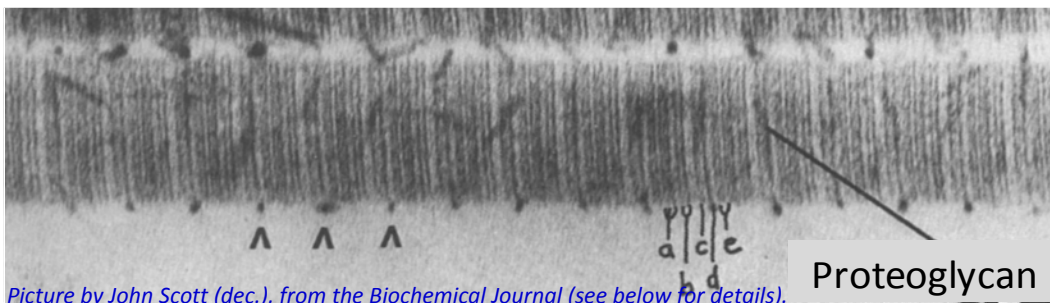




Picture by John Scott (dec.), from the Biochemical Journal (see below for details).

Proteoglycan

ISMB NEWSLETTER 18 November 2013

Editors: Barbara Brodsky and John Ramshaw



From the President's Desk

Over the last few years ISMB Council has been discussing the role of the ISMB and how we can most effectively promote Matrix Biology internationally. One of our most important contributions has been our evolving and increasing sponsorship of international meetings. In these times of tight research budgets around the world it is getting more and more difficult for labs to fund travel for young researchers and so the main focus

of our conference support is to provide travel fellowships to young scientists to help them attend international meetings and present their work. We have included some reports from these recipients in this newsletter. Our meeting support has become so popular - we contributed to 5 international meetings in 2013 - that we have introduced two closing dates for applications for 2014. You'll find details below and on our web site (ismb.org). ISMB's only source of income is from our membership fees so I'd like to encourage you all to renew your membership for 2014 and please pass this newsletter on to your students, post-docs and other matrix biology colleagues and encourage them to join ISMB. Special thanks to Barbara Brodsky and John Ramshaw for editing the newsletter and to all ISMB Council members for their contributions.

Please let me know if you have any suggestions for new ISMB activities (shireen.lamande@mcri.edu.au).

Shireen Lamandé

President ISMB

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Header Picture:

This research was originally published in the Biochemical Journal. Scott JE, Orford CR. Dermatan sulphate-rich proteoglycan associates with rat tail-tendon collagen at the d band in the gap region. Biochemical Journal. 1981 Jul 1;197:213-6. © the Biochemical Society.



MATRIX BIOLOGY CONFERENCE SUPPORT

NEW POLICY

ISMB meeting support and international travel grants

Meeting support (for conference organisers)

ISMB provides support for major international meetings in matrix biology, in the form of general meeting support and international travel grants. For general meeting support, ISMB expects that registration fees will be reduced for ISMB members. For international travel grants, these are to help young scientists (maximum 5 years post PhD) working outside the country where the meeting is being held. Awardees will be chosen by a selection committee chaired by the meeting organiser(s), and will be based on submitted abstract, curriculum vitae, list of publications and letter of application. Selection will be done before the meeting, immediately following the abstract submission deadline, in order to help awardees making travel plans. To apply for meeting/travel grant support, conference organisers are requested to apply at least 6 months before the meeting, deadlines January 1 and July 1. Applications should be sent to the ISMB secretary/treasurer David Hulmes at d.hulmes@ibcp.fr.

International travel grants (for young scientists)

ISMB provides support (up to 500 euros) for young scientists (maximum 5 years post PhD) for international travel to major meetings in matrix biology. To apply, first check the list of meetings currently supported by ISMB (see ismb.org/meetings), then apply directly to the conference organiser (before the appropriate deadlines) including the abstract of your poster/short talk, your curriculum vitae, list of applications and letter of application. Applicants should be members of ISMB (see ismb.org/membership). Please note that ISMB travel grants are for international travel only. Successful candidates will be chosen immediately after the abstract submission deadline. Following the meeting, awardees will be expected to write a short report (to appear on the ISMB web site with some reports selected for the ISMB newsletter) in the form of a personal perspective on their experience at the meeting.



MEMBERSHIP

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 of the Society receive twice yearly newsletters highlighting recent research advances, descriptions of matrix biology resources, and announcements of relevant meetings, together with messages from the ISMB President. 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 last 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 in Europe, America and Asia. 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. For further information, please see www.ismb.org.

VALE



Dick Heinegård, PhD, MD. 1942–2013

Sad news came to the matrix biology research community that Dick Heinegård passed away unexpectedly on May 1, 2013 at the age of 70. Dick was a preeminent biochemist and Professor of the Department of Cell and Molecular Biology, University of Lund, Lund, Sweden. Dick was a highly influential scientist to hundreds of researchers over a career spanning more than 30 years. Moreover, Dick was a friend to many whose careers were influenced directly by his generous and collaborative spirit and to thousands more in the ECM research community who benefited from his research discoveries and innovative research tools. We all send our deep sympathy to his family.

A wide number of his research colleagues have contributed their fond memories to a tribute that was compiled by Renato Iozzo and published recently in *Matrix Biology*. This tribute, which is highly recommended, gives great insights into Dick's very extensive contributions to many aspects of matrix biology and to his close scientific interactions with many, many colleagues.

