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 25 January 2017

Editor: Sylvie Ricard-Blum and the Communication Subcommittee

FROM THE PRESIDENT'S DESK:

Dear ISMB members,

On behalf of the Council of the International Society for Matrix Biology I wish you a healthy and prosperous 2017.

It is a great privilege and challenge to begin serving the international matrix community in the New Year, especially as we can look back at a very successful 2016.

Many thanks to Francesco Ramirez for his remarkable term as President of the ISMB. Under his leadership the ISMB, despite its limited number of 313 members, was able to award nearly € 10,000 in annual travel grants to young investigators, as well as co-sponsor several international conferences. We have also appointed two young matrix researchers to the Council of the ISMB. Their support is increasing the visibility of the ISMB's public profile (see us on Facebook: https://www.facebook.com/IntSocMatBio/) and helps inspire PhD students and postdocs to devote their scientific interest to the various fields of matrix biology. Furthermore, the efficiency of the ISMB Council was markedly improved through the creation of four subcommittees, namely: 1) the Communication Committee (Chair: Sylvie Ricard-Blum, Members: Jo Adams, Danny Chan, Julia Etich, Wei Kong); 2) the Meetings & Awards Committee (Chair: Anthony Day, Members: Gerhard Sengle, Barbara Smith, Hide Watanabe); 3) the Membership Relations Committee (Chair: Jamie Fitzgerald, Members: Sara Wickström, Chloé Young), and 4) the Travel Grants Committee (Chair: Ruud Bank, Members: Barbara Smith, Hide Watanabe). These groups are making valuable recommendations, and are aiding ISMB officers in arriving at decisions that further the society as a whole. It was also a great pleasure working with Checco and David Hulmes. Checco will continue to support the Society as an advisor to the ISMB Council. I am grateful to David for his dedicated support and for providing continuity as a long-term ISMB officer.

I would also like to thank two members who are leaving the Council, Barbara Brodsky and John Whitelock, for dedicating their time and efforts to

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Chloé Young

Ex officio
Renato Iozzo
Bjorn Olsen
Robert Mecham

the Society over two terms. Their contributions have been very constructive and valuable. John was always full of refreshing ideas, even when joining our online conferences at very late Australian hours. Barbara did an amazing job as a long-term editor of the ISMB newsletter.

The ISMB concluded 2016 by supporting the ASMB Biennial Meeting in St. Petersburg, FL, which was excellently organized by Joanne Murphy-Ullrich. At this conference, the Society presented the ISMB Distinguished Investigator Award to Karl Tryggvasson (Stockholm/Singapore) in recognition of his outstanding pioneer work identifying protein components and five genetic diseases of the basement membranes *(see picture below)*. Furthermore, the ISMB co-sponsored a memorial lecture to honor the late Ruth Chiquet-Ehrismann, and provided travel fellowships to five young scientists: Francisco Rodriquez Baena (Spain), Sanne D'hondt (Belgium), Heena Kumra (Canada), David Pulido-Gomez (UK), and Nan Yang (UK) *(see picture below)*. In this issue (pages 7-9), they are reporting from the ASMB meeting about their personal impressions and their lessons learned.

K. Tryggvason.

Recipients of the ASMB and ISMB (names are depicted on the photograph) travel grants for the ASMB 2016 meeting in St. Petersburg, FL (USA) together with the ASMB President (Suneel Apte) and the ISMB President-elect (Liliana Schaefer).

We are grateful to Renato Iozzo, the Editor in Chief, to the Editorial Board of the journal Matrix Biology, and to Valerie Teng-Broug from Elsevier for the outstanding development of the major journal in our field. Elsevier's financial support for our ECM meetings is highly appreciated. In cooperation with Elsevier, our Society will continue to promote Matrix Biology in 2017.

Together with Sylvie Ricard-Blum, the new ISMB newsletter editor, we would like to invite you to join us on a journey around the world via three issues of our newsletter in 2017. Together, we will visit other Matrix Societies, sharing their hopes, their plans for the future, and their achievements. Our trip begins in North America. For the present issue, we asked the ASMB and the Canadian Connective Tissue Society to be our hosts.

In 2017, the ISMB further aims to continue co-sponsoring multidisciplinary matrix meetings, and providing travel fellowships to talented young investigators, thereby enabling them to present their work at ECM meetings. Please help us fulfil our mission by renewing your membership for 2017, and by motivating your students, postdocs, and colleagues to join the ISMB.

Thank you for having been a valued ISMB member, and I look forward to continue serving you and the Society in the coming years.

Liliana Schaefer
ISMB President.

COMPOSITION OF ISMB COUNCIL SUBCOMMITTEES

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

Meetings & awards
Anthony Day (UK, chair)
Gerhard Sengle (Germany)
Barbara Smith (USA)
Hide Watanabe (Japan)

Membership
Jamie Fitzgerald (Australia, chair)
Sara Wickström (Germany)
Chloé Young (UK)

Travel grants
Ruud Bank (The Netherlands, chair)
Barbara Smith (USA)
Hide Watanabe (Japan)

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

The American Society for Matrix Biology
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The Finnish Connective Tissue Society
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THE AMERICAN SOCIETY FOR MATRIX BIOLOGY (ASMB)

