



CRC/TRR241 Newsletter

March 2022 – Issue 10

New TRR 241 First and Senior Author Publications

Britta Siegmund (B01) published with the support of **Christian Bojarski (C02)**, **Maximilian Waldner (C01)**, **Sebastian Schürmann (C01)**, **Markus F. Neurath (C04)** and **Raja Atreya (C02/C03/INF)** the review **Innovative Diagnostic Endoscopy in Inflammatory Bowel Diseases: From High-Definition to Molecular Endoscopy** in the journal **Frontiers in Medicine**.

Rocío López-Posadas (A07) published with the support of **Markus F. Neurath (C04)** the review **Molecular Communication Between Neuronal Networks and Intestinal Epithelial Cells in Gut Inflammation and Parkinson's Disease** in the journal **Frontiers in Medicine**.

Sebastian Zundler (C04) published with the support of **Caroline Bosch-Voskens (C04)**, **Ahmed Hegazy (A05)**, **Raja Atreya (C02/C03/INF)**, **Imke Atreya (A07)** and **Markus F. Neurath (C04)** the article **Residual homing of $\alpha 4\beta 7$ -expressing $\beta 1^+ PI16^+$ regulatory T cells with potent suppressive activity correlates with exposure-efficacy of vedolizumab** in the journal **Gut**.

Michael Stürzl (A06) and **Susanne M. Krug (B06)** published the review **Angiocrine Regulation of Epithelial Barrier Integrity in Inflammatory Bowel Disease** in the journal **Frontiers in Medicine**.

Claudia Günther (A02) and **Markus F. Neurath (C04)** published together the review **The Gut-Brain Axis in Inflammatory Bowel Disease-Current and Future Perspectives** in the journal **International Journal of Molecular Sciences**.

Raja Atreya (C02/C03/INF) and **Markus Neurath (C04)** published together the article **Case report of severe constrictive perimyocarditis and ischemic hepatitis in a Crohn's disease patient upon infliximab-induced lupus-like syndrome** in the journal **Therapeutic advances in gastroenterology**.

Jay Patankar (B05) published with the support of **Anja A. Kühl (INF)**, **Raja Atreya (C02/C03/INF)**, **Markus F. Neurath (C04)**, **Michael Schumann (C03)**, **Zlatko Trajanoski (INF)** and **Christoph Becker (A03)** the article **Dynamic, Transient, and Robust Increase in the Innervation of the Inflamed Mucosa in Inflammatory Bowel Diseases** in the journal **Cells**.

Claudia Günther (A02), **Rocío López-Posadas (A07)**, **Stefan Wirtz (A03)** and **Markus F. Neurath (C04)** published the article **STAT1 coordinates intestinal epithelial cell death during gastrointestinal infection upstream of Caspase-8** in the journal **Mucosal Immunology**.

Christian Bojarski (C02), **Britta Siegmund (B01)** and **Michael Schumann (C03)** published the article **Prospective, double-blind diagnostic multicentre study of confocal laser endomicroscopy for wheat sensitivity in patients with irritable bowel syndrome** in the journal **Gut**.

Markus F. Neurath (C04) published the review **Gut as viral reservoir: lessons from gut viromes, HIV and COVID-19** in the journal **Gut**.

Markus F. Neurath (C04) published the review **COVID-19: biologic and immunosuppressive therapy in gastroenterology and hepatology** in the journal **Nature reviews, Gastroenterology & Hepatology**.

Chiara Romagnani (B02) published the article **An in vitro platform supports generation of human innate lymphoid cells from CD34+ hematopoietic progenitors that recapitulate ex vivo identity** in the journal **Immunity**.

Andreas Diefenbach (A01) published with the support of **Andrey Kruglov (A04)** and **Andreas Radbruch (B03)** the article **Untimely TGF β responses in COVID-19 limit antiviral functions of NK cells** in the journal **Nature**.



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Markus F. Neurath (C04), Stefan Wirtz (A03) and Raja Atreya (C02/C03/INF) published the article **Targeting of the Tec Kinase ITK Drives Resolution of T Cell-Mediated Colitis and Emerges as Potential Therapeutic Option in Ulcerative Colitis** in the journal **Gastroenterology**.

Chiara Romagnani (B02) and Hyun-Dong Chang (B03) published the article **T-bet and ROR α control lymph node formation by regulating embryonic innate lymphoid cell differentiation** in the journal **Nature Immunology**.

Britta Siegmund (B01) published with the support of Michael Schumann (C03), Christian Bojarski (C02), Carl Weidinger (B01) and Anja A. Kühl (INF) the article **Human small intestinal infection by SARS-CoV-2 is characterized by a mucosal infiltration with activated CD8+T cells** in the journal **Mucosal Immunology**.

Markus F. Neurath (C04) and Moritz Leppkes (B04) published with the support of Sebastian Zundler (C04), Jay Patankar (B05), Clemens Neufert (A08), Raja Atreya (C02/C03/INF), Anja A. Kühl (INF), Christoph Becker (A03) and Martin Herrmann (B04) the article **Neutrophils prevent rectal bleeding in ulcerative colitis by peptidyl-arginine deiminase-4-dependent immunothrombosis** in the journal **Gut**.



TRR241 - proposal submission for the second funding period

- On the 8th of December 2021, we submitted our proposal for a second funding period of the TRR241 (July 2022 to June 2026).
- The virtual review was on the 7th and 8th of February 2022.

Thank you all for your help during this intensive time and we hope for a successful next funding period 😊

Congratulations!

Prof. Dr. Claudia Günther contributed with an interview in the article "Botschaften aus dem Bauch" from Jörg Blech in **Der Spiegel** Nr.11/12.03.2022



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iRTG Student Retreat

On September 23-24, 2021, the iRTG Student Retreat was held as a virtual meeting. The retreat was self-organized by the PhD students and was a true success.

The following international and national guest speakers were also present:

- Prof. Anika Grüneboom (UDE and ISAS)
- Prof. Brigitta Stockinger (Francis Crick Institute)
- Dr. Sina Bartfeld (IMIB - Julius-Maximilians University Würzburg)
- Prof. Bana Jabri (University of Chicago)

Congratulation to Stylianos Gnafakis and Leonie Hartmann, who won the poster awards.
Thanks to all PhD students for the excellent poster presentations!

Personnel changes

We bid farewell to Ina Schlelein, who has headed the TRR 241 sector secretariat in Erlangen since 2018/2019.

Many thanks for the great work and all the best for the future!



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We proudly present the PhD students of the TRR241



My name is **Miriana Leggio** and I am a PhD student in the group of Dr. med. Sebastian Zundler since September 2019. I did my Bachelor's and Master's degree in Molecular Biology at the University of Pavia (Italy). During my master's degree I got two fellowships one in Heidelberg in a Laboratory of Molecular Biology in ZMBH (Heidelberg) and another in a Laboratory of Molecular Oncology in the Institute of Oncology Research (IOR) in Switzerland. After my master's degree I specialized in the field of immunology and I worked for two years in a Laboratory of immuno-allergology in the Hospital San Matteo (Pavia, Italy). In my research project we are studying the effects of GPR15 Ligand in experimental colitis and human IBD.

I am Stelios Gnafakis and I am pursuing my doctoral thesis together with Prof. Diefenbach at the Institute of Microbiology at Charité, Campus Benjamin Franklin. During my Bachelor studies, I got a DAAD scholarship for an internship at the Technical University in Munich. This experience motivated me to furtherly continue my education in Germany. By the end of my bachelor studies, I was accepted to the International Master Program of Molecular Medicine at Charité. Since 2017, I am working on how innate lymphoid cells interact with the intestinal epithelium during homeostasis and lactation. In 2019 I joined TRR241 and I am tightly working together with AG Triantafyllopoulou on project A01, unravelling the role of ILC3s for the TNFDARE mouse model, which mimics Crohn's Disease in humans. Currently, I am also students representative among Berlin students, aiming to contribute also to organizational matters of the program.

