

The Matrix Letter

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Society for Matrix Biology

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RED ROCK

2018

Letter from the President



Dear ASMB Colleagues,
Greetings and wishes for all the best in 2018! This new year has already been rather eventful, given the weather and the continued drama in our government. However, there is a lot of good to focus on regarding ASMB in 2018 and we will highlight some of these activities in this newsletter.

Lynn Sakai, ASMB President-elect and 2018 meeting chair, has developed a fresh and strong program for the October 14-17, 2018 meeting in Las Vegas that we hope will attract attendees not only from ASMB and related matrix-centric societies, but also from related disciplines. Additional details on the program can be found at www.asmb.net. Given the success of the trainee-led Special Interest Sessions at the 2014 and 2016 meetings, ASMB has issued a call for trainee led proposals at the 2018 meeting.

This is a unique opportunity for students and post-docs to gain leadership experience in organizing and chair scientific sessions and to gain exposure for their scientific specialty. We encourage ASMB trainees to consider leading one of these sessions. We are also in a crucial fund raising stage for the 2018 meeting and we welcome suggestions for potential granting agencies and donors or exhibitors for the meeting. Our biennial meetings are the cornerstone of ASMB, and play a key role in financial viability.

Elections for three new ASMB Councilors were held late last fall. I am very pleased that we had nearly 50% member participation in voting. We are very pleased to welcome Marion (Emmy) Gordon, Andrew Leask, and Dirk Hubmacher to 3 year terms on ASMB Council. We appreciate their enthusiasm and willingness to serve. I also want to thank Beth Kozel, David Birk, and Liliana Schaefer for their very robust and dedicated service to ASMB. You will be missed. It is very rewarding to work with such a dedicated and creative group.

The 2018 Biennial ASMB meeting will also feature the awardee of the first Founders Award, Vincent Fiore, a post-doctoral fellow at the Rockefeller University. The Founders Award, named to honor the individuals whose efforts led to the establishment of the Society, recognizes the highest level of scientific excellence in extracellular matrix and cell-matrix interactions in young scientists in transition toward their first independent career positions, and who have demonstrated a visible commitment to a career in matrix research and the activities of the ASMB. Importantly, we also want to thank our recent past-presidents, Jeff Davidson and Suneel Apte for generous donations to fund this new award.

Kudos to our other ASMB Awardees who will be featured speakers at the 2018 ASMB meeting: Jean Schwarzbauer, Senior Investigator; Rachel Lennon, Iozzo Awardee; and Alexandra Naba, Junior Investigator. It is nice to see the contributions of ASMB women appropriately recognized!

In this newsletter you will also find articles highlighting ASMB interactions with other related scientific societies (TERMIS, MBI, and ICCNS) and an update from the ASMB membership committee, headed by Tom Barker, which has been meeting regularly over the past year to develop new mechanisms to provide increased value to ASMB members and to extend our outreach to related scientific disciplines.

The new ASMB website launched in November. Thank you to Kendra LaDuca for all her hard work on selecting the new software and developing the site and content. Please visit this site regularly for updates on ASMB activities (for example, the announcement for proposals for the 2019 ASMB workshop) and for announcements of pertinent meetings (note the ASMB sponsored session at ASIP/EB in San Diego in April which will feature Adam Engler as the ASMB Lecture speaker and also the ASMB session at Matrix Biology Europe in July 2018).

(con't on page 3)

● From the Cover

Stratified Sedimentary Rock in **Red Rock National Preserve**, adjacent to Las Vegas, Nevada. Much more than a geologists's showcase, it has a beauty that can be appreciated by everyone. *Editor's note: I'm no geologist, but I think the lower green layer is Laminin.*

ASMB Meeting 2018

Save the Date

October 14-17, 2018 • Las Vegas, NV



ASMB
2018

American Society for Matrix Biology
Biennial Meeting

October 14-17, 2018

Red Rock
Casino Resort Spa

Las Vegas, NV

**Save
the
Date!**

Concurrent Sessions

Proteoglycans • Collagens • Elastic Fiber Proteins • Structure & Assembly of ECM
ECM of Inflammation Infection & Immunity • ECM of Aging • Cardiovascular ECM
Skin Basement Matrix, Wound Healing and Disease • Tumor Microenvironment
ECM Receptors • Heritable Disorders of Connective Tissue

Guest Sessions

TERMIS, Histochemical Society, Alport Syndrome Foundation, Matrix Biology Ireland

Plenary Sessions:

Genetic Disorders, Novel Technologies, Extracellular Signaling, ECM in Health and Disease