ASMB
American Society *for* Matrix Biology

www.asmb.net

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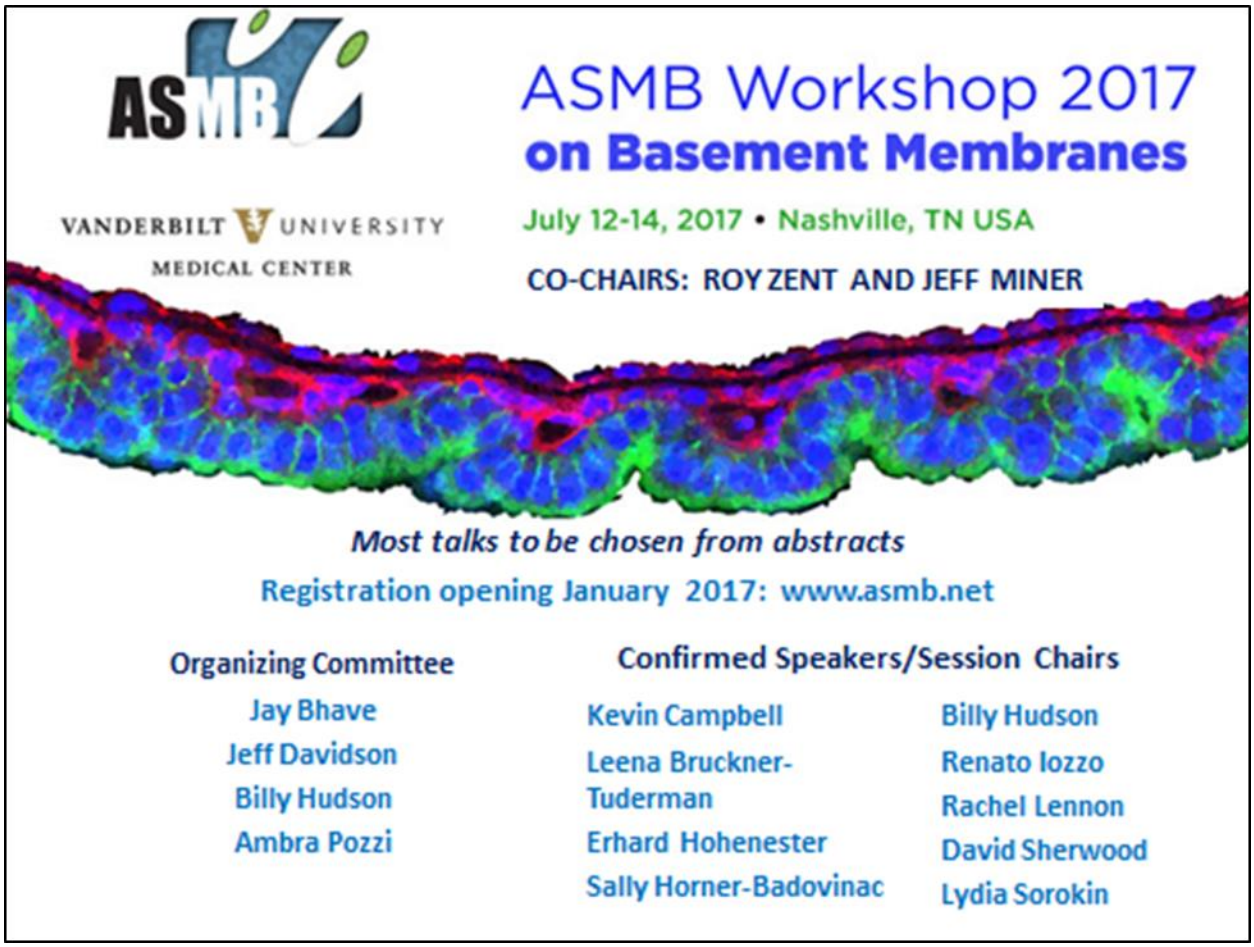
The American Society for Matrix Biology recently held its biennial conference November 13-16, 2016 in St. Petersburg, Florida with the theme of "The ECM microenvironment: a regulatory force in aging and disease". Judith Campisi of the Buck Institute for Research on Aging" was our keynote speaker. There were nearly 300 attendees who participated in 5 plenary and 15 concurrent sessions and who presented 169 posters. We also welcomed the participation of two guest societies, TERMIS-AM and the International CCN Society, who sponsored sessions. For the first time this year, ASMB trainees (from 3 countries—USA, Canada, and Spain) organized and led sessions on topics of their choosing. These sessions were well attended and the trainee leaders (Francisco Javier Rodriguez-Baena, Heena Kumra, Sumeda Nandasa, Kurt Zimmerman) were enthusiastic and quite professional. It was fun working with these future leaders! ASMB Junior (Vincent Tagliabracci), Senior (Renato Iozzo), and Iozzo (Thomas Barker) Award winners were honored at the meeting. In addition, the ISMB Distinguished Awardee, Karl Tryggvason, gave his award lecture in a Plenary Session chaired by ISMB President, Francesco Ramirez. The ISMB and ASMB partnered to present a lecture in honor of Ruth Chiquet-Ehrismann, delivered by Jean Schwarzbauer. ISMB also generously provided 5 international travel awards to young scientists to attend the meeting: Francisco Javier Rodriguez-Baena, Sanne D'hondt, Heena Kumra, Nan Yang, and David Pulido-Gomez. The conference was capped off with an entertaining evening at the Salvador Dali Museum.

In 2017, ASMB will be developing new initiatives to better reach out to its members and to provide an ongoing resource for advice and career development through use of social media and blogs at its website. These ideas arose from discussions with trainees at our Career Mentoring Breakfasts, and Alexandra Naba (University of Illinois Chicago) and Justin Weinbaum (University of Pittsburgh) are leading this effort.