A giant of matrix biology: A celebration of Dick Heinegård's Life

Matrix Biology, Volume 32, Issue 5, 24 June 2013, Pages 215-219

Renato V. Iozzo



Paul Bornstein, MD. 1934-2013

Contributed by Jeff Davidson, President, American Society for Matrix Biology:

We sadly report the passing of a pioneer in modern matrix biology and a founder of the American Society for Matrix Biology. Paul had a positive influence on the development of many careers and a major role in defining and refining key concepts in both collagen structure and synthesis and matricellular — coined by him in 1995 — protein biochemistry. This latter insight was the first to convey the broader significance of extracellular matrix proteins beyond their structural roles, and the original 4 ECM protein families have grown to 14. Paul, a native of Belgium whose family escaped from the Nazi invasion in 1940, was a graduate of Cornell in 1954 and earned his MD from NYU in 1958. After a medical residency at Yale and a year at the Pasteur Institute in Paris, he satisfied his Coast Guard military duties while working with Karl Piez at the NIH, where he helped to define the primary structure of collagen. Paul spent his entire academic career in the Departments of Medicine and Biochemistry at the University of Washington until he transitioned to emeritus status in 2007. During that time, he trained dozens of students and postdoctoral fellows who have pursued productive careers. His >300 publications reflect a diverse and always thoughtful approach to understanding how the extracellular matrix functions in a variety of circumstances. Paul served as President of both the ISMB (2001-2003) and the ASMB (2003-2004). Among many forms of recognition, he received the Solomon Berson Alumni Achievement Award from NYU School of Medicine in 2004. Paul resided in Santa Fe with his wife, Helene Sage.

ISMB New Directions

Cellular Downward Dog: The Yoga limits of cell migration through the matrix

Antoine Dufour, PhD and Chris Overall, PhD

Centre for Blood Research and Department of Oral Biological and Medical Sciences, University of British Columbia, Vancouver, British Columbia V6T 1Z3, Canada

The migration of a cell is a fundamental process involved in several aspects of biology such as tissue formation, wound healing and immune cell trafficking. The effect of uncontrolled cell migration is observed in diseases such as cancer where cancer cells and immune cells from the tumor micro-environment utilize different modes of cell migration to navigate through surrounding matrices which represents a significant clinical challenge.¹

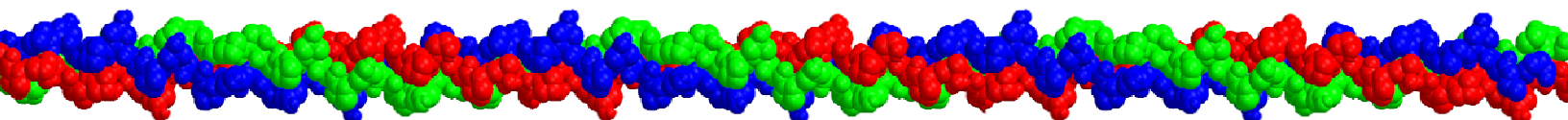
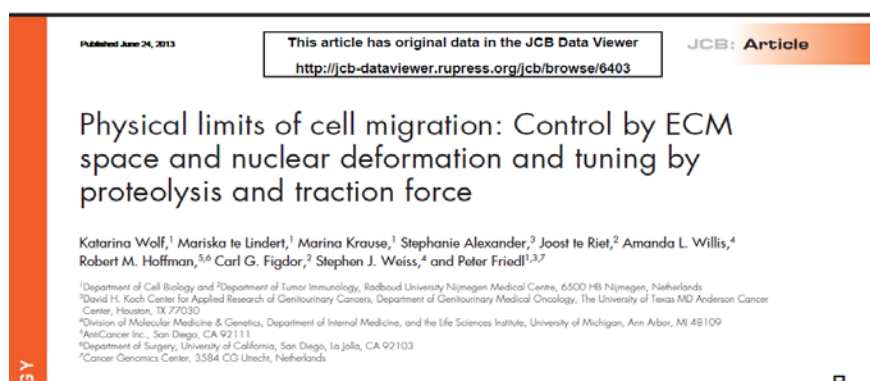
The migration program of mesenchymal cells including fibroblasts and solid tumor cells comprises several important features such as cell adhesion to extracellular matrix (ECM) through integrins, spindle-shaped morphology, actin polymerization-dependent pseudopod protrusion at the leading edge and secretion of active proteases to remodel the surrounding tissues.^{2,3} In contrast, interstitial leukocyte migration is protease independent, displays weak cell-adhesion and the ellipsoid-shaped cells rapidly adapt and change morphology characterized by small protrusions.⁴ In addition to these biological properties of the migrating cells, the matrix itself and its geometry can modulate responses to chemical and biological signals during cell migration.¹

A collaboration of the Wolf, Friedl and Weiss labs elegantly studied the physical limits and driving forces of the migration of cancer and immune cells.⁵ Wolf et al. first established that different 3-dimensional collagen matrices from various origins noticeably diverge from one another in terms of stiffness, fibril diameter and interfibrillar space; a concept often neglected or forgotten in scientific reports. Using a human fibrosarcoma cell line (HT-1080), it was demonstrated that membrane type I matrix metalloproteinase (MT1-MMP) activity is sufficient to maintain cell migration through the small pores of type I collagen matrices, the most abundant component of connective tissues. In contrast, during MMP-independent migration, it is the deformation of the nucleus that allows cells to navigate through matrices. However, within dense ECMs, the leading edge integrin-mediated force mechanocoupling and posterior cell actomyosin contractility are utilized in tandem—with MMP-mediated proteolysis and remodeling of the ECM to propel the nucleus forward and migrate. Importantly, mononuclear cells do not depend on MMP activity to circulate through low- to intermediate-density matrices but rather rely on the deformation of their nuclei. Interestingly, CD4⁺ T-blasts possess nuclei two- to four fold smaller than tumor cells and lack the necessary proteases to remodel fibrillar collagen and thus rely on nuclear deformity and shape change to move through matrix. Polymorphonuclear neutrophils (PMNs) also migrate through an MMP-independent mechanism and notably have a segmented nuclear morphology that following from the data presented in this paper⁵ allows neutrophil penetration through even smaller matrix holes than either of the cells studied.

Overall, the mechanotransducing mechanisms driving cell migration are plastic and dynamic; cells need to adapt to their collagenous environments to react to chemical and biological signals.³ In this report⁵, Wolf and colleagues thoroughly characterized the rate-limiting physicochemical determinants of the migration of various cell types that restrain their migratory behaviors. On one hand, cancer cells utilize an MT1-MMP dependent mechanism to widen collagen pore cross sections thereby aiding migration of the cell body along with the help of adhesion receptors (e.g. $\beta 1$ integrin) and Rho kinase-mediated actomyosin contractility. On the other hand, CD4⁺ T-blasts and PMNs migrate through nuclear deformation and distort their shape to perform “protease yoga.” This report not only dictates the way to prepare collagen used as a matrix for *in vitro* experiments but it sheds light on the key differences between the adaptability of migration behaviors of various cell types.