Plus: Keynote speaker David Lyden, Career Mentoring Breakfast,
Women Mentoring Women, Trainee-Run Sessions, Gala Banquet

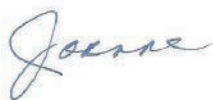
President's Letter (con't)

On a more personal note, I came up with an outline for this letter last week. However, as I was driving home from the grocery store Sunday afternoon and listening to an NPR program about sexual harassment and assault in the workplace, I began thinking about my experiences in science. Absence of assault and harassment is only a minimal standard of decency. All scientists (not just women) need a rigorous and nurturing environment in which you are challenged, but also more importantly, taken seriously, listened to, and encouraged. In reflecting on my scientific mentors, I feel the need to acknowledge the wonderful mentors (all the way back to my dad and the science fair era) and my first department chair who I have had the great fortune to work with during my scientific journey. These men believed in me more than I believed in myself and were there, in different ways given their very different personalities, to foster my scientific growth. It has also been terrifically rewarding to interact with so many wonderful collaborators and scientific colleagues over the years who have been always collegial and professional. I feel very fortunate to have had these wonderful mentors, collaborators, and colleagues over the years and wish to express my appreciation.

Finally, my son gave me a very interesting book for Christmas, ***Not a Scientist: How Politicians Mistake, Misrepresent, and Utterly Mangle Science*** by David Levitan. It is a thought provoking book discussing the ways that science is misrepresented for specific political ends. Although I found a few errors in his scientific arguments, the book is very useful for understanding political discourse.

I hope you enjoy the first newsletter of 2018. Dwayne Stupack puts a tremendous amount of thought and work into the newsletter to provide ASMB members and the matrix community with valuable content. I want to thank Dwayne for his continued dedication to this very important task!

Best wishes,



ASMB Connections

ASMB partners with other scientific societies in the field of Matrix Biology. This issue, we focus on **Matrix Biology Ireland**, and their most recent fall meeting. However, we also congratulate ISMB on 25 years of amazing science, with greetings from ISMB's own Liliana Schaefer on page 5.

Matrix Biology Ireland – the Irish Society for matrix biology - was founded at the end of 2012 by Dr Dimotrios Zeugolis and Prof Fabio Quondamatteo. Since then, the Society has hosted four annual meetings with high calibre speakers with endorsement and support from the British Society for Matrix Biology (BSMB), American Society for Matrix Biology (ASMB), Deutsche Gesellschaft für Matrixbiologie e.V. (DGMB- German Society for Matrix Biology e.V.), International Society for Matrix Biology (ISMB) and Matrix Biology Europe (MBE). The scope of MBI is both to promote and consolidate scientific interest and expertise around extracellular matrix research in all its forms within Ireland, and, to link this with the international scientific community on Matrix Biology. The Society's brief also encompasses practical and translational applications of the biology of the extracellular matrix in all forms and aspects.

The Monaghan Lab at the Trinity Centre for Bioengineering, Trinity College Dublin, the University of Dublin hosted the 4th Annual MBI meeting from the 30th November -1st December, 2017. The theme of the 2017 meeting was 'Learning from Development to Engineering Therapeutics' with the aim to create a significant format for young researchers to showcase their research and actively network both nationally and internationally. See the attached report, beginning on page 4. I think you will agree that with the competitive prices of flights to Ireland, we might soon expect increasing numbers of our ASMB colleagues to hop the pond to also attend the MBI meeting and forge collaborations with our Irish colleagues.



Meeting Synopsis

Matrix Biology Ireland

Trinity College, Dublin

Review by provided Michael Monaghan

The meeting was opened by the local organising chair; Asst. Prof. Michael Monaghan who welcomed the national and international delegates. The 4th Annual meeting deviated from a typical format, with the introduction of a Young Investigator Rapid Fire Round to kick off proceedings. This session was chaired by Prof. Liliana Schaefer (Goethe University, Frankfurt, and President of ISMB) and Prof. Abhay Pandit (National University of Ireland, Galway), who put 11 young investigators through their paces in delivering a concise three-minute presentation followed by 1-2 questions.

Following the Young Investigator Rapid Fire Session, the main sessions of the meetings commenced with the inclusion of the invited guest speakers. All sessions were composed of both invited guest speakers and talks selected from submitted abstracts- the majority being from Young Investigators. Additionally, the session chair panel consisted an established PI with a Young Investigator as co-chair.

Professor. Charles Little (University of Kansas, USA) delivered the first invited lecture of the meeting; he delivered a talk demonstrating ECM motion during early amniote embryogenesis. The following talks proceeded to focus on the role of ECM in its purest forms including Professor. Liliana Schaefer and Professor John Couchman (University of Copenhagen, and Chair of BSMB).

