THE DANISH SOCIETY FOR MATRIX BIOLOGY

Newsletter

No. 4, February, 2018

From the Chairman

Happy New Year and welcome to our 1st newsletter of Danish Society of Matrix Biology for 2018!

DSMB is organizing this year 2018 annual meeting on April 16th at Panum with the overall title: "Extracellular matrix remodelling and repair". DSMB has invited 4 great speakers that will cover the topic. Furthermore, we will have 2 company sponsors this year! A special thanks to Tebu-bio that will sponsor with 5000kr to a travel grant for the Matrix Biology Europe 2018 21st-24th July, Manchester. For the travel grant and for the oral presentation, a student will be selected among 4 abstracts. We hope this will encourage and motivate scientific research for the next generation.

We would also like to thank Professor John Couchman for an inspiring piece of writing after his farewell at BRIC at the end of 2017. We are very lucky that he was able to take the time to write this piece and we hope this can provide some tips and advice to our local and overseas young researchers that all the hard work and answering those never-ending questions does pay off.

The Farewell piece by BRIC can be found here: http://www.bric.ku.dk/newslist/news/2017/the-matrix-man---retirement-portrait-of-john-couchman/

Please join us and become a DSMB member (100kr) to enjoy all the membership benefits. We look forward to seeing you at our upcoming DSMB 2018 Annual Meeting on 16th April (Mærsk Tower, University of Copenhagen) and future seminars, and we hope that you will also enjoy our website.

Sincerely,

Christian Couppé

“Getting stuck on Adhesion” – Professor John Couchman

As a new postdoc in the UK getting involved in mammalian cell adhesion and migration for the first time, it was an interesting era. Fibronectin had not long been described in detail, and as a potent promoter of fibroblast adhesion and cytoskeletal organisation, it soon became a focus. In the mid ‘80s, therefore, we described that two domains of fibronectin were involved in promoting the full adhesion response, including the assembly of focal adhesions. These organelles were known from the pioneering work of Michael Abercrombie, and were revealed by interference reflection microscopy and the relatively new technique of immunocytochemistry.

One fibronectin domain promoting focal adhesions was known to be heparin binding, and so the prospect of interactions with cell surface proteoglycans emerged. At that time, these uncharacterised cell surface molecules had already been implicated from biochemistry research in cell adhesion, long before the discovery of integrins. This set the stage for my future career.

Probably everyone in research has those amazing moments that are always remembered, when a result turns up which changes everything. As a new Assistant Professor, now in Birmingham, Alabama, such an event took place when our newly made antibody against the core protein of syndecan-4 lit up focal adhesions. Now the questions that had to be answered were how does it work and why is it required?

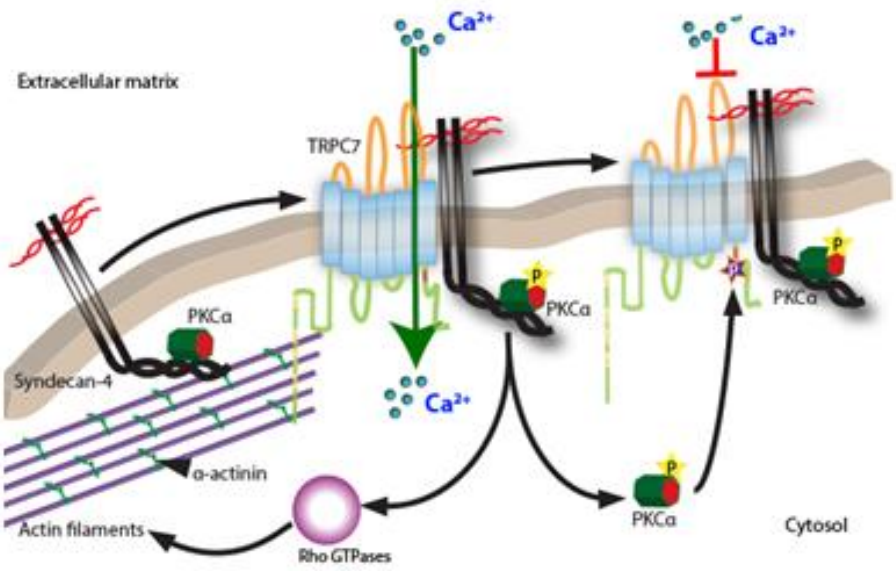
It has certainly been a long road to understand how syndecans function, they do not give up their secrets easily. Along the way we were the first to show that syndecans signal, in the case of syndecan-4, a major route is through protein kinase Cα, another unforgettable milestone discovered by an excellent PhD student. At times, however, it was a tough furrow to plough. Soon after arriving in the US, integrins came on the scene and attracted enormous interest, not surprisingly. As essential focal adhesion components, their roles became a major focus, especially as some human diseases involve defects in integrin function. Justifying syndecan research became a difficult task, not helped by the fact that even today there are no known diseases where mutations in syndecan core proteins occur. By a mixture of luck and persistence my group continued to obtain funding to keep working on the syndecans, but perhaps with the funding climate in Europe and the US today, such a dogged attitude would not be possible.

