

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

13-14.11.2023

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

PROGRAMME

A warm welcome to our overnight annual retreat 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 (Poster size: DIN A0, portrait)**

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 two 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").*

Overnight stay: Rooms have been booked for all participants by BIOME at DJH Köln-Riehl, bed linen and towels are included. Doctoral members will be sharing rooms with same gender peers (3-4 people per room). One person per room should collect keys from Delia after lunch on 1st day, and the same person should return all the copies of the room keys to Delia after breakfast the next day. Doctoral members should please strip their beds in the morning and place the used linen in the container in the foyer.

Your Orga-Team 2023:

Immunology: xi.wang@uk-essen.de

Infectious Diseases: LorraineTendai.Muungani@uk-essen.de

Tumour & Signalling: Anne.Petzold@uk-essen.de and clara.roggendorf@uk-essen.de

BIOME: delia.cosgrove@uni-due.de

Poster Walk Doctoral Jury:

Zone A: Immunology

Miriam Alkemper
Alexander Beer
Lara Kaumanns

Zone B: Infectious Diseases

Johanna Bechtel
Robin Konrad
Lara Maria Schöler

Zone C: Tumour & Signalling

Sophie Klotz
Sebastian Kromat
Areya Tabatabai

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MONDAY, 13.11.2023

Before 09:00 – 1st Poster session participants to please hang up their posters.

SESSION 1	<u>Infectious Diseases</u>	Doctoral TALKS, Chairs: Eva Müller and Lorraine Muungani
09:00 – 09:15	Lisa Holsteiner	Investigating lymphocytic choriomeningitis entry and anti-tumoral activity
09:15 – 09:30	Marius Mischke	Identification of an immunodominant RCMV CD8+ T cell epitope
09:30 – 09:45	Xiaoyan Wang	Comparative analysis of the impact of 40 adenovirus types on dendritic cell activation and CD+8 T cell proliferation capacity for the identification of favorable immunization vector candidates
09:45 – 10:00	Khrystyna Hrynkevych	Maturation of NK cells and production of cytotoxic molecules in response to viral infections
10:00 – 10:15	Marzieh Sadeghiani	Structural and functional consequences of the CEACAM-HopQ interaction on human gastric epithelial cells
10:15 – 10:30	Athanosios Papadamakis	Production of novel adenovirus-based vectors

SESSION 2

10:30 – 12:45 1st POSTER Session during  BREAK

Posters	<u>Immunology</u>	Zone A
1	Alexander Beer	Sophisticated mouse models and their pitfalls: When nature forces you to change your plans
2	Francisca Hofmann-Vega	Functional interaction of microbiota, immune cells, and tumor cells in patients with head and neck cancer
3	Kimberly Barbet	Lost in granulation - Flow cytometric analysis of granulation tissue formation
4	Kulvara Kittisaes	Unraveling HLA-DM sensitive T-cell alloreactivity to HLA-DP: Mining for novel tools in leukemia immunotherapy
5	Marcel Jung	The function of Ly6G as “eat me” signals to microglia in stroke
6	Mona Schmitz	Immunomodulation of Wnt-1 as a therapeutic option for bronchial asthma – murine HDM asthma model
Posters	<u>Infectious Diseases</u>	Zone B
7	Konrad Robin	Examination of intestinal microbe of MSM and immune response after vaccination against monkeypox
8	Antonia Belter	iPSC-derived human retina organoids populated with autologous microglia cells as novel model for cytomegalovirus-induced retinitis
9	Eva Müller	Cholesterol depletion in cell line models of HIV persistence promotes latency reversal

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10	Lara Schöler	People living with HIV exhibit an exceptionally high prevalence and effector strength of cytomegalovirus-specific antibody responses
Posters	<u>Tumour & Signalling</u>	Zone C
11	Areya Tabatabai	IRF2BP2: A new player in diffuse large B-cell lymphoma
12	Maximilian Jauch	ETV6: A key transcription factor in aggressive diffuse large B-cell lymphoma (DLBCL)
13	Bahareh Sadeghi	RASopathies acute myeloid leukemia
14	Arzoo Shamoon	Exploring HLA expression dynamics in leukemic cells post-HSCT: Implications for disease control and relapse
15	Sophie Klotz	Tumor cell heterogeneity and genomic instability in classical Hodgkin lymphoma
16	Frederik Schramm	Elucidation of tumor cell heterogeneity and multinuclearity in classical Hodgkin lymphoma

12:45 – 13:30

**LUNCH** (1st / 2nd Poster session switch at **13:25**)**SESSION 3****Immunology****Doctoral TALKS, Chairs: Alicia Brüggemann and Mia Juditzki**

