Prof. Dr. Stefanie Dimmeler

Institute of Cardiovascular Regeneration
Institute for Molecular Medicine
Goethe-University Frankfurt
Theodor-Stern-Kai 7
60590 Frankfurt
Phone:(+69) 6301 6667
Fax: (+89) 6301 83462
E-mail: dimmeler@em.uni-frankfurt.de

Director, Institute for Cardiovascular Regeneration

Academic Education and Degrees

1991-1993	PhD thesis, Department of Biological Chemistry, Title: "Nitric oxide-stimulated ADP-ribosylation", University of Konstanz
1986-1991	Studies in Biology, University of Konstanz

Employment

since 2008	Full professor and Director (W3), Institute of Cardiovascular Regeneration, Goethe- University, Frankfurt
2001	Professor (C3) for Molecular Cardiology, Department of Internal Medicine III, Goethe-University, Frankfurt
1998	Associate Professor, Goethe-University, Frankfurt
1997	Head Division of “Molecular Cardiology” at the Goethe-University, Frankfurt
1995-2001	Senior postdoctoral fellow at the Medical Clinical, Goethe-University, Frankfurt
1992-1995	Postdoctoral fellow at the “Biochemical and Experimental Division“ of the Dept. of Surgery at the University of Cologne

Visiting Professorships

2006-2007	Visiting Professor at New York Medical College
2007-2008	Hustinx Chair, CARIM, University of Maastricht
2009	Visiting Professor at Stanford University
2012	Visiting Professor at Harvard Medical School
2018-2019	Sabbatical Victor Chang Institute, Sydney

Awards / Honors (Selection)

2018	Selby Travelling Fellowship of the Australian Academy of Science
2017	Member of the German Academy for Science Leopoldina
2017	Willy Pitzer Award, Bad Nauheim
2016	Paul Dudley White Lecture at the Scientific Session of the AHA
2016	Michael Oliver Memorial Lecture of the British Atherosclerosis Society
2015	Thomas W. Smith Memorial Lecture – Award
2014-18	Thomson Reuters "Highly Cited Researcher" 2014, 2015, 2016 and 2018
2014	Madrid Award for Cardiovascular Stem Cell Therapy
2010	Life Achievement Award by Dutch-German Molecular Cardiology Working Groups
2008	Research Award of the GlaxoSmithKline Foundation Science4Life Award 2008
2007	Ernst Jung Award for Medicine 2007
2006	Karl-Landsteiner Lecture, German Association for Transfusion Medicine & Immunhematology
2006	Basic Science Lecture and Silver Medal of the European Society of Cardiology
2006	FEBS Anniversary Prize 2006
2005	George E. Brown Memorial Lecture at the Scientific Session of the AHA
2005	Leibniz Award of the Deutsche Forschungsmeinschaft (DFG)
2004	Forssmann Award 2004
2002	Alfried Krupp-Award 2002
2000	Award of the German Cardiac Society (Fraenkel-Preis)
1999	Award of the Herbert and Hedwig Eckelmann-Foundation
1998	Award of the German Heart Foundation
1994	Fritz-Külz-Award of the German Association of Pharmacology and Toxicology
1991	Foundation of German Sciences, Award

Bibliometric analysis:

Total publications: 412 publications

In the last 10 years: 176 publications, 14 editorials, 31 review articles

h-index: 125 (source: ISI)

Citations: 48.211 (without self-citations: 46.477), 65 citations/item (source: ISI)