The afternoon session of the first day introduced us to how cell-matrix interactions control circadian clocks in breast tissue with Prof. Charles Streuli (Wellcome Trust Centre for Cell-Matrix Research, Manchester), leading onto tumour microenvironments and the induction of immunomodulatory functions of stromal cells by Dr. Aideen Ryan (National University of Ireland, Galway).

Professor George Bou-Gharios (University of Liverpool, UK and BSMB Council) led the last session of the day with an intriguing discussion on matrix gene enhancers to target fibroblasts and chondrocytes in connective tissue diseases, followed up by Dr. Karen English (National University of Ireland, Maynooth) who discussed chronic inflammatory lung diseases and the use of mesenchymal stromal cells as a therapy. The day ended with a welcome wine and cheese poster reception at the Trinity Centre for Bioengineering.

The second day of the meeting focussed primarily on the topics of imaging, ECM in cardiovascular disease and concluding with harnessing ECM as bioengineered therapeutics. Professor Peter Friedl (Radboud University Nijmegen Medical Centre, The Netherlands) presented detailed investigations using multiphoton microscopy and introduced many of the delegates to the concept of 'cell jamming', which was followed by Professor Caitriona Lally (Trinity College Dublin) demonstrating conclusive high-resolution diffusion MRI in the non-destructive characterisation of arterial structure.

The second session of the day was cardiac-ECM-centric with Professor Adam Engler (University of California San Diego, USA) showcasing his research group's cardiovascular 'diseases-in-a-dish' with engineered niche. Dr. John Baugh (University College Dublin) delivered a thorough talk on epigenetic modifiers as a treatment of cardiac fibrosis and heart failure, while Professor Garry Duffy (National University of Ireland, Galway) detailed the development and implementation of advanced materials for cardiac regeneration (Medtronic Sponsored Lecture).

The final session of the meeting was a showcase of ECM bioengineering therapies in the Irish Scientific Community. Dr. Tanya Levingstone (Dublin City University, Ireland) led this session with a detailed history of developing directed osteogenesis and chondrogenesis in a multi-layered osteochondral scaffold; all the way to its application in treating osteochondritis in a 16-month old thoroughbred filly. The day ended with a closing address from Dr. Michael Monaghan (Trinity College Dublin) who introduced Dr. Olga Piskareva and Dr. Ronaldo Do Amaral (both Royal College of Surgeons in Ireland) as newly elected MBI Council Members.

Prizes were also presented to the top student presentation in each category which were evaluated by an independent judging Panel. The prizes were awarded to: Sigita Malijauskaitė (University of Limerick) for Best Poster presentation, Juhi Samal (National University of Ireland, Galway) for best Rapid Fire Presentation and Olwyn Mahon (Trinity College Dublin) for Best Podium Presentation. The MBI 2017 organising committee would like to acknowledge the support of the following sponsors and exhibitors: Medtronic, MERCK, Lennox, Biocolor, Mason Technology, Sarstedt and Zwick/Roell Testing Systems. Dibyangana Bhattacharyya (NUI Galway), Stefan Scheurer (Trinity College Dublin) and Julia Fernandez-Perez (Trinity College Dublin) were the winners of the exhibitor booth passport check-in scheme.

The 2017 Matrix Biology Ireland Meeting was the largest one to date with over 100 delegates present at the meeting and a significant proportion of time designated to networking and scientific discussion. There was also an intended effort to ensure diversity across all categories of delegates. Commenting at the event, meeting chair Dr Michael Monaghan said, "MBI 2017 was delighted to host such esteemed speakers in the field of Matrix Biology. This set the standard of the meeting and all delegates rose and kept to this standard. The very high quality of research and innovation present at MBI 2017 is testament to the calibre of science in Ireland. It is no surprise that Ireland has jumped to be ranked 10th Globally for Overall Scientific Research Quality and coming from a relatively small country I am very proud to be part of this community. I am particularly delighted with the degree to which sessions became engaging and even challenged some of the traditional paradigms in Matrix Biology, leading to much debate and discussions outside of the main sessions."

For the near future, **Matrix Biology Ireland** supports the 3rd Matrix Biology Europe meeting taking place in Manchester 21-24th July 2018 and will coordinate a guest session at the ASMB Biennial Meeting 2018. For further information, please visit the society web-pages (www.mbi.ie) and for membership enquiries, please contact the MBI secretary at secretary@mbi.ie.

International Society for Matrix Biology

25 years of connected research

Dear ASMB members:

I am honored and privileged to announce that the International Society for Matrix Biology celebrated its 25th anniversary at the end of 2017. As a result of our pioneering hard work, we are fortunate to reflect on our past and present efforts, and plan for our future success.

