

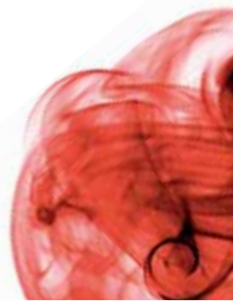
**International Symposium
Precision Medicine
in Chronic Inflammation
of the Cluster of Excellence
„Inflammation at Interfaces“**

**March 26/27, 2018
Hamburg, Germany**

PROGRAM

Precision Medicine in Chronic Inflammation

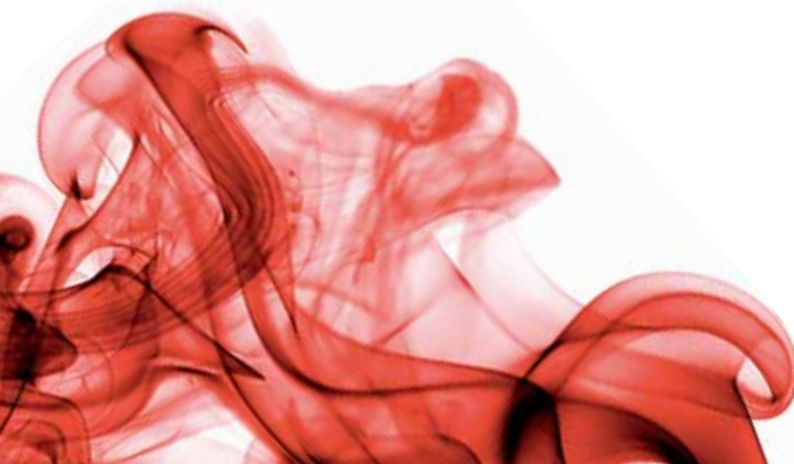
From Pathophysiology to Treatment Decision



Since 2007, the Cluster of Excellence “Inflammation at Interfaces” has been setting new standards in our field of research. Many existing new insights into pathophysiology and new therapeutic targets are awaiting translation into clinical evaluation and eventual use on patients. The development of precision medicine in inflammation is therefore the next chapter.

Our concept of precision medicine includes the patient’s genome, gene and protein expression, metabolic markers and, as a rather recent development, the personal microbiome. We see the role of the microbiome as a risk factor, an important modifier for success of therapies and as a biomarker to serve as therapeutic endpoints.

The Cluster will bring together a broad diversity of scientists and topics for the 2018 International Cluster Symposium “Precision Medicine in Chronic Inflammation – From Pathophysiology to Treatment Decision”. Nine sessions, from genome diversity to microbiomes, models of



inflammation, nutritional metabolism to ethics and economic challenges intend to cover several aspects of precision medicine.

Participants will benefit from formal talks and many informal conversations, exchange of knowledge and international cooperation. All participants may present their topics in poster sessions; the three best posters will be awarded with prizes.

Executive Group of the Cluster

Stefan Schreiber
Institute of Clinical Molecular Biology
UKSH Campus Kiel

Enno Hartmann
Institute of Biology
Universität zu Lübeck

Ulrich Schaible
Cellular Microbiology
Research Center Borstel

WELCOME
10:30 - 11:00

Welcome coffee / Registration
[Foyer "Alsterarkaden, Colonnaden", ground floor]

11:00 - 11:15

Welcome address **Stefan Schreiber**,
Speaker of the Cluster of Excellence
"Inflammation at Interfaces"
[Hall "Alsterarkaden", ground floor]

SESSION



GENOMIC DIVERSITY OF CIBD

Chair: Wolfgang Lieb, Kiel University
[Hall "Alsterarkaden", ground floor]

11:15 - 11:35

Jeanette Erdmann, University of Lübeck
Update on CAD genetics – from single families to large-scale GWAS

11:35 - 12:00

Jan Freudenberg, Regeneron Genetics Center, Tarrytown, US
*Large-scale exome sequencing for inflammatory diseases –
Opportunities and challenges for drug discovery*

12:00 - 12:25

Kenneth Croitoru, University of Toronto, CA
GEM Project: In search of the cause of Crohn's disease

12:30 - 13:30

LUNCH *[Restaurant "Fleet", ground floor]*

SESSION



EVOLUTION AND ECOLOGY OF MICROBIOMES

Chair: Hinrich Schulenburg, Kiel University
[Hall "Alsterarkaden", ground floor]

13:30 - 13:50

Stefan Niemann, Research Center Borstel
*Evolution and transmission of multidrug resistant
M. tuberculosis strains*

13:50 - 14:15

Sébastien Gagneux, SwissTPH, Basel, CH
Genome evolution of Mycobacterium tuberculosis

14:15 - 14:40

Craig Winstanley, University of Liverpool, UK
*The evolution of Pseudomonas aeruginosa populations
in the Cystic Fibrosis lung*

SESSION



INDIVIDUALIZED CELLULAR MODELS AND EPIGENETIC SIGNATURES OF INFLAMMATION

Chair: Franz-Josef Müller, Kiel University
[Hall "Alsterarkaden", ground floor]

