

Final Programme

Pre-Meeting for Junior Researchers

Organizers:

Zsuzsa Jenei-Lanzl (Frankfurt), Dominique Muschter (Regensburg), Julian Nüchel (Cologne)

Wednesday, 18.03.2020

18:00 - 00:00 Social Event (City Alm, Carl-Theodor-Reiffenstein-Platz 5, 60313 Frankfurt)

Thursday, 19.03.2020 (Lecture Hall HS8, Campus Bockenheim, Mertonstr. 17-21, 60325 Frankfurt)

09:00 - 10:30 Junior Session I (Chairs: Julian Nüchel (Cologne) & Svenja Kleiser (Freiburg))

09:00 - 09:15 Introduction

09:15 - 09:30 Caroline Poremba (Cologne)

Efficient secretion of large ECM molecules requires the presence of TANGO1 and HSP47

09:30 - 09:45 Jana Riegger-Koch (Ulm)

Investigation of vimentin externalization on human chondrocytes and its connection to osteoarthritis

09:45 - 10:00 Annkatrin Correns (Cologne)

Targeting BMP inhibitors to the fibrillin scaffold

10:00 - 10:15 Temitope Esho (Cologne)

Characterization of AMACO and other basement membrane associated Fraser complex proteins

10:15 - 10:30 Nourhan Hassan (Münster)

The role of heparan sulfate proteoglycan syndecan-1 in radiation resistance of breast cancer in relation to cell cycle checkpoint regulators and DNA repair mechanisms

10:30 - 11:00 Coffee Break

11:00 - 12:30 Junior Session II (Chairs: Katrin Hildebrandt (Cologne) & Katrin Maly (Frankfurt))

11:00 - 11:15 Niklas Wagner (Frankfurt)

Cleavage of cartilage extracellular matrix proteins by osteoarthritis-relevant matrix metalloproteases

- 11:15 - 11:30 Svenja Kleiser (Freiburg)
Analysis of stiffness and collagen deposition in recessive dystrophic epidermolysis bullosa
- 11:30 - 11:45 Hanna Tritschler (Ulm)
Multi-modified xenogenic chondrocytes or cartilage might be a promising cell/tissue source for cartilage regeneration
- 11:45 - 12:00 Shushan Li (Regensburg)
Effects of hMSC-derived exosomes on chondrocytes from osteoarthritic patients
- 12:00 - 12:15 Johannes Kupka (Frankfurt)
Adrenoceptor expression during intervertebral disc degeneration
- 12:15 - 12:30 Concluding remarks
- 12.30 - 14.00 Lunch Break**

Main Meeting

(HS8, Hörsaalgebäude Campus Bockenheim, Mertonstr. 17-21, 60325 Frankfurt)

Thursday, 19.03.2020

11:00 - 18:00 Registration (Foyer Hörsaalgebäude)

14:15 - 14:30 Welcome and Opening by Liliana Schäfer (Frankfurt) & Frank Zaucke (Frankfurt)

Session I: PROTEIN SECRETION (Chairs: Rita Dreier (Münster) & Julian Nüchel (Cologne))

14:30 - 15:00 Invited Lecture: Ishier Raote, Barcelona

TANGO1 in collagen secretion: function and dysfunction

15:00 – 15:45 3 Short talks selected from the abstracts

15:00 - 15:15 Julia Etich (Frankfurt)

The extracellular matrix in non-classical osteogenesis imperfecta

15:15 - 15:30 Carolin Freiburg (Cologne)

Characterization of a novel gain of malfunction mutation in an intron of *COL6A1*

15:30 - 15:45 Matthias Przyklenk (Cologne)

Anthrax receptor 1 collagen VI interactions revisited

15:45 - 16:15 Coffee Break

Session II: MUSKULOSKELETAL BIOLOGY (Chairs: Beate Eckes (Cologne) &)

16:15 - 16:45 Invited Lecture: Qing-Jun Meng, Manchester

Circadian rhythms in health and disease of the musculoskeletal system

16:45 - 17:30 3 Short talks selected from the abstracts

16:45 - 17:00 Mengjie Zhu (Cologne)

Collagen XII – a novel stabilizer for extracellular matrix of the musculoskeletal system

17:00 - 17:15 Kathrin Maly (Frankfurt)

Differential roles of TSP-4 and COMP in cartilage

17:15 - 17:30 Christin Adamo (Cologne)

Effects of EMILIN-1 deficiency on collagen homeostasis

17:30 - 18:00 Short Break

Keynote Lecture

18:00-19:00: Matthew Warman, Boston

The contribution of chondrocytes to cartilage formation and degeneration

19:00-22:00 Welcome Reception and Poster Session

(Hörsaalgebäude, Campus Bockenheim)

Friday, 20.03.2020

Session III: MECHANOBIOLOGY (Chairs: Anja Niehoff (Cologne) & N.N.)

09:00 - 09:30 Invited Lecture: Andy Pitsillides (London)

Mechanical interplay across the osteochondral junction

09:30 – 10:00 Maria Dzamukova (Berlin)

Body weight limits bone growth via inhibition of angiogenesis

10:00 - 10.15 Jana Riegger-Koch (Ulm)

Influence of statins on cartilage homeostasis after traumatic loading and during chondrocyte differentiation

10:15 - 10.45 *Coffee Break*

Session IV: GROWTH FACTORS (Chairs: Gerhard Sengle (Cologne) & N.N.)