A major new initiative of ASMB is the hosting of 2-3 day workshops focused on targeted topics which do not have other established conference venues. These will be in held in odd years to complement our biennial meetings held in even years. Selection of the workshop topic is the result of a competitive process. In 2017, the first ASMB Workshop will be on the topic "Basement Membranes", which will be held July 12-14, 2017 on the Vanderbilt

Medical Center campus in Nashville, Tennessee, USA. The workshop organizers, Roy Zent and Jeff Miner, have assembled an outstanding cadre of speakers for sessions focused on such topics as basement membrane biophysics, synthesis and assembly, interactions with cellular receptors, genetics, disease, and therapeutics. There will be ample opportunities for trainees to present their work in short talks or in poster sessions, and the organizers expect to be able to provide some travel grants for trainees and junior faculty. Additional program and registration information for the **2017 ASMB Workshop on Basement Membranes** will be available on the ASMB website (www.asmb.net) in late January 2017. Registration is expected to open in March 2017.



ASMB is also enthusiastic about increasing its interactions with other matrix focused societies and ASMB leadership has been engaged in discussions with Matrix Biology Ireland and the International CCN Society. ASMB has had a relationship with TERMIS-AM (Tissue Engineering Regenerative Medicine International Society-Americas) since our 2010 meeting and ASMB will be participating in the 2017 TERMIS-AM meeting. ASMB is also pleased to participate in the 2018 Matrix Biology Europe World Congress in Manchester; further details of ASMB participation are expected to be finalized in early 2017.

ASMB recently held its elections. We welcome Lynn Sakai, PhD, Portland Shriners Hospital for Children, as President-elect and three new Council members: Merry Lindsey, Alexandra Naba, and Chris Overall. Ambra Pozzi was elected to another term as Secretary/Treasurer. We look forward to the contributions of these highly talented and enthusiastic matrix biology advocates to raise the profile of ASMB and to make ASMB a more valuable resource for the matrix community. We also want to extend our sincere gratitude to the dedicated service, inspired leadership, and wisdom of our past-president, Jeff Davidson, and to our current president, Suneel Apte, who helped guide and grow ASMB during their terms. We also extend our appreciation to retiring ASMB Councilors Caroline Alexander, Billy Hudson, Peter Bruckner, Hiromi Yanagisawa, and Dieter Reinhardt who have made invaluable contributions to ASMB and matrix biology. Please stay involved, my friends!

The Canadian Connective Tissue Society

http://connective-tissue-canada.com/

The Canadian Connective Tissue Society (CCTS) was founded in 2012. CCTS has emerged from the Canadian Connective Tissue Conferences (CCTC) held annually since 1994. These annual conferences are now the flagship of the CCTS by providing a unique forum for Canadian and international researchers and their graduate students and postdoctoral fellows. This platform allows exchange of scientific knowledge and facilitates the generation of a network of collaborations and novel research teams. More information can be found under: http://connective-tissue-canada.com/.

The specific objectives and anticipated impact of the CCTS and the CCTC are: (a) To support new emerging themes and teams involving multidisciplinary research. (b) To encourage and recognize the works of young scientists, postdoctoral fellows and graduate students in this field of research through travel awards and excellence awards. (c) To further establish national and international networks between leading Canadian and international scientists and newcomers interested in connective tissues. (d) To improve health of Canadians by stimulating knowledge transfers and by giving the opportunity to basic scientists and clinicians to exchange with representatives of industries and pharmaceutical societies. (e) To encourage the participation of patient advocate groups and other non-academic stakeholders in connective tissue research.

The best opportunity to learn about the CCTC will be joining the next annual meeting. **The 23rd Annual Canadian Connective Tissue Conference** will be held in **Montreal, Quebec, Canada from May 18-20, 2017** and organized by Anie Philip, Stéphane Roy and their teams.

For Registration and abstract submission see: http://www.skinresearchgroup.org/cctc-2017-registration.

The CCTC 2017 will be a joint meeting held together with the Canadian Skin Research Group who will have their annual symposium from **May 17-18, 2017**. For registration and abstract submission see: http://www.skinresearchgroup.org/registration.

For the CCTS:
Lisbet Haglund (President) and Boris Hinz (Secretary)

OBITUARY

Liselotte Isabella Fessler, who pioneered Matrix Biology Research together with her husband John Fessler, passed away on December 4th. We express our deepest condolences to her husband John, her family and her friends. A celebration of her life will be held in January with details to be announced (https://sites.google.com/view/lisafessler).

MEETING REPORTS

2nd Matrix Biology Europe Conference, Athens (Greece) June 11-14, 2016

The Conference was sponsored by the Hellenic Matrix Biology Section of the Hellenic Society of Biochemistry & Molecular Biology and organized by the Department of Chemistry of the University of Patras (Chairman, Nikos Karamanos). A report of the meeting entitled "Matrix Biologists in Action" has been published in Matrix Biology (Matrix Biol. 2016 56: 1-3).

Reports from students funded by ISMB travel grants

One of the most important activities of ISMB is providing international travel grants for young investigators to attend and participate in matrix biology meetings. Below are reports provided by the ISMB travel awardees to the meeting of the American Society for Matrix Biology held last November in St Petersburg, FL (USA) entitled "The ECM Microenvironment: A Regulatory Force in Aging and Disease". Reading their reports below, you can see the value of the ISMB travel awards for these young researchers.

ISMB travel awardees for the meeting of the American Society for Matrix Biology "The ECM Microenvironment: A Regulatory Force in Aging and Disease" November 13-16, 2016, St Petersburg, FL (USA).