It took until around 2012, with my move to Copenhagen, for the most surprising breakthrough to occur, when we discovered the first evidence that a major role for syndecans is governing calcium metabolism. Moreover, through a very fortuitous circumstance, Roger Pocock’s group were nearly adjacent to my own, which allowed us to collaborate and show, genetically, that this property was also conserved and present in *C. elegans* syndecan (there is only one in invertebrates unlike the four genes of mammals). From the time of first discovery of the calcium connection to publication was over three years, with many superb people involved. That is a very large number of man-hours!

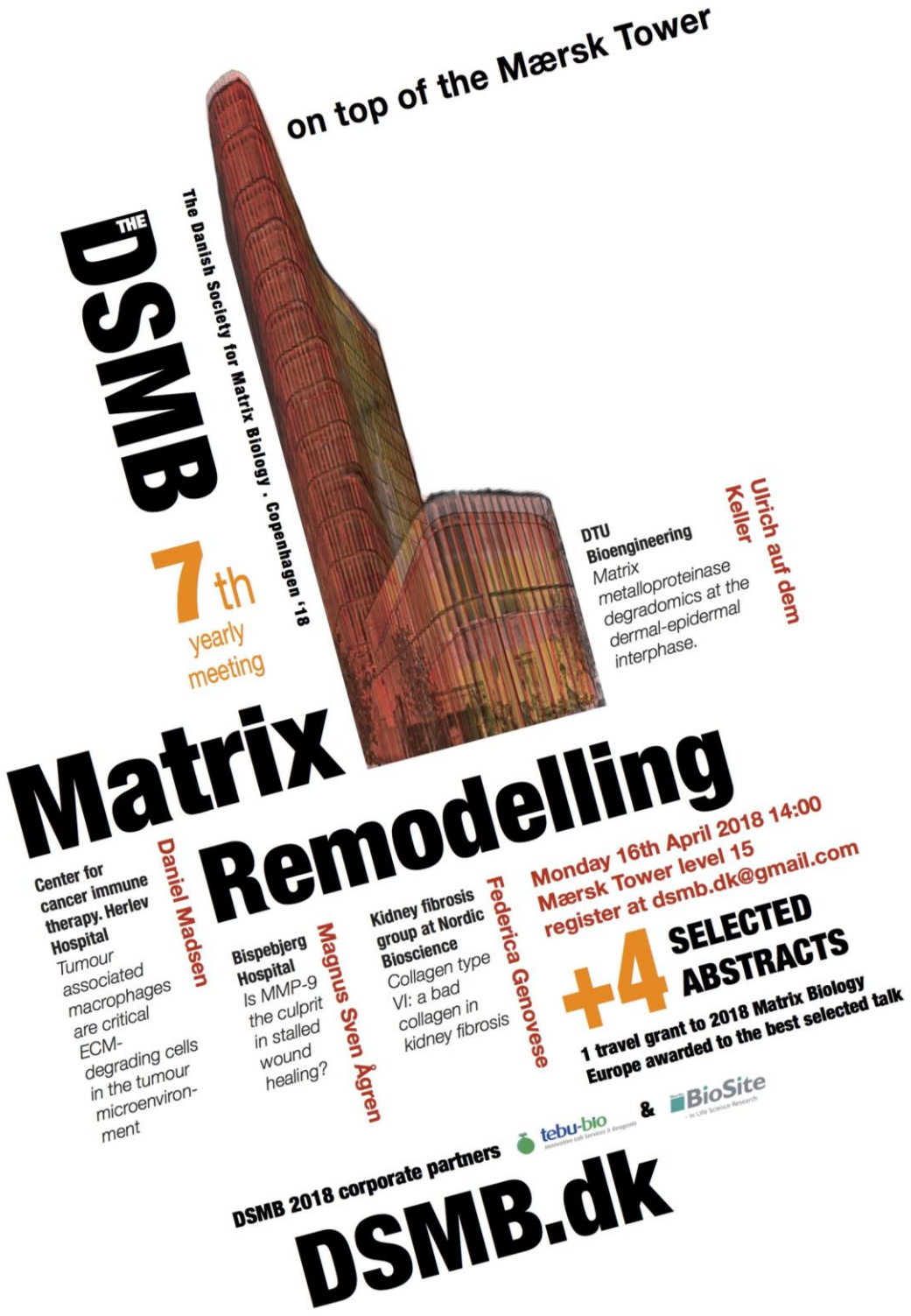
Of course, every result brings with it new questions. How does regulation of calcium impact actin cytoskeleton organisation? Which syndecans control which calcium channels? These are questions for the future, and some will have to be addressed by the next generation. However, quite unforeseen all those years ago when I became captivated (obsessed?) by syndecans, was a potential human disease relevance. It now looks distinctly possible that the syndecan-TRPC channel axis is involved in a common form of heart failure. This is a gratifying turn of events and shows that in the modern era of translational research, basic “blue-skies” approaches remain essential.

