

# Scientific Programme of the 2<sup>nd</sup> International Conference

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

**09 – 11 April, 2025**

Institute of Microbiology – Clinical Microbiology,  
Immunology and Hygiene

Universitätsklinikum Erlangen,  
Wasserturmstraße 3/5, 91054 Erlangen



**Immuno  
MicroTope**  
RTG 2740

**FAU**

Friedrich-Alexander-Universität  
Medizinische Fakultät

**Uniklinikum  
Erlangen**



# Welcome Address



Prof. Dr. Christian Bogdan



Dr. Ilka Knippertz

## Dear colleagues and friends,

The Research Training Group (RTG) 2740 “ImmunoMicroTope” (<https://www.immunomicrotope.de/>) is a research consortium that started in 2022 and is funded by the Deutsche Forschungsgemeinschaft (DFG; German Research Foundation) for initially 4 ½ years. The work of 14 PhD students and 15 principal investigators pursues the hypothesis that the anti-infectious immune response and its evasion by pathogens are strongly influenced by the tissue context, the organic and inorganic micromilieu components and the metabolism of both host cells and the microorganisms at the site of infection, for which we previously coined the term “immunomicrotope”.

After the great success of the 1<sup>st</sup> International Immunomicrotope Conference of the RTG 2740 in June 2023, we decided to continue with the concept to bring together young investigators, who are at the beginning of their academic journey, and established researchers, who are leading experts in the field. As last time, we will have only one lecture hall without parallel sessions. The poster session will be in the same room as all coffee breaks and the small industrial exhibition.

In this 2<sup>nd</sup> International Immunomicrotope Conference, invited speakers, project leaders, postdocs and doctoral candidates from 14 different countries will meet and exchange their latest results on immune cell-pathogen interactions. A particular emphasis will be given to epigenetics, tissue micromilieu factors and immunometabolism as well as to mouse and human infection models.

The Friedrich-Alexander-University Erlangen-Nürnberg (FAU) is one of the strongest and most innovative research institutions among the German universities. The RTG 2740 is part of the FAU Profile Center Immunomedicine, which covers basic, translational and clinical immunology (<https://www.immunology.fau.de/>).

We cordially welcome you to Erlangen and wish you all an enjoyable, scientifically rewarding and memorable meeting.

Sincerely,

A handwritten signature in blue ink that reads "Christian Bogdan".

**Prof. Dr. Christian Bogdan**  
Spokesperson of the RTG 2740

A handwritten signature in blue ink that reads "I. Knippertz".

**Dr. Ilka Knippertz**  
Coordinator of the RTG 2740

# Scientific Programme

Wednesday, April 9, 2025

12:30 – 02:00 pm **Registration**

02:00 – 02:30 pm **Welcome and Introduction by  
Prof. Christian Bogdan**

(Spokesperson of the RTG 2740 and Director of the Institute of Clinical Microbiology, Immunology and Hygiene, Erlangen, Germany)

## Session 1:

### Hematopoietic cells as immunoregulators

*Chair: David Vöhringer (Erlangen) & Johannes Berges (Erlangen)*

02:30 – 03:00 pm **Gordon Brown** (Exeter, United Kingdom)  
C-type lectins in immunity

03:00 – 03:30 pm **Tim Lämmermann** (Münster, Germany)  
Mast cell dynamics – unique among immune cells

03:30 – 03:45 pm **David Barinberg** (Erlangen, Germany, RTG2740, A6)  
The metabolic program of eosinophils drives chronic skin inflammation

03:45 – 04:00 pm **Lisa-Marie Graf** (Erlangen, Germany, RTG2740)  
Impact of cDC2s on ILC2s and eosinophilia in allergic bronchopulmonary aspergillosis

04:00 – 04:30 pm **Coffee-Break**

## Session 2:

### Epigenetic and metabolic regulation of *adaptive immunity*

*Chair: Aline Bozec (Erlangen) & Jonathan Pollock (Erlangen)*

04:30 – 05:00 pm **Wilfried Ellmeier** (Vienna, Austria)  
Histone deacetylases and the control of T cell-mediated immunity

05:00 – 05:30 pm **Kilian Schober** (Erlangen, Germany)  
Metabolic quiescence precedes and maintains human antigen-specific T cell memory in vivo

05:30 – 05:45 pm **Bohdan Holoborodko** (Regensburg, Germany, RTG2740, A2)  
T-cell-dependent regulation of local tissue perfusion and oxygenation in cutaneous leishmaniasis

05:45 – 06:00 pm **Sahar Asadi-Asadabad** (Erlangen, Germany, RTG2740, A1)  
The effects of a high-fat diet on B cell-mediated Immune Responses

7:00 pm **Speakers´ dinner at restaurant  
„Mein Lieber Schwan“** (Hauptstraße 110)

Thursday, April 10, 2025

### Session 3:

#### (Epi)genetics, infection and host immunity

Chair: Michaela Petter (Erlangen) & Lijian Li (Erlangen)