Sanne D'hondt	Ghent (Belgium)
Heena Kumra	McGill University (Canada)
David Pulido-Gomez	Imperial College, London (UK)
Francisco Javier Rodríguez-Baena	University of Granada (Spain)
Nan Yang	University of Manchester (UK)

My first Matrix Biology meeting was in 2014 in Cleveland, Ohio. For the first time, my abstract was selected for a talk and also for an Ehlers-Danlos National Foundation (EDNF) Travel Award. I was very excited to present our work on "Type III collagen as a regulator for type I collagen fibrillogenesis and its importance in dermal and cardiovascular development". The Matrix Biology meeting was an interesting experience; not only could I interact with prominent researchers who are doing outstanding research, but I also learned much more about development, homeostasis and (genetic) disorders of the extracellular matrix. The past two years, my doctoral research finally moved ahead altogether more quickly because scientific meetings, successful collaborations and hard work helped to progress in both my scientific career and my personal development.

Finally, I'm running to the PhD-finish line and I was honored to get an ISMB Travel Award so I could attend the ASMB 2016 meeting in Saint Petersburg, Florida. The icing on the cake was when my abstract was again selected for a talk. Now that my work and notion had significantly improved since the last ASMB meeting, I was very happy to present our Type III Collagen story. Afterwards, I was honored with a great interest in our work and the ability to

discuss with great experts in this research field. Overall, the ASMB meeting fulfilled its mission to support the growth and professional development of the ECM research community by promoting interactions among academia, scientific societies, industry, and government; facilitating dissemination of relevant knowledge and new findings; providing mentoring opportunities to junior scientists; and advocating sustained funding for research and education. Thank you.

Sanne D'hondt (Ghent, Belgium)

I am a fourth year PhD student in the lab of Dr. Dieter Reinhardt at McGill University. With matrix biology being the main focus of my research, it was a great opportunity for me to attend for the first time the biennial conference of the American Society for Matrix Biology held in St. Petersburg, Florida. I am very thankful to ISMB for providing me an international travel award to facilitate my conference attendance.

I was selected by the organization committee to organize a 90-minute special interest session entitled, "ECM in Vascular Development". My responsibilities included developing the scientific program, inviting speakers, selecting student speakers from submitted abstracts, and chairing the session. This provided me with my first experience to single-handedly organize an entire session in a high-profile conference. I also had an oral presentation entitled, "Importance of Cellular and Plasma Fibronectin in Maintaining Vessel Wall Integrity and Function" which enabled me to present my own research project. The turnout of the session was excellent, despite the fact that it competed for attendees with other concurrent sessions. The conference organizers were very pleased with how I had developed the program with excellent speakers from various stages of their research career (from PhD student to senior investigator). I was also appreciated by various conference attendees for my skills as a chair and as a speaker.

Other aspects of the meeting turned out to be very useful for my scientific interest and development. There were talks which were very relevant to my research and helped me to further develop my project. One impressive example was a talk by Dr. Sophie Astrof on the role of fibronectin in blood vessel development. In addition, all the talks within the session entitled "Signaling from the ECM: Cell Matrix Interactions and ECM Growth Factor Regulation" were very relevant to my research and helped me develop my concepts further. Another major impact for me came from the talks which were not directly related to my project. They provided me with new insights into other exciting aspects of matrix biology. These included for example presentations in the sessions entitled "ECM in Exosomes: Intercellular Communication" and "Novel Mechanisms of ECM Regulation". It was further fascinating to hear from Dr. Qing-Jun Meng how circadian rhythms can affect matrix production. These aspects opened a whole new perspective for me to look at my own research.

Other than science, I was also amazed by the social aspects of the conference and the collegiality of peers. The conference dinner evening included a guided tour through the Dali Museum in St. Petersburg. This impressive excursion into another world was like a story being told with a paint brush. I was surprised to discover how Dali was so close in some of his paintings to scientific aspects of life. In summary, this conference provided me a breathtaking opportunity to intensely develop in various aspects of my scientific endeavors.

Heena Kumra (McGill University, Canada)

I am a postdoc working in the lab of Prof. Erhard Hohenester in the department of Life Sciences at Imperial College London in collaboration with Dr. David Hulmes from Lyon. Our interests lie in the structural determination of extracellular matrix (ECM) components, their mechanisms of interaction and signalling. Specifically, I am trying to understand the role of the different molecules that form collagen fibres during homeostasis and disease. Fibrillar collagens are synthesized as procollagens of which the N- and C-propeptides present globular domains that maintain molecular solubility. After cleavage of the propeptides, the mature collagen is no longer soluble and the fibrils begin to form. At the C-terminus, the C-propeptide is cleaved by the metalloproteinase bone morphogenetic protein 1 (BMP-1) involving the adaptor and enhancer molecule procollagen C-proteinase enhancer protein 1 (PCPE-1). Recently, I have obtained the crystal structure of the complex between the C-propeptide from procollagen type III and PCPE-1. The crystal structure revealed the mechanism of enhancement of BMP-1 cleavage of procollagen mediated by PCPE-1.

Excited about our results, we wanted to share them with the scientific community in the extracellular matrix field. And what a better occasion than in the biennial meeting of the American Society for Matrix Biology held at St.

Petersburg, Florida the past 13th to 16th of November 2016. As being a member of the International Society for Extracellular Matrix, I was aware of the magnificent program of travel awards that the society offers 4 times a year for junior scientist until 5 years after their PhD. Being eligible by the scheme, I decided to present my case, and it was accepted! So I could attend to my first meeting in the U.S. in one the biggest conferences in the field of extracellular matrix.

