

PRESS RELEASE

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Katja Schenke-Layland distinguished with TERMIS-EU 2014 Young Scientist Award

For her outstanding research in tissue engineering and regenerative medicine Fraunhofer scientist Prof. Dr. Katja Schenke-Layland has been distinguished with the 2014 Young Scientist Award of the Tissue Engineering & Regenerative Medicine International Society – European Chapter (TERMIS-EU).

The Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB and the University Women's Hospital Tübingen biologist Katja Schenke-Layland received the Young Scientist Award of the Tissue Engineering & Regenerative Medicine International Society – European Chapter (TERMIS-EU) on 10 June in Genoa, Italy, during the annual conference of the TERMIS-EU. With the prize, the TERMIS-EU acknowledges outstanding achievements of young, promising scientists in the field of tissue engineering and regenerative medicine. Basis for the award were her high quality publications in highly cited journals, leadership activities, grant income from major funding bodies and external recognition amongst the wider international TERM community.

Scientific career in cardiovascular tissue engineering

Since the beginning of her Ph.D. studies, Katja Schenke-Layland has been developing regenerative strategies to restore the functionality of damaged hearts. She has identified extracellular proteins that are important for heart valve and cardiac muscle development and designed biological approach to incorporate this knowledge into potential therapies. A focus of her current work has been the production of synthetic, biocompatible carrier material to mimic the biological structure of the developing human heart. The scaffolds are designed to attract endothelial progenitor cells circulating in the blood that can repopulate the valve. These cells will begin to modify and rebuild the synthetic scaffolds while in the body, allowing for the potential growth of the scaffolds. The ambitious goal is to further develop this support material to a cell-free off-the-shelf heart valve.

Katja Schenke-Layland pioneered the differentiation of induced pluripotent stem cells (iPS cells) into cells of the cardiovascular and hematopoietic lineages and has identified surface markers that identify cardiovascular progenitor cells (CPCs). In the mouse model, these cells integrated into the hearts and differentiated into functionally mature cardiomyocytes.

History of a research talent

Katja Schenke-Layland studied biology, sociology and psychology at the University of Jena. She graduated in 2004 with a doctorate in biology, which focused on heart valve tissue engineering and non-invasive tissue analysis. Schenke-Layland was awarded the Family Klee award from the German Society for Biomedical Engineering. She then

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moved to the United States where she conducted research at the Saban Research Institute of Children's Hospital Los Angeles and the University of California in Los Angeles (UCLA), which was funded by a fellowship from the German Research Foundation (DFG). In 2010, she was promoted to Assistant Research Professor at UCLA and received the award for Morphological Sciences from the American Association of Anatomists for her work in cardiac stem cell research.

Schenke-Layland returned to Germany in 2010 after being awarded the Attract-program grant of the Fraunhofer-Gesellschaft to continue her work in cardiovascular tissue engineering. In 2011, she was appointed Professor for "biomaterials in cardiovascular regenerative medicine" at the University Hospital Tübingen, where she leads a research group in parallel with her position at Fraunhofer IGB. Since mid-2013, she co-heads the Department of Cell and Tissue Engineering at the Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB in Stuttgart and has held the appointment of Adjunct Associate Professor at UCLA.



Laureate of the TERMIS-EU 2014

Young Scientist Award:

Prof. Dr. Katja Schenke-Layland.

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The **Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB** develops and optimizes processes and products in the fields of medicine, pharmacy, chemistry, the environment and energy. The institute combines the highest scientific quality with professional expertise in its fields of competence – Interfacial Engineering and Materials Science, Molecular Biotechnology, Physical Process Technology, Environmental Biotechnology and Bioprocess Engineering, and Cell and Tissue Engineering – always with a view to economic efficiency and sustainability.