Selection of 20 important publications

1. Neumann P, Jaé N, Knau A, Glaser SF, Fouani Y, Rossbach O, Krüger M, John D, Bindereif A, Grote P, Boon RA, Dimmeler S. The lncRNA GATA6-AS epigenetically regulates endothelial gene expression via interaction with LOXL2. ***Nature Commun*** 2018, 9:237
2. Manavski Y, Lucas T, Glaser SF, Dorsheimer L, Günther S, Braun T, Rieger MA, Zeiher AM, Boon RA, Dimmeler S. Clonal Expansion of Endothelial Cells Contributes to Ischemia-Induced Neovascularization. ***Circ Res*** 2018, 122: 670-7 *(with Editorials in Science Transl Med and Circ Res).*
3. Lucas T, Schäfer F, Müller P, Emig S, Heckel A, Dimmeler S. Light-inducible antimiR-92a as a therapeutic strategy to promote skin repair in healing-impaired diabetic mice. ***Nature Commun*** 2017, 8:15162
4. Manavski Y, Abel T, Hu J, Kleinlützum D, Buchholz CJ, Belz C, Augustin HG, Boon RA, Dimmeler S. Endothelial transcription factor KLF2 negatively regulates liver regeneration via induction of activin A. ***Proc Natl Acad Sci U S A***. 2017, 114:3993-3998.
5. Stellos K, Gatsiou A, Stamatelopoulos K, Perisic L, John D, Lunella F, Jaé N, Rossbach O, Amrhein C, Sigala F, Boon R, Fürtig B, Manavski Y, You X, Uchida S, Keller T, Boeckel JN, Franco-Cereceda A, Maegdefessel L, Chen W, Schwalbe H, Bindereif A, Eriksson P, Hedin U, Zeiher AM, Dimmeler S. Adenosine-to-inosine RNA editing controls cathepsin S expression in atherosclerosis by enabling HuR-mediated posttranscriptional regulation. ***Nature Medicine*** 2016, 22:1140-1150.
6. Boeckel JN, Jaé N, Heumüller AW, Chen W, Boon RA, Stellos K, Zeiher AM, John D, Uchida S, Dimmeler S. Identification and Characterization of Hypoxia-Regulated Endothelial Circular RNA. ***Circ Res***. 2015, 117:884-90.
7. Dimmeler S, Ding S, Rando TA, Trounson A. Translational strategies and challenges in regenerative medicine. ***Nature Medicine*** 2014, 20:814-21
8. Michalik KM, You X, Manavski Y, Doddaballapur A, Zörnig M, Braun T, John D, Ponomareva Y, Chen W, Uchida S, Boon RA, Dimmeler S. Long noncoding RNA MALAT1 regulates endothelial cell function and vessel growth. ***Circ Res*** 2014; 114:1389-97 (*with editorial in Circ Res)*
9. Boon RA, Iekushi K, Lechner S, Seeger T, Fischer A, Heydt S, Kaluza D, Treguer K, Carmona G, Bonauer A, Horrevoets AJ, Didier N, Girmatsion Z, Biliczki P, Ehrlich JR, Katus HA, Muller OJ, Potente M, Zeiher AM, Hermeking H, Dimmeler S. MicroRNA-34a regulates cardiac ageing and function. ***Nature*** 2013;495:107-110 (*with Editorials in JAMA, Cell Research, Cell Metabolism, Circ Res, Circ. Cardiovascular Genetics and Nat. Rev. Drug Discovery)*
10. Boon RA, Seeger T, Heydt S, Fischer A, Hergenreider E, Horrevoets AJ, Vinciguerra M, Rosenthal N, Sciacca S, Pilato M, van Heijningen P, Essers J, Brandes RP, Zeiher AM, Dimmeler S. MicroRNA-29 in aortic dilation: implications for aneurysm formation. ***Circ Res*** 2011, 109:1115-9 *(with Editorial in Circ Res)*
11. Hergenreider E, Heydt S, Treguer K, Boettger T, Zeiher AM, Scheffer MP, Frangakis AS, Yin X, Mayr M, Braun T, Urbich C, Boon RA, Dimmeler S. Atheroprotective communication between endothelial cells and smooth muscle cells through miRNAs. ***Nat Cell Biol*** 2012, 14:249-256. *(with Editorials in Nat Cell Biol. 2012, and Nat Rev Mol Cell Biol. 2012)*
12. Doebele C, Bonauer A, Fischer A, Scholz A, Reiss Y, Urbich C, Hofmann WK, Zeiher AM, Dimmeler S**.** Members of the microRNA-17-92 cluster exhibit a cell-intrinsic antiangiogenic function in endothelial cells. ***Blood*** 2010 115:4944-50. (*With editorial in Blood)*

13. Guarani V, Deflorian G, Franco CA, Krüger M, Phng LK, Bentley K, Toussaint L, Dequiedt F, Mostoslavsky R, Schmidt MH, Zimmermann B, Brandes RP, Mione M, Westphal CH, Braun T, Zeiher AM, Gerhardt H, Dimmeler S, Potente M. Acetylation-dependent regulation of endothelial Notch signalling by the SIRT1 deacetylase. ***Nature*** 2011, 473:234-238.
14. Boeckel JN, Guarani V, Koyanagi M, Roexe T, Lengeling A, Schermuly RT, Gellert P, Braun T, Zeiher A, Dimmeler S. Jumonji domain-containing protein 6 (Jmjd6) is required for angiogenic sprouting and regulates splicing of VEGF-receptor 1. **Proc Natl Acad Sci U S A**. 2011, 108:3276-81
15. Bonauer A, Carmona G, Iwasaki M, Mione M, Koyanagi M, Fischer A, Burchfield J, Fox H, Doebele C, Ohtani K, Chavakis E, Potente M, Tjwa M, Urbich C, Zeiher AM and Dimmeler S. MicroRNA-92a controls angiogenesis and functional recovery of ischemic tissues in mice. ***Science*** 2009, 324:1710-1713.
16. Assmus B, Honold J, Schächinger V, Britten MB, Fischer-Rasokat U, Lehmann R, Teupe C, Pistorius K, Martin H, Abolmaali ND, Tonn T, Dimmeler S*, Zeiher AM*. Transcoronary transplantation of progenitor cells after myocardial infarction. ***N Engl J*** Med. 2006 355:1222-32 *contributed equally.
17. Schächinger V, Erbs S, Elsässer A, Haberbosch W, Hambrecht R, Hölschermann H, Yu J, Corti R, Mathey DG, Hamm CW, Süselbeck T, Assmus B, Tonn T, Dimmeler S, Zeiher AM; REPAIR-AMI Investigators. Intracoronary bone marrow-derived progenitor cells in acute myocardial infarction. ***N Engl J Me***d. 2006, 355:1210-21
18. Urbich C, Heeschen C, Aicher A, Sasaki KI, Bruhl T, Farhadi MR, Vajkoczy P, Hofmann WK, Peters C, Pennacchio LA, Abolmaali ND, Chavakis E, Reinheckel T, Zeiher AM, Dimmeler S. Cathepsin L is required for endothelial progenitor cell-induced neovascularization. ***Nature Medicine*** 2005**,** 11:206-213.
19. Aicher A, Heeschen C, Mildner-Rihm C, Urbich C, Ihling C, Technau-Ihling K, Zeiher AM, Dimmeler S. Essential role of endothelial nitric oxide synthase for mobilization of stem and progenitor cells. ***Nature Medicin*e** 2003, 9:1370-1376.
20. Dimmeler S, Fleming I, Fisslthaler B, Hermann C, Busse R, Zeiher AM. Activation of nitric oxide synthase in endothelial cells by Akt-dependent phosphorylation. ***Nature*** 1999, 399:601-605.

Current Grant Support (Selection)

Funding institution	Project title	Funding period
ERC	European Research Council Advanced Grant “AngioInc”	2015-2020
DFG	Excellence Strategy Programme “Cardiopulmonary Institute”	2019-2024
DFG	SFB834: Project B1 (Dimmeler/Vasa-Nicotera)	2018-2021
DFG	SFB834: Project B5	2018-2021
DFG	SFB1366: Project A7	2019-2022
DFG	SFB902: Project B2	2010-2023
DFG	SFB TR267	2019-2023
BMBF	German Center for Cardiovascular Research (DZHK)	2011-2020
Leducq	Transatlantic Network “MIRVAD”	2014-2019
Schwiete Foundation	Support of the single cell sequencing center	2019-2024

Leadership Functions (Selection)

Director, Director of the "Cardiopulmonary Institute" (CPI), which is funded by the Excellence Strategy Program of the German Research Foundation (DFG), 2019-2025

Member of the steering board and Vice-Spokesperson, German Centre for Cardiovascular Research (DZHK), Partner Site RheinMain (funded by BMBF) 2011-2020)

Director, Excellence Cluster Cardiopulmonary Systems (2014-2018) (funded by DFG)

Vice-Spokesperson, LOEWE Center of Cell- and Gene Therapy (funded by the state of Hesse, 2011-2016)

Vice-Spokesperson, Collaborative Research Programm (SFB834) (funded by the DFG, 2010-2022)

Member of the Board of Directors, Cluster of Excellence Macromolecular Complexes (CEF) (Funded by the DFG), 2012-2018

Steering committee, Collaborative Research Programm (SFB902) (funded by the DFG), 2011-2019.