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

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

(con't)

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



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

Last but not least, I am very proud that the ISMB Newsletter is becoming a global source of information on activities in the matrix community. Matrix societies are submitting reports about their meetings, achievements, and future plans. We are happy to pass this information along to the ASMB members. I would like to take the opportunity to thank Sylvie Rickard-Blum and the entire Communication ISMB Council Subcommittee for their efforts. I am sure that the upcoming generation of matrix biologists will be able to celebrate the golden anniversary of the ISMB and many World Matrix Biology Meetings. Happy Anniversary to you and to the ISMB!

Kind regards,
Liliana Schaefer
ISMB President



ASMB

Workshop 2019 First Call for Proposals

The inaugural ASMB Workshop occurred in 2017. Focused on Basement Membranes, it was held at Vanderbilt University Medical Center in Nashville from July 12-14. The Workshop brought together a diverse group of 71 basement membrane researchers from the US, Canada, Europe, and Japan. In keeping with ASMB's vision of a workshop format, the grand majority of the 31 talks were selected from the submitted abstracts.

We continue to have the same vision for our 2019 Workshop.

Proposals are now being invited for organization of biennial ASMB Workshops in 2019. These workshops are intended to be low-cost, focused (subspecially) meetings that will occur in 2019.

The ASMB workshops can be on any topic that is of relevance to extracellular matrix and cell-matrix interactions and that fulfills a perceived need within the matrix community.

It is considered important that there not be an existing conference that has significant overlap with it. The ASMB's goal through this initiative is to jump-start recurring low-cost meetings on neglected and emerging topics in the extracellular matrix field.

The workshop will have two co-organizers who should each be ASMB members. The ideal venue for the workshop will be a lecture room or meeting facility for example on a local campus, available to organizers at minimal or no cost. It will provide quality space for 75-100 attendees, 50-75 posters and reliable audiovisual equipment. A plan for local volunteer engagement and donation of institutional infrastructure is strongly recommended. Neither ASMB funds nor conference revenue are to be used for local staff employment.

Call for Proposals: ASMB 2019 Workshop (con't)

ASMB suggests the workshop take place between March and October 2019, minimizing overlap with major public holidays, public events or with competing meetings. Weekends and university breaks are potential opportunities to obtain a meeting room at minimal or no cost.

The workshop program is 2 full days (total ~16h) in a flexible format (i.e. 2 whole days or 1 full + two half days). Invited talks should be kept to the minimum to build a cohesive program. Most of the oral presentations should be selected from submitted abstracts, preferably from scientists in training or from new faculty appointees. All sessions must be plenary. No breakouts or concurrent are supported. There will be two poster presentations of two hours each and posters will be displayed for the duration of the meeting.

Accommodations should be available at a local hotel or campus facility at a pre-negotiated rate. Organizers must identify housing options for at least 50 rooms for 1-2 nights. Alternatively, the conference could ask attendees to arrange accommodation on their own, but local recommendations need to be provided by organizers.

The registration fee should run ~\$250 for members, \$350 for non-members. Early registration deadline is 3 months prior to the conference, with an additional \$50 thereafter. The fee includes access to sessions, two breakfasts, all coffee breaks, and two lunches. No program handout or publication will be produced by ASMB. Wi-fi can be provided if it is available at no charge, but is not required. A single conference dinner or mixer may be held, but is not mandatory and depends on the availability of surplus funds. Conference attendees are responsible for their travel, hotel reservations and for bringing their own electronic devices for presentation.

With the support of ASMB, the organizers will raise funds for the workshop, with a projected range of \$10,000-\$15,000, using a combination of NIH, private foundation and industry funding. Fundraising should begin by fall of 2018.

ASMB will provide conference management services including promotion, registration, insurance, abstract handling, and on-site support. ASMB pays for these services and it is important that conference fundraising is robust to ensure that ASMB does not experience a deficit arising from the workshop. Workshop finances will be managed by the ASMB, which bears all net gains or losses.

At least one organizer should be based in the US and the workshop must be held in the US to provide the maximal benefit to our membership. It is preferred that the workshop be held at a campus or facility at which one or both organizers have affiliations.

Organizers will be largely responsible for logistical planning with some support from the ASMB Executive Director.

PROPOSALS have a two-page limit. The proposal should include a discussion of the perceived need for and significance of the workshop topic and novelty. It should include projected attendance and projected composition of established scientists vs trainees, as well as domestic vs international attendees. Include organizational details such as the proposed dates, venue, and other facilities. An outline of the major topics covered is required.