The biennial meeting "The ECM microenvironment: A regulatory force in aging and disease" started with the concurrent trainee led sessions, an initiative that enabled young PhD. students and post-docs to organize, lead and invite both junior and senior researchers to participate and present their latest results. Afterwards I had the pleasure to assist to the ASMB award talks where Victor Tagliabracci as a Junior Investigator Awardee introduce me to the amazing world of the extracellular kinases, a new field in extracellular matrix that clearly is growing fast. The Iozzo Awardee Thomas Barker, described from an engineer point of view, in a magnificent lecture, the extracellular mechanotransduction in fibrosis. The Senior Investigator Awardee Renato Iozzo gave an inspiring talk about the not yet clearly understood mechanism of autophagy promoted by different extracellular matrix proteins; indeed a new area of research worth keeping track of. Finally, the day was closed with the Keynote lecture of Judith Campisi that personally helped me to better understand how the extracellular matrix plays a role in cellular senescence.

The conference was followed by excellent plenary lectures and concurrent sessions that covered a wide range of areas from metabolic diseases, fibrosis, ECM proteomics and structure, basement membranes, proteases, mechanobiology … I was amazed to attend to so many lectures where worldwide experts, in that varied range of research areas, presented their latest results. The ASMB meeting has been personally an excellent platform to acquire a better and wider picture of the current research in the extracellular matrix field, and equally important let me interact with both junior and senior researchers setting the bases for possible future collaborations. I am profoundly grateful to the ISMB for conceding me the International Travel award and I encourage young scientist to apply to this wonderful scheme.

David Pulido-Gomez (Imperial College, London, UK)

I had the chance to assist to the AMSB 2016 biennial meeting held in St. Petersburg, Florida, USA. This meeting is world-known to be one of the most important for the matrix biology field and I had the honour to assist thank to the financial support of the ISMB. I was very thrilled to assist to the meeting because I had the chance to organise a trainee led session under the name of special session of interest, particularly focusing in the discovery of new ECM-modifying proteases and their substrates. The meeting was a 4-day reunion with outstanding researchers all over the world, with both affiliations to the ASMB and ISMB. The meeting topic this year was: a regulatory force in age and disease. This meeting covered a broad range of fields and people not only from the matrix field came to show their interesting findings that concern us all. From immunology to engineering, the matrix biology has shown to be a strong constituent in biology and the future of this science field looks magnificent. I had the chance to discuss my project in the session of tumour microenvironment, led by Alexandra Naba, in which very interesting speakers as Rolf Brekken showed everyone their brilliant work. Discussing with them has shed light over interesting new insights to my project. Furthermore, the opportunity to lead a session of remarkable trainees, from Ph.D candidates to young post-doctoral, has shown me one more time how wonderful science can be. This meeting allowed me to meet great scientist from all around the world, some of them already known by their excellent work and some other that remained unknown for me, from now will form part of my scientific landscape. This not only is a great personal experience but also a chance to target for future position for people like me, close to finish the Ph.D period. So far I would like to highlight the importance of assisting to this kind of meetings for young scientists. It broadens your scientific horizon, it allows you to learn from great scientist and possibly apply their ideas to your project, it enrich you with brilliant state-of-the-art methodology and also get to
know great scientists and on top of that, great persons. Once again, thank you for the ISMB for giving me the opportunity to assist to this meeting, without your financial support this wouldn't be possible. As well, acknowledge the ASMB for giving me the chance to organise the SIS4 session and also Alexandra Naba for giving me the opportunity to participate in the TME session as a speaker. I hope I can attend to many more meetings of this cathegory.

Francisco Javier Rodríguez-Baena Ph.D Candidate (University of Granada, Spain).

POSITIONS AVAILABLE

These job openings are being posted and can be viewed online on the ISMB website. So, if you have any job openings please send the notification to David Hulmes (david.hulmes@ibcp.fr) for placing on the ISMB website (http://ismb.org/career/). The "Extracellular Matrix News" also includes an online listing of positions that are available, so you can also benefit from this partnership. "Extracellular Matrix News" is a free, weekly e-Newsletter for members of the extracellular matrix community. The ISMB web site now includes a link to "Extracellular Matrix News" on the welcome page (http://www.extracellularmatrixnews.com).

Recent posting on ISMB website (check for more details):

Postdoctoral position to study the roles of the tissue microenvironment in chronic kidney disease
INSERM U1109 Strasbourg (France) Starting date: 1.2.2017

A postdoctoral position is available in the MN3T (The Microenvironmental Niche in Tumorigenesis and Targeted Therapy) team (http://www.u1109.inserm.fr/). This team is specialized in the analysis of the tumor microenvironment with particular emphasis on studying the role of the extracellular matrix molecule tenascin C (*Midwood et al., 2016, J Cell Sci*) in pathological angiogenesis (*Saupe et al., 2013, Cell Reports, Rupp et al., 2016, Cell Reports*). The postdoctoral position is part of a binational project funded by ANR PRCI France and FWF Austria on Chronic Kidney Disease. To fill this postdoctoral position, we are looking for enthusiastic candidates with training in molecular and cell biology, and with expertise in applying mouse models. English oral and writing skills are required. Interested candidates are invited to send their CV together with a motivation letter and the names of three referees to **Gertraud Orend** (gertraud.orend@inserm.fr).

