

Science Awards 2025 of the German Stem Cell Network (GSCN)

August 2025

Molecular Insights into Early Development and Cancer Formation

With the GSCN Awards 2025, the German Stem Cell Network recognizes outstanding stem cell researchers on their way of exploring and gaining insights into cellular mechanisms. Their common goal: to better understand the invisible yet decisive activities of cells – and to use this knowledge to develop new therapeutic strategies against cancer. This year's award winners employ innovative methods such as computational data analysis on the search for tumor origins – with remarkable success. By examining stemness, cell plasticity and intricate communication among proteins, RNA modifications and cell organelles, they provide deeper insights into disease mechanisms. Their groundbreaking basic research addresses key biological questions: How is cell development regulated? And how can the origin of disease be identified - and potentially prevented? The 2025 GSCN prizewinners are researching these questions and will present results at the GSCN Conference 2025 in Munich.

- The **GSCN 2025 Young Investigator Award** goes to [Aydan Bulut-Karslıoğlu](#) of the Max Planck Institute of Molecular Genetics in Berlin.
- The **GSCN 2025 Hilde Mangold Award** goes to [Michaela Frye](#) from the German Cancer Research Center in Heidelberg.
- The **GSCN Publication of the Year Award 2025** goes to [Bryce Lim](#), [Aryan Kamal](#), ... , [Judith Zaugg](#) and [Moritz Mall](#). They receive the "GSCN 2025 Publication of the Year Award" for their joint publication "Active repression of cell fate plasticity by PROX1 safeguards hepatocyte identity and prevents liver tumorigenesis" in the journal *Nature Genetics* 57, 668–679 (2025).

About the awards:

[Aydan Bulut-Karslıoğlu](#) receives the **GSCN 2025 Young Investigator Award** for her research on mechanisms regulating stem cell state transitions and fate commitment. Her lab studies mammalian embryonic diapause – a reversible dormant state that gives embryos extra time to develop to increase chances of survival. Dr. Bulut-Karslıoğlu and her team made a series of discoveries on metabolic and epigenetic regulation of this dormant state, shedding light on this once mysterious phenomenon. Her team's additional work on oxygen sensing showed the extent to which stem cell fate decisions are influenced by the cellular environment. Through different approaches, the lab seeks to understand the fundamental processes of communication and information flow at genetic and cellular levels.

Link to [Aydan Bulut-Karslıoğlu's](#) working group.

Aydan Bulut-Karslıoğlu received her PhD in 2013 from Max Planck Institute of Immunobiology and Epigenetics in Freiburg, where she worked with Thomas Jenuwein on epigenetic mechanisms. In 2013, she joined Miguel Ramalho-Santos's lab at the University of California San Francisco as a postdoc. During this time, she discovered mTOR as a regulator of developmental timing in the mouse. In 2018, she received the Sofja Kovalevskaja Award to start her independent research lab at the Max Planck Institute for Molecular Genetics in Berlin. Dr. Bulut-Karslıoğlu received an ERC Starting Grant in 2023 and ERC Proof of Concept Grant in 2025.



[Michaela Frye](#) receives the **GSCN 2025 Hilde Mangold Award** for her achievements as a stem cell researcher and role model as outstanding female scientist. She is head of the Regulatory Mechanisms of Gene Expression department at the German Cancer Research Center (DKFZ) in Heidelberg. Her groundbreaking research focuses on chemical RNA modifications that contribute to the development of cancer, metastasis, and resistance to therapy. Her research group is a leader in this field. Professor Frye was the first to demonstrate the molecular mechanisms of how mutations in RNA-modifying enzymes can cause disease. In doing so, she discovered new biological mechanisms that contribute to tumor development and chemotherapy resistance. Michaela Frye's team showed that specific RNA modifications in mitochondria – cell organelles also known as the powerhouses of the cell – play a key role in metastasis formation. Aggressive metastatic cancer cells use mitochondria to dynamically adapt their energy metabolism to new cellular environments. Mitochondrial RNA modifications promote the spread of cancer cells by driving protein synthesis, thereby increasing the metabolic flexibility of aggressive invasive and metastatic head and neck carcinomas. Inhibitors of mitochondrial RNA modifications could therefore represent a new treatment concept against metastasis formation.

[Michaela Frye](#) completed her PhD in Frankfurt/Main in Germany in 2000 studying the role of epithelial defensins in Cystic Fibrosis. In 2001, she joined Cancer Research UK (CR-UK) in London as a Postdoctoral Fellow, where she studied how stem cells form and maintain adult tissues. In 2007, Michaela Frye started her independent research group at the Wellcome Trust – Medical Research Council Cambridge Stem Cell Institute. She received a CR-UK Career Development Fellowship in 2007 and a CR-UK Senior Fellowship and an ERC Consolidator Grant in 2013 to study how dysregulation of stem cell function contributes to human diseases and cancer. In 2019, she accepted a Professorship at the DKFZ in Heidelberg Germany where her group studies mechanisms regulating gene expression that regulate stem cell fate in normal tissues and cancer. Since 2023, Michaela Frye is deputy scientific director at the DKFZ.

Link to [Michaela Frye lab](#) at the DKFZ.

[Bryce Lim](#), [Aryan Kamal](#), ... , [Judith Zaugg](#) and [Moritz Mall](#) receive the **GSCN 2025 Publication of the Year Award** for their joint publication "**Active repression of cell fate plasticity by PROX1 safeguards hepatocyte identity and prevents liver tumorigenesis**" in the journal *Nature Genetics* 57, 668–679 (2025), published on 13 Feb. 2025.

Bryce Lim and Moritz Mall (both DKFZ), Aryan Kamal and Judith Zaugg (both EMBL and Uni Basel) have discovered in an outstanding publication how cells in the liver maintain their identity and avoid becoming tumor cells. The new collaborative study led to the identification of a crucial protein, called PROX1, which is functioning as a safeguard protein. The collaborators computationally predicted so-called safeguard repressors for 18 cell types that block phenotypic plasticity lifelong, reducing the chance of the cells to transform into cancer cells. They maintain the liver cell identity and prevent the formation of liver cancer. In liver cancer patient samples, higher levels of PROX1 correlate with better prognosis and longer survival. In preclinical liver cancer mouse models, PROX1 can halt cancer formation and slow down cancer progression. This work paves the way to developing novel therapeutic strategies for liver cancer and to discovering similar factors in other cell and cancer types.

Links to [Bryce Lim](#), [Aryan Kamal](#), [Judith Zaugg](#) and [Moritz Mall](#)

Find more information about the GSCN Awards and the Awardees [here](https://www.gscn.org/scientific-resources/german-stem-cell-network-awards):
www.gscn.org/scientific-resources/german-stem-cell-network-awards

The three GSCN awards are endowed with 1,500 Euros each and the winners will give a lecture at the Presidential Symposium on Thursday, 16 October 2025, at the [GSCN Conference](#) in Munich.

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

You can find more information on the website www.gscn.org

If you have any further questions, please contact:

Stefanie Mahler
Communication
phone: +49-30/45054 36 48
email: stefanie.mahler@bih-charite.de

Daniel Besser, PhD
Managing Director
phone: +49 30/45054 36 27
email: daniel.besser@bih-charite.de