Finally, it is important that a specific plan for trainee scientist and volunteer engagement is essential. A preliminary budget outline should be provided that includes the projected cost, anticipated fundraising (including anticipated sources) and local catering costs (budget information can be appended to the two-page application). Co-organizers should provide his/her NIH biosketch, which includes a personal statement about connections to and contributions to the field of the proposed workshop with emphasis on on prior experience with conference organization.

Submission: March 15, 2018

Notification: April 15, 2018.

More information at www.ASMB.Net



Matrix Interactions

ASMB News and Announcements in Brief

Proposals Now Being Accepted for the Special Interest Sessions

ASMB seeks proposals for Trainee-led Special Interest Sessions (SIS) at the 2018 Biennial Meeting.

The SIS is an outstanding opportunity for students, postdocs, and junior investigators to present their work, organize a session reflecting their own interests, and receive feedback from leaders in the field. Special Interest Sessions (SIS) are part of the official program for the 2018 ASMB meeting. Each should be centered on a well-focused topic. The overall goals of the SIS are to provide opportunities for young investigators working in closely related areas to exchange new data and ideas. For more details, visit the ASMB meeting website: www.asmb.net

Please submit your application by:
February 28, 2018.

**Also:
March 15, 2018**

ASMB 2019 Workshop Proposal Deadline
<http://www.ASMB.net>

Upcoming Events

May 23-25, 2018

Canadian Connective Tissue Society
University of Toronto, Toronto ON, Canada
<http://connective-tissue-canada.com/cctc-2018/>

June 16-17, 2018

Gordon Conference on Proteoglycans
Proctor Academy
Andover, New Hampshire, USA
<https://www.grc.org/proteoglycans-grs-conference/2018/>

June 24-29, 2018

Gordon Conference on Signaling By Adhesion Receptors
University of New England, Biddeford, ME, USA
<https://www.grc.org/signaling-by-adhesion-receptors-conference/2018/>

July 21-24, 2018

Matrix Biology Europe
Manchester, UK
<http://www.confercare.manchester.ac.uk/events/mbe2018/>

July 22-27, 2018

Gordon Conference on Signal Transduction
by Engineered Extracellular Matrices
Proctor Academy, Andover, NH, USA
<https://www.grc.org/signal-transduction-by-engineered-extracellular-matrices-conference/2018/>

October 14-17, 2018

American Society for Matrix Biology,
Red Rock, Las Vegas, NV, USA
<http://www.asmb.net>



ASMB has New Councilors!

Congratulations to our newly elected ASMB council members!

Dirk Hubmacher (Icahn SOM),
Marion Gordon (Rutgers University) and
Andrew Leask (U. Western Ontario)
will serve until 2021.

Thank you to our outgoing councilors
David Birk, **Beth Kozel**, and **Liliana Schaefer**
for their service!

ISMB special offer for ASMB 2018

We are grateful to have a strong partner in the International Society for Matrix Biologist. In appreciation of their continued support, we are pleased to offer ISMB members the discounted ASMB member rate at the 2018 Biennial Meeting. For complete details, email the ASMB business office in advance of registering for the meeting.

2017 International Workshop on the CCN Family of Genes.

Bernard Perbal, Andrew Leask and Annick Perbal

Upon the request of many colleagues, the 9th biennial International workshop on the CCN family of Genes was held at the Palais du Grand Large, November 2-7 2017. It was a come back to Brittany where the three first enjoyable CCN workshops had been organized by the International CCN Society in the early 2000's.

This year, the variety of topics covered in the eight-sessions program were another indication of the wide variety of functions played by the CCN proteins, a family of six members sharing a highly conserved tetramodular organization, each module showing partial identity with domains of IGFbps, Von Willebrand and TSP1 proteins, and a C-terminal module present in several growth factors. The need for an acronym (Brigstock et al. 2013) that would reflect the unique physical features of the six proteins initially designated, CYR61, CTGF, NOV, and WISP1-3, stemmed from the fact that the original names were misleading (Perbal and Perbal 2017).

In an effort to widen the multidisciplinary exchanges that were initiated in previous meetings, Joanne Murphy-Ulrich and Kim Midwood were invited to participate in a special session on matrix-cellular proteins. Their excellent presentations were very well received by the participants to the meeting who were given the opportunity to get both a broad overview of the field and updates on immunomodulatory matrix-cellular molecules in inflammatory diseases and thrombospondin-1 in the regulation of TGFbeta activation in pathological conditions. Unfortunately P. Martin who accepted to talk about inflammation in wound healing could not attend the meeting due to familial reasons.

