

Revealing secrets of embryonic development

Stem cell researchers study the development from the fertilized egg cell to the embryo from the very first moment and investigate the molecular biological processes. Many processes in the emergence of a diverse and differentiated organism from a fertilized egg are not yet understood. The expectations for deeper knowledge are not only developmental insights, but an understanding of the origin of diseases. Hereditary diseases or mutations are triggers of serious diseases that could be countered with the help of future cell replacement therapies. With the GSCN Awards 2021, the German Stem Cell Network honors outstanding stem cell researchers.

- The "GSCN 2021 Young Investigator Award" goes to **Elvira Mass** from the Life and Medical Sciences Institute (LIMES) at the University of Bonn.

- The "GSCN 2021 Hilde Mangold Award" goes to **Katja Schenke-Layland** from the Natural and Medical Sciences Institute at the University of Tübingen.

- The "GSCN 2021 Publication of the Year Award" goes to **Katharina Scheibner** and **Heiko Lickert** together with **Silvia Schirge** and **Ingo Bartscher** from the Institute of Diabetes and Regeneration Research at Helmholtz Zentrum München.

To the awardees:

Prof. Dr. Elvira Mass receives the "GSCN 2021 Young Investigator Award" for her outstanding research in the field of the developmental significance of macrophages as cells of the innate immune system. Mass showed that macrophages, so-called big eaters, are long-lived and are an integral part of organogenesis. When mutated, they can initiate maldevelopments, e.g., in the brain, and play a decisive role in later diseases. Thus, Mass is changing the understanding of macrophages in their role in embryonic organ development and their influence on disease ontogeny and progression.

Elvira Mass (35) studied biology at the University of Bonn and earned her doctorate at the Life and Medical Sciences Institute (LIMES). In 2014, she joined Frederic Geissmann's lab at King's College in London and followed him a few months later to Memorial Sloan-Kettering Cancer Center in New York. From there, she returned to the LIMES Institute at the University of Bonn in 2017 as a group leader. In 2019, she became a professor for "Integrated Immunology" at the University of Erlangen-Nürnberg. In 2020, she moved to a professorship at the LIMES Institute. Mass has received several awards, including the Heinz Maier Leibnitz Prize in 2020 and the Paul Ehrlich and Ludwig Darmstaedter Young Investigator Award in 2021.

Link: [Elvira Mass](#)

Prof. Dr. Katja Schenke-Layland receives the "GSCN 2021 Hilde Mangold Award" for her significant research on the translation of findings from early human development into applications for regenerative medicine with a special focus on the extracellular matrix. Her career as a scientist and science manager shows a path of success that could be exemplary and inspiring for young women researchers: After studying biology and completing her doctorate in Jena, Katja Schenke-Layland moved to the USA, first as a postdoc and later as an assistant professor in Los Angeles, for in-depth research on cardiovascular tissue. From 2010, she took on various leadership positions in Germany at



the Fraunhofer Institute for Interfacial Engineering and Biotechnology in Stuttgart, while also being an Associate Professor at UCLA in Los Angeles and, from 2011, Professor of Medical Engineering and Regenerative Medicine at the Medical Faculty of the Eberhard Karls University in Tübingen. Since 2018, she has been the Director at the NMI Natural and Medical Sciences Institute in Reutlingen.

Link: [Katja Schenke-Layland](#)

Katharina Scheibner and **Heiko Lickert** receive the "GSCN 2021 Publication of the Year Award" together with **Ingo Bartscher** and **Silvia Schirge** for their joint publication "**Epithelial cell plasticity drives endoderm formation during gastrulation**", published 2021 in Nature Cell Biology. The scientists from the Institute of Diabetes and Regeneration Research at Helmholtz Zentrum München gained new insights into the formation of the endoderm cotyledon during gastrulation, the first phase of embryonic development. The researchers show that the formation of the endoderm cotyledon is regulated by the plasticity of the epithelial cells. This allows the cells to leave the epithelium and migrate away. This is important not only to understand how a fertilized egg becomes a whole organism, but especially to understand how hereditary diseases develop. This understanding could help improve cell replacement therapies. ([Scheibner, Schirge, Bartscher et al., 2021: Epithelial cell plasticity drives endoderm formation during gastrulation. Nature Cell Biology, DOI: 10.1038/s41556-021-00694-x](#))

Link: [Katharina Scheibner](#) und [Heiko Lickert](#)

The three GSCN Awards are endowed with 1,500 Euro each and the awardees will give a lecture in the Presidential Symposium on Thursday, 7 Oct. 2021, at this year's [GSCN Annual Conference](#).

The GSCN is a network for stem cell researchers working in Germany nationally and internationally since 2013 and communicates their results and research to a broad public. The promotion of young scientists and the presentation of outstanding female scientists receive special attention with the GSCN Hilde Mangold Award at the GSCN. Since 2021, the GSCN has been cooperating closely with the Berlin Institute of Health (BIH) in the jointly founded Dialogue Platform Stem Cell Research.

More general information can be found on the website www.gscn.org.

For further questions, please contact:

Stefanie Mahler
Referentin Kommunikation
stefanie.mahler@mdc-berlin.de
T. 030 9406 2483

Dr. Daniel Besser
Geschäftsführer GSCN
d.besser@mdc-berlin.de
T. 030 9406 2488