



Curriculum Vitae Professor Dr Ingrid Fleming

Name: Ingrid Fleming
Date of birth: 3 June 1966



Image: Klaus Wägele

Research Priorities: Molecular foundations of cardiovascular diseases, endothelial cells, signal transmissions in blood vessels, signalling molecules

Ingrid Fleming is a physiologist. She researches mechanisms in blood vessels and their role in the development of cardiovascular diseases. Her research is focused on signal transduction processes in the vascular wall. As part of her research she is seeking new target molecules for the treatment of circulatory diseases.

Academic and Professional Career

- 2018 - 2021 Visiting Professor, Wuhan University of Science and Technology, Wuhan, China
- 2014 Fachphysiologe (specialization for Physiology), German Physiological Society, Germany
- since 2010 Executive Director, Centre for Molecular Medicine, Goethe University Frankfurt am Main, Germany
- since 2008 Chairperson, Institute for Vascular Signalling, Goethe University Frankfurt am Main, Germany
- 2007 - 2008 Executive Director, Centre for Physiology, Goethe University Frankfurt am Main, Germany
- since 2004 University Professor for Physiology, Goethe University Frankfurt am Main, Germany
- 2001 Appointment as University Lecturer
- 1999 Habilitation in Physiology
- 1993 - 1999 Research Associate, Institute of Cardiovascular Physiology, Goethe University Frankfurt am Main, Germany

- 1991 - 1993 Postdoctoral Fellow, Institute of Applied Physiology, University of Freiburg, Freiburg, Germany
- 1991 Doctorate, Louis Pasteur University, Strasbourg, France
- 1988 - 1991 Scientific work, Louis Pasteur University, Strasbourg, France
- 1986 - 1987 Trainee programme "Gastrointestinal Diseases Project", Beecham Pharmaceuticals Research Division, Harlow, UK
- 1984 - 1988 BSc (combined honours) Degree in Pharmacology and Biochemistry, Aston University, Birmingham, UK

Functions in Scientific Societies and Committees

- since 2020 Nucleus Member, Working group on Coronary Pathophysiology and Microcirculation, European Cardiac Society
- 2011 - 2013 President, European Vascular Biology Organisation (EVBO)

Project Coordination, Membership in Collaborative Research Projects

- 2023 - 2026 Subproject "The impact of oxidative post-translational modifications on vascular function and angiocrine signaling", Collaborative Research Centres (SFB) 1366, German Research Foundation (DFG), Germany
- since 2022 Speaker, Integrated Research Training Group, SFB 1531, DFG, Germany
- since 2022 Co-Speaker, SFB 1531 "Damage control by the stroma-vascular compartment", DFG, Germany
- 2020 - 2026 Subproject "Endothelial-pericyte metabolic communication in damage control", SFB 1531, DFG, Germany
- 2020 - 2026 Subproject "Mass spectrometry platform", SFB 1531, DFG, Germany
- since 2019 Member, Excellence Cluster (EXC) "Cardio-Pulmonary Institute", DFG, Germany
- 2016 - 2020 Project "Identification of a G protein-coupled receptor for 11(R), 12(S) epoxyeicosatrienoic acid and its effects in the cardiovascular system", DFG, Germany
- 2014 - 2017 Subproject "The importance of PYK2-dependent eNOS tyrosine phosphorylation and its role in signalling, disease and repair", SFB 834, DFG, Germany
- since 2013 Subproject "Role of the cytochrome P450-soluble epoxide pathway in the regulation of lymphangiogenesis", SFB 1039, DFG, Germany
- 2013 - 2020 Project "Angiotensin-converting enzyme (ACE): regulation and dysregulation", DFG, Germany

- 2010 - 2022 Spokesperson, SFB 834 "Endothelial Signalling and Vascular Repair", DFG, Germany
- 2010 - 2021 Subproject "The importance of AMPK in endothelial signalling and cellular interactions in diabetes and atherosclerosis", SFB 834, DFG, Germany
- 2009 - 2020 Subproject "Functional consequences of a redox regulated activation of calpain in diabetes", SFB 815, DFG, Germany
- 2010 - 2014 Project "Vascular complications of type 2 diabetes: tyrosine phosphorylation of the endothelial nitric oxide synthase (eNOS)", DFG, Germany
- 2010 - 2013 Subproject "A-Kinase anchoring proteins (AKAPs) in endothelial signalling", SFB 834, DFG, Germany
- 2005 - 2017 Subproject "Cytochrome P450/soluble epoxide axis in angiogenic endothelial cell signalling and vascular differentiation", Transregio (TRR) 23, DFG, Germany
- 2003 - 2010 Spokesperson, Research Unit (RU) 501 "Vascular homeostasis: molecular mediators and cellular mechanisms", DFG, Germany
- 2003 - 2010 Subproject "Angiotensin converting enzyme (ACE): defining its role as a signal transduction molecule", Research Unit (FOR) 501, DFG, Germany
- 1998 - 2007 Subproject "Activation and Expression of eNOS: Molecular Mechanisms of Mechanotransduction", SFB 553, DFG, Germany
- 1998 - 2007 Subproject "eNOS in endothelial Cells and Platelets: Determining the 'Phospho-Switch' for eNOS uncoupling", SFB 553 DFG, Germany

Honours and Awarded Memberships

- 2022 Jung Prize for Medicine, Jung Stiftung für Wissenschaft und Forschung, Hamburg, Germany
- since 2021 Member, Academy of Physiology, International Union of Physiological Sciences (IUPS)
- since 2016 Member, German National Academy of Sciences Leopoldina, Germany
- 2003 Schunk Prize for Human Medicine, Justus Liebig University Giessen, Giessen, Germany
- 2002 Arthur Weber Prize, German Cardiac Society – Cardiovascular Research, Germany
- 2000 Young Investigator Award, Nitric Oxide Society, Rochester, USA
- 1999 Heinz Meise Prize, German Heart Foundation, Germany
- 1999 Servier Award, German Society for Microcirculation and Vascular Biology, Germany
- 1996 Prize, Dr Paul and Cilli Weill Foundation for Young Scientific Researchers, Association of Friends and Sponsors of the Goethe University, Frankfurt am Main, Germany

Research Priorities

Ingrid Fleming is a physiologist. She researches mechanisms in blood vessels and their role in the development of cardiovascular diseases. Her research is focused on signal transmissions in the vessel walls. As part of her research she is seeking new target molecules for the treatment of circulatory diseases.

Endothelial cells play an important role in signal transmission in blood vessels. They line the inner wall of blood vessels and produce signalling molecules that influence metabolic function. For example, they are involved in the regulation of blood pressure or control inflammatory processes. Changes to signalling pathways in endothelial cells lead to arteriosclerosis or heart failure.

Ingrid Fleming is investigating such changes in signal transmission and their role in diseases of the circulatory system as well as protective mechanisms for a healthy vascular system. She is researching connections between the endothelial function and metabolism, as cardiovascular diseases are often associated with diabetes and obesity. The aim of her research is to identify new targets for therapeutic approaches.