With the comprehensive review on melanoma biology given by Meenhard Herlyn who received the 6th ICCNS-SPRINGER award, the audience was provided with a truly

inspiring presentation on both historical aspects and prospective views of translational approaches that had been permitted by a huge load of the most advanced biological technologies and fundamental top level basic science.

This presentation concluded the educational sessions of the meeting and opened the path to a series of talks dealing with the involvement of CCN proteins in tumor angiogenesis and progression, oestrogen sensitization in breast cancers and metastasis in melanoma.

The role of CCN proteins in skin aging and cancer, nervous system myelination and remyelination were presented before addressing functional aspects of the CCN proteins with talks on the regulation of ccn genes expression, both at the transcriptional and biochemical levels. Structure function studies and role of CCN proteins in the regulation of cell cycle were also presented.

In a series of three sessions, the involvement of CCN proteins in cardiac, pulmonary, renal, muscular and hepatic fibrosis was addressed, together with studies aimed at using specific inhibitors representing potential therapeutic tools. A series of presentations dealing with inflammatory processes and musculoskeletal pathologies concluded the meeting. As usual, the meeting format provided the attendees with the opportunity to meet with all the leaders in the CCN field and discuss the most recent advances in topics related to CCN gene expression and CCN proteins functions in normal and

pathological conditions. As always, the program left time for enjoying the meeting site and local social events organized by Annick Perbal (see pictures).



One of the main feature of this familial meeting lies in the fact that all participants, young and senior, beginners and leaders commit themselves for the entirety of the meeting to be free for discussion and for setting up collaborative projects, or wanting to know more about the specific aspects in the field. We do hope that the connections between the ASMB and the ICCNS will benefit from the efforts we are deploying to foster a better and wider communication.

In any case, the detailed scientific report of the CCN workshop will be published as usual, in the Journal of Cell Communication of Signaling (Springer).

[1] Brigstock DR1, Goldschmeding R, Katsube KI, Lam SC, Lau LF, Lyons K, Naus C, Perbal B, Riser B, Takigawa M, Yeger H. Proposal for a unified CCN nomenclature. *Mol Pathol.* 2003 Apr;56(2):127-128.

[2] Perbal A, Perbal B. The CCN family of proteins: a 25th anniversary picture. *J Cell Commun Signal.* 2016 Sep;10(3):177-190. Epub 2016 Aug 31.

A Role for Netrin in the Matrix

Duygu Ozmadenci

University of California, San Diego,

UNC-6/Netrin was described first time as a guidance cue in *C. elegans* mutants exhibiting an uncoordinated (Unc) phenotype with axon guidance defects [1]. Netrins have been found in vertebrates as well as in invertebrates exhibiting bilateral symmetry. Netrins regulate and direct axonal migration in the developing nervous system from worms to man.

The guidance cues found in axon microenvironment, such as ephrins, slits, semaphorins and netrins, play a crucial role in axon growth and can diffuse as gradients [2]. However, a recent elegant study using conditional Netrin-1 knock-outs to delete Netrin-1 specifically in either the floor plate the ventricular zone demonstrated that the attraction of commissural axons is not actually mediated by a gradient of floor plate-derived Netrin-1 [3]. Instead, Netrin-1 is expressed by neural stem cells localized in ventricular zone and primarily acts locally by promoting growth cone adhesion [3].

This finding strengthens the view that Netrin-1 modulates cell adhesion rather than being a diffusible cue for long-range chemoattraction. Together with observations that Netrins are highly insoluble and deposit readily on the cell or tissue culture surfaces, the results together argue that Netrins form 'gradients' as an ECM, rather than a soluble guidance cue. (con't on page 11)

Off the Presses:

The lymphoid extracellular matrix supports innate immunity

Collagen VII is essential for skin integrity by anchoring the epidermal basement membrane to the dermal interstitial extracellular matrix. Deficiency of collagen VII causes dystrophic epidermolysis bullosa (DEB) – a skin fragility disorder manifested in persistent wounding, soft tissue fibrosis and high propensity for skin cancers.

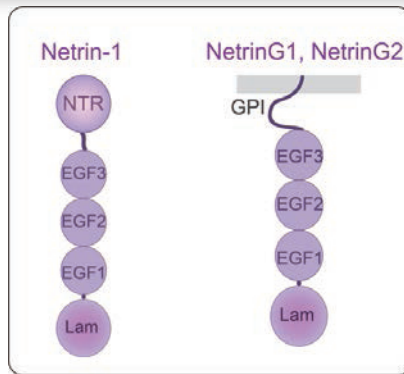
Wound infections – which are common in DEB and have been associated with cancer development in the disease – have so far been assumed to be a consequence of open wounds. Outside the skin collagen VII is present in selected organs, however there is limited understanding about the extracutaneous functions of collagen VII.