13:30 – 13:45	Swati Dhiman	Designing, purification and characterization of T cell targeting bispecific antibody
13:45 – 14:00	Leonie Fleige	Immune cell activation drives sex-specific responses of peripheral immune cells to dopaminergic stimulation
14:00 – 14:15	Jouly Sbeiti	Investigating the role of hypoxia-induced CD73 in HIV persistence and transcription
14:15 – 14:30	Irem Özel	STAT3-deficient neutrophils support expansion of tumor cytotoxic CD8+ T cells leading to an impaired tumor growth and spread
14:30 – 14:45	Xi Wang	Therapeutic targeting of immunosuppressive neutrophils in B16 murine melanoma
14:45 – 15:00	Lars Widera	Thrombospondin-1 induced release of TGF-β1 recruits neutrophils into the urothelium in urinary tract infection

SESSION 4

15:00 – 16:45

2nd POSTER Session during  **BREAK**

Posters	<u>Immunology</u>	Zone A
17	Mahshad Karimifard	Targeting PRAME using TCRmimic CAR NK-cells: A promising approach in treatment of hematological malignancies
18	Janina Müller	Modulation of natural killer cell function in geriatric patients by serum factors and iron
19	Hannah Maria Breiter	Developing and optimizing TCRm CAR NK-cell therapies for targeting WT1 in pediatric AML
20	Nadine Gausmann	The kallikrein-kinin system: A potential target for modulating CD4+ T cell function in stroke

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21	Tanja Bulk	Developing chimeric antigen receptor (CAR)-based cellular immunotherapies for liver cancers
22	Nele Viktoria Staschik	Motility and morphology of neutrophil granulocytes as prospective early indicators of sepsis
23	Eva Lewe	Developing CAR NK-cell therapy targeting FOLR1 in high-risk CBFA2T3: GLIS2 pediatric acute myeloid leukemia

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

24	Johanna Bechtel	Research of the interferon dependent and independent effects of RCMV-coded E27
25	Lorraine Muungani	The important roles of HBe and HBs antigens in the evasion of endogenous innate immune responses in HBV infection
26	Tengfei He	Innate immunity and autophagy in the context of HBV infection

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

27	Clara Roggendorf	The hypoxia-inducible factor 1 alpha in urinary bladder infection and cancer
28	Antonio Alexander	Investigation of the non-hematopoietic bone marrow stromal cells in the context of allogeneic stem cell transplantation in myeloproliferative neoplasms
29	Muhammad Murad	Polarisation of the stromal and immune cells by tumour-derived factors
30	Michelle Elbert	Mechanisms of humoral immune dysfunction in CLL
31	Carolina Steinrücke	Impact of cancer-associated fibroblasts on response to targeted therapy in BRAF-mutant non-small cell lung cancer
32	Ankita Pal	Deciphering the molecular mechanisms driving therapy resistance in cancer
33	Harpreet Kaur	Designing, purification and characterization of a bispecific antibody

SESSION 5 **Keynote Speaker** **Chairs: Anne Petzold and Clara Roggendorf**

16:45 – 17:45	Ariane Pessentheiner <i>Scientific Project Management and Communications</i> University of Graz	"What can I be with a PhD?" - My way from bench to communications and beyond
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18:15 – 20:00

RETREAT DINNER at Piccola Sardegna Ristorante Pizzeria (**Poster removal at 18:00**)20:00 –
onwards

RELAXED SOCIAL in DJH Köln-Riehl's "Corinto" disco room (cellar)

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Overnight



Rooms have been booked for all participants by BIOME at DJH Köln-Riehl

TUESDAY, 14.11.2023



Before 09:00 – 3rd Poster session participants to please hang up their posters.

SESSION 6	<u>Tumour & Signalling</u>	Doctoral TALKS, Chairs: Harpreet Kaur and Frederik Schramm
09:00 – 09:15	Victoria Berg	The influence of HIV on B cell system and lymphomagenesis
09:15 – 09:30	Fadi Elyateem	CEACAMs on extracellular vesicles derived from prostate carcinoma cells
09:30 – 09:45	André Haase	New advances in retinoblastoma management: TFF1 as an aqueous humor biomarker for diagnosis and treatment monitoring
09:45 – 10:00	Maximilian Kerkhoff	Metastasis-specific gene expression patterns in Ewing sarcoma
10:00 – 10:15	Juanfei Peng	Cellular interaction of LRRC15+CAF in PDAC tumor immune microenvironment
10:15 – 10:30	Maren Soldierer	Systematic development of tandem CARs for adoptive immunotherapy of AML
SESSION 7		
10:30 – 12:15	3 rd POSTER Session during  BREAK	

