

**BIOME Retreat - Cellular and Molecular Immunology/Infectious Diseases/Tumour and Signalling**

**03-04.11.2022**

**Venue:** DJH Köln-Riehl, An der Schanz 14, 50735 Köln

# PROGRAMME

A warm welcome to our first overnight annual retreat since November 2019 hosted on the banks of the Rhine at the DJH Köln-Riehl in Cologne!

Please note that both days are obligatory for the doctoral participants as the focus here is on close interdisciplinary exchange between all members of the three cores.

## Timing:

- **TALKS: 12 minutes for each doctoral talk, 3 minutes for discussion**
- **POSTERS: 6 minutes poster presentation, 6 minutes for discussion**

## Chairs:

- For each BIOME talk session, two doctoral members have been nominated as chairs. Please prepare for this role well.
- Please ensure that all slides have been uploaded on the lecture hall's equipment before each session starts.

## Poster Jury:

- For the poster walks, parallel to the SC jury, three doctoral students from each core have been selected to form a doctoral jury to judge the posters of their own core. It is hoped this will give you greater insight into the process of judging the poster presentations. (In the case that a member of the jury is presenting during a particular poster session, the jury consists of three core members for that session.)

## Poster Peer Review:

- Each doctoral participant will be assigned two fellow BIOME members' posters to assess in detail and give back critical feedback in an anonymous form. All information regarding this will be sent to you shortly before the event.

Prizes will be awarded for the best talk and the top three posters.

DJH Köln-Riehl in Cologne: Address: DJH Köln-Riehl, An der Schanz 14, 50735 Köln (Tagungsraum "Köln").

## Your Orga-Team 2022:

**Immunology:** [Alicia.Brueggemann@uk-essen.de](mailto:Alicia.Brueggemann@uk-essen.de) **Infectious Diseases:** [Dan-Tiberiu.Furnica@uk-essen.de](mailto:Dan-Tiberiu.Furnica@uk-essen.de) **Tumour & Signalling:** [victoria.berg@stud.uni-due.de](mailto:victoria.berg@stud.uni-due.de)

**BIOME:** [delia.cosgrove@uni-due.de](mailto:delia.cosgrove@uni-due.de)

## Poster Walk Doctoral Jury:

### Zone A: Immunology

Leonie Fleige  
Lars Widera  
Anastasiia Stoianova

### Zone B: Infectious Diseases

Athanasios Papadamakis  
Lorraine Muungani  
Xiaoyan Wang

### Zone C: Tumour & Signalling

Anne Petzold  
Lina Marie Hoffmeister  
Emily Alefeld

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## THURSDAY, 03.11.2022

**Before 09:15 – 1<sup>st</sup> Poster session participants to please hang up their posters.**

09:00 – 09:15 **Arrival**

09:15 – 09:30 Sven Brandau **Welcoming words**

**SESSION 1** **Infectious Diseases** **Doctoral TALKS, Chairs: Lisa Holsteiner and Pia Leipe**

09:30 – 09:45 Gwenllian Appeltrath Comparative analysis of the SARS-CoV-2-specific antibody response in healthy and HIV-infected individuals

09:45 – 10:00 Maren Bormann Neutralisation of SARS-CoV-2 in cell culture

10:00 – 10:15 Zehra Karaköse Regulation of the induction of IFN $\alpha$  subtypes during HIV infection

10:15 – 10:30 Daniela Mittermüller *In vivo* imaging of CTL-Treg interaction in Friend virus infection

**SESSION 2**

10:30 – 12:15 1<sup>st</sup> POSTER Session during  BREAK

**Posters** **Immunology** **Zone A**

1 Alicia Brüggemann The impact of melanoma cell state switching on anti-tumor T cell and NK cell responses

2 Swati Dhiman Cloning, purification and characterisation of glucosylceramidase

3 Mia Juditzki Possible influence of sex hormones and dopamine on the treatment response in axSpA patients

4 Sami Wainwright Analysis of monocytes/macrophages on the angiogenesis in hereditary hemorrhagic telangiectasia

5 Lars Widera Influence of Thrombospondin-1 on UTI infections in CLL environment

**Posters** **Infectious Diseases** **Zone B**

6 Tiberiu Furnica *In vitro* and *in vivo* effect of the imidazole luliconazole against *Lomentospora prolificans* and *Scedosporium* spp.