Alexander Nystrom and colleagues now describe an unprecedented systemic function of collagen VII as a member of a unique innate immune-supporting multi-protein complex in spleen and lymph nodes. In this complex, collagen VII sequesters the innate immune activator cochlin in the lumen of lymphoid conduits. During bacterial insults the LCCL domain of cochlin is proteolytically removed from the parental molecule and released into the circulation. At the site of infection the LCCL domain activates innate immune cells to increase the antibacterial response of them. In mouse models of DEB, loss of collagen VII increased bacterial colonization by diminishing levels of circulating cochlin LCCL domain. Analysis of skin and serum from human DEB patients confirmed the observations made in mice.

Restoration of collagen VII in spleen, but not in the skin, reactivated peripheral innate immune cells via cochlin and reduced bacterial skin colonization. Notably, systemic administration of the cochlin LCCL domain was alone sufficient to diminish bacterial supercolonization of DEB mouse skin. This study identifies an intrinsic innate immune dysfunction in DEB and uncovers a unique role of the lymphoid extracellular matrix in systemic defense against bacteria.

Full text: Impaired lymphoid extracellular matrix impedes antibacterial immunity in epidermolysis bullosa. Alexander Nyström, Olivier Bornert, Tobias Kühl, Christine Gretzmeier, Kerstin Thriene, Jörn Dengjel, Andrea Pfister-Wartha, Dimitra Kiritsi, and Leena Bruckner-Tuderman *Proc. Natl. Acad. Sci. USA*, doi:10.1073/pnas.1709111115

Mammals have three secreted netrins, Netrin -1, -3, -4, as well as two membrane-tethered netrins, Netrin G1 and Netrin G2. Structurally, the netrins are distantly related to laminins. Netrins contain an amino-terminal laminin-like domain and 3 EGF-like domains, followed by a unique C-terminal region, which is either a GPI-anchor or a unique Netrin related domain (NTR) as shown in Fig 1.



Matrix Biology Europe 2018

The British Society for Matrix Biology, in conjunction with the Wellcome Trust Centre for Cell-Matrix Research will host Matrix Biology Europe 2018 in Manchester, U.K. The dates are July 21-24 and all ASMB members are cordially invited to attend. The conference will be held on The University of Manchester campus and more details of the programme, accommodation and events are available on the meeting website:

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

Further evidence for Netrins as de facto ECM components comes from the suite of receptors that bind to it, which include Integrins, APP, DSCAM, Neogenin & DCC, [4]. Many bind to distinct sites in a noncompetitive manner. Some combinations appear to bind cooperatively. These combinations are important for the cellular response to netrin-binding. For example, netrins can mediate both attraction and repulsion, depending upon whether Unc5b is one of the receptors engaged on the neuronal cells. Studies to date have not exhaustively looked at the multiple combinations of receptors possible, but it is likely that these combinations, rather than individual receptors are key to eliciting responses in nonneuronal cells. For example, stem-cell pluripotency may be similarly regulated [5].

Although Netrin-1 has been identified as a core ECM component [6], rather than simply matrix-associated, it remains unclear which other ECM components it interacts with. It will be interesting to determine in future whether Netrins interact specifically with other components of the ECM, or are instead a loosely associated component.

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An outstanding list of speakers will present their latest research, and we are delighted that the ASMB will host a session on Fibrosis. In addition, support has been obtained from the ISMB. Many short talks will be chosen from the submitted abstracts and in addition there will be ample time allocated for poster sessions and networking. This will be a special meeting as we celebrate 50 years of FECTS (Federation of Connective Tissue Societies) whose first meeting was in Cambridge U.K. in the summer of 1968.

Manchester is easily reached by air from many cities across the world. For those who might be interested in an extended visit to the UK, Manchester is very well placed for access to the Lake District, Yorkshire Dales and the Peak District. We look forward to hosting ASMB members at MBE2018.

With best regards,
John R. Couchman, PhD, FRBS
Chairman, BSMB

ASMB Membership Report

ASMB Membership numbers are strong! With the success of the 2017 Summer Workshop on Basement Membranes and the robust scientific programming of the 2018 Biennial Meeting, it is no wonder ASMB membership is thriving. Building on that momentum, ASMB is rolling out new savings for members. With the 2018 Biennial Meeting just around the corner (registration and abstract submission open this spring.) ASMB members will realize greater discounts than ever. The meeting registration price structure will afford members a significant registration discount plus there will be no abstract submission fees for members. This is just one of many membership initiatives being spearheaded by the ASMB membership committee formed during the 2016 Biennial meeting in St. Petersburg, FL.

