

CMMC

Annual Retreat

February 16 -17, 2022

CMMC CENTER FOR
MOLECULAR MEDICINE
COLOGNE



**UNIKLINIK
KÖLN**

Short Talk
Sessions

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CMMC Annual Retreat 2022

The Digital Program of the CMMC Annual Retreat 2022 organized via Zoom-Meeting integrates

- Feb. 16, 2022: Welcome Address, 18 short talks of CMMC Principal Investigators and the CMMC Lecture
- Feb. 17, 2022: CMMC Report, two workshops organized by CMMC Junior Research Group and CAP Leaders

Following formats will be provided

- Interactive virtual participation with live Q&A during the sessions and workshops
- Breakout rooms to further promote the scientific exchange and networking

Please register online

- <https://cmmc-registration.uni-koeln.de/annualretreat/>

February 16, 2022

8:30 - 9:45 a.m. **Meeting of the CMMC Executive Board**
for members of the EC Board only via Zoom Meeting

10:00 - 10:10 a.m. **Welcome Address**
Thomas Benzing - Chair of the CMMC

Short Talk Sessions

Session I **Molecular Mechanisms of Diseases**

- 10:10 - 10:15 a.m. **Introduction of the Research Area - Brunhilde Wirth | Björn Schumacher (Chairs)**
- 10:15 - 10:30 a.m. **Failed translation at the ER membrane: cellular strategies and disease implications**
Débora B Trentini Schmidt – Lab. of Protein Quality Control and Stress Response I
CMMC - assoc. JRG 05
- 10:30 - 10:45 a.m. **TAU and mitochondria in neurodegenerative diseases: Human iPSC-derived neurons and gene therapy approaches**
Hans Zempel – Functional Genetics of Neurodegeneration I Institute of Human Genetics
- 10:45 - 11:00 a.m. **Metabolic rewiring in the naked mole-rat**
Jane Reznick – CECAD Research Center
- 11:00 - 11:10 a.m. *Digital Coffee Break*
- 11:10 - 11:25 a.m. **Characteristics, origin and potential for cancer diagnostics of ultrashort plasma cell-free DNA**
Robert Hänsel-Hertsch – Lab. of Genome Biology I CMMC - JRG 10
- 11:25 - 11:40 a.m. **Quantitative image analysis in cancer research**
Katarzyna Bozek – Lab. of Data Science of Bioimages I CMMC - assoc. JRG 04
- 11:40 - 11:55 a.m. **Structural insights into epigenetic multi-subunit complexes**
Simon Pöpsel – Lab. of Structure and Biochemistry of Epigenetic Regulators I CMMC - JRG 11
- 11:55 - 12:05 p.m. Panel discussion with the speakers
- 12:05 - 12:30 p.m. *Digital Lunch Break*

Session II

Inflammation in Tissue Repair and Cancer

- 12:30 - 12:35 p.m. **Introduction of the Research Area - Sabine Eming and Silvia von Karstedt (Chairs)**
- 12:35 - 12:50 p.m. **Cell death in tissue repair and viral responses**
Alessandro Annibaldi – Lab. of Cell Death, Inflammation and Immunity I CMMC - JRG 12
- 12:50 - 1:05 p.m. **Linear ubiquitination at the crossroad of cell death and inflammation during obesity**
Nieves Peltzer – Department of Translational Genomics and Lab. of Cell Death and Inflammation in Health and Disease I assoc. CMMC - JRG 06
- 1:05 - 1:20 p.m. **Involvement of p62-Keap1-Nrf2 axis in liver injury and hepatocarcinogenesis**
Vangelis Kondylis – Institute for General Pathology and Pathological Anatomy I CMMC - assoc. RG 12
- 1:20 - 1:30 p.m. *Digital Coffee Break*
- 1:30 - 1:45 p.m. **The role of limbal epithelial stem cells in corneal lymphangiogenic privilege and pterygium**
Maria Notara – Clinic of General Ophthalmology I CMMC - CAP 15 and A 06
- 1:45 - 2:00 p.m. **Targeting innate immune pathways in lung cancer**
Johannes Brägelmann – MSSOC & Dept. of Translational Genomics & Inst. for General Pathology and Pathological Anatomy I CMMC - CAP 18
- 2:00 - 2:15 p.m. **The STING of DEATH: a cycle full of CINs**
Gianmaria Liccardi – Center for Biochemistry - Medical Faculty
- 2:15 - 2:25 p.m. Panel discussion with the speakers
- 2:25 - 2:40 p.m. *Digital Coffee Break*

