



von Behring-Röntgen and Leopoldina Symposium

TUFT CELLS

28-30 AUGUST 2023, GIESSEN, GERMANY

KEYNOTE SPEAKER

Robert Margolskee
Philadelphia, USA

SPEAKERS

Mark Anderson
San Francisco, USA

Lora Bankova
Boston, USA

Noam Cohen
Philadelphia, USA

Klaus Deckmann
Giessen, Germany

Kathleen DelGiorno
Nashville, USA

Thomas Finger
Denver, USA

Philippe Jay
Montpellier, France

Maryam Keshavarz
Augsburg, Germany

Gabriela Krasteva-Christ
Homburg, Germany

Jakob von Moltke
Seattle, USA

Alexander Perniss
Boston, USA

Kristin Rattay
Marburg, Germany

Christoph Schneider
Zurich, Switzerland

Christopher Vakoc
Cold Spring Harbor, USA

Andrew Vaughan
Philadelphia, USA

Craig Wilen
Yale, USA

ORGANIZING COMMITTEE

Wolfgang Kummer
Giessen, Germany

Kristin Rattay
Marburg, Germany

Christoph Schneider
Zurich, Switzerland

Burkhard Schütz
Marburg, Germany

REGISTRATION

Early-bird registration ends April 30
Registration deadline: July 31

Regular fee (early): 250 €
Regular fee: 350 €
Students fee (early): 150 €
Students fee: 250 €

Abstract submission deadline: June 30

VENUE

University Giessen Main Building
Ludwigstrasse 23, 35390 Giessen

CONTACT

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Scientific Program

Monday, August 28, 2023

14:00 **Registration opens**

18:00 - 19:00 **Welcome & Opening of the Symposium**

Wolfgang Kummer, Giessen

Norbert Suttrop, Berlin, Representative of the Leopoldina

Gabriele Krombach, Giessen, Vice President of the von Behring-Röntgen Foundation

Till Acker, Vice Dean (Research) of the Faculty of Medicine, JLU Giessen

19:00 - 19:45 **Opening Keynote Lecture**

Chair: Klaus Deckmann

Gingival solitary chemosensory cells serve as immune sentinels to protect against periodontitis

Robert Margolskee, Philadelphia, USA

20:00 **Welcome Reception**

Tuesday, August 29, 2023

- 07:30** **Registration opens**
- 08:30 - 10:00** **Session I: Development and Cancer**
Chair: Yosuke Yamada
- 08:30 - 09:00 Transcriptional master regulators of the tuft cell lineage
Christopher R. Vakoc, Cold Spring Harbor, USA
- 09:00 - 09:30 Metaplasia-derived tuft cells inhibit disease progression in the exocrine pancreas
Kathleen E. DelGiorno, Nashville, USA
- 09:30 - 09:45 **O1** ID2 and TCF7L1 are Novel Regulators of Tuft Cell Differentiation in Mouse Small Intestine
Zinina V, Mainz, Germany
- 09:45 – 10:00 **O2** The Ras Exchange Factor RasGRP1 Drives Tuft Cell Generation in Mouse Small Intestine
Shechtman L, San Francisco, USA
- 10:00 - 10:30** **Coffee break**
- 10:30 - 12:00** **Session II: Type 2 Immunity**
Chair: Michael Howitt
- 10:30 - 11:00 Tuft-cell-derived acetylcholine regulates epithelial fluid secretion
Jakob von Moltke, Seattle, USA
- 11:00 - 11:20 Tuft cell – ILC2 crosstalk in the intestine
Christoph Schneider, Zurich, Switzerland
- 11:20 - 11:35 **O3** - Co-existing Atoh1+ and Atoh1– progenitors contribute to tuft cell expansion during intestinal helminth infection
Feng X, Zürich, CH
- 11:35 - 11:50 **O4** - Liver X receptor controls Tuft cell-ILC2 circuit impairing anti-helminth immunity
Luo X, Stockholm, Sweden
- 12:00 - 13:00** **Lunch**

13:00 - 14:15 **Session III: Homeostatic and inflammatory circuits**

Chair: Christoph Schneider

13:00 - 13:30 A Paneth cell – tuft cell crosstalk controls microbiota and inflammation states in the gut mucosa

Philippe Jay, Montpellier, France

13:30 – 13:45 **O5** - Acute tuft cell depletion alters secretory cell lineages and nutrient absorption in mouse small intestine

Kaji I, Nashville, TN, USA

13:45 – 14:00 **O6** - WNT signalling promotes tuft cell specification during inflammation

Soshnikova N, Mainz, Germany

14:00 – 14:15 **O7** - Tuft cell expression of IL-17RB controls IL-25 availability in the small intestine and prevents chronic activation of ILC2s

Andersson T, Zürich, CH

14:15 - 15:15 **Session IV: Acute Paracrine Regulation**

Chair: Jakob von Moltke

14:15 - 14:35 Tuft cells as sentinels within the airways

Alexander Perniss, Boston, USA/Giessen, Germany

14:35 - 14:55 Paracrine regulation by biliary tuft Cell cotransmitters: Cysteinyl leukotrienes and acetylcholine

