IRTG SUMMER SCHOOL

`Proteases & Pathophysiology´

Foyer and lecture hall E60 of the Biological Institute of the CAU Kiel (Bioturm),
Am Botanischer Garten 5-9, Kiel

Program:

Wednesday, 16 Sept 2015

16:00 Registration

17:00 Welcome

Stefan Rose-John
Speaker of the CRC

Frederike Schmidt & Ann-Christine Loock
(IRTG representatives)

17:15 Plenary lecture

Chair: Frederike Schmidt

Gillian Murphy (CRUK-CI Cambridge)
'Perspectives on proteases: Regulators of form and function'

networking & poster viewing
Thursday, 17 Sept 2015

Session 1: Proteolysis & Cancer

Chair: Anne Luzius & Anselm Sommer

9:00 – 9:45 Plenary lecture

Marie Kveiborg (BRIC Copenhagen)

'ADAMs - Important cell surface regulators in cancer'

9:45 -10:00

Kasper Mygind (BRIC Copenhagen)

'ADAM9 regulates cancer cell invasion via destabilization of $\alpha_2\beta_1$ Integrin'

10:00 – 10:15

Julia Bolik (CAU Kiel)

'A Disintegrin and Metalloprotease (ADAM) 17 in the metastatic niche is crucial for metastasis to the lung'

10:15-10:30

Stefanie Schmidt (CAU Kiel)

'Physiological relevance of ADAM17 in the development of intestinal cancer'

10:30 – 11:00 coffee break & poster viewing
Thursday, 17 Sept 2015

Workshop I: Mass Spectrometry

Chair: Tomas Koudelka & Florian Bleibaum

11:00 – 11:45 Plenary lecture

**Oliver Schilling** (ALU Freiburg)

'Application of proteomic techniques for the investigation of proteolytic systems'

11:45-12:00

**Steffen Riethmüller** (CAU Kiel)

'Molecular analysis of the human Interleukin-6-receptor by 18-O labelling and LC-MS'

12:00-12:15

**Rielana Wichert** (CAU Kiel)

'Shedding of meprin-β by ADAM proteases in the small intestine'

12:15 – 13:15 lunch
Thursday, 17 Sept 2015

Session 2: Intramembrane Proteases

Chair: Ann-Christine Loock & Hermann Altmeppen

13:15 - 14:00 Plenary lecture

Christian Haass (LMU Munich)
'η-secretase processing of APP inhibits neuronal activity in the hippocampus'

14:00 – 14:15

Johannes Trambauer (LMU Munich)
'Generation and deposition of Aβ43 by the virtually inactive presenilin-1 L435F mutant contradicts the presenilin loss of function hypothesis of Alzheimer’s disease'

14:15-14:30 break

14:30-14:45

Caroline Schönherr (JGU Mainz)
'Increased meprin β protein levels in AD brains may result in the generation of N-terminal truncated Aβ'

14:45 – 15:00

Sriram Balusu (VIB Ghent)
'Amyloid β oligomers disrupt blood-cerebrospinal fluid barrier integrity by activating matrix metalloproteinases'

15:00-15:15

Torben Mentrup (CAU Kiel)
'Dectin-1 signaling is regulated by SPPL2 mediated intramembrane proteolysis'

15:15-15:45 coffee break

poster viewing
Session 3: Proteolysis & Inflammation

Chair: Rielana Wichert & Sarah Habig

15:45 - 16:30 Plenary lecture
Stefan Rose-John (CAU Kiel)
'ADAM17 orchestrates inflammation and cancer'

16:30 – 16:45
Marlene Jentzsch (IKMB Kiel)
'Functional characterization of ORMDL3 in ER stress and intestinal inflammation'

16:45-17:00
Neele Schumacher (CAU Kiel)
'IL-6 trans-signaling and ADAM-mediated proteolysis in acute inflammation'

17:00-17:15
Juliane Lokau (CAU Kiel)
'Role of the metalloprotease ADAM10 in IL-11 Signalling'

17:15 Poster session

dinner at the “Deichperle”

transfer to the dyke by two bus rides:
departure at 18:30 and 19:15

The restaurant is an outdoor location near to the beach.

Wrap up warm in scarfs and jackets!
Session 4:  Regulation and Structural Aspects of Proteolysis

Chairs: Anna Otte & Torben Mentrup

9:00 - 9:45 Plenary lecture  
**Walter Stöcker** (JGU Mainz)  
'Control of astacin metalloproteases by plasma fetuins'

9:45 - 10:00  
**Raffaella De Pace** (UKE Hamburg)  
'Site-1 protease-dependent transport of lysosomal enzymes'

10:00-10:15  
**Andrew Newman** (Cardiff University)  
'The regulation of L-selectin activity by proteolysis'

10:15-10:30  
**Frederike Schmidt** (CAU Kiel)  
'Regulation of meprin beta activity at the cell surface'

10:30-10:45  
**Guido Hansen** (UKSH Lübeck)  
'DegQ – a protein quality control factor in the bacterial periplama'

10:45 – 11:15 coffee break
Workshop II: Microscopy & Imaging

Chairs: Raffaella De Pace & Johaiber Fuchslocher-Chico

11:15 – 12:00 Plenary lecture
Dennis Eggert (MPSD+HPI Hamburg)
'Beyond the resolution limit - application of super-resolution microscopy in biology'

12:00-12:15
Alexander Fischer (UKE Hamburg)
'Intravital micropscopy: more than just looking into a mouse'

12:15-12:30
Jana Humbert (UKSH Kiel)
'Cathepsin as a biomarker for inflammation imaging'

12:30-12:45
Anselm Sommer (UKSH Kiel)
'Phosphatidyl serine exposure represents the final trigger for ADAM17 mediated proteolysis'

12:45 Closing remarks
Frederike Schmidt & Ann-Christine Loock (Student representatives)

13:00 farewell lunch