Over the years I have been extremely fortunate to work alongside many talented PhD scholars and postdoctoral fellows. Most have remained in science and some have even taken the syndecans to heart and continue to work on them! They are scattered all over the world and I am grateful to them all for their dedication and contributions to the laboratory, both scientific and social. Having worked in the US, UK and latterly Denmark, I have sampled different cultures and working environments. A real perk of being in research is that you can go to many interesting places and meet many interesting people. I have been lucky to do so, and feel very fortunate to have been a matrix biologist at a time of amazing progress in molecular biology, molecular and cellular imaging, genomics and informatics.

John Couchman
January, 2018



Gopal et al. J. Cell Biol. 2015, 210:1199-211 (modified)


on top of the Mærsk Tower
THE DSMB
The Danish Society for Matrix Biology · Copenhagen '18
7th yearly meeting
DTU Bioengineering
Ulrich auf dem Keller
Matrix metalloproteinase degradomics at the dermal-epidermal interphase.
Matrix Remodelling
Center for cancer immune therapy. Herlev Hospital
Daniel Madsen
Tumour associated macrophages are critical ECM-degrading cells in the tumour microenviron-ment
Bispebjerg Hospital
Magnus Sven Ågren
Is MMP-9 the culprit in stalled wound healing?
Kidney fibrosis group at Nordic Bioscience
Federica Genovese
Collagen type VI: a bad collagen in kidney fibrosis
Monday 16th April 2018 14:00
Mærsk Tower level 15
register at dsmb.dk@gmail.com
+4 SELECTED ABSTRACTS
1 travel grant to 2018 Matrix Biology Europe awarded to the best selected talk
DSMB 2018 corporate partners
tebu-bio
&
BioSite
DSMB.dk

2018 Danish Society for Matrix Biology Annual Meeting
Extracellular Matrix Remodelling and Repair

Monday 16th April @ Mærsk Tower, University of Copenhagen
Level 15, room 92, Mærsk Tower (7.15.92), Blegdamsvej 3, 2200 Copenhagen N, Denmark