Steering committee, Collaborative Research Programm (TR-SFB23) (funded by the DFG), 2005-2016.

European Coordinator, Transatlantic Network of Excellence on "Cardiac Regeneration" (funded by the Leduc Foundation, 2006-2010)

Member of the executive committee and area leader, European Network of Excellence (funded by the EU, 2004-2008)

Coordinator, Research Unit FOR501 (funded by the DFG 2003-2006)

Editorship/Board Memberships

EMBO Molecular Medicine (Chief Editor, from 2010 – 2016; Senior Editor since 2017)
Circulation Research (Associated Editor, since 2008)
European Heart Journal (Associated Editor, from 2010 - 2016)
Arteriosclerosis Thrombosis Vascular Biology (ATVB) (Board member, 2001-present)
Basic Research in Cardiology (Board member, 2001-present)
Circulation (Board member, 2001-present)
Journal of Clinical Investigation (Board member, 2005- present)

Reviewer (Selection)

Cancer Cell, Cell, EMBO Journal, Journal of Clinical Investigation, Journal of Experimental Medicine, Nature, Nature Cell Biology, Nature Medicine, New England Journal of Medicine, Molecular Cell, PNAS, Science

Organisation of scientific meetings (Selection)

Atherosclerosis Gordon Conference "Novel Players and Paradigms" June 2017, Sunday River, US

Keystone Conference, Heart Disease and Regeneration: Beyond the Myocyte-Centric View, March 2015, Copper Mountain, Colorado, US

EMBO/EMBL Symposium "Frontiers in Metabolism", November 2014, Heidelberg

EMBO Workshop "Reciprocal interactions of Signaling Pathways & non-coding RNAs", September 2012 Ascona, Switzerland

EMBO Molecular Medicine "Molecular Insights for Innovative Therapies", December 2011, Heidelberg, Germany

Keystone Symposia "Integrative Basis of Cardiovascular Disease", January 2007,

Breckenridge, US
Keystone Meeting “Mechanisms of Cardiac Disease and Regeneration”, Feb. 2006, Santa Fe, US

Invited presentations to international meetings

- total > 300 invitations to international meetings
- > 15 keynote/named lectures

Examples of recent meetings:

Joint Dutch-German Vascular Biology Meeting, Amsterdam, The Netherlands, 22-23 November 2018 Keynote lecture: "Non-coding RNA in cardiovascular development and regeneration"

BCVS Council on Basic Cardiovascular Science, San Antonio, USA, 30 July – 02 August 2018, Keynote lecture: “Cellular heterogeneity and plasticity in cardiovascular disease”

ATVB/PVD 2018 Scientific Sessions, San Francisco, USA, 10-12 May 2018 Keynote lecture: “RNA Control in Vascular Biology: Implications for Atherosclerosis and New vascularization“

New Frontiers to beat Cardiovascular Disease, Rome, Italy, 7-8 September 2017 Keynote lecture: “Cardiovascular regeneration: Current status and perspectives”

Michael Oliver Memorial Lecture of the British Atherosclerosis Society in Cambridge, 15-16 September 2016, “Endothelial communication and dysfunction: from no to micro-RNA”

AHA Scientific Sessions 2016 in New Orleans, USA, 12-16 November 2016, Paul Dudley White International Lecture: “The dark genome: function and therapeutic potential of non-coding RNAs in cardiovascular disease”

European Congress of Pharmacology, Istanbul, Turkey, 26-30 June 2016 Plenary lecture: “miRNAs as potential therapeutic targets in cardiovascular disorders”

Keystone Symposia on heart disease and regeneration in Copper Mountain, Colorado, USA, 1-6 March 2015 Keynote lecture: “Non-coding RNAs and Cardiac Repair”

International Symposium on Cardiovascular Translational Medicine, Nanjing, China, 22-25 April 2015, Keynote lecture: “Non-coding RNAs in cardiovascular disease.”