Two postdoctoral positions in the role of pericellular matrix components in the angiogenic-to-fibrotic transition, Strasbourg (France) to study the role of pericellular matrix components in angiogenic-to-fibrotic transition
Expected starting date: February 2017

Two postdoctoral positions are available to study how pericellular matrix molecules regulate pro-angiogenic or profibrotic signaling events that occur during angiogenic-to-fibrotic transition in fibroproliferative diseases. The successful candidates will contribute to our understanding of matrix assembly, cell adhesion, cytoskeletal regulation and signaling associated with changes in gene expression in endothelial cells and fibroblasts using unique biological toolsets and animal models. This bi-national Franco-Swiss collaborative project funded by the French ANR-PRCI and Swiss SNF will allow the candidates to be trained in an international context and at the crossroad of disciplines (cell biology, molecular biology, mechanobiology, nanotechnology, imaging and image processing).

One position is available in the MN3T (The Microenvironmental Niche in Tumorigenesis and Targeted Therapy) team (http://www.u1109.inserm.fr/). This team is specialized in the analysis of the tumor microenvironment with particular emphasis on studying the role of the extracellular matrix molecule tenascin-C (Midwood et al., 2016, J Cell Sci) in pathological angiogenesis (Saupe et al., 2013, Cell Reports, Rupp et al., 2016, Cell Reports).

One position is available in the team headed by E. Van Obberghen-Schilling in the Institute of Biology Valrose (http://ibv.unice.fr), a leading Center for research in Cell and Developmental Biology situated on the Valrose campus of the University Nice Sophia Antipolis. This team has an expertise in fibronectin matrix assembly and matrix-driven signaling in disease tissue environments (Cseh et al. 2010, J Cell Sci; Van Obberghen-Schilling et al 2011, Int J Dev Biol; Gopal et al. 2016, Nat Com).

Candidates should have a PhD in cell/molecular biology and experience in cellular imaging (Nice team) or applying animal models (Strasbourg team). A background in angiogenesis or fibrosis will be an asset. Excellent written and spoken English communication skills as well as a strong self-motivation and willingness to collaborate are expected. Please send applications (full CV including research interests and the name of 2-3 referees) and requests for further information by email to **Gertraud Orend** (gertraud.orend@inserm.fr) or **Ellen Van Obberghen-Schilling** (vanobber@unice.fr).

RECENT REVIEWS AND PAPERS

A receptor has been discovered for progranulin. This protein secreted by most cells in the body plays a key role in maintaining normal cellular function with roles in tumorigenesis, inflammation, and neurobiology but its cell-surface receptor has remained elusive for decades. **Renato Iozzo's laboratory** at Thomas Jefferson University's Sidney Kimmel Cancer Center (Philadelphia, USA) has identified the EphA2 receptor tyrosine kinase as a functional receptor for the secreted glycoprotein progranulin, a protein that is totally unrelated to the ephrins that are the classic ligands for the Eph receptors. This cell-surface receptor is highly expressed by cancerous and brain cells and binds progranulin, which activates a cellular program that makes cancer cells more aggressive. "Identifying the functional signaling receptor for progranulin will help us understand how this molecule functions in cancer and whether pharmacologically targeting it will slow the progression of a number of cancers," says Renato Iozzo (http://www.jefferson.edu/university/news/2016/11/30/receptor-discovered-for-progranulin.html). This major finding obtained by combining biochemical and cellular approaches has been highlighted in the Journal of Cell Biology (Progranulin and the receptor tyrosine kinase EphA2, partners in crime? Chitramuthu B, and Bateman A. J Cell Biol. 2016 215:603-605).

EphA2 is a functional receptor for the growth factor progranulin

Neill T, Buraschi S, Goyal A, Sharpe C, Natkanski E, Schaefer L, Morrione A, Iozzo RV.

J. Cell Biol. (2016) 215: 687-703.

Corresponding author: Renato V. Iozzo (renato.iozzo@jefferson.edu)

Abstract: *Although the growth factor progranulin was discovered more than two decades ago, the functional receptor remains elusive. Here, we discovered that EphA2, a member of the large family of Ephrin receptor tyrosine kinases, is a functional signaling receptor for progranulin. Recombinant progranulin bound with high affinity to EphA2 in both solid phase and solution. Interaction of progranulin with EphA2 caused prolonged activation of the receptor, downstream stimulation of mitogen-activated protein kinase and Akt, and promotion of capillary morphogenesis. Furthermore, we found an autoregulatory mechanism of progranulin whereby a feed-forward loop occurred in an EphA2-dependent manner that was independent of the endocytic receptor sortilin. The discovery of a functional signaling receptor for progranulin offers a new avenue for understanding the underlying mode of action of progranulin in cancer progression, tumor angiogenesis, and perhaps neurodegenerative diseases.*

Tenascin-C orchestrates glioblastoma angiogenesis by modulation of pro- and anti-angiogenic signaling.

Rupp T, Langlois B, Koczorowska MM, Radwanska A, Sun Z, Hussenet T, Lefebvre O, Murdamoothoo D, Arnold C, Klein A, Biniossek ML, Hyenne V, Naudin E, Velazquez-Quesada I, Schilling O, Van Obberghen-Schilling E, Orend G.

Corresponding author: Gertraud Orend (gertraud.orend@inserm.fr)

Cell Rep. (2016) 17: 2607-2619.