- 09:00 – 09:30 pm **Melanie Hamon** (Paris, France)  
Bacteria-mediated histone modifications in health and disease
- 09:30 – 10:00 pm **Monica de Rolando** (Paris, France)  
Exploring epigenetic reprogramming by *Legionella pneumophila* during infection
- 10:00 – 10:15 pm **Kapil Pareek** (Erlangen, Germany, RTG2740, B1)  
Investigating histone lactylation as a novel epigenetic modification in the malaria parasite *Plasmodium falciparum*
- 10:15 – 10:30 pm **Stefan Wirtz** (Erlangen, Germany, RTG2740, A4)  
Immunepithelial crosstalk in the *Eimeria* model of coccidiosis
- 10:30 – 11:00 pm **Coffee-Break**

### Session 4:

#### Tissue micromilieu factors and infections

Chair: Anja Lührmann (Erlangen) & David Barinberg (Erlangen)

- 11:00 – 11:30 pm **Fernanda Novais** (Columbus, USA)  
Hypoxia and CD8 T cells in cutaneous leishmaniasis
- 11:30 – 11:45 pm **Jonathan Jantsch** (Köln, Germany)  
Tissue microenvironment and metabolism in immune responses
- 11:45 – 12:00 pm **Roman Gerlach** (Erlangen, Germany, RTG2740, A8)  
Oxygen-dependent regulation of the virulence of *Salmonella enterica*
- 12:00 – 12:15 pm **Faiza Asghar** (Erlangen, Germany, RTG2740, A3)  
*Coxiella burnetii* establishes a small cell-variant-like persistent form in primary hypoxic macrophages
- 12:15 – 2:00 pm **Lunch in the Palmeria / Free time**

## Session 5:

### (Epi)genetics, infection and host immunity

Chair: Peter Murray (Munich) & Faiza Asghar (Erlangen)

- 02:00 – 02:30 pm **Joanna Maria Kalucka** (Aarhus, Denmark)  
Endothelial interferon signaling drives inflammation through metabolic rewiring
- 02:30 – 03:00 pm **Thomas Weichhart** (Vienna, Austria)  
Metabolic regulation of tissue homeostasis by macrophages
- 03:00 – 03:15 pm **Roland Lang** (Erlangen, Germany)  
Myeloid itaconate: antimicrobial effector, immunoregulator or metabokine?
- 03:15 – 03:30 pm **Natascha Brigo** (Vienna, Austria)  
Deletion of tumour necrosis factor in mice leads to promotion of *Salmonella enterica* serovar Typhimurium multiplication by modulating macrophage iron homeostasis
- 03:30 – 03:45 pm **Anna Weigert** (Regensburg, Germany)  
The contribution of metabolism to defense mechanisms directed against *Salmonella enterica* Typhimurium
- 03:45 – 04:15 pm **Coffee-Break**

## Session 6:

### Pathogen metabolism, virulence and immune cell modulation

Chair: Ulrike Schleicher (Erlangen) & Bohdan Holoborodko (Erlangen)

- 04:15 – 04:45 pm **Gerald Späth** (Paris, France)  
Going nuclear: *Leishmania* epigenetic subversion of macrophage immuno-metabolic functions.
- 04:45 – 05:15 pm **Malcolm McConville** (Melbourne, Australia)  
Parasite metabolism and pathogenesis
- 05:15 – 05:30 pm **Noor-A-Kasida Islam** (Erlangen, Germany, RTG2740, B2A)  
Micromilieu factors shape the host cell niche for *Leishmania major* infection
- 05:30 – 05:45 pm **Delara Soltan Esmaeli** (Erlangen, Germany, RTG2740, B3A)  
The nutritional environment during sporulation alters the fitness of *Aspergillus fumigatus* conidia
- 06:15 pm **Poster session with dinner in the seminar room of the institute**

Friday, April 11, 2025

### Session 7:

#### Mucosal and intestinal immunology

Chair: Christian Schwartz (Erlangen) & Sahar Asadi-Asadabad (Erlangen)

- 09:00 – 09:30 pm **Marco Colonna** (St. Louis, USA)  
Exploring the heterogeneity of Ror $\gamma$ -positive cells in the intestinal mucosa
- 09:30 – 10:00 pm **Matthew Hepworth** (Manchester, United Kingdom)  
ILC regulatory networks in mucosal barrier tissue microenvironments
- 10:00 – 10:15 pm **Iliia Gimaev** (Erlangen, Germany, RTG2740, B4)  
The association between intestinal acetylation and *Heligmosomoides polygyrus* infection
- 10:15 – 10:30 pm **Jonathan Pollock** (Erlangen, Germany, RTG2740, A7A)  
Differential metabolism of tryptophan is an immunometabolic feature of susceptibility to helminth infection
- 10:30 – 11:00 pm **Coffee-Break**

### Session 8:

#### HUMAN and mouse infection models (I)

Chair: Norbert Reiling (Borstel) & Iliia Gimaev (Erlangen)