10:45 - 11:15 Invited Lecture: Petra Knaus (Berlin)

Converting force into BMP/TGFbeta signaling: mechano-biology meets biochemistry

11:15 - 11:30 3 Short talks selected from the abstracts

11:15 - 11:30 Laura-Marie Zimmermann (Cologne)

BMP driven mechanisms in aortic aneurysm formation caused by fibrillin-1 deficiency

11:30 - 11:45 Charikleia Spanou (Cologne)

Structural requirements for the regulation of BMP bioactivity by heparin

11:45 – 12:00 Johannes Eble (Münster)

Extracellular redox regulation of $\alpha 7\beta 1$ integrin-mediated cell migration is signaled via a dominant thiol-switch

12:00 - 13:00 *Lunch Break (Mensa, Campus Bockenheim)*

13:00 - 14:00 *Poster Session*

Session V: DEVELOPMENT (Chairs: N.N.)

14:00 - 14:30 Invited Lecture: Didier Stainier (Bad Nauheim)

Biological robustness: genetic compensation and transcriptional adaptation

14:30 - 15:15 3 Short talks selected from the abstracts

14:30 - 14.45 Kristina Bubb (Cologne)

Dysfunctional mitochondria in femoral head development

14:45 - 15.00 Katrin Schönborn (Cologne)

Collagen XII – a modulator of skin homeostasis

15:00 - 15.15 Anna de Guisepe (Münster)

Loss of collagen-binding-integrin $\alpha 11\beta 1$ attenuates joint destructions in arthritic hTNFtg mice

15:15 - 15:45 Coffee Break

Session VI: CONNECTIVE TISSUE DISORDERS (Chairs: Julia Etich (Cologne) & N.N.)

15:45 - 16:15 Invited Lecture: Sandra Pohl (Hamburg)

Skeletal matrix degradation in lysosomal storage disorders

16:15 - 17:00 3 Short talks selected from the abstracts

16:15 - 16:30 Eijiro Akasaka (Freiburg)

The mechanisms underlying elevated TGF- β signaling in recessive dystrophic epidermolysis bullosa

16:30 - 16:45 Uwe Hansen (Münster)

Organization of lamellae in the corneal stroma: new insights in the pathomechanism of keratoconus

16:45 - 17:00 Karima El Bagdadi (Frankfurt)

Sympathicus exhibits differential effects on articular cartilage, synovium and subchondral bone during osteoarthritis development

17:00 – 17:10 Short break

Young Investigator Award Session

Chairs: Thomas Krieg (Cologne) & Mats Paulsson (Cologne)

17:10 - 18:30 4 Talks of Selected Candidates

17:10 - 17:30 Stefanie Heumüller (Cologne)

Novel insights into the C-terminal proteolytic cleavage of the collagen VI α 3 chain

17:30 - 17:50 Ping Li (Munich)

Mice lacking the matrilin family of extracellular matrix proteins develop mild skeletal abnormalities and are susceptible to age-associated osteoarthritis

17:50 - 18:10 Dominique Manikowski (Münster)

Soluble heparin and heparan sulfate glycosaminoglycans interfere with sonic hedgehog solubilization and receptor binding

18:10 - 18:30 Aline Zbinden (Stuttgart)

A human pancreas-on-a-chip model for non-invasive marker-independent high content analysis of β -cells

18:30 - 19:30 Business Meeting of the German Society for Matrix Biology

20:00 - 00:00 Conference Dinner (Restaurant Oberschweinstiege, Oberschweinstiegschneise 65, 60598 Frankfurt)

Saturday, 21.03.2020

Session VII: CANCER (Chairs: Alexander Nyström (Freiburg) & N.N.)

09:00 - 9:30 **Invited Lecture: Gertraud Orend (Straßburg)**

Immune regulating roles of tenascin-C in cancer

09:30 - 10:30 4 Short talks selected from the abstracts

09:30 - 09:45 Jessica Morgner (Amsterdam)

Lamb1Dendra2 – a new mouse model to study basement membrane dynamics *in vivo*

09:45 - 10:00 Martin Götte (Münster)

Impact of syndecan-1 (CD138) on the lateral transmission of aggressive breast cancer cell behavior

10:00 - 10:15 Elke Pach (Cologne)

The deletion of MMP-14 in fibroblasts leads to peritumoral matrix alterations that do not support migration and proliferation of melanoma cells

10:15 - 10:30 Sabine Stöckl (Regensburg)

SOX9 is a survival factor in chondrosarcoma and contributes to polyploidy, drug resistance and tumor malignancy

10:30 - 11:00 **Coffee Break**

Session VIII: CLINICAL TRANSLATION (Chairs: N.N.)

11:00 - 11:30 **Invited Lecture: Dirk Henrich (Frankfurt)**

From two stages to one stage: treatment of large bone defects by replacement of the induced membrane with human acellular dermis

11:30 - 12:15 3 Short talks selected from the abstracts

11:30 - 11:45 Oliver Bornert (Freiburg)

QR-313, an antisense oligonucleotide, shows therapeutic efficacy for treatment of dominant and recessive dystrophic epidermolysis bullosa

11:45 - 12:00 Melanie Brand (Münster)

The $\alpha 2\beta 1$ integrin-dependent collagen synthesis is linked to the TGF- β superfamily

12:00 - 12:15 Ursula Kreuser (Heidelberg)

Short initial WNT/b-catenin stimulation improves extracellular matrix expression and condensation during iPSC chondrogenesis

12:15 **Concluding remarks and end of conference**