Abstract: *High expression of the extracellular matrix component tenascin-C in the tumor microenvironment correlates with decreased patient survival. Tenascin-C promotes cancer progression and a disrupted tumor vasculature through an unclear mechanism. Here, we examine the angiomodulatory role of tenascin-C. We find that direct contact of endothelial cells with tenascin-C disrupts actin polymerization, resulting in cytoplasmic retention of the transcriptional coactivator YAP. Tenascin-C also downregulates YAP pro-angiogenic target genes, thus reducing endothelial cell survival, proliferation, and tubulogenesis. Glioblastoma cells exposed to tenascin-C secrete pro-angiogenic factors that promote endothelial cell survival and tubulogenesis. Proteomic analysis of their secretome reveals a signature, including ephrin-B2, that predicts decreased survival of glioma patients. We find that ephrin-B2 is an important pro-angiogenic tenascin-C effector. Thus, we demonstrate dual activities for tenascin-C in glioblastoma angiogenesis and uncover potential targeting and prediction opportunities.*

Tenascin-C at a glance.
Midwood KS, Chiquet M, Tucker RP, Orend G.
Corresponding authors: Kim Midwwod (kim.midwood@kennedy.ox.ac.uk) and Gertraud Orend (gertraud.orend@inserm.fr)
J. Cell Sci. (2016) 129: 4321-4327. Review.
Abstract: *Tenascin-C (TNC) is a hexameric, multimodular extracellular matrix protein with several molecular forms that are created through alternative splicing and protein modifications. It is highly conserved amongst vertebrates, and molecular phylogeny indicates that it evolved before fibronectin. Tenascin-C has many extracellular binding partners, including matrix components, soluble factors and pathogens; it also influences cell phenotype directly through interactions with cell surface receptors. Tenascin-C protein synthesis is tightly regulated, with widespread protein distribution in embryonic tissues, but restricted distribution of tenascin-C in adult tissues. Tenascin-C is also expressed de novo during wound healing or in pathological conditions, including chronic inflammation and cancer. First described as a modulator of cell adhesion, tenascin-C also directs a plethora of cell signaling and gene expression programs by shaping mechanical and biochemical cues within the cellular microenvironment. Exploitment of the pathological expression and function of tenascin-C is emerging as a promising strategy to develop new diagnostic, therapeutic and bioengineering tools. In this Cell Science at a Glance article and the accompanying poster we provide a succinct and comprehensive overview of the structural and functional features of tenascin-C and its potential roles in developing embryos and under pathological conditions.*

Activin promotes skin carcinogenesis by attraction and reprogramming of macrophages.
Antsiferova M, Piwko-Czuchra A, Cangkrama M, Wietecha M, Sahin D, Birkner K, Amann VC, Levesque M, Hohl D, Dummer R, Werner S.
Corresponding author: Sabine Werner (sabine.werner@biol.ethz.ch)
EMBO Mol. Med. (2016) Dec 8. pii: e201606493. [Epub ahead of print]
Abstract: *Activin has emerged as an important player in different types of cancer, but the underlying mechanisms are largely unknown. We show here that activin overexpression is an early event in murine and human skin tumorigenesis. This is functionally important, since activin promoted skin tumorigenesis in mice induced by the human papillomavirus 8 oncogenes. This was accompanied by depletion of epidermal γδ T cells and accumulation of regulatory T cells. Most importantly, activin increased the number of skin macrophages via attraction of blood monocytes, which was prevented by depletion of CCR2-positive monocytes. Gene expression profiling of macrophages from pre-tumorigenic skin and bioinformatics analysis demonstrated that activin induces a gene expression pattern in skin macrophages that resembles the phenotype of tumor-associated macrophages in different malignancies, thereby promoting angiogenesis, cell migration and proteolysis. The functional relevance of this finding was demonstrated by antibody-mediated depletion of macrophages, which strongly suppressed activin-induced skin tumor formation. These results demonstrate that activin induces skin carcinogenesis via attraction and reprogramming of macrophages and identify novel activin targets involved in tumor formation.*

Radiocarbon dating reveals minimal collagen turnover in both healthy and osteoarthritic human cartilage.
Heinemeier KM, Schjerling P, Heinemeier J, Møller MB, Krogsgaard MR, Grum-Schwensen T, Petersen MM, Kjaer M.
Corresponding author: Michael Kjaer (michaelkjaer@sund.ku.dk)
Sci Transl Med. (2016) 8:346ra90.
Abstract: *The poor regenerative capacity of articular cartilage presents a major clinical challenge and may relate to a limited turnover of the cartilage collagen matrix. However, the collagen turnover rate during life is not clear, and it is debated whether osteoarthritis (OA) can influence it. Using the carbon-14 ((14)C) bomb-pulse method, life-long*

replacement rates of collagen were measured in tibial plateau cartilage from 23 persons born between 1935 and1997 (15 and 8 persons with OA and healthy cartilage, respectively). The (14)C levels observed in cartilage collagen showed that, virtually, no replacement of the collagen matrix happened after skeletal maturity and that neither OA nor tissue damage, per se, influenced collagen turnover. Regional differences in (14)C content across the joint surface showed that cartilage collagen located centrally on the joint surface is formed several years earlier than collagen located peripherally. The collagen matrix of human articular cartilage is an essentially permanent structure that has no significant turnover in adults, even with the occurrence of disease.

Structural decoding of netrin-4 reveals a regulatory function towards mature basement membranes

Reuten R, Patel TR, McDougall M, Rama N, Nikodemus D, Gibert B, Delcros JG, Prein C, Meier M, Metzger S, Zhou Z, Kaltenberg J, McKee KK, Bald T, Tüting T, Zigrino P, Djonov V, Bloch W, Clausen-Schaumann H, Poschl E, Yurchenco PD, Ehrbar M, Mehlen P, Stetefeld J, Koch M.