Posters	<u>Immunology</u>	Zone A
34	Elizaveta Kuniza	Proliferation and persistence of natural killer cells
35	Mansi Kumari	Identification and functional characterisation of different immune checkpoint inhibitors for cancer
36	Lars Borgards	Proteomic and metabolic adaptations in the kidney during pyelonephritis
37	Miriam Alkemper	Improved B7-H3 CAR T- and NK-cell therapy for pediatric AML
38	Nastassia Nikolaevna Kabankova	Type I IFN-signaling determines fate of neutrophil progenitors in head and neck cancer
39	Victoria Heimel	Distinct molecular endotypes in CD8+ T-cells contribute to the pathogenesis of patients with the combination of COPD and asthma
40	Mohamed Elbeltagy	Enhancing immunomodulatory potential of immortalized mesenchymal stromal cell-derived extracellular vesicles through overexpression CD39, key regulator of the purinergic adenosine signaling pathway

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Posters	<u>Infectious Diseases</u>	Zone B
41	Leonie Kerkmann	Virus trained NK cells and their impact on cancer
42	Niklas Nachtwey	Characterization of surface glycan profiles of HIV-infected cells and assessment of their potential for the development of new HIV treatment options
43	Simon Leibmann	The role of sphingosine in the treatment of viral infections
Posters	<u>Tumour & Signalling</u>	Zone C
44	Elaheh Madadi Hiagh	Modulation of interleukin-5 signaling and the RAS pathway for neurofibroma and tumor control in mutations in the neurofibromin 1 gene
45	Vivienne Schneider	The role of the hypoxia-inducible factors in urinary bladder carcinoma
46	Junmei Liu	Therapeutic targeting of BET BD2 domain for the treatment of NUT carcinoma
47	Sarah Ertmer	Sex-specific differences in the metabolism of glioblastoma cells
48	Sebastian Kromat	The signaling transduction of primary cilia in hereditary hemorrhagic telangiectasia
49	Hongtao Liu	Metastatic potential of uveal melanoma cells evaluated in a chick embryo assay
12:15 – 13:00		LUNCH (Poster 3rd / 4th session switch at 12:55)
SESSION 8	<u>Keynote Speaker</u>	Chairs: Xi Wang and Lorraine Muungani
13:00 – 14:00	Anna-Lena Volckmar <i>Institute of Pathology</i> University of Heidelberg	IVDR – legal corset or aid for patient safety?
SESSION 9		
14:00 – 15:30	4 th POSTER Session during  BREAK	
Posters	<u>Immunology</u>	Zone A
50	Alicia Brüggemann	Exploiting virus-induced cytotoxic CD4 T cells and trained NK cells in melanoma therapy
51	Dennis Nagel	Impact of type I interferons on tumour-dependent granulopoiesis and neutrophil tumourigenicity
52	Lara Kaumanns	Helminth-induced alterations of the microbiome: Do they influence development and progression of colorectal cancer?
53	Martha-Julia Sasula	Multi-molecular targeting of copper overload in Wilson disease – targeted gene silencing in the liver holds therapeutic potential for copper detoxification

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54	Mia Juditzki	Sex differences in inflammatory and bone morphogenic markers and PBMC subsets in axial spondyloarthritis
55	Lennart Hess	BTLA and TIGIT are functional in ANCA patients
56	Fatemeh Ghorbani	Characterization and targeting of tumor-reactive T-cells to improve melanoma immunotherapy

Posters Infectious Diseases Zone B

57	Jeffrey Hastings	Eliminating the retroviral reservoir: Therapeutic induction of cytotoxic follicular T helper cells that kill infected cells in B cell follicles
58	Mohamed Saad	Chronic/latent viral infections modulate the function of cytotoxicity T cells and natural killer cells with antitumor activity

Posters Tumour & Signalling Zone C

59	Anne Petzold	Investigation of resistance development to targeted therapies in ALK+ NSCLC using patient-derived xenograft models and single-cell DNA-barcoding technology
60	Lou Hecker	Multimodal liquid biopsy for the identification of predictive biomarkers in breast cancer patients receiving CDK 4/6 inhibitor therapy
61	Beatrix Reisch	Targeting sFLT1 signalling in pregnancy disease preeclampsia as a therapeutic intervention
62	Leonhard Koch	ATR inhibitors in Ewing Sarcoma – Targeting DNA-damage-repair
63	Fatma Yalinci	Trefoil factor family peptide 1 (TFF1) – A prospective therapeutic target for retinoblastoma
64	Christian Stülpnagel	The impact of HDAC/PI3K dual inhibition and potential combinations on malignant pleural mesothelioma
65	Jillian Brown	Unravelling targetable ecosystems in pancreatic cancer

SESSION 10

15:30 – 15:45 **All Participants** **Democratic vote on best doctoral talk award**

15:45 – 16:00 **Poster Committee** **Conclave to decide on best poster awards**

16:00 – 16:30



The BIOME 2023 Retreat Award Ceremony – **Prizes for the best 3 posters and the best talk**

Sven Brandau: **Closing Remarks**

(4th Poster session removal at end of retreat)

TUESDAY, 14.11.2023

PROGRAMME NOTES