7 Hamide Zoqi The role of melanin in biofilm and hyphal formation processes of pathogenic melanised-fungi

8 Athanasios Papadamakis Production of novel adenovirus-based vectors

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9 Lorraine Muungani Important roles of HBe and HBs antigens in the evasion of endogenous innate immune responses in hepatitis B virus infection

## Posters

**Tumour & Signalling****Zone C**

10	André Haase	Trefoil factor family (TFF) peptides - potential biomarkers, pathway therapy targets and prospective application strategy in retinoblastoma therapy
11	Lina Marie Hoffmeister	Functional significance of molecular mutations in pediatric acute myeloid leukemia
12	Fernando Kreuz	Identification of tumor suppressors and drivers in diffuse large B-cell lymphoma autochthonous mouse models
13	Anne Petzold	Analyses of resistance and clonal evolution in ALK positive non-small cell lung cancers
14	Lou Hecker	Multimodal liquid biopsy for the identification of predictive biomarkers for CDK 4/6 inhibitor therapy in breast cancer patients
15	Savina Abraham-Pol	Characteristics of Golgi stress response

## SESSION 3

**Keynote Speaker****Chair: Tiberiu Furnica**

12:15 – 13:15 Dr. Sascha Brunke  
*Microbial Pathogenicity Mechanisms*  
**Leibniz-HKI Institute Jena**  
Fungal pathogens and how they adapted to the human host

13:15 – 14:00

**LUNCH (1<sup>st</sup> / 2<sup>nd</sup> Poster session switch at 13:25)**

## SESSION 4

**Immunology****Doctoral TALKS, Chairs: Irem Özel and Sami Wainwright**

14:00 – 14:15	Anna Lena Lütticke	Expansion of multipotent hematopoietic stem and progenitor cells, directed by HOX transcription factors
14:15 – 14:30	Fabian Schnitker	The role of CFTR and sphingosine in <i>M. abscessus</i> infection
14:30 – 14:45	Irene Adelaide Bocci	Targeting pathologic macrophages for widening the therapeutic window
14:45 – 15:00	Jonas Raspe	Pre-clinical evaluation of the <i>Helicobacter pylori</i> Vacuolating cytotoxin (VacA) as a therapeutic approach for allergic respiratory disease

## SESSION 5

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15:00 – 16:45

2<sup>nd</sup> POSTER Session during  BREAK

Posters	<u>Immunology</u>	Zone A
1	Alexander Beer	The role of CXCR2 ligands in neutrophil-mediated inflammatory responses
2	Leonie Fleige	Interaction between sex hormones and the dopaminergic pathway in human leucocytes under physiological conditions and during chronic inflammation
3	Mona Schmitz	Immunomodulation as a therapeutic option for bronchial asthma - evaluation, mechanism and translation of the impact of canonical Wnt signaling
4	Xi Wang	Role of myeloid cells in the tumor microenvironment of stage III melanoma patients
5	Louisa Wöhr	Thrombin receptors as mediators of brain-heart communication after stroke
6	Mathias Manzel	<i>De novo</i> formation of multipotent hematopoietic stem and progenitor cells, directed by HOX transcription factors
Posters	<u>Infectious Diseases</u>	Zone B
7	Corinna Schuler	My enemy's enemy is my friend: Human cytomegalovirus entry impairs acute myeloid leukemia cell proliferation by interferon-dependent proteome alterations
8	Xiaoyan Wang	Analysis of prevalence and immunogenicity of 39 human adenovirus types
9	Denise Mennerich	Identification and characterization of interferon-gamma-stimulated effector proteins and interferon-gamma-repressed dependency factors diminishing virus replication
Posters	<u>Tumour &amp; Signalling</u>	Zone C
10	Maximilian Kerkhoff	Establishment of a CAM model for predicting and evaluating the responsiveness of systemic therapies in Ewing and osteosarcoma
11	Elaheh Madadi	Modulation of interleukin-5/cytokine-induced signalling in RASopathies – predisposition syndromes and acute leukemia
12	Julia Suttorp	Optical genome mapping as a diagnostic tool in pediatric acute myeloid leukemia
13	Harpreet Kaur	Design, Purification & Characterization of a Bispecific Antibody
14	Noha Awad	Functional characterization of OR51 B5, OR1 G1 and OR10S1 in human bronchial epithelial cells to investigate their potential as drug targets for chronic lung diseases
SESSION 6	<u>Keynote Speaker</u>	<b>Chairs: Annette Paschen and Alicia Brüggemann</b>

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**16:45 – 17:45** Dr. Johannes Brägelmann  
Translational Genomics  
University of Cologne Finding the Achilles' heels: Strategies targeting drug resistance and immune-interactions in lung cancer

**18:15 – 20:00**  **RETREAT DINNER** at Colonia Brauhaus (**Poster removal at 18:00**)

**20:00 – onwards**  **RELAXED SOCIAL** in DJH Köln-Riehl's "Corinto" party celler

## FRIDAY, 04.11.2022

**Before 09:00 – 3<sup>rd</sup> Poster session participants to please hang up their posters.**

SESSION 7	<u>Tumour &amp; Signalling</u>	Doctoral TALKS, Chairs: Julia Suttorp and Maximilian Kerkhoff
09:00 – 09:15	Sara Egea Rodriguez	Therapeutic validation of DNA helicases in cancer
09:15 – 09:30	Annika Doege	PTPRE – Signal pathway analyses in retinoblastoma
09:30 – 09:45	Areya Tabatabai	Utilization of autochthonous mouse models of high-risk diffuse large B-cell lymphoma to develop novel therapeutic strategies
09:45 – 10:00	Carolin Salmon	Liquid biopsy investigations to clarify the tumour evolution of ovarian carcinoma and to develop personalised therapy concepts