1. Tozluoglu, M. *et al.* Matrix geometry determines optimal cancer cell migration strategy and modulates response to interventions. *Nat Cell Biol* **15**, 751–762 (2013).

2. Bravo-Cordero, J. J., Magalhaes, M. & Eddy, R. J. Functions of cofilin in cell locomotion and invasion. ... *Reviews Molecular Cell* ... (2013).
3. Friedl, P. & Alexander, S. Cancer Invasion and the Microenvironment: Plasticity and Reciprocity. *Cell* **147**, 18–18 (2011).
4. Wolf, K. K., Müller, R. R., Borgmann, S. S., Bröcker, E.-B. E. & Friedl, P. P. Amoeboid shape change and contact guidance: T-lymphocyte crawling through fibrillar collagen is independent of matrix remodeling by MMPs and other proteases. *Blood* **102**, 3262–3269 (2003).
5. Wolf, K. *et al.* Physical limits of cell migration: control by ECM space and nuclear deformation and tuning by proteolysis and traction force. *J Cell Biol* **201**, 1069–1084 (2013).



MATRIX BIOLOGY

Call for Papers Matrix Biology



Matrix Biology is now accepting submissions of Regular Research Papers, Brief Reports, Mini Reviews, Landmark Essays, and Full Length Reviews.

The journal publishes papers encompassing all the aspects of extracellular matrix biology, including structural biology, biomaterials and biomechanics, genetic diseases, mouse models of connective tissue disorders, cell-cell interactions, cell-matrix interactions, integrins and related receptors and co-receptors, tumor stroma and angiogenesis, cancer biology and signaling through the matrix.

Top 5 reasons to publish in *Matrix Biology*

1. **5-year Impact Factor: 3.429***
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3. No submission or page charges
4. 50% discount on color charges for ISMB and ASMB members
5. Rapid submission to first decision turnaround of less than 5 weeks, and acceptance to online publication in less than 4 weeks

ISMB New Directions

We wish to thank Darwin Prockop for forwarding his commentary that was recently published in the NEJM on recent work from Bjorn Olsen and colleagues, that describes an intracellular role for VEGF-A involvement in osteoporosis.

New Targets for Osteoporosis

Darwin J. Prockop, MD, PhD.

Texas A & M Health Science Center College of Medicine, Institute for Regenerative Medicine

An attractive strategy for treating osteoporosis has been to develop drugs that will bind to receptors on osteoprogenitor cells and coax the cells to differentiate into osteoblasts instead of adipocytes. This strategy has been pursued for several decades but has not yet provided an effective new therapy. A recent study by Liu and coworkers¹ suggests that we may have focused too narrowly on cell-surface events. Some of the real action, and important disease targets, may be inside the nucleus.

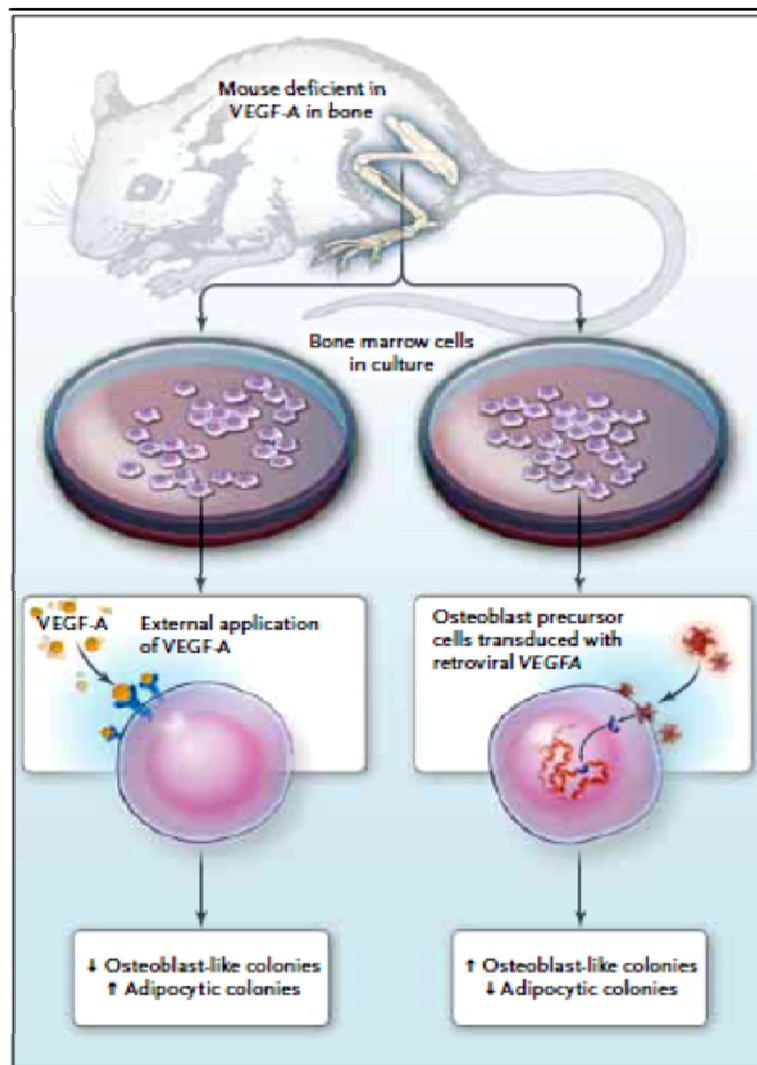
There were no large surprises in the initial experiments conducted by Liu et al. Using a well-established protocol, these investigators engineered mice so that they did not express vascular endothelial growth factor A (VEGF-A) in bone progenitor cells. The mice developed many of the characteristics of osteoporosis: a decrease in trabecular bone, thinner bone cortices, and an increase in adipocytes associated with trabecular bone (Fig. 1).