14.00 – 14.05 Welcome

14.05 – 14.50 Ulrich auf dem Keller (DTU Bioengineering, Technical University of Denmark)
"Matrix metalloproteinase degradomics at the epidermal-dermal interface"

14.50 – 15.20 Magnus Sven Ågren (Bispebjerg Hospital, University of Copenhagen)
"Is matrix metalloproteinase-9 the culprit in stalled wound healing"

15.20 –15.35 selected abstract
15.35 – 15.50 selected abstract

15:50 – 16:15 coffee break *(sponsored by Nordic BioSite)*

16:15 – 16:45 Federica Genovese (Kidney Fibrosis Group, Nordic Bioscience A/S)
"Collagen type VI: a bad collagen in kidney fibrosis"

16:45 – 17:15 Daniel H. Madsen (Center for Cancer Immune Therapy, Herlev Hospital)
"Tumor-associated macrophages are critical ECM-degrading cells in the tumor microenvironment"

17.15 – 17.30 selected abstract
17.30 – 17.45 selected abstract

17.45 Closing and network over cheese & wine *(sponsored by Nordic BioSite)*
17.45 – 18.00 DSMB AGM

Abstract submission for oral presentation and travel grant deadline: Friday 9th March, 2018 noon (CET zone UTS +01:00). Abstract is limited to 2000 characters (including space) excluding the title, authors, affiliations and any references. Please also indicate your stage and position (eg. 2nd or 3rd year PhD or postdoc, etc). **Please submit abstract and register by email: dsmb.dk@gmail.com** . Registration is free for DSMB members or you can become a member for 100 dkr (annual membership). **Travel grants award:** DSMB will award the best student oral presentation with a travel grant worth 5000 dkr (sponsored by Tebu-Bio) to attend 2018 Matrix Biology Europe, Manchester, UK. You will need to be a DSMB member to be eligible.
Thank you to our sponsors:

Membership

This year, we would like to be able to expand the membership benefits to allow members to be eligible for travel grants, to help young scientists attend various local and international matrix biology meetings including the 2018 Matrix Biology Europe (Manchester, UK) and future, BSMB, GRS/GRC meetings.

Therefore, we need your continued support by becoming and/or renew your DSMB membership for only 100 dkr per annum. We also appreciate any extra donation and will acknowledge your contribution in our next newsletter. You can pay by:

1) Transferring via MobilePay to ***46151*** *(Danish Society for Matrix Biology) and* ***WRITE "DSMB, Your NAME AND EMAIL ADDRESS".***

OR

2) Transferring to the DSMB bank account: Reg: 1551 Account: 1227130 (Danske bank). Please indicate ***"DSMB membership" on your bank transfer and write an email to our treasurer Abbas Jafari (ajafari@sund.ku.dk) to let him know who you are and that you have paid the membership fee.***

Upcoming meetings

The Danish Society for Matrix Biology Annual Meeting
16th April 2018, University of Copenhagen, Copenhagen, Denmark
https://www.dsmb.dk/

3rd Matrix Biology Europe – Celebrating 50 years of FECTS
21st-24th July, 2018, University of Manchester, Manchester, UK
http://www.confercare.manchester.ac.uk/events/mbe2018/

The Nordic Proteoglycan Meeting
15th-16th May, Oslo, Norway
http://norheart.no/nordic-proteoglycan-meeting-2018/

2018 eCM XVIII
Cartilage & Disc: Repair and Regeneration
25th-26th June, Davos, Switzerland
http://norheart.no/nordic-proteoglycan-meeting-2018/

2018 GRS and GRC on Proteoglycans
Proteoglycans in Homeostasis and Disease: Cracking the PG Code
7th-13th July 2018, Proctor Academy, Andover, NH, USA
https://www.grc.org/proteoglycans-grs-conference/2018/
https://www.grc.org/proteoglycans-conference/2018/

2018 American Society of Matrix Biology Biennial Meeting
ECM Microenvironments in Disease, Aging and Regeneration
14th-18th October 2018, Red Rock Casino, Las Vegas, NV, USA
http://www.asmb.net/current-meeting