Maryam Keshavarz, Augsburg/Giessen, Germany

14:55 - 15:10 **O8** - Succinate triggers long-range Ca²⁺ waves via TRPM5-expressing brush cells across the tracheal epithelium

Boonen B, Leuven, Belgium/Homburg, Germany

15:15 - 15:45 **Coffee Break**

15:45 - 17:20 **Session V: The Neuronal Link**

Chair: Frank Zufall

15:45 - 16:15 Epithelial Chemosensory Cells: From Single Cells to Taste Buds

Tom Finger, Philadelphia, USA

16:15 - 16:45 Tracheal brush cells exert antimicrobial host defense via communication to sensory neurons

Gabriela Krasteva-Christ, Homburg, Germany

- 16:45 - 17:05 Urethral cholinergic chemosensory cells
Klaus Deckmann, Giessen, Germany
- 17:05 - 17:20 **O9** - Activation of tracheal brush cells induces TRPV1-mediated neurogenic inflammation
Elhawy MI, Homburg, Germany
- 19:00** **Open Public Lecture**
Bürstenzellen – Wächter des Darms
Christoph Schneider, Zürich, CH
- 20:00** **Congress Dinner**

Late breaking abstracts, posters on display in the main lecture hall

P1 – Short-term high fat feeding induces inflammatory responses of tuft cells and mucosal barrier cells in the murine stomach

Widmayer P, Hohenheim, Germany

P2 - Tuft cells mediate lung-gut connection in *Aspergillus fumigatus*-induced allergic lung inflammation

Boussad R, Orleans, France

P3 - Tas2r expression in the murine tracheal epithelium

Wiegand S, Giessen Germany

Wednesday, August 30, 2023

- 07:30 Registration opens**
- 08:30 - 09:45 Session VI: Viral and Protozoan Diseases**
Chair: Claire O’Leary
- 08:30 - 09:00 Tuft cell tropism mediates norovirus immune evasion
Craig Wilen, Yale, USA
- 09:00 - 09:30 Ectopic tuft cells after viral lung injury: function or dysfunction?
Andrew Vaughan, Philadelphia, USA
- 09:30 - 09:45 **O10** - Characterising the role of the microbiota in mediating parasite-tuft cell crosstalk during *Giardia* infection
Sosnowski O, Calgary, Canada
- 09:45 - 10:15 Coffee break**
- 10:15 - 11:20 Session VII: Tuft Cells and Lymphoid Organs**
Chair: Burkhard Schütz
- 10:15 - 10:45 Genetic control of thymic tuft cell development by Ikaros
Mark Anderson, San Francisco, USA
- 10:45 - 11:05 Transcriptional regulation of thymic tuft cell development: similar but different?
Kristin Rattay, Marburg, Germany
- 11:05 - 11:20 **O11** - Trpm5-dependent immune cell dynamics in lymphoid organs during *Pseudomonas aeruginosa* pneumonia
Evers S, Homburg, Germany
- 11:20 - 12:30 General Discussion**
“What’s your name?”, Collaborative efforts, further meetings
- 12:30 - 13:30 Lunch**
- 13:30 - 14:45 Session VIII: New kids on the block**
Chair: Kristin Rattay
- 13:30 – 14:00 Olfactory microvillous cells join the tuft cell family as allergen and danger sensor

Lora G. Bankova, Boston, USA

14:00 - 14:15 **O12** - Whether tuft cells are present in the human breast? The potential relevance to triple-negative breast cancer

Yamada Y, Kyoto, Japan

14:15 - 14:30 **O13** - Marker refinement in murine lower airways: advillin for tuft cells, villin for a neuroendocrine phenotype

Mahmoud W, Irbid, Jordan/Giessen. Germany

14:30 - 14:45 **O14** – LRMP⁺ chemosensory cells in the human respiratory tract

Hamarsheh D, Giessen, Germany

14:45 – 15:00 **O15** - Tuft cells inhibit pancreatic injury through IL-25 synthesis and secretion

Ruelas A, Nashville, USA

15:00 - 15:30 Coffee break

15:30 - 16:45 Session IX: Bacterial Triggers

Chair: Maryam Keshavarz

15:30 - 16:00 Bittersweet Regulation of Tuft Cell Antimicrobial Defenses

Noam Cohen, Philadelphia, USA

16:00 - 16:15 **O16** – The Role of the Aryl hydrocarbon Receptor (AhR) in Tuft Cell-mediated Intestinal Immunity

Mayer M, Bonn, Germany

16:15 - 16:30 **O17** - Tracheal brush cells modulate immune responses during airways inflammation through TRPM5 channel activation

Abdel Wadood N, Homburg, Germany

16:30 - 16:45 **O18** - Tracheal brush cells contribute positively to the phagocytosis of *Pseudomonas aeruginosa* by dendritic cells

Elhawy MI, Homburg, Germany

16:45 - 17:00 Closing remarks and awards

Burkhard Schütz, Marburg