- 11:00 – 11:30 pm **Richa Mishra** (Heidelberg, Germany)  
Disrupting cord architectures to enhance antibiotic treatment and lung health in *Mycobacterium tuberculosis* infections
- 11:30 – 12:00 pm **Franziska Faber** (Würzburg, Germany)  
*Bacteroides thetaiotaomicron* accelerates *Clostridioides difficile* virulence programs during co-colonization of hypoxic, mucus-producing human colon models
- 12:00 – 12:15 pm **Jochen Mattner** (Erlangen, Germany)  
Polysaccharides as promising targets for vaccination against *Clostridioides difficile*
- 12:15 – 12:30 pm **Lijian Li** (Erlangen, Germany, RTG2740, A5)  
Functional adaptations in situ to microenvironmental challenges facilitate neutrophil effector function in vivo
- 12:30 – 12:45 pm **Johannes Berges** (Erlangen, Germany, RTG2740, B3B)  
Responses of macrophages against *Aspergillus fumigatus*: specific responses against fungi?
- 12:45 – 02:15 pm **Lunch in the Palmeria / Free time**

## Session 9:

### Human and MOUSE infection models (II)

Chair: Sven Krappmann (Erlangen) & Noor-A-Kasida Islam (Erlangen)

- 02:15 – 02:45 pm **Paul Kaye** (York, United Kingdom)  
Landscape immunology of Old World cutaneous leishmaniasis
- 02:45 – 03:15 pm **Alvaro Baeza Garcia** (Antwerp, Belgium)  
Novel insights from animal models into uncharted *Leishmania* biology
- 03:15 – 03:30 pm **Baplu Rai** (Erlangen, Germany)  
Role of arginase and arginine in the pathogenesis and treatment of *Leishmania mexicana* infections
- 03:30 – 03:45 pm **Dominik Lerm** (Erlangen, Germany, RTG2740, B2B)  
Leveraging bioinformatics platforms to unveil immunological processes during *Leishmania* Infection
- 03:45 – 04:00 pm **Soham Mukhopadhyay** (Erlangen, Germany, RTG2740, A7B)  
Modeling host-pathogen interactions: Infection progression as a stochastic population dynamics model
- 04:00 – 04:15 pm **Christian Bogdan**  
Closing remarks
- 05:00 pm **Departure for the social evening at the “Klosterbräu” brewery, World Heritage City of Bamberg**



# General Information

## Date

April 9-11, 2025

## Venue

Universitätsklinikum Erlangen  
Institut für Klinische Mikrobiologie, Immunologie und Hygiene  
Lecture Hall and Seminar Room  
Wasserturmstr. 3/5, 91054 Erlangen, Germany

## Conference Contact

- Dr. Ilka Knippertz (+49-9131-8532571)
- Prof. Dr. Christian Bogdan (+49-9131-8532561)

## Organizers, Committees and Assistance

The 2<sup>nd</sup> International Symposium “ImmunoMicroTope” is held and organized by the Research Training Group (RTG) 2740 and the Institute for Clinical Microbiology, Immunology and Hygiene in cooperation with the Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) and the Universitätsklinikum Erlangen.

## Scientific Committee

- Christian Bogdan (Chair, Speaker RTG2740)
- Aline Bozec (Vice Speaker RTG2740)
- Michaela Petter (Vice Speaker RTG2740)
- Heiko Bruns
- Katja Dettmer-Wilde
- Roman Gerlach
- Jonathan Jantsch
- Sven Krappmann
- Meik Kunz
- Anja Lührmann
- Ulrike Schleicher
- Stefan Uderhardt
- David Vöhringer
- Stefan Wirtz
- Vasily Zaburdaev
- Mario Zaiss
- Jonathan Pollock (PhD student)
- Noor-A-Kasida Islam (PhD student)
- Ilka Knippertz (Meeting coordinator)

## Conference Homepage

Ilka Knippertz (Meeting Coordinator)

## Digital Art, Photography

- Ilka Knippertz (Meeting Coordinator),
- Stabsabteilung Kommunikation, Uniklinikum Erlangen

## Catering and Social Event

- Nägel Ideen und Events GmbH & Co.KG, Erlangen
- Mein Lieber Schwan, Erlangen
- Klosterbräu, Bamberg



WiFi



## Sponsoring and Financial Support

**We thank the following companies for their generous sponsorship of the scientific programme of the meeting:**



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Deutsche Forschungsgemeinschaft



Verein zur Förderung der bakteriologisch – immunologischen  
Wissenschaften e. V.

Map of Erlangen (Conference Venue, Station and Hotels)



Restaurant  
Mein lieber Schwan

Hotel Grauer Wolf

Hotel Altmanns

Hotelchen Am Theater

Conference venue

Bus to Bamberg

Train station



Parkhaus Uni-Kliniken

Palmeria

Stube

Maximiliansplatz

Hindenburgstr.

Krankenhausstr.

Östliche Stadtmauerstr.

Universitätsstr.

Lorleberplatz

Krankenhausstr.

Obere Karlstr.

Bohlenplatz

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Kussmaulallee

Radweg

Palmsanlage

Hindenburgstr.

Bismarckstr.

Schillerstr.

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