Corresponding authors: R. Reuten (rreuten@uni-koeln.de), P. Mehlen (patrick.mehlen@lyon.unicancer.fr), J. Stetefeld (jorg.stetefeld@umanitoba.ca), and M. Koch (manuel.koch@uni-koeln.de)

Nat. Commun. (2016) 7: 13515.

Abstract: *Netrins, a family of laminin-related molecules, have been proposed to act as guidance cues either during nervous system development or the establishment of the vascular system. This was clearly demonstrated for netrin-1 via its interaction with the receptors DCC and UNC5s. However, mainly based on shared homologies with netrin-1, netrin-4 was also proposed to play a role in neuronal outgrowth and developmental/pathological angiogenesis via interactions with netrin-1 receptors. Here, we present the high-resolution structure of netrin-4, which shows unique features in comparison with netrin-1, and show that it does not bind directly to any of the known netrin-1 receptors. We show that netrin-4 disrupts laminin networks and basement membranes (BMs) through high-affinity binding to the laminin γ1 chain. We hypothesize that this laminin-related function is essential for the previously described effects on axon growth promotion and angiogenesis. Our study unveils netrin-4 as a non-enzymatic extracellular matrix protein actively disrupting pre-existing BMs.*

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 twice yearly 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 October 2016

Giselle Yeo	Postdoc	University of Sydney (Australia)
Tatjana Holzer	PhD student	University of Cologne (Germany)
Natasha Tavianatou	PhD student	University of Patras (Greece)
Kevin Campbell	Howard Hughes Investigator	University of Iowa (USA)
Wilford Tse	Postdoc	Nanyang Technological University (Singapore)
Agnès Tessier	PhD student	CNRS/University of Lyon 1 (France)

MATRIX BIOLOGY LABS

An announcement from the Wellcome Centre for Cell-Matrix Research, University of Manchester (UK)

We are delighted to announce that the Wellcome Centre for Cell-Matrix Research (WCCMR) has been renewed, to 2021. The WCCMR is one of 15 Wellcome Centres (https://wellcome.ac.uk/news/wellcome-centre-awards) that cover biomedical research, the medical humanities, social societies and translational research. The renewal brings together 20 academic staff, 9 support staff, and a community of postdocs and postgraduate students whose research is focused in three new themes of ChronoMatrix, ImmunoMatrix and MechanoMatrix, and a new overarching initiative in fibrosis.

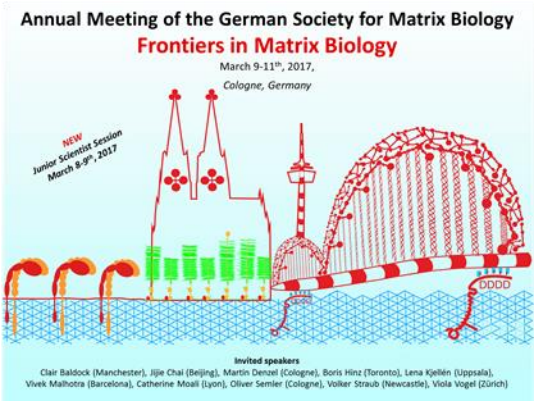
The renewal funds new equipment in multi-scale imaging (including super-resolution and electron microscopy), biomolecular analysis, and biomechanics for analysis of cell-matrix structure and interactions. This opens up new opportunities for visitors, collaborations, and recruitment, at all levels. We will also be continuing our annual GetConnected! conference (further information to follow).

We are revamping our website, therefore in the meantime please contact Prof. Karl Kadler (Centre Director) (karl.kadler@manchester.ac.uk) for information.

MATRIX MEETING ANNOUNCEMENTS

World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases
March 23-26, 2017
Florence, Italy
http://www.humacom.com/node/79/raw

German Society for Matrix Biology
March 9-11, 2017
Cologne, Germany
Chair of the organizing committee: Gerhard Sengle
http://www.matrixbiologie.de



The Gordon Research Seminar Cartilage Biology & Pathology
April 1-2, 2017
Renaissance Tuscany Il Ciocco, Lucca (Barga) (Italy)
Chairs: Matthew R. McCann and Blandine Poulet
Comprehending cartilage formation, function and failure for improving joint health
https://www.grc.org/programs.aspx?id=16975

The Gordon Research Conference Cartilage Biology & Pathology
April 2-7, 2017
Renaissance Tuscany Il Ciocco, Lucca (Barga) (Italy)
Chairs: Frank Beier and Elazar Zelzer
Understanding biology to achieve better cartilage health
https://www.grc.org/programs.aspx?id=13112

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

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

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

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

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

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

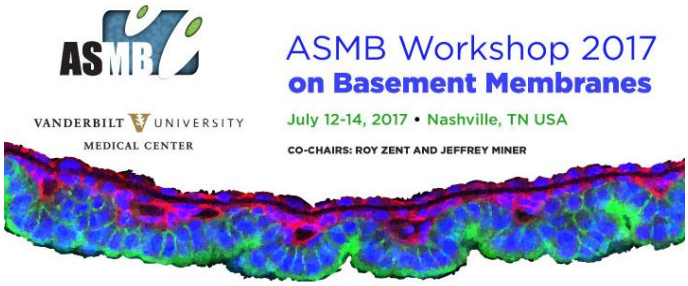
Gordon Research Seminar Tissue Repair and Regeneration
June 3-4, 2017
Colby-Sawyer College, New London, NH (USA)
Chairs: Roshini Prakash and Irene de Lazaro
Scientifically informed strategies to turn pathologic tissue repair into perfect regeneration
https://www.grc.org/programs.aspx?id=14874

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

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

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

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



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

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

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

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

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