



Immuno MicroTope

RTG 2740

Scientific Programme of the International Symposium

“Immunomicrotope – Microenvironmental, Metabolic and Microbial Signals Regulating Immune Cell-Pathogen Interactions”

Erlangen, June 28-30, 2023

Wednesday, June 28

12:30 – 02:00 pm Registration

02:00 – 02:30 pm Welcome and Introduction by Prof. Christian Bogdan (Erlangen, Germany)

Session 1: Virulence and metabolism of infectious pathogens (part 1)

Chair: Dr. Michaela Petter & Bohdan Holoborodko

02:30 – 03:00 pm PD Dr. Norbert Reiling (Borstel, Germany)

Host lipid metabolism in *Mycobacterium tuberculosis* infection

03:00 – 03:30 pm Prof. Dominique Soldati-Favre (Geneva, Switzerland)

Exploiting apicomplexan diversity to discover vulnerabilities in metabolite acquisition

03:30 – 03:45 pm Kapil Pareek (RTG2740, Erlangen, Germany)

Investigating the effect of parasite density on parasite metabolism and epigenetic modifications

03:45 – 04:00 pm Philipp Grubwieser (Innsbruck, Austria)

Klebsiella pneumoniae manipulates human macrophages to acquire iron

04:00 – 04:30 pm Coffee-Break

Session 2: Systems analysis of immune responses to pathogens (part1)

Chair: Prof. Vasily Zaburdaev & Soham Mukhopadhyay

- 04:30 – 05:00 pm** **Prof. A.-Emmanuel Saliba** (Würzburg, Germany)
Capturing host-pathogen interactions in space and time using single-cell transcriptomics
- 05:00 – 05:30 pm** **Dr. Florian Wimmers** (Tübingen, Germany)
Systems immunology assessment of human immune responses
- 05:30 – 05:45 pm** **Dominik Lerm** (RTG2740, Erlangen, Germany)
Deciphering the role of microenvironment and immunomodulatory factors during *Leishmania major* infection by integrative bioinformatics modeling
- 7:00 pm** **Speakers dinner**

Thursday, June 29

Session 3: Virulence and metabolism of infectious pathogens (part 2)

Chair: Prof. Anja Lührmann & Faiza Asghar

- 09:00 – 09:30 am** **Prof. Petra Dersch** (Münster, Germany)
Remodeling of Yersinia-host interaction during the transition from the acute to persistent infection governed by bacterial toxins
- 09:30 – 09:45 am** **Chaobo Lai** (RTG2740, Erlangen, Germany)
Chronic Systemic Infection of Mice with *Leishmania infantum* Leads to Increased Bone Mass
- 09:45 – 10:15 am** **Prof. Wolfgang Eisenreich** (Munich, Germany)
Dual isotopologue profiling: Novel insights into the dual reprogramming of metabolism during bacterial infections
- 10:15 – 10:30 am** **Lena Buck** (Regensburg, Germany)
Macrophage metabolism as a diagnostic target to identify infections
- 10:30 – 11:00 am** **Coffee-Break**

Session 4: Systems analysis of immune responses to pathogens (part 2)

Chair: Dr. Meik Kunz & Fabian Schälter

- 11:00 – 11:30 am Prof. Thomas Dandekar** (Würzburg, Germany)
Systemsbiological analysis of metabolic adaptation during microbial infections
- 11:30 – 12:00 am Prof. Alexander Hoffmann** (Los Angeles, U.S.A.)
A temporal signaling code in immune sentinel cells
- 12:00 – 12:15 pm Baplu Rai** (Erlangen, Germany)
Arginase1 paves the development of the myeloid host cell niche in chronic cutaneous leishmaniasis
- 12:15 – 2:00 pm Lunch Palmeria / Free time**

Session 5: Microbial modulation of immune defenses (part 1)