The focus on VEGF-A by Liu et al. was unusual but not without precedent. Most other investigators have focused on other signaling pathways, particularly the bone morphogenetic

protein (BMP)–signaling and Wnt–signaling pathways. However, VEGF-A signaling was also known to be important in the biology of bone. For example, the mineralization of long bones during embryonic development (endochondrial ossification) begins with an invasion of blood vessels expressing VEGF-A into cartilaginous models that are initially synthesized in the gen-

Figure 1. Vascular Endothelial Growth Factor A (VEGF-A) and the Osteoblast.

Liu and colleagues¹ conditionally deleted the gene for VEGF-A in the osteoblast lineage by crossing mice that carried floxed alleles of *Vegfa* with mice that expressed Cre recombinase under the control of the transcription factor osterix, which is required for the differentiation of osteoblasts. They observed an osteoporosis-like phenotype that developed in the mice with osteoblast precursor cells deficient in VEGF-A. When cultured in an appropriate medium, these precursor cells generated fewer osteoblast-like colonies and more adipocytic colonies than did precursor cells from control mice. In contrast, transducing the cells to express VEGF-A produced the opposite effect, in that the cells generated more osteoblast-like colonies and fewer adipocytic colonies. Thus, the intracellular expression of VEGF-A, but not external application of the growth factor, could correct the defect.



eral shape of the bones. Also, VEGF-A is expressed at high levels in osteoblast precursors and can stimulate osteogenic differentiation in several cell types.² Perhaps most intriguing of all is the observation that the levels of VEGF-A in many cells decrease with aging.^{3,4} Thus, the phenotype of osteoporosis in the mutant mice was not in itself a major surprise. Moreover, there were no surprises in the initial experiments involving cultured bone marrow cells from the mice. As expected, the cells generated a decreased number of osteoblast-like colonies and an increased number of adipocytic colonies when cultured in the appropriate mediums.

But then came the bombshell. The addition of VEGF-A itself to the cultures of bone marrow cells from the mice had no effect. Surprisingly, however, transducing the cells with a retrovirus to express VEGF-A within the cells rescued the defect. The conclusion? The depletion of VEGF-A must drive osteoporosis by means of an intracellular mechanism. As the authors point out, a similar study has shown intracellular signaling of VEGF-A in hematopoietic stem cells.⁵

Liu et al. went on to do a series of experiments with another line of transgenic mice and with cultures of bone cells to define the VEGF-A intracellular loop more precisely. Their results suggested that intracellular VEGF-A controls differentiation of mesenchymal stem cells by regulating, in the nucleus, runt-related transcription factor 2 (RUNX2), a key transcription factor that regulates osteogenesis, and peroxisome proliferator-activated receptor gamma 2 (PPAR γ 2), a nuclear receptor that regulates fatty-acid storage and glucose metabolism. In addition, they showed that intracellular VEGF-A had important interactions with nuclear envelope proteins lamin A and lamin C.

What are the consequences of these observations? Although we are often obliged to cut with Occam's razor and simplify as much as possible, sometimes the data tell us we have gone too far.

The results of this study by Liu and colleagues suggest that we may have been too easily seduced by the paradigm that cellular differentiation is controlled primarily by ligands binding to receptors on the cell surface. For VEGF-A at least, the situation is more complex. During osteogenic differentiation, still undefined signals increase transcription of the gene *VEGFA*, the message moves to the cytoplasm to be translated into the protein, and then the protein moves back to the nucleus to regulate several genes required for defining the differentiated phenotype of the cells. In returning to the nucleus, the protein may also regulate the pores that control trafficking between the nucleus and the cytoplasm. All in all, this study reveals a complexity that will take time for us to wrap our minds around, particularly if other growth factors and cytokines act through similar intracellular loops. But as these investigators point out, the results also begin to identify new targets for drugs that could entice progenitor cells in patients with osteoporosis to become osteoblasts instead of adipocytes.

Disclosure forms provided by the author are available with the full text of this article at NEJM.org.

From the Texas A&M Health Science Center College of Medicine Institute for Regenerative Medicine at Scott & White, Temple, Texas.

1. Liu Y, Berendsen AD, Jia S, et al. Intracellular VEGF regulates the balance between osteoblast and adipocyte differentiation. *J Clin Invest* 2012;122:3101-13.
2. Fuchs S, Dohle E, Kirkpatrick CJ. Sonic Hedgehog-mediated synergistic effects guiding angiogenesis and osteogenesis. *Vitam Horm* 2012;88:491-506.
3. Wilson A, Shehadeh LA, Yu H, Webster KA. Age-related molecular genetic changes of murine bone marrow mesenchymal stem cells. *BMC Genomics* 2010;11:229.
4. Efimenko A, Starostina E, Kalinina N, Stolzing A. Angiogenic properties of aged adipose derived mesenchymal stem cells after hypoxic conditioning. *J Transl Med* 2011;9:10.
5. Gerber HP, Malik AK, Solar GP, et al. VEGF regulates haematopoietic stem cell survival by an internal autocrine loop mechanism. *Nature* 2002;417:954-8.

DOI: 10.1056/NEJMcibr1210178

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"From New England Journal of Medicine, Prockop DJ, [New targets for osteoporosis](#). 367(24):2353-4. Copyright © 2012 Massachusetts Medical Society. Reprinted with permission.

