**Partner 8**
**Professor Markus Hecker**

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## CURRICULUM VITAE

| | |
|---|---|
| 1980-1985 | Study of Biology, University of Konstanz, Germany |
| 1985 | Diploma (M. Sc. in *Biology*), ibid. |
| 1986-1989 | Post-graduate in the Research Training Group *Biochemical Pharmacology*, ibid. |
| 1988 | Dr. rer. nat. (PhD in *Biochemical Pharmacology*), ibid. |
| 1988-1989 | Postdoc, Department of Physiology and Biophysics, Georgetown University, Washington, D.C., U.S.A. |
| 1989-1990 | Postdoc, William Harvey Research Institute, St. Bartholomew's Hospital Medical College, London, U.K. |
| 1990-1991 | Senior Scientist and Honorary Lecturer, ibid. |
| 1991-1993 | Lecturer in the Department of Applied Physiology, University of Freiburg, Germany |
| 1993 | State doctorate (Dr. rer. nat., habil. in *Physiology*), ibid. |
| 1993 | Specialist of *Pharmacology* (German Society of Experimental and Clinical Pharmacology and Toxicology) |
| 1993-1996 | Assistant Professor in the Department of Cardiovascular Physiology, University of Frankfurt, Germany |
| 1996-2004 | Full Professor (C3) and Head, Department of Cardiovascular Physiology, University of Göttingen, Germany |
| 2001-2003 | Managing partner, AVONTEC GmbH, Göttingen |
| 2004- | Full Professor (C4) and Director, Institute of Physiology and Pathophysiology, University of Heidelberg, Germany |
| 2006- | Managing Director and Head of the Division of Cardiovascular Physiology, ibid. |

## COORDINATING FUNCTIONS

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| 2001-2004 | Co-chairman of the SFB Transregio 2 *Biomechancal Phenotype Regulation in the Cardiovascular System*, Universities of Göttingen and Halle and Medical University of Hannover |
| 2005- | Member of the Executive Committee of the SFB Transregio 23 *Vascular Differentiation and Remodeling*, Universities of Heidelberg and Frankfurt |
| 2008-2011 | Coordinator of the NGFN-Transfer project *Heart Failure Therapy* |
| 2009- | Coordinator of the Integrated Research Training Group *Vascular Cell Biology* of the SFB Transregio 23 |
| 2009- | Member of the Executive Committee of the Marie-Curie Initial Training Network *Small Artery Remodeling (SmArt)* |

**FIELDS OF INTEREST**

Experimental cardiovascular physiology focusing on biomechanical phenotype regulation in vascular cells, endothelial cell-platelet-leukocyte interactions in the early phase of atherosclerosis, reactive oxygen species as signalling molecules and the development of nucleic acid-based therapeutics for the treatment of heart failure.

**PUBLICATIONS** (5 selected representative publications)

Wagner AH, Gebauer M, Pollok-Kopp B, Hecker M: Cytokine-inducible CD40 expression in human endothelial cells is mediated by interferon regulatory factor-1. **Blood** 99:520-525, 2002.

Cattaruzza M, Guzik TJ, Slodowski W, Pelvan A, Becker J, Halle M, Buchwald AB, Channon KM, Hecker M: Shear stress insensitivity of endothelial nitric oxide synthase expression as a genetic risk factor for coronary heart disease. **Circ. Res.** 95:841-847, 2004.

Korff T, Aufgebauer K, Hecker M: Cyclic stretch controls the expression of CD40 in endothelial cells by changing their transforming growth factor-β1 response. **Circulation** 116:2288-2297, 2007.

Korff T, Braun J, Pfaff D, Augustin HG, Hecker M: Role of ephrinB2 expression in endothelial cells during arteriogenesis: Impact on smooth muscle cell migration and monocyte recruitment. **Blood** 112:73-81, 2008.

Demicheva E, Hecker M, Korff T: Stretch-induced activation of the transcription factor AP-1 controls MCP-1 expression during arteriogenesis. **Circ. Res.** 103:477-484, 2008.

**PROJECT DESCRIPTION / ROLE IN ITN**

The **University of Heidelberg** is one of the leading research institutions in the life sciences in **Germany** with elite status, offering a whole host of programmes and training opportunities for post-graduates. The Division of Cardiovascular Physiology within the Institute of Physiology and Pathophysiology of Heidelberg University has a proven track record in vascular biology / medicine with a focus on **mechanosensing** and **signal transduction mechanisms** associated with **remodelling** processes in **cardiovascular disease**. It offers the entire portfolio of state-of-the-art cell and molecular biology methods including organ culture, transgenic animals, proteomics, and in particular the design, validation and proof of concept in animal models of nucleic acid-based drugs (antisense, small interference RNA and decoy oligodeoxynucleotides) targeting pivotal transcription factors. As such **partner 8** will significantly contribute to ***work package (WP) 1*** *Cell-matrix interactions under mechanical load: effects on endothelial gene expression and intercellular communication*, **WP 2** *Endothelial and progenitor/inflammatory cell response to shear stress and ECM modifications: role of integrins*, **WP 3** *Pressure and shear stress-induced microvascular remodelling mechanisms: role of ROS* and in particular **WP 4** *Effects of pressure, flow and smooth muscle tone on smooth muscle differentiation and growth: role of actin polymerization and membrane microdomains*.