14:45 - 15:05

Philip Rosenstiel, Kiel University
*Intestinal epithelial cells – epigenetic signatures, microbiota
and intestinal inflammation*

15:05 - 15:30

Henk Stunnenberg, Radboud University Nijmegen, NL
Epigenetic marks, immunity and human disease

15:30 - 15:55

Mamoru Watanabe, Tokio, JP
*Organoids as a therapy resource –
from clinical trail in a dish to engraftment*

16:00 - 16:30

COFFEE BREAK *[Foyer "Alsterarkaden, Colonnaden", ground floor]*

CLINICAL AND NUTRITIONAL METABOLOMICS

Chair: Karin Schwarz, Kiel University

[Hall "Alsterarkaden", ground floor]

IV
SESSION

Matthias Laudes, Kiel University

*Metabolic Inflammation –
a potential novel treatment target for CIBD*

16:30 – 16:50

Cédric Laczny, LCSB, Luxembourg, LU

*Systems Ecology of the Human Gut Microbiome
in Health and Disease*

16:50 – 17:15

Anthony Whetton, University of Manchester, UK

Protein Biomarkers for Precision Medicine

17:15 – 17:40

EXPERIMENTAL MODELS OF INFLAMMATION

Chair: Jörg Köhl, University of Lübeck

[Hall "Alsterarkaden", ground floor]

V
SESSION

Ralf Ludwig, University of Lübeck

Individualized mouse models

17:45 – 18:05

Taeko Noah, Cincinnati Children's Hospital, US

Intestinal Epithelial Allergen Sampling and Food Allergy

18:05 – 18:30

Ralf Baumeister, University of Freiburg, DE

C. elegans models of signaling: Pathways, targets, drugs

18:30 – 18:55

KEY NOTE LECTURE

Chair: Stefan Schreiber, Kiel University

Friedrich von Bohlen und Halbach, dievini, Walldorf, DE

Precision Medicine in Healthcare and Drug Development

19:00 – 19:45

POSTER SESSION / BUFFET

[Hall "Über den Dächern von Hamburg", 8th floor]

20:00 – 23:00

International Cluster Symposium

**Precision Medicine in Chronic Inflammation -
From Pathophysiology to Treatment Decision**



SESSION **VI**

SEQUENCE-BASED PROFILING

Chair: Frank Kaiser, University of Lübeck

[Hall "Alsterarkaden", ground floor]

08:15 – 08:35

Andre Franke, Kiel University
5 Years in a Nutshell: Nucleotide Lab Evolution to a Comprehensive Center for Genome Analysis

08:35 – 09:00

Ivo Gut, University of Barcelona, ES
Multi-omics and human diseases

09:00 – 09:25

Ann-Christine Syvänen, Uppsala University, SE
Genomic analyses of systemic lupus erythematosus (SLE)

SESSION **VII**

MULTISCALE IMAGING

Chair: Magdalena Rafecas, University of Lübeck

[Hall "Alsterarkaden", ground floor]

09:30 – 09:50

Robert Huber, University of Lübeck
New Horizons of imaging technology for inflammation

09:50 – 10:15

Uwe Himmelreich, KU Leuven, BE
In vivo Molecular Imaging of Inflammation

10:15 – 10:45

Jürgen Popp, Leibniz-IPHT, Jena DE
Modern Optics in Medicine

10:45 – 11:00

POSTER AWARD PRESENTATION

11:00 – 11:30

COFFEE BREAK [Foyer "Alsterarkaden, Colonnaden", ground floor]

SESSION **VIII**

THEORETICAL MODELS OF INFLAMMATION

Chair: Hauke Busch, University of Lübeck

[Hall "Alsterarkaden", ground floor]

11:30 – 11:50

Christoph Kaleta, Kiel University
Model-based approaches for designing personalized therapies in inflammation medicine

11:50 – 12:15

Robert Beardmore, University of Exeter, UK
Antibiotic resistance evolution: different dosages maximise selection for different resistance mechanisms (a case study with erythromycin)

12:15 – 12:40

Julio Vera-González, University Erlangen-Nürnberg, DE
The use of systems approaches in the design and personalization of anti cancer immunotherapy

12:30 - 13:30

LUNCH [Restaurant "Fleet", ground floor]

ETHICS, COMMUNICATION AND ECONOMICS

Chair: Christoph Rehmann-Sutter, University of Lübeck
[Hall "Alsterarkaden", ground floor]

IX SESSION

Cornelius Borck , University of Lübeck <i>Interdisciplinary Research and Translation Problems in Precision Medicine</i>	13:30 – 13:50
Ursula Klingmüller , German Cancer Research Center (DKFZ), Heidelberg, DE <i>Ethics, bio-politics and regulation of precision medicine</i>	13:50 – 14:15
Ingrid Metzler , University of Vienna, AT <i>Challenges of Precision Medicine for ELSA Research and Governance</i>	14:15 – 14:40
CONCLUSIONS / FAREWELL Stefan Schreiber	14:45 – 15:00
END OF THE MEETING	15:00



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