Gordon Research Conference on cardiac regulatory mechanisms, New London /USA, 9-11. June 2014, Lecture: “MicroRNAs that regulate cardiac aging and function”

ESF/EMBO Conference on long regulatory RNAs, Pułtusk, Polen, 13-18. September 2014. Lecture: “Long non-coding RNAs in cardiovascular disease”

Keystone Symposia on pulmonary vascular disease in Monterey, California / USA, 10–13 September 2012 Keynote lecture: "The Role of Stem Cells in Angiogenesis and Vascular Repair"

EMBO Workshop on the reciprocal interactions of signaling pathways and non-coding RNAs, Ascona, Switzerland, 16-19 September 2012, Lecture: “MicroRNAs in aging and metabolism”

Symposium on microRNAs and cardiovascular disease in Maastricht, 30 June 2011 Keynote lecture “MicroRNAs in cardiovascular aging”

Gordon Research Conference on Endothelial Phenotypes in Biddeford, Maine / USA, 8-9 August 2010 Keynote lecture: „MicroRNAs in in the Endothelium – What are they doing? “

Commissions of trust (Selection)

Programm Committee, European Society of Cardiology
Advisory Board, BHF, Oxford
Advisory Board, CNIC, Madrid (2010- present)
Scientific advisory board, Berlin Institute of Healthy (Spokesperson)
Scientific advisory board, Max Delbrück Center (MDC), Berlin
Foundation Board, German Heart Center Berlin
Panel Member and Chair (2014-2017), European Research Council-Start up grants.
Panel member, Leibniz Award, Deutsche Forschungsgemeinschaft, Germany (2011-2016)
Panel member, Heinz Maier Leibniz Award, Deutsche Forschungsgemeinschaft, Germany

Supervision of graduate students and postdoctoral fellows

Total: 10 MD Students, 16 PhD Students, 20 Postdoctoral Fellows

Major Current Teaching activities and involvement in graduate schools

Scientific coordinator of cardiovascular curriculum, Master Molecular Medicine, University Frankfurt (includes lectures, practical courses and seminars)
Scientific coordinator, Graduate school on Vascular Biology, University Frankfurt

Granted Patents

- Total 14 patents (8 granted)

Selected patents:

sCD40L and placental growth factor (plgf) used as a biochemical marker combination **US8409815** 02. April 2013; **JP4741249** 13.05.2011; **EP1561116** 07.05.2008.

PIGF and Flt-1 as prognostic parameters for cardiovascular disease (Zeiher, Heeschen, Dimmeler) **DE102004051847** 18.09.2008 **JP4950895** 16.03.2012 **EP1807702** 05.08.2009.

In vitro method for the diagnosis of cardiovascular functionality of bone marrow precursor cells and/or circulation precursor cells derived from blood (Zeiher, Heeschen, Dimmeler) **US7919315** 05.04.2011; **EP1673629** 11.08.2010; **DE10347436** 02.08.2007.

eNOS transcription enhancers for use in the cell therapy of ischemic heart diseases (Dimmeler, Zeiher, Rutten, Heeschen)
KR101133943 13.04.2012; **JP4705581** 18.03.2011; **EP1682111** 06.01.2010

Methods for improving cell therapy and tissue regeneration in patients with cardiovascular diseases by means of shockwaves (Eizenhofer, Zeiher, Dimmeler, Heeschen, Aicher) **EP1671627** 04.07.2010; **JP4804906** 02.11.2011

Method for the promotion of angiogenesis, vascularization, or vascular repair or for the inhibition of tumor angiogenesis (miR-92) (Dimmeler, Bonauer, Zeiher, Urbich)
US82858113 04.09.2012 **DE102007052114** 15.01.2011

Antagonists of miRNA-29 expression and their use in the prevention and treatment of aortic aneurysms and atherosclerotic plaque destabilisation (Dimmeler, Zeiher, Boon)
EP10003675 **EP2552454** 01.04.2011

Prevention of age-associated deterioration of heart function by antagonizing microRNA-34a (Dimmeler, Zeiher, Boon, Fischer) 2011

Entrepreneurship

Founder, t2cure GmbH, Frankfurt