MATRIX BIOLOGY RESOURCES



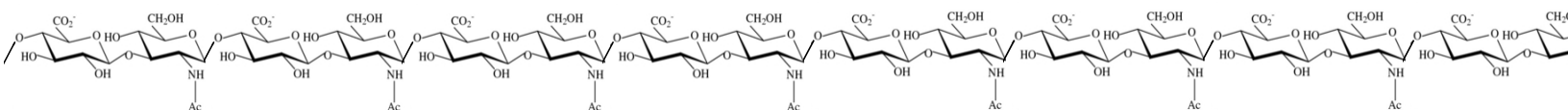
Extracellular Matrix News is a free, weekly e-newsletter that keeps members of the extracellular matrix community informed by providing the latest news of publications from all areas of the field, from science, research and business, to regulatory affairs. Extracellular Matrix News is sent to international members of the extracellular matrix community. It was begun in April, 2010. Each week, a Top Story is highlighted, followed by the most recent extracellular matrix publications ranked by the impact factor of journal. It also includes reviews, announcements of relevant meetings, and notices of position openings. Extracellular Matrix News is published by Connexon Creative Inc., a Vancouver-based company that currently publishes fifteen weekly online publications to enhance and facilitate communication between members of the scientific and medical community.

To look at the archives, top stories or to subscribe go to:

http://www.connexoncreative.com/publications/ExtracellularMatrix_News.aspx



There are also links to list available positions and to announce meetings on the menu on the left side of this webpage.



POSITIONS AVAILABLE

In previous issues, we have run a Section on Positions available – this has changed.

In the past, we have included any Positions Available within the newsletter. But it has become clear that a twice yearly newsletter is not a good way of posting positions in any timely manner; the deadline for applications would frequently be over before the newsletter came out. So these job openings are now being posted and can be viewed online on the ISMB website (www.ismb.org). (If you do not have this key sited 'bookmarked' why not do this right now?)

So, if you have any job openings please send the notification to David Hulmes (david.hulmes@ibcp.fr) for placing on the ISMB website (www.ismb.org). If you are looking for opportunities also check out our website.

Also, as noted above as our highlighted ECM resource of this newsletter, the Extracellular Matrix News also includes an online listing of positions that are available.



ISMB TRAVEL AWARDS 2013

Congratulations to the following students who were awarded ISMB Travel Awards in 2013. These awards are a valuable contribution to the scientific community that arise from your membership in ISMB,

All travel grant awardees were asked to write a short report on their experience, and/or send in photos. All of these reports can be found on the ISMB website (www.ismb.org). We have also included three of these reports here.

2013 Gordon Research Conference and Seminar on Matrix Metalloproteinases May 18-24, 2013, Lucca, Italy

Mara Martin Alonso, Centro Nacional de Investigaciones Cardiovasculares, Madrid, Spain

Carolyn Dancevic, Deakin University, Melbourne, Australia

Roos Vandernbroucke, Department for Molecular Biomedical Research, University of Gent, Belgium

2013 Collagen Gordon Research Conference and Seminar, July 13-19, 2013, New London, NH, USA

Veronique Van de Bor, CNRS, Nice, France

Kalle Sipila, University of Turku, Finland

Chloe Yeung, University of Manchester, UK

2013 Gordon Research Conference and Seminar on Elastin, Elastic Fibers and Microfibrils, July 20-26, Biddeford, Maine

Giselle Yeo, University of Sydney, Australia

Jenni Tamminen, University of Helsinki, Finland

2013 FASEB Summer Meeting: Matricellular Proteins in Development, Health and Disease, July 28-August 3, 2013 Saxons River, VT.

Lara Kular, Karolinska Institute, Stockholm, Sweden

Albin Jeanne ECM and Cellular Dynamics Unit, CNRS, Reims, France

Francesca Chiovaro, Friedrich Miescher Institute, Basel, Switzerland

8th International Conference on Proteoglycans

August 25-29, 2013, Frankfurt/Main, Germany

Dorota Maszczak-Seneczko, University of Wroclaw, Poland

Javier Barallobre-Barreiro, King's College London, UK

My personal experiences during the FASEB meeting Matricellular Proteins in Development, Health and Disease:

Francesca Chiovaro, Friedrich Miescher Institute, Basel, Switzerland

The FASEB meeting has certainly given a great contribution in all its nuances to my personal enrichment gained by interpersonal exchange of experiences. Before leaving for the conference, I planned just few things and I have simply brought along a lot of curiosity as a dress to wear every day. I was immediately surprised by the dedication with which everyone was sharing their work experiences with great humility and I was extremely fortunate to feel myself as a truly integral part of a meeting among outstanding scientists. I think there is no inner evolution, if you cannot find it in people around you, a great source from which to grasp subtle advice for a future life path. To my amazement, during the presentation at the business meeting, I saw my name like a bright flash on the screen of the big lecture hall. It took me

some time before I realized what was happening. It is a great satisfaction to get a reward for what you have learned and worked for so hard to convert it into a nice story. What makes me happy is to know how much my work has been appreciated by excellent scientists. Above all, I would like to underline that good work is sustained and supported by proper advices and knowledge that I achieved from my mentors. Thanks to the interaction with people of diverse scientific and cultural background at the conference, I had the chance to be exposed to and focus on particular aspects that I would otherwise only have learned slowly, over time. For instance, I was struck by the way how a specific project can be crossed by a plethora of collaborations that all together can develop to flow into other interesting branches. Indeed, I had the great opportunity to collaborate with the members of our amazing rowing team during the wonderful afternoon dedicated to group activities at the conference. Canoeing was the name of our experiment and the river was our lab bench. However, a sudden summer storm interrupted the normal course of our project and the famous branches leaping from the riverbank were there, ready to rescue us. Today, when I remember those days at the meeting, I can say that no matter which kind of branches will rescue you, first of all, it is crucial to find them and for sure the FASEB conference has been a great place for discovery.



The 3 ISMB awardees at FASEB meeting "Matricellular Proteins in Development, Health and Disease", July 28-Aug 2, 2013, Saxtons River, VT, USA

Highlights of my week at the Collagen Gordon Research Seminar and Conference, July 2013

Chloé Yeung, University of Manchester

The Gordon Research Conference for Collagen, entitled 'In the Context of Matrix, Cells and Regenerative Medicine', was held at Colby-Sawyer College in sunny New London, New Hampshire. The five-day meeting (from 14th-19th July) was preceded by the two-day Gordon Research Seminar for Collagen. The GRS was created to provide early-career scientists including PhD students with an opportunity to present and discuss their work in an international setting.

