknowledged. This meeting is held every two years on behalf of all the European Matrix Biology Societies and the Manchester meeting will celebrate 50 years of such conferences, the first being held in Cambridge in 1968. The meeting will be hosted at the University of Manchester with premium (approx. £100 per night), medium (approx. £75) and budget (student en suite approx £45) bed and breakfast accommodation nearby. Registration will be approx. £400 (with reductions for PhD students and ISMB members). The conference dinner (approx. £60) has been booked at Manchester United in a venue overlooking the Old Trafford pitch. There will also be an opportunity to take the Stadium Tour prior to the dinner.

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

Confirmed speakers
Judith Allen, 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)

Kindly sponsored by the ISMB and ASMB
www.confercare.manchester.ac.uk/events/mbe2018/

We have an outstanding list of confirmed speakers (see the attached flyer) and a broad range of workshops including "Rhythms and Matrix Dynamics"; "Stem Cells and Matrix Engineering"; "ECM Microenvironment, Adhesion and Cell Fate"; "Pathobiology and Therapeutics to Fibrosis"; "Fibrillar/Matricellular Signalling"; "The Immunology/Matrix Interface"; "Mechanisms of Matrix Disease". Each workshop will include at least 4 slots for oral communications selected from abstracts so there are lots of opportunities for young investigators to present their work. Abstracts from early career researchers are particularly welcomed. The meeting will also include the Dick Heinegård Award for young investigators across Europe.

The conference website (<http://www.confercare.manchester.ac.uk/events/mbe2018/>) is established and further information will appear regularly over the next weeks. Please put the date in your diary and we hope to welcome you to Manchester in July 2018. Travel to Manchester is straightforward with our own international airport with direct rail connections to the city centre.

Ray Boot-Handford & Qing-Jun Meng. Local Organising Committee.



2018 Biennial ASMB meeting, Red Rock Casino, Las Vegas, Nevada (USA) October 14-17, 2018 and ASMB connections

Programming and preparations are underway for the 2018 Biennial ASMB meeting which will be held at the Red Rock Casino, Resort and Spa in Las Vegas, Nevada October 14-17, 2018. Red Rock is off the strip and close to both outdoor recreational activities as well as the more traditional Las Vegas-style activities. ASMB president-elect, Lynn Sakai, and the Programming Committee have put together an innovative program with many opportunities for participation by young scientists.

ASMB is also delighted to announce that past-president Suneel Apte, Cleveland Clinic, is one of two recipients of the American Heart Association-Paul G. Allen Frontiers Group inaugural award focused on extracellular matrix biology in cardiovascular disease. This is a highly prestigious and competitive award that marks a significant recognition of the importance of matrix biology to cardiovascular disease. Well done, Suneel!

ASMB is also partnering with other scientific societies to highlight and educate scientists in related disciplines as to the importance of matrix biology to their fields. ASMB has had a long-standing relationship with the Tissue Engineering and Regenerative Medicine International Society (TERMIS). This relationship began with discussions between ASMB and TERMIS-AM leadership at their overlapping meetings in San Diego and La Jolla in 2008. TERMIS has sponsored a Guest Society Workshop at every biennial meeting since the 2010 Charleston ASMB meeting, which has brought in leaders in the field to discuss their work on use of ECM for regenerative and tissue engineering approaches and which have consistently been very well attended. At the 2017 TERMIS-Americas meeting in Charlotte, NC (December 3-6, 2017), ASMB will for the first time sponsor a session at TERMIS with the goal of exposing the tissue engineers to hard core matrix science (<https://www.termis.org/am2017/>). Invited speakers for this session, entitled "Extracellular Matrix Biology and Engineering in Regenerative Medicine" include ASMB Secretary/Treasurer Ambra Pozzi (Vanderbilt), Ashley Brown (NCSU/UNC), and Denise Hocking (Rochester). The session was organized by ASMB members Ashley Brown (NCSU/UNC Biomedical Engineering), Adam Engler (UCSD Bioengineering), and Tom Barker (UVA Biomedical Engineering). Adam and Tom are on ASMB Council. In addition, Ashley Brown and Tom Barker were instrumental in organizing a Guest Symposium at the upcoming Society for Biomaterials (SFB) meeting to be held April 11-14, 2018 in Atlanta, GA on "Harnessing Matrix Biology to Control Cell Fate." ASMB will be providing support for trainee travel, so this is an excellent opportunity for ASMB members and their trainees!

ASMB is pleased to be part of the Matrix Biology Europe meeting in Manchester, UK, July 21-24, 2018 to celebrate the 50th anniversary of the Federation of European Connective Tissue Societies (FECTS). ASMB will be sponsoring a session on Fibrosis featuring Andy Blanchard (GlaxoSmithKline), and ASMB members Rebecca Wells (Penn) and Tom Barker.

Look for the new ASMB website which will go online in fall 2017 and be sure to follow ASMB on its new social media platforms.

<https://twitter.com/amsocmatbio>

<https://www.facebook.com/American-Society-for-Matrix-Biology-137954280062378/>

