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

04-05.11.2024

Venue: Haus der Technik, Hollestraße 1, 45127 Essen

PROGRAMME

A warm welcome to our annual retreat hosted at Haus der Technik (HdT) in Essen!

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

Timing:

- **TALKS: 10-12 minutes for each doctoral talk, 3-5 minutes for discussion - no more than 15 minutes altogether!!!**
- **POSTERS: 6 minutes poster presentation, 6 minutes for discussion - no more than 12 minutes altogether!!! (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 Walks:

- For the poster walks, it has been decided to break up the SC jury as well as the poster zones into mixed-core units. This is to expand the translational aspect of peer exchange and expert input.

Poster/Talk Peer Review:

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

The best talk and the top three posters will be selected and certified.

Haus der Technik in Essen: Address: Haus der Technik, Hollestraße 1, 45127 Essen (Saal A).

Your Orga-Team 2024:

Immunology:
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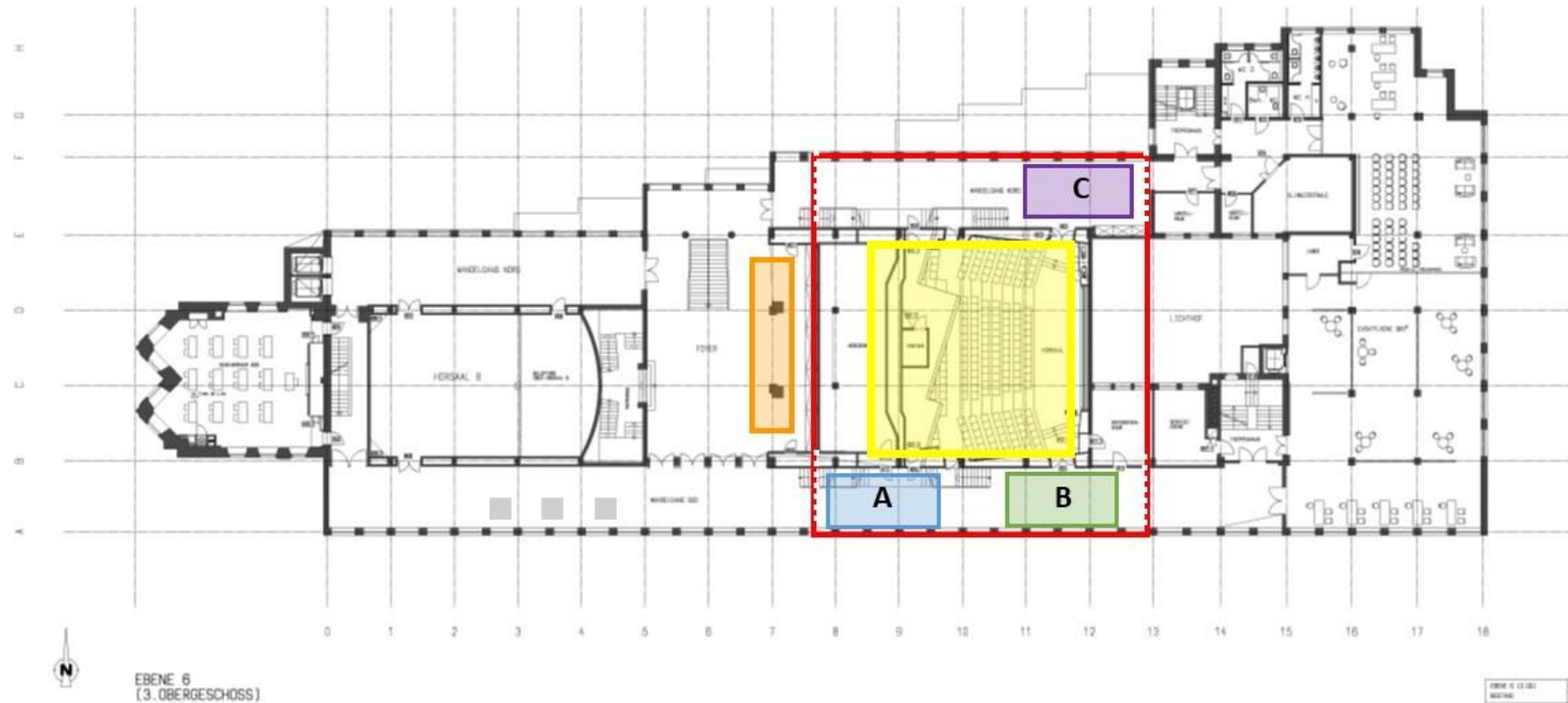
Infectious Diseases:
Yue.Yu@uk-essen.de