Chair: PD Dr. Ulrike Schleicher & Noor-A-Kasida Islam

- 02:00 – 02:30 pm Prof. Gerard Wong** (Los Angeles, U.S.A.)
Viral afterlife: SARS-CoV-2 as a reservoir of immunomimetic peptides that re-assemble into pro-inflammatory supramolecular complexes."
- 02:30 – 02:45 pm Katharina Kocher** (Erlangen, Germany)
Functionality of antigen-specific T-cell receptor repertoires after SARS-COV-2 vaccination.
- 02:45 – 03:15 pm Prof. Martin Olivier** (Montréal, Canada)
Leishmania extracellular vesicles: a cardinal player in skin pathology development
- 03:15 – 03:30 pm David Barinberg** (RTG 2740, Erlangen, Germany)
Differential role of eosinophils in *L. mexicana* and *L. major* infections
- 03:30 – 03:45 pm Nur A Alam Siddique** (Erlangen, Germany)
Macrophages inhibit *Coxiella burnetii* by the ACOD1-itaconate pathway for containment of Q fever
- 03:45 – 04:15 pm Coffee-Break**

Session 6: Microbial modulation of immune defenses (part 2)

Chair: Prof. Sven Krappmann & Delara Soltan-Esmaeili

- 04:15 – 04:45 pm Prof. Axel Brakhage** (Jena, Germany)
Intracellular survival of pathogenic fungi: new mechanisms and target for smart therapies
- 04:45 – 05:00 pm Johannes Berges** (RTG2740, Erlangen, Germany)
Responses of macrophages against *Aspergillus fumigatus* – insights in known and unknown mechanisms
- 05:00 – 05:15 pm Jasmin Adam** (RTG2740, Erlangen, Germany)
Signaling Events Driving *Aspergillus fumigatus*-Induced Eosinophil Activation
- 05:15 – 05:30 pm Lisa-Marie Graf** (RTG2740, Erlangen, Germany)
Investigation of eosinophil recruitment to the lung in allergic bronchopulmonary aspergillosis
- 05:30 – 05:45 pm Dr. Axel Dietschmann** (Jena, Germany)
Ready when you are – Inflammation as a signal to a co-evolved opportunist
- 06:00 pm Poster session with dinner**

Friday, June 30

Session 7: Microbes and Immunometabolism

Chair: Prof. David Vöhringer & Jonathan Pollock

- 09:00 – 09:30 am Prof. Kathy McCoy** (Calgary, Canada)
Microbes, metabolites and immunity
- 09:30 – 10:00 am Dr. Roi Avraham** (Rehovot, Israel)
Immunometabolic crosstalk during host-pathogen interactions
- 10:00 – 10:15 am Ev-Marie Schuster** (Erlangen, Germany)
Ex vivo metabolic profiling of vaccination-induced antigen-reactive human T cells
- 10:15 – 11:00 am Coffee-Break**

Session 8: Myeloid cells and fibroblasts as immunoregulators

Chair: Prof. Aline Bozec & Sahar Asadi-Asadabad

- 11:00 – 11:30 am Prof. David Sancho** (Madrid, Spain)
Connecting myeloid cell metabolism and function
- 11:30 – 12:00 am Prof. Peter Murray** (Munich, Germany)
Immunological control of ferroptosis and links to cancer biology
- 12:00 – 12:30 pm Dr. Natalia Pikor** (St. Gallen, Switzerland)
Lymphoid organ fibroblasts
- 12:30 – 12:45 pm Natascha Brigo** (Innsbruck, Austria)
Deletion of tumor necrosis factor in mice leads to altered macrophage iron homeostasis and promotion of *Salmonella enterica* serova Typhimurium multiplication
- 12:45 – 02:15 pm Lunch Palmeria/ Free time**

Session 9: From mouse to man

Chair: PD Dr. Heiko Bruns & Lijian Li

- 02:15 – 02:45 pm Dr. Moritz Peiseler** (Berlin, Germany)
Imaging Host Response to bacterial infection
- 02:45 – 03:00 pm Dr. Sigrid Bülow** (Regensburg, Germany)
Bactericidal/Permeability-Increasing Protein Instructs Dendritic Cells to Elicit Th22 Cell Response
- 03:00 – 03:30 pm Prof. Stephan Rosshart** (Erlangen, Germany)
Of mice and men and wildlings
- 03:30 – 04:00 pm Prof. Christina Zielinski** (Jena, Germany)
T cells with holes - how to communicate inflammation
- 04:00 – 04:15 pm Closing remarks** (Prof. C. Bogdan)
- 05:00 pm Social evening**