Returning members and new colleagues will find ASMB membership a great value for 2018, but they will chose to continue membership after experiencing the warm sense of community and the positive network of colleagues offering support throughout their careers. The ASMB membership committee has worked with Council and the 2018 Meeting Program committee to introduce new opportunities for young members to engage and participate in the development of our community. ASMB will continue its strong tradition of mentorship with several events at the biennial meeting that will give structured support for young investigators in addition to programming opportunities and the informal community building activities. ASMB is committed to nurturing young scientists and providing a community for all matrix biologists to connect and thrive.

In addition to these new member benefits, the ASMB membership committee, with the support of ASMB Council, has proactively explored new partnership and outreach opportunities to underscore the importance of matrix biology, gain interest in our society, and the highlight outstanding research of ASMB members in various platforms, including ASMB sponsored sessions with partnering societies; most recently at the 2017 Tissue Engineering and Regenerative Medicine – Americas annual meeting in Charlotte, NC and the upcoming Society for Biomaterials annual meeting in Atlanta, GA this coming April. Join or renew your membership right away and start experiencing the benefits of the ASMB community.

Tom Barker, Chair ASMB Membership Committee

Positions

New Recruitment Opportunities in the Wellcome Centre for Cell-Matrix Research

The Wellcome Centre for Cell-Matrix Research at the University of Manchester is recruiting new Group Leaders who have an interest in the biology of extracellular matrix. Our vision is to understand the physical, chemical, and temporal crosstalk between cells and the extracellular matrix. We expect to generate profound insights into the mechanisms that regulate tissue assembly and function, and identify the cause of tissue homeostasis dysregulation, which is a major factor in many chronic diseases. We are recruiting new members to the Centre at all levels from early career research fellows to professors, whom we invite to play a leading role in developing the research vision of the Centre. Those wishing to explore this opportunity further (with no obligation) should send a brief summary of how their research ideas would flourish in the Centre, plus a short CV to either:

karl.kadler@manchester.ac.uk (Centre Director) or
anna.fildes@manchester.ac.uk (Centre Administrator).

Post-Doctoral Research Associate, Henry Ford Health System: Department of Orthopaedic Surgery Bone & Joint Center

The Bone & Joint Center at Henry Ford Health System (Detroit, MI) has multiple post-doctoral research associate positions available in orthopaedic research. Successful applicants will have earned a PhD in biomedical engineering, cell biology, molecular biology, biochemistry, or a related field, and will join a multidisciplinary team of investigators with complementary research programs examining various aspects of the musculoskeletal system. Successful applicants will be provided with significant mentorship and will have the opportunity to develop an independent research program. Post-doctoral research associates who demonstrate high levels of productivity and initiative will be considered for a permanent assistant scientist position within the Bone & Joint Center.

http://www.asmb.net/files/2017-09-01_hfhs_bjc_post-doc_announcement.pdf

Contribute Content to the *Matrix Letter*

The *Matrix Letter* includes both news items and research-directed content that fosters the mission of the ASMB:

...to promote basic, translational, and clinical research on the extracellular matrix (ECM), cell-ECM interactions, and ECM-based therapies and devices, and to support the growth and professional development of the ECM research community...

Connecting ASMB researchers with each other based on their research focus is the ultimate goal.

The *Matrix Letter* currently publishes the following categories of content;

Mini-Reviews: The Mini-review features the contributions of a particular lab in the context of a field. Often written by students, postdoctoral fellows or young faculty, the minireview runs about 1.5 pages, with a single scientific illustration and/or a lab photo, and 10 or fewer references.

Essays & Opinions: The purpose of a Matrix Essay is to promote a new or breaking hypothesis in the field of Matrix biology, with the expressed purpose of garnering supporting evidence and collaborators from the greater ASMB membership. Matrix essays are about one running page and may include a single illustration and up to 10 references.

Letters: A letter to the editor should be short and succinct, and will focus on alerting the ASMB membership to recent advances or concerns in our, and related, fields. A letter to the editor is limited to 200 words and three references.

Images: Submissions of particularly aesthetically pleasing or educational images that you are willing to share with the membership. Include a caption explaining the image.

Reference Format

1) Lewis R, Ravindran S, Wirthlin L, Traeger G, Fernandes RJ, McAlinden A. Disruption of the developmentally-regulated Col2a1 alternative splicing switch in a transgenic knock-in mouse model. *Matrix Biol.* 31:214-26, 2012.

We welcome your contributions.

ASMB@faseb.org

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For information about the Society, please contact our President Liliana Schaefer



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