The GRS on 13th-14th July was organised by Lydia Murray (University of Glasgow) and Jorge Fallas (University of Washington) and was attended by 40 young scientists and opened with a keynote lecture by Leena Bruckner-Tuderman (Universitäts-Hautklinik Freiburg) on new findings and therapeutic strategies on type VII collagen in the pathobiology of skin diseases, which included epidermolysis bullosa – a blistering disease. The remainder of the GRS was made up of three sessions, in which young scientists presented novel findings on the topics of 'Collagen in Disease', 'Collagen-Protein Interactions' and 'New Directions in Collagen Research'. Highlights for me included Vanessa Lopez-Alpuche (University of Oulu) who spoke about type XVIII in hair follicle cycling and skin tumours; Abhishek Anan (Rice University) who discussed the challenges in designing collagen mimetic peptides; and Michael Randles (University of Manchester)

who presented mass spectrometry data to reveal the composition of the glomerular extracellular matrix. The atmosphere of the meeting was very relaxed and informal, and each talk was followed by lively discussions that continued into the two poster sessions over a beer or two!

Since the first Collagen GRS in 2011, the organisers of the Collagen GRC have selected short talks from GRS to present at the main meeting. The four speakers selected from this year's GRS were Abhishek Anan, Veronique Van de Bor (Le Centre National de la Recherche Scientifique), Mike Randles and myself, which I was really chuffed about!

After the GRS ended on the Sunday afternoon, over 100 of the GRC attendees arrived and joined those of us who had attended the GRS for dinner. All the lunches and dinners were held in the newly refurbished and air-conditioned dining hall and poster room. (Just to point out that a highlight of the week for many was the variety of delicious food on offer!) All around, young scientists were chatting away with leaders of the field and the overall mood was one of excitement for the stimulating program put together by Karl Kadler (University of Manchester) and Collin Stultz (Harvard-MIT), the chair and vice chair of the meeting.

There were many highlights of the GRC presentations for me. Just to list a few: David Hulmes (Institute for the Biology and Chemistry of Proteins, Lyon) presented his lab's latest success in solving the crystal structure of the C-propeptides of procollagen III and how it may explain the severity of phenotypes in numerous disease-related mutations; Michael Rape (University of California Berkley) and Maria Antonietta De Matteis (Telethon Institute of Genetics and Medicine, Naples) presented their work on the age-old dilemma of how procollagen is packaged and transported through the secretory pathway; Adam Isabella (University of Chicago) showed amazing videos of live imaging of basement membrane during the remodelling of egg chamber in *Drosophila*; Giorgio Calli (Boston Children's Hospital) spoke about Prdm5-regulated collagen gene transcription; and Fiona Watt (King's College, London) told us how different signals from the epidermis regulate dermal remodelling. The most lively and memorable discussion followed the presentation by Qing-Jun Meng's (University of Manchester) in the evening session on 'Genetic Mechanisms of Disease'. He showed his latest discovery of circadian rhythms in cartilage tissue and how their disruption may compromise tissue homeostasis. The audience was captivated and a lively and engaging discussion ensued and continued well into the evening at the bar. There are always new and surprising things to be discovered in the collagen field, in addition to the existing big questions!



Participants in the game of football (or soccer!) between the USA and the Rest of the World.



Other highlights from the meeting were the presentation of a gift to Peter Bruckner (University Hospital of Münster, Germany) to commemorate his 17-year service as the ISMB treasurer-secretary and the competitive game of football (or soccer!) between the USA and the Rest of the World. Everyone either attended to watch or play, which echoed the friendly and inclusive atmosphere of the meeting.

I would strongly recommend all young scientists studying collagen to attend the next GRS and GRC in 2015 because my attendance allowed me to present my work and receive valuable feedback from renowned scientists in the field. The daily poster sessions greatly enhanced my networking skills. In the spirit of the GRC, the presentations and posters consisted of exciting and new, unpublished data, which was really relevant to my research, and has proved to be of great value!

My Experience at the Elastin Gordon Research Conference, 2013

Jenni Tamminen, University of Helsinki, Finland

My visit to the Elastin Gordon Conference in the University of New England was my first Gordon conference. As a conference place the campus was nice and easy to get around. At first I thought that the program was tough from 9.00 am to 9.30 pm leaving only few hours free time in the middle of the day. However, it turned out that although the days were fully booked the relaxed and unreserved atmosphere together with beer during the poster sessions made the program manageable, or actually enjoyable.

I felt that one thing was very important making the atmosphere unique. That was the feeling of equality. For a Ph.D student scientific meeting can feel like a hierarchical place, not to mention if you are a woman. This was not the case at the Gordon Conference. I felt, and I'm sure that all the students did, no matter which sex, that we were considered as scientists not just as students wanting to be scientists. I think this was very encouraging environment for a young researcher. This kind of experience could convince me that a scientific community can be equal, open and supportive and this could persuade me to stay with science even after I get my Ph.D.

Another important thing making the great atmosphere was how open and positive everybody was. A setting that encourages people to show unpublished data not only brought new and exciting data but also people with open and curious minds. This was true during the talks, poster sessions as well as in the table discussions during good meals. I enjoyed the way people would just pop in to the tables, familiar people or not, and start talking. Sometimes the talk was about science, sometimes about differences and similarities of making science in different parts of the world and sometimes about something completely non-science.

One intention for each young researcher in conferences is to connect and network. The relaxed and unreserved atmosphere together with beer during the poster sessions set a great platform for this. Seeing my PI meet old collaborators appeared more like an encounter of old friends. Isn't that something that starts from contacts made in a stimulating environment, such as this, generates great co-operation and great science and eventually warm re-encountering? And isn't that something that every young researcher searches for?

For me Elastin Gordon Conference was extremely stimulating and impressive experience. Interesting contents and high quality of the talks was of course why I attended the conference but for a young scientist learning, eating, drinking and breathing science has never been so comfortable. This was because of the unique atmosphere. And one cannot take this atmosphere for granted. It will not just happen. It is generated by the organizers as well as the conferees. I was very happy to be a part of that in Elastin Gordon conference in the University of New England 2013.