### SESSION 8

**10:00 – 11:45** 3<sup>rd</sup> POSTER Session during  **BREAK**

Posters	<u>Immunology</u>	Zone A
1	Francisca Hofmann Vega	Functional interaction of microbiota, immune cells and tumor cells in patient with head and neck cancer
2	Lara Kaumanns	Influence of the microbiome on the development and progression of colorectal cancer
3	Irem Özel	Functional characterisation of neutrophil IFN and TGF-beta signalling in cancer

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4	Maren Soldierer	Utilizing naive and modified effector cells in the treatment of pediatric AML
5	Anastasiia Stoianova	The alloreactive T-cell response in the immunotherapy of cancer
6	Anna Held	Identification and validation of disease-associated gene expression in a Morbus Wilson cell culture model
7	Melissa Ix	Characterization of alpha-synuclein and anti-alpha-synuclein antibodies in the olfactory bulb and their suitability as early biomarkers for the idiopathic Parkinson syndrome in the olfactory mucosa

## Posters Infectious Diseases Zone B

8	Lisa Holsteiner	Liposome's potential as purposeful instruments in viral infection
9	Pia Leipe	Identification of E27 as a rat cytomegaloviral protein involved in viral interferon antagonism
10	Charlotte Werner	Examination of the Function of Neutrophilic Granulocytes and the Influence of an Anti-Inflammatory Drug in the Human Endotoxin Model

## Posters Tumour & Signalling Zone C

11	Emily Alefeld	Characterization and immortalization of primary retinoblastoma cells and investigations about the interactions of RB tumor cells with the tumor microenvironment
12	Victoria Berg	The influence of HIV on B cells and its role in the development of B cell lymphoma
13	Frederik Schramm	Transcriptional and epigenetic heterogeneity in classical Hodgkin lymphoma
14	Yuyang Ma	The function and signaling mechanism of the immune checkpoint molecule soluble B7H4 in trophoblast SGHPL5 cells in the pregnancy disease preeclampsia

## SESSION 9 Keynote Speaker Chair: Victoria Berg

11:45 – 12:45	Prof. Dr. Jürgen Ruland Immune Signals and Cancer Technical University Munich	Immune receptor signals in lymphoid cancer
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12:45 – 13:30




**LUNCH (Poster 3<sup>rd</sup> / 4<sup>th</sup> session switch at 13:25)**

## SESSION 10

13:30 – 15:00

4<sup>th</sup> POSTER Session during  BREAK

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Posters	<u>Immunology</u>	Zone A
1	Hossam Abdelrahman	Innate signalling pathway during viral infection
2	Meng Luo	The effects of Merkel cell carcinoma derived exosomal miRs on macrophage polarization
3	Mahshad Karimifard	Enhancing the cytotoxic potential of human NK-cells for the treatment of hematological malignancies
4	Chiara Wedekind	Influence of the amino acid transporter LAT21/CD98 on natural killer cell function in aging and after geriatric trauma
5	Martha-Julia Sasula	Multi-molecular targeting of copper overload in Wilson disease, gene-silencing via interfering RNA and CRISPR/Cas9 applications offer new therapeutic potential for the treatment of monogenic diseases
6	Jessica Jankowski	Characterization of B cells as the origin of autoreactive antibodies in Parkinson's disease
Posters	<u>Tumour &amp; Signalling</u>	Zone C
10	Sophia Hahn	Impact of the genetic signature of leukemic stem cells in pediatric AML
11	Sophie Klotz	Genetic heterogeneity and instability of Hodgkin lymphoma
12	Bahareh Sadeghi	Establishment of natural killer cell isolation, expansion and activation in pediatric acute myeloid leukemia
13	Yu An Lin	Targeting myelofibrosis in myeloproliferative neoplasms by leveraging single cell analyses
14	Clara Roggendorf	Modulation of the hypoxic gene response in infections and carcinomas of the urinary tract by the manipulation of hypoxia-induced factors (HIF)-1 in a UPEC-BBN mouse model
15:00 – 15:15	All Participants	Democratic vote on best doctoral talk award
15:15 – 15:30	Poster Committee	Conclave to decide on best poster awards
15:30 – 16:00		The BIOME 2022 Retreat Award Ceremony – Prizes for the best 3 posters and the best talk Sven Brandau: Closing Remarks

(4<sup>th</sup> Poster session removal at end of retreat)