

Name, Title/Academic degree(s)

Position Resident physician and Post-Doc
Institution Center for Cardiology, University Medical Center Mainz
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General information

Date of Birth: July 29, 1985
Gender: male
Current position: Resident physician and Post-Doc
Children: 1

University training and degree

2006 - 2008 Medicine, Georg August-University, Göttingen, Germany
2008 - 2012 Medicine, Johannes Gutenberg-University, Mainz, Germany

Advanced academic qualifications

2012 Doctorate: "Nitroglycerin-induced endothelial dysfunction and tolerance involve adverse phosphorylation and S-Glutathionylation of endothelial nitric oxide synthase: beneficial effects of therapy with the AT1 receptor blocker telmisartan" summa cum laude (with honors)", Univ. Prof. Dr. A. Daiber and Univ. Prof. Dr. T. Münzel, Johannes Gutenberg-University, Mainz
perspectively 2020 Habilitation: "Mögliche neue Therapiekonzepte zur Beeinflussung von vaskulärem oxidativem Stress, Inflammation und endothelialer Dysfunktion bei kardiovaskulären Erkrankungen", Johannes Gutenberg-University, Mainz, perspectively in 2020 (under revision by the dean's office), Univ. Prof. Dr. A. Daiber and Univ. Prof. Dr. T. Münzel

Postgraduate professional career

since 2013 Resident physician, Center for Cardiology, University Medical Center Mainz
since 2014 Post-Doc and candidate of the Virchow-Fellowship at the Center for Thrombosis and Hemostasis (CTH), University Medical Center Mainz

Funding

2013-2015 Project funding by the German Heart Foundation (F/42/13) „Einfluss der langfristigen Therapie mit Isosorbid-5-Mononitrat (ISMN) auf Nitrattoleranz, Endothel- und Plättchenfunktion sowie Vasokonstriktorsensitivität - Rolle von Endothelin-1, Nox1 und Nox4“ 60.000€
2014-2020 Research stipend (Virchow-Fellowship) 2,5 years BMBF 01EO1003/EDU VF9 (Center for Thrombosis and Hemostasis CTH), „Effects of DPP4-inhibition on platelet activation and disseminated intravascular coagulation (DIC) in a rodent model of septic shock“.
2017-2022 Project funding by the German Research Foundation (DFG) (STE2528/2-1) "Der Einfluss des Glucagon like-peptide-1 (GLP-1) Rezeptors auf vaskuläre Funktion, Inflammation und Thrombozytenreaktivität im Tiermodell der Angiotensin-II induzierten Hypertonie" 370.000€
2017-2019 CRC „Novel and neglected cardiovascular risk factors“, funded by Boehringer-Ingelheim-Foundation (Coapplication with Univ.-Prof. Dr. T. Münzel (Project 1)) 504.000€
2018-2021 Project funding by the "Else Kröner Fresenius Stiftung" (EKFS 2017) 231.210€
2018-2020 TRP Project funding X-23 (BMBF 01EO1003/EDU) "Glucagon-like peptide-1 (GLP-1) modulates vascular inflammation in arterial hypertension– a cell-specific transcriptome analysis to identify new mechanistic pathways" 45.000€

Honours and Awards:

2019 Rudi-Busse Award by the "Deutsche Gesellschaft für Kardiologie (DGK)" for the abstract "Glucagon-like peptide 1 (GLP-1) improves endothelial dysfunction and vascular inflammation in polymicrobial sepsis induced by cecal ligation and puncture (CLP)"
2015 Basic Science Award by the "Stiftung Mainzer Herz" for the publication "Gliptin and GLP-1 analog treatment improves survival and vascular inflammation/dysfunction in animals with lipopolysaccharide-induced endotoxemia".
2014 Award for Doctoral Thesis by the "Boehringer-Ingelheim-Foundation" 2014

CV Sebastian Steven

- 2013 Robert-Müller-Award for the publication: *"Molecular mechanisms of the crosstalk between mitochondria and NADPH oxidase through reactive oxygen species-studies in white blood cells and in animal models"*
- 2013 Award for Doctoral Thesis by the "Margarthe-Waitz-Foundation" 2013
- 2012 DGK Travel Award for accepted conference abstract – International Vascular Biology Meeting 2012
- 2011 Stipend for Doctoral Thesis by the Medical Center of the Johannes Gutenberg-University Mainz

Scientific review:

Oxidative Medicine and Cellular Longevity, British Journal Pharmacology, International Journal of Molecular Science

Invited lectures

- 2018 *"Mechanisms of cardioprotective effects of GLP-1"* Deutsche Diabetes Gesellschaft (DDG), Berlin
- 2019 *"Mechanisms for the action of GLP-1 receptor agonists in atherosclerotic constellation"* Vascular Medicine and Atherosclerosis congress (VMAC), Mainz

Selected publications

1. **Steven S**, Hausding M, Kroller-Schon S, Mader M, Mikhed Y, Stamm P, et al. Gliptin and GLP-1 analog treatment improves survival and vascular inflammation/dysfunction in animals with lipopolysaccharide-induced endotoxemia. *Basic Res Cardiol.* 2015;110(2):6.
2. **Steven S**, Oelze M, Hanