

PILOT International Symposium on Perinatal and Early Life Immunity

Historisches Kaufhaus 9-12 April 2025 Preliminary Program (24 March 2025)

| WEDNESDAY 9 APRIL 2025 | | | | | |
|--|---|--|--|--|--|
| 12.00-13.00 Arriva | ıl . | | | | |
| 13.00-13.15 Welco | Welcome and introduction (Philipp Henneke & Markus Sperandio) | | | | |
| 13.15-15.15 Session | Session 1: Immunity at the materno-fetal interface (Chairs: Philipp Henneke & Markus Sperandio) | | | | |
| Petra Arck | Modulation of early life immunity by vertical transfer of maternal immune markers during pregnancy | | | | |
| Nardhy Gomez-Lopez Roland Immler | In Utero Inflammation Causes Preterm Birth, Fetal Injury, and Neonatal Complications Preimplantation factor (PIF) is an endogenous inhibitor of potassium channel KV1.3 regulating neutrophil function in vivo during pregnancy | | | | |
| Melanie Conrad | Antibiotic use during pregnancy influences placental morphogenesis and offspring immune system development | | | | |
| Koichiro Suzuki | Maternal gut microbiota induces $\gamma\delta T$ cells at the maternal-fetal interface to prevent pathogen-associated intrapartum complications | | | | |
| 15.15-15.40 Coffee break | | | | | |
| 15.40-17.50 Session 2: Early innate immune cell development (Chairs: Barbara Schraml & Michele Proietti) | | | | | |
| Elisa Gomez Perdiguero Claudia Waskow Eran Elinav | Title TBC The role of embryonic macrophages in the formation of a bone marrow niche key for the establishment of a hematopoietic stem cell pool Host-microbiome interaction in health and disease | | | | |
| Renske de Jong | Neonatal monocytes and macrophages display a diverse metabolic phenotype | | | | |

Holistic genetic barcoding reveals a lineage tree of tissue macrophage development

| TUI | IDCI | 1 A V | 10 | ADDII | 2025 |
|-----|------|-------|----|-------|------|

Break

Larissa Frank

17.50-18.15

18.15-21.15

| 8.45-10.45 Session 3: Development of macrophages and DC (Chairs: Anne L | Lösslein & David Hackam) |
|---|--------------------------|
|---|--------------------------|

Guy Boeckxstaens How resident macrophages shape and maintain the enteric nervous system

Steffen Jung Monocytes and Macrophages – revisited

Poster evening with finger food

Barbara Schraml RORyt-expressing dendritic cells are functionally versatile and evolutionarily conserved antigen

presenting cells

Marco Prinz How early postnatal microglia shape CNS homeostasis

Aaron Silva Sanchez Inhibition of TNFR2 signaling improves neonatal immune responses to vaccination and infection by

limiting regulatory maturation of lung XCR1+ dendritic cells

10.45-11.10 Coffee break

11.10-13.10 Session 4: Maternal cues in early immune development (Chairs: Zsolt Ruzsics & Julia Kolter)

Galit Alter Decoding placental antibody transfer and its impact on early life vaccine immunity

Lindsay Hall Microbial and host interactions in pregnancy and early life: balancing beneficial and pathogenic

influences

Christian Schulz Differential developmental paths and functions of cardiovascular macrophages

Mikael Niku Maternal microbial metabolites and extracellular vesicles in the fetal development of the intestinal

immune system

Nicole Baumgarth In utero infection modulates neonatal tissue-resident acetyl choline-producing B cells critical for

regulating macrophage responses to influenza infection

13.10-14.15 Lunch, Podium discussion with Editors (Chairs: Sarah Kim-Hellmuth & Ramin Shakiba) & Posters

14.15-16.15 Session 5: Prenatal immune development (Chairs: Sebastian Preissl & Thomas Boehm)

Muzlifah Haniffa The developing human immune system

Florent Ginhoux Interplay between the human fetal immune system and microbes

Yuval Rinkevich Fibroblast-immune interactions guide skin development and healing response

Katrin Kierdorf Early microglia progenitors colonize the embryonic CNS via integrin-mediated migration from the

pial surface

Naomi McGovern Placental macrophages and how they fight Listeria monocytogenes infection

16.15-17.15 Coffee break and Posters

17.15-19.15 Session 6: Early life intestinal immunity (Chairs: Natalia Torow & Kathy McCoy)

Dave Hackam Early life risk factors in the pathogenesis of necrotizing enterocolitis, and the discovery of novel

therapies (CIBSS sponsored talk)

Christina Stehle Regulation of ILC differentiation and maintenance by the intestinal epithelium

Elise Saager Naive T cell development in the gut

Chloe H. Lee Spatio-temporal regulation of intestinal development

Ignacio Gonzalez Perez A systemic wave of neonatal eosinophils promotes tissue homeostasis and commensalism

20.30 onwards **Speakers' Dinner** (invitation only - invited speakers + PILOT PIs)

FRIDAY 11 APRIL 2025

8.45-10.45 Session 7: Development of adaptive immunity (Chairs: Claudia Nussbaum & Sagar)

Thomas Boehm Evolutionary trajectory of vertebrate immunity

Deena Gibbons Unique features of adaptive immune cells in human neonates

Natalia Torow Long-term induction of hepatic T cell homeostasis during an early neonatal time window

Marta Rizzi A single-cell multiomics map of prenatal and adult human B-lymphopoiesis
Elena Boldrin LIN28B constrains IgL receptor editing to accelerate B cell maturation in early life

10.45-11.10 Coffee break

11:10-13.10 Session 8: Development of immunity at interfaces (Chairs: Sebastian Baasch & Dunja Bruder)

Melanie Greter The development and function of embryonic macrophages at the maternal-fetal interface

Christoph Thaiss Title TBC

Anne Hilgendorff Interleukin 7 signaling as a critical player in lung vascular disease connecting immune response and

endothelial cell pathology

Elisabeth De Leeuw Early life RSV infection as a preventable risk factor for asthma

Jochen Hühn How early-life perturbations and microbiota affect the development of tissue-resident Tregs

13.10-14.10 Lunch & Posters

14.10-16.10 Session 9: Development and adaptation of myeloid cells (Chairs: Claudia Waskow & Melanie Börries)

Paul Kubes A potential reason for bloodstream infections in newborns

Dorothee Viemann Understanding adaptation processes in monocytes after birth to promote precision medicine

Christoph Scheiermann Tracing the development of circadian rhythms in the immune system

Maria Ovezik Contribution of pancreatic macrophages to neonatal islet maturation and long-term glucose

homeostasis

Julia Kolter TGFb drives macrophage development in the skin

16.10-16.55 Coffee break and Posters

16.55-18.55 Session 10: Perinatal immune adaptation (Chairs: Gabriel Nunez & Roland Immler)

Chiara Romagnani Dynamics and mechanisms of innate clonality

Debby Bogaert Host-microbiome interaction in the respiratory tract in early life

Philipp Henneke Development of barrier immunity against naturally colonizing streptococci

Markus Sperandio How maternal neutrophils facilitate Listeria infection of the placenta and fetus

Hanno Steen Every Hour Counts: Mapping Neonatal Blood Plasma Proteome Changes during the First 2 Days of

Life at Hourly Resolution

20.00 onwards Social Evening & Prize Ceremony (Wodan Halle)

SATURDAY 12 APRIL 2025

8.45-10.45 Session 11: Development of microbiome and metabolism (Chairs: Mathias Hornef & Carsten Marr)

Christoph Härtel The role of probiotics in the microbial cloud of preterm babies

Petter Brodin Microbial sensing via a leaky gut imprints developing immune cells in human newborns

Mathias Hornef The antimicrobial host response to infection in the neonatal small intestine

Stephanie Ganal-Vonarburg Microbiota during early life windows orchestrates intestinal maturation and barrier formation in

the neonate

Rasmus Kaae Dehli Early-life bifidobacterial metabolite reduces IgE production and allergic sensitization

10.45-11.10 Coffee break

11.10-13.10 Session 12: Microbiome and barrier immunity (Chairs: Katrin Kierdorf & Stephan Rosshart)

Gabriel Nunez Microbiota-host interactions in Health and Intestinal Inflammatory Disease

Kathy McCoy Title TBC

Daniel Erny Different impact of host microbiota on the CNS immune system across mouse strains

Ziad Al Nabhani The influence of T cell-microbial interactions during weaning on long-term diseases development

Tom Clavel Gut microbiome and microbe-host interactions in early life

13.10-13.25 Closing remarks (Markus Sperandio & Philipp Henneke)

From 13.30 Departure