MATRIX MEETING ANNOUNCEMENTS

The 9th Pan Pacific Connective Tissue Societies Symposium - The Extracellular Matrix Niche November 24-27, 2013.

Hong Kong Academy of Medicine

Website: www.ppctss2013.org

See poster at end.

2014 Gordon Research Conference and Seminar: Plasminogen Activation & Extracellular Proteolysis

February 8-9, 9-14, 2014

Ventura, California, USA

Chairs: Katerina Akassoglou & James C. Whisstock. Vice Chair: Lindsey A. Miles

Website: <http://www.grc.org/programs.aspx?year=2014&program=plasmino>

2014 Orthopaedic Research Society - 60th Annual Meeting

March 15 -18 2014

New Orleans

Website: <http://www.ors.org/2014annualmeeting/>

See banner at end.

Building the Extracellular Matrix: Molecules, Cells and Evolution

April 7-8, 2014

[British Society for Matrix Biology]

Bristol, United Kingdom

Website: <http://www.bsmb.ac.uk/meetings/building-the-extracellular-matrix-molecules-cells-and-evolution/>

See poster at end.

Eighth Symposium on Biologic Scaffolds for Regenerative Medicine

April 24-26, 2014

Columbus, United States

Chair: Stephen F. Badylak. Keynote: Joseph P. Vacanti

Website: http://www.mirm.pitt.edu/events/2014_Meetings/2014scaffoldssymposium.asp

See banner at end.

OARSI – World Congress on Osteoarthritis

April 24 -27, 2014

Paris

Website: <http://2014.oarsi.org/>

See banner at end.

2014 TERMIS-EU: Genova, Italy

June 10 -13 2014

Genova, Italy

Website: <http://www.termis.org/eu2014/>

See banner at end.



1st Matrix Biology Europe (MBE) Conference

June 21 -24 2014

[Formerly known as Federation of Connective Tissue Societies, FECTS]

Rotterdam, the Netherlands

Meeting Chair: Ruud Bank. Secretary Organizing Committee: Yvonne Bastiaansen

Website: www.mbe2014.eu

See banner at end. See Further Details on this meeting following these notices.

European Orthopaedic Research Society: 22nd Annual Meeting

July 2 -4 2014

Nantes, France

2014 Gordon Research Conference and Seminar: Proteoglycans - Diverse Regulators of Health and Disease

July 5-6, 6 -11, 2014

Proctor Academy, Andover, NH

Chair: Nicholas Shworak Vice Chair: Jeremy E. Turnbull

Website: <http://www.grc.org/programs.aspx?year=2014&program=protglyc>

2014 Gordon Research Conference and Seminar : Signal Transduction by Engineered Extracellular Matrices

July 5-6, 6-11, 2014

Waltham, Massachusetts, USA

Chair: Jason A. Burdick Vice Chair: Linda G. Griffith

Website: <http://www.grc.org/programs.aspx?year=2014&program=sigtrans>

2014 TERMIS-AP

September 24 -27 2014

Daegu, South Korea

Website: <http://www.termis.org/ap2014/>

9th International Research Symposium on Marfan Syndrome and Related Disorders

September 25-27, 2014

Paris, France

Website: <http://www.marfan.org/resources/researchers/scientific-meetings> or email to: research@marfan.org.

See poster at end.

American Society for Matrix Biology, Biennial Meeting (ASMB)

October 12- 15, 2014

Cleveland, OH

Organizer: Suneel Apte

Website: http://www.asmb.net/2014_meeting.php or contact: Kladuca@faseb.org

See banner at end.

38th Annual Meeting, Matrix Biology Society for Australia and New Zealand (MBSANZ)

October (to be finalised) Melbourne, Australia Check <http://www.mbsanz.org/> for details later this year.

**1st Matrix Biology Europe (MBE) Conference, 21-24 June 2014**

Congress venue: De Doelen, Rotterdam, the Netherlands <http://www.dedoelen.nl/en/congressen/home>

Contact: Ruud Bank, University Medical Center Groningen, Hanzeplein 1, 9713 GZ Groningen, The Netherlands, R.A.Bank@umcg.nl, Tel. +31-50-3611983 **Website:** www.mbe2014.eu

Matrix Biology Europe (MBE) is the new name of the Federation of European Connective Tissue Societies (FECTS), which originated in 1967-1968, initiated amongst others by the late Professor John Scott. This name change has been announced in the ISMB newsletter of September 2012. One of the reasons is the fact that most European "Connective Tissue Societies" are now "Societies for Matrix Biology". The so-called FECTS meetings were held biennially, and were since the early seventies organized by an *ad hoc* national organizing committee. The most recent FECTS meeting was held August 2012 in Katowice (Poland). The next meeting, which is renamed in 1st MBE Conference (being the XXVIth FECTS meeting) will be held in Rotterdam, the Netherlands (21-24 June 2014); the local organizing committee consists of members of the Dutch Society for Matrix Biology.

The format of this meeting will be different compared to previous FECTS meetings. It is more compact: it starts at Saturday evening, and ends at Tuesday around lunchtime. All days are fully filled with presentations clustered around workshops. We already have an impressive list of invited speakers. It is our intention to have 1 opening lecture (60 minutes), 8 plenary lectures related to workshops (30 minutes each), 8 parallel workshops (24 invited speakers of 20 minutes each, 32 presentations of 15 minutes each that are selected from the submitted abstracts), 2 plenary lectures specifically devoted to matrix pathologies, a Rupert Timpl Award lecture, 6 nominees for the Dick Heinegård European Young Investigator Award (15 minutes each), 1 plenary workshop (3 lectures) and several opportunities to visit the posters. The opening lecture on Saturday will be delivered by Boris Hinz (Toronto).

The topics of the workshops are:

Collagen modifications: role in matrix quality/quantity and disease (highlights the effects of posttranslational modifications of collagen on matrix behaviour and pathologies such as osteogenesis imperfecta, osteoporosis, Ehlers Danlos syndrome, fibrosis and tumor invasion) (confirmed: David Eyre, Janine Erler, Joan Marini).