Tumour & Signalling:
Elaheh.Madadi@uk-essen.de and
Frederik.Schramm@uk-essen.de

BIOME:
Delia.Cosgrove@uk-essen.de

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Plan HdT
Hörsaal A, 3rd Floor



Key:

- BIOME Area
- Lecture Hall A
- Poster walk zones A, B, C in the two hallways beside the lecture hall; Zone A can relocate into the lecture hall during the poster sessions for acoustic reasons.
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- Buffet area (Foyer)



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MONDAY, 04.11.2024

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

GREETING

09:00 – 09:15 Scientific Coordinators and Orga-Team: **Welcoming Words**

SESSION 1 Infectious Diseases **Doctoral TALKS, Chairs: Paula Busskamp Castro and Mohamed Saad**

09:15 – 09:30	Eva Müller	Bidirectional crosstalk between cellular lipid metabolism and HIV persistence
09:30 – 09:45	Lorraine Muungani	Important roles of HBe and HBs antigens in the evasion of endogenous innate immune responses in hepatitis B virus infection
09:45 – 10:00	Rana <u>Haseeb</u> Asif	Role of metabolism in the dysfunction of dendritic cells during sepsis
10:00 – 10:15	Rabea Grüneberg	Antiviral agents against SARS-CoV-2 variants

SESSION 2

10:15 – 12:00 1st POSTER Session during  **BREAK**

Posters	Group 1	Zone A
1	Lars Borgards	Lactylation-dependent adaptations of the macrophage proteome and their role in inflammatory diseases
2	Mahshad Karimifard	Developing chimeric antigen receptors against HLA-DP allotypes
3	Schöler, Lara	People living with HIV exhibit an exceptionally high prevalence and effector strength of cytomegalovirus-specific antibody responses
4	Vaasudevan Sridhar	Lipid metabolism of NK cells during acute retroviral infection
5	Amal Rabih Al Kadi	Determining the role of the integrated stress response (ISR) as a master regulator of the phenotype of drug-tolerant persister cells generated from lung adenocarcinoma during immune checkpoint blockade (ICB)
6	Alexander Beyer	Mechanisms of humoral immune dysfunction in a mouse model of chronic lymphocytic leukemia

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Posters	Group 2	Zone B
7	Lea Allerchen	Multimodal preclinical imaging of <i>Aspergillus fumigatus</i> invasion and treatment
8	Michelle Elbert	Mechanisms of humoral immune dysfunction in patients with chronic lymphocytic leukemia
9	Marie Luise Kirchhoff	Immunological reconstitution of patients with myelofibrosis after allogeneic stem cell transplantation - effect on myelofibrotic reversion and probability of relapse
10	Kulvara Kittisaes	Donor-derived memory CD4+ T cells recognize divergent HLA-DP immunopeptidomes and contribute to leukemia control after allogeneic HCT
11	Marcel Jung	The function of Ly6G as "eat me" signals to microglia in stroke

Posters	Group 3	Zone C
12	Lea Otte	Resolving and harnessing neural crest lineage-driven cancer heterogeneity
13	Shipei Wang	Investigating the role of arenaviruses in enhancing the efficacy of immunotherapy for pancreatic cancer
14	Dennis Nagel	Impact of type I interferons on tumour-dependent granulopoiesis and neutrophil tumourigenicity
15	Nadine Gausmann	Targeting the kallikrein-kinin system to modulate CD4+ T cell function in stroke recovery
16	Frederic Zinsmeister	Influence of the transferrin receptor on the immune function of NK cells in sepsis

SESSION 3	<u>Keynote Speaker</u>	Chair: Yue Yu
12:00 – 13:00	Daniel Sauter <i>Mechanisms of Innate Antiviral Immunity</i> Universitätsklinikum Tübingen	When innate immunity goes wrong: antiviral immune responses in pregnancy complications

13:00 – 14:00		LUNCH (1st / 2nd Poster session switch at 13:55)
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SESSION 4	<u>Immunology</u>	Doctoral TALKS, Chairs: Nastassia Kabankova and Alexander Beer
14:00 – 14:15	Lara Kaumanns	A helminth-altered gut microbiota shows anti-tumor properties in colorectal cancer
14:15 – 14:30	Alicia Brüggemann	The role of CMV-specific CD4 T cells in anti-tumor responses and immune-related adverse events (irAE) in melanoma immunotherapy