Session III

Role of Immunity in Diseases

- 2:40 - 2:45 p.m. **Introduction of the Research Area - Michal-Ruth Schweiger | Axel Hillmer (Chairs)**
- 2:45 - 3:00 p.m. **Enhancing endogenous T cell responses to shared antigens in esophago-gastric cancer**
Hans A Schlöber – Clinic of General, Visceral, Tumor and Transplantation Surgery I CMMC - CAP 12
- 3:00 - 3:15 p.m. **Inflammasome signaling in COVID-19 and SARS-CoV-2 vaccination**
Jan Rybniker – Clinic I of Internal Medicine I CMMC - CAP 08
- 3:15 - 3:30 p.m. **TRI-IT – a novel tripartite immunotherapy for lung cancer**
Sven Borchmann – Clinic I of Internal Medicine
- 3:30 - 3:40 p.m. *Digital Coffee Break*
- 3:40 - 3:55 p.m. **Functional arrayed Crispr/Cas9 screen identifies novel protein kinase targets in tumor-supportive macrophages**
Phuong-Hien Nguyen – Clinic I of Internal Medicine I CMMC - CAP 19 & A 04
- 3:55 - 4:10 p.m. **Olfactory receptor 2 as mediator of macrophage responses in cardiovascular disease**
Holger Winkels – Clinic III of Internal Medicine
- 4:10 - 4:25 p.m. **BTLA in the pathogenesis of glomerulonephritis**
Sebastian P Brähler – Kidney Research Center Cologne - Clinic II of Internal Medicine I CMMC - CAP 17
- 4:25 - 4:35 p.m. Panel discussion with the speakers
- 4:35 - 4:50 p.m. *Digital Coffee Break*

CMMC Lecture

- 4:50 - 6:00 p.m. **Introduction and Laudatio – Sabine Eming**
Cytoprotective Signaling Pathways in Tissue Repair and Inflammatory Diseases
Sabine Werner – Institute for Molecular Health Sciences - ETH Zurich, CH

February 17, 2022

CMMC Report

9:45 - 10:00 a.m. CMMC Report "Preparation of the new Funding Period"

Thomas Benzing - Chair of the CMMC

Workshop Sessions

- organized by CMMC Junior Research Group and CAP Leaders
- introduction & roundtable discussions with invited scientists and organizers
- interactive digital participation via Live Chat for all participants (CMMC members and scientists at the Life Science Campus – UoC)

10:00 - 12:00 p.m. **Workshop 1**
Studying cell-cell communication in disease development and therapy response

Johannes Brägelmann and Nieves Peltzer - organizers

Cell-Cell Communication (CCC) orchestrates organismal development, homeostasis and tissue function and is altered in many disease states. Our workshop aims to provide a platform for researchers to discuss their approaches to studying cell-cell communication *in vitro* and *in vivo*. We envision that participants gain deeper insights into various aspects regarding CCC studies and an overview about state-of-the-art technologies and methods that may be relevant for their own research.

Invited participants of the roundtable discussions: Matteo Bergami - Andreas Beyer - Jens Brüning
Sabine Eming - Axel Hillmer - Michael Hölzel - Phuong-Hien Nguyen - Carien Niessen - Martin H Schlösser
Henning Walczak - Thomas Wunderlich

12:30 - 2:30 p.m. **Workshop 2**
Data Science Graduate Program in Cologne

Katarzyna Bozek and Philipp Antczak - organizers

In this workshop we plan to discuss a new graduate program designed to train the right profile of interdisciplinary computational scientists addressing the needs of large data analysis across natural sciences. We want to define what requirements such a program should fulfill in training young scientists and how to make this structure visible and attractive outside of Cologne. We believe this program will allow not only to respond to the growing data analysis needs on the campus but also facilitate recruiting computational talent.

Invited participants of the roundtable discussions: Oya Beyan - Andreas Beyer - Liliana Caldeira –
Debora Grosskopf-Kroiher - Axel Klawonn - Michael Lässig - Martin Peifer - Achim Tresch

2:45 – 3:00 p.m. **Reports from Workshop 1 and 2 presented by the organizers**
Final discussions and leave-taking

Thomas Benzing - Chair of the CMMC