Tissue engineering from a matrix perspective (highlights the use of ECM-like biomaterials in tissue engineering, difficulties associated with tissue engineering (due to the complexity of the ECM in connective tissues), as well as the effects of ECM components on the performance of (stem) cells) (confirmed: Marcel Karperien, Jöns Hilborn, Catherine Merry, Wael Kafienah).

Advances in understanding matrix disease mechanisms (highlights the role of extracellular matrix in a wide range of diseases, such as osteoarthritis, diabetes, and pathologies connected with mutations in ECM proteins) (confirmed: Shireen Lamandé, Tonia Vincent, Michael Briggs, Cay Kielty, Nico Sommerdijk).

New frontiers in ECM biology (highlights on technologies that enables the generation of large (quantitative) data sets that are related to the constituents of the extracellular matrix, as well as its interactions and degradation, and on pathways that enables the delivery of molecules to the ECM) (confirmed: Ulrich auf dem Keller, Sylvie Ricard-Blum, Vivek Malhotra, Bent Brachvogel)

New insights into basement membrane function and dysfunction (highlights the role of the basement membrane in health and disease, as well as the specific constituents of the basement membranes) (confirmed: Leena Bruckner-Tuderman, Hans Nauwyck, Taina Pihlajaniemi).

Matrix proteolysis in health and disease (highlights to role of proteinases in the degradation of extracellular matrix proteins, with special emphasis on MMPs, the ADAMTs family, cathepsins, as well as the role of ECM fragments (matrikines) in cell biology) (confirmed: Bruce Caterson, Hideaki Nagase, Vincent Everts, Christian Schmelzer)

Proteoglycans in disease (highlights the role of proteoglycans in a wide range of pathologies (ranging from cancer to diabetes to musculoskeletal disorders) (confirmed: Renato Iozzo, Svein Kolset, Jaap van den Born, Nikos Karamanos).

Cell/matrix interactions in matrix biology and pathology (highlights integrins and collagen receptors as well as cell surface proteoglycans) (confirmed: Niels Behrendt, Birgit Leitinger).

ECM in soft tissues (highlights the role of the ECM in the brain, the pancreas, and adipose tissue) (confirmed: Daniel Greenspan, Constanze Seidenbecher, Andreas Faissner).

As previously, the ISMB will be involved in the conference as well, e.g. by organizing the Rupert Timpl Award.

A new initiative is the Dick Heinegård European Young Investigator Award, a tribute to Dick Heinegård who sadly passed away earlier this year. Renato Iozzo published some nice memories about Dick in Matrix Biology (volume 32, pages 215-219). More information about this award will be posted very soon on our website www.mbe2014.eu, and mailed separately to many of you. The detailed programme and information about registration will be available on our website at the beginning of October (the basic information has already been posted). See you next year in Rotterdam, the city with the biggest harbour of Europe!

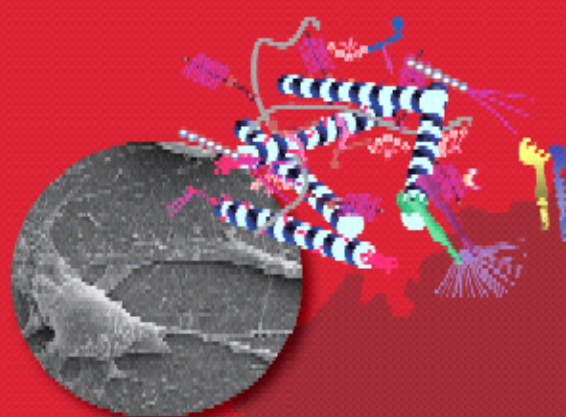


9th Pan Pacific Connective Tissue Societies Symposium

The Extracellular Matrix Niche

24th – 27th November 2013

Hong Kong Academy of Medicine, Jockey Club Building,
99 Wong Chuk Hang Road, Aberdeen, Hong Kong



Enquiry:
Conference Secretariat
Tel: +852 2559 9973
Fax: +852 2549 9528
Email: ppctss2013@icm.hk

Please visit our website for programme update and registration:
www.ppctss2013.org

Hong Kong

2014  Annual Meeting



Leading innovation through collaboration.

Hyatt Regency New Orleans | New Orleans, Louisiana March 15-18

**The 8th Symposium on
Biologic Scaffolds for Regenerative Medicine**
Silverado Resort in Napa Valley, CA
April 24-26, 2014





BSMB Spring Meeting 2014: April 7 and 8, 2014
BUILDING THE EXTRACELLULAR MATRIX:
MOLECULES, CELLS AND EVOLUTION

Organiser: Jo Adams
Location: University of Bristol



THEMES: Cell-ECM INTERACTIONS AND SIGNALING, ECM STRUCTURES AND NICHES, EVOLUTION OF ECM ORGANISATION, ECM/GROWTH FACTOR INTERACTIONS, BSMB OPEN SESSION **Info:** www.bsmb.ac.uk

Confirmed speakers: [Richard Hynes, MIT \(Keynote\)](#)

[Leena Bruckner-Tuderman, Freiburg](#); [Ruth Chiquet-Ehrismann, FMI, Basel](#);
[Erhard Hohenester, Imperial](#); [Cay Kielty, Manchester](#); [Vivian Li, NIMR](#);
[Joanne Murphy-Ullrich, Alabama](#); [Suat Oztebek, Heidelberg](#); [Jun Qin, Cleveland Clinic](#)



WORLD CONGRESS
ON OSTEOARTHRITIS

Paris, France

APRIL 24–27, 2014

The Center of New Industries and Technologies (CNT)





SAVE THE DATE

25-27 september 2014
Paris, France



**The 9th International Research
Symposium on Marfan Syndrome
and Related Disorders**

Contact: marfan.2014@gmail.com

More information in september 2013



American Society for Matrix Biology **Biennial Meeting**

October 12-15, 2014 | Marriott Key Center | Cleveland, OH



**Mark your
calendar
now!**