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14:30 – 14:45	Francisca Hofmann Vega	Functional interaction of microbiota, immune cells and tumor cells in patients with head and neck cancer
14:45 – 15:00	Julian Eck	The immunomodulatory effects of cell-surface proteins expressed on drug tolerant persisters in lung carcinoma
15:00 – 15:15	Mia Juditzki	Sex differences in bone metabolism in axial spondyloarthritis

SESSION 5

15:15 – 17:00 2nd POSTER Session during ☕☕☕ BREAK

Posters	Group 1	Zone A
1	Carl Lennart Eube	Attacking pediatric liver cancers by hypoxia-dependent dual-targeting immunotherapeutic strategies
2	Hendrik Winkel	Immune mechanisms of neoadjuvant immunotherapy in head and neck cancer
3	Leandra Jürgens	Influence of rat cytomegalovirus vXCL1 on antigen cross-presentation of dendritic cells
4	Bahareh Sadeghi	Establishment of natural killer cell isolation, expansion and activation in pediatric acute myeloid leukemia
5	Vivienne Schneider	The role of hypoxia-inducible factors in urinary bladder carcinoma

Posters	Group 2	Zone B
6	Sarah Lena Schebitz	Enhancing survival and fitness of NK-cells for immunotherapy of AML
7	Fatemeh Ghorbani	Characterization of blood TIGIT+CD8+ T cells in melanoma patients
8	Athansios Papadamakis	Characterization of the T cell response against different human adenoviruses in healthy donors
9	Antonia Belter	Induced pluripotent stem cell (iPSC)-derived human retina organoids provide evidence for a role of Müller glia cells as niche for productive cytomegalovirus replication
10	Frederik Schramm	Transcriptional and epigenetic heterogeneity in classical Hodgkin lymphoma
11	Moritz Weller	Studies on the influence of proton beam therapy in combination with gold nanoparticles in retinoblastoma tumor- and stroma cells in 2D and 3D cell culture models

Posters	Group 3	Zone C
12	Tom Kruse	Characterization of immune cell populations in human atrial myocardial tissue in patients with different types of atrial fibrillation

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13	Hannah Breiter	Use of WT1-TCRm single chain variable fragments to generate antibodies that specifically bind to HLA-A2/peptide complexes
14	Isabel Zydek	Isolation and characterization of antiviral antibodies against herpes simplex viruses
15	Georgia Antonopoulou	Characterization of tumor heterogeneity in pancreatic cancer with focus on evolutionary and microenvironment dynamics during progression
16	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

SESSION 6

17:00 – 19:00



RETREAT SOCIAL: Finger-food BUFFET with drinks (Poster removal at 19:00)

TUESDAY, 05.11.2024

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

SESSION 7	<u>Tumour & Signalling</u>	Doctoral TALKS, Chairs: Alexander Beyer and Vivienne Schneider
09:00 – 09:15	Areya Tabatabai	IRF2BP2: a new player in diffuse large B-cell lymphoma
09:15 – 09:30	Antonio Alexander	Investigation of the heterogeneity of the malignant clone and non-hematopoietic bone marrow stromal cells in the context of allogeneic stem cell transplantation in myeloproliferative neoplasms
09:30 – 09:45	Sarah Ertmer	Targeting clonal, expanding, therapy-resistant mediating cells in recurrent glioblastoma
09:45 – 10:00	Sophie Klotz	Genetic heterogeneity and instability of Hodgkin lymphoma
10:00 – 10:15	Murad Muhammad	Polarisation of stromal and immune cells in the tumour microenvironment by tumour derived factors
10:15 – 10:30	Jillian Brown	Unravelling spatial ecosystems in pancreatic cancer

SESSION 8

10:30 – 12:00

3rd POSTER Session during  BREAK

TUESDAY, 05.11.2024

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Posters	Group 1	Zone A
1	Nastassia Kabankova	Impact of type I IFN signaling on neutrophil progenitor fate in head and neck cancer
2	Angelo Novak	Deciphering the host-bacteria interplay with dual proteomics
3	Leonie Kerkmann	Virus-trained NK cells and their impact on cancers
4	Paniz Salimitari	Functional characterisation of <i>ex vivo</i> models for cancer immunotherapy
5	Siyang Liu	Reprogramming of the immune microenvironment by the metabolite-and lipid secretome of drug tolerant persister cells in lung adenocarcinomas

Posters	Group 2	Zone B
6	Yue Yu	Dissecting IFN α subtype-specific antiviral mechanisms against SARS-CoV-2
7	Emma Maaßen	Evaluation of new therapies in sinovial sarcoma
8	Elaheh Madadi Hiagh	Modulation of interleukin-5 signalling and the RAS pathway for neurofibroma and tumor control in mutations in the neurofibromin type 1 gene
9	Konstantin Krome	Characterisation of epicardial adipose tissue in patients with atrial fibrillation
10	Mohamed Ebeltagy	Ectopic expression of CD39, a key regulator of the purinergic signalling pathway, enhanced the immunomodulatory properties of MSC-derived extracellular vesicle

Posters	Group 3	Zone C
11	Arzoo Shamoon	Dissection progression and resolution of myelofibrosis at the single-cell level to develop disease-modifying therapeutic approaches on MPN
12	Gaurav Manik Borse	Determining the role of the integrated stress response (ISR) as a master regulator of the phenotype of drug-tolerant persister cells generated from lung adenocarcinoma treated with KRASG12C inhibitors (KRASi)
13	Guanyu Sha	Tumor microenvironment – driven arachidonic acid metabolism in neutrophil: a nexus of cancer progression and immune evasion
14	Laura Roveri	Exploring novel prognostic and predictive biomarkers for Merkel cell carcinoma (MCC): A comprehensive study of morphology, proteomics and transcriptomics
15	Paula Busskamp Castro	Contribution of envelope glycan diversity to antiviral immune escape of the human immunodeficiency virus

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SESSION 9

Keynote Speaker

Chairs: Hannah Breiter and Sarah Lena Schebitz

12:00 – 13:00

Cornelia Monzel
Experimental Medical Physics
Heinrich-Heine-University
Düsseldorf

Multimodal imaging in chimeric antigen therapy

13:00 – 14:00



LUNCH (Poster 3rd / 4th session switch at 13:55)

SESSION 10


14:00 – 15:30

4th POSTER Session during  **BREAK**

Posters	Group 1	Zone A
1	Alexander Beer	Sophisticated mouse models and their pitfalls: When nature forces you to change your plans
2	Palaniappan Ramesh	Functional imaging approaches towards <i>in-vivo</i> detection of persister cells (PS) in lung adenocarcinoma (LUAD) treatment
3	Sarah Freygang	Characterisation of a second C-type lectin-like gene in rat cytomegalovirus
4	Ioannis Tzianopoulos	Influence of genetic variants on response to immune checkpoint-inhibitor therapy in tumour patients
5	Emilia Hillesheim	Evaluation of new options in the treatment of CIC-DUX sarcoma

Posters	Group 2	Zone B
6	Belén García Fariña	Functional characterization of the single nucleotide polymorphism c.293 C>T (rs7121) in gene GNAS
7	Mariana Ferreira Pissarra	Establishment of a novel system for kinase activity measurements in breast cancer patient samples
8	Yaping Yu	Mechanisms of proangiogenic neutrophils reprogramming via HNC-derived EVs: The role of TGF-β and FOXO3a signalling
9	Jeffrey Hastings	Latency reversal in the context of friend retrovirus infections and its potential role in the elimination of retroviral reservoirs through cytotoxic T-follicular helper cells

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Posters	Group 3	Zone C
10	Ankita Pal	The role of the tumour micro-environment in cancer progression
11	Foteini Filippopoulou	Regulation of mTORC1 dependent and independent lysosome-ER crosstalk and cell growth by novel regulators of the TSC complex
12	Ankit Singh	Deregulation of apoptosis as a key mechanism of acquired resistance to MEKi in pancreatic ductal adenocarcinoma (PDAC)
13	Mohamed Saad	Chronic/latent virus infections modulate the function of cytotoxic T- cells and Natural killer cells with antitumor activity
14	Marzieh Sadeghiani	Functional consequences of the CEACAM-HopQ interaction on human gastric epithelial cells
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 2024 Retreat Award Ceremony – Prizes for the best 3 posters and the best talk Wiebke Hansen, Mirko Trilling and Alexandra Gellhaus: Closing Remarks

(4th Poster session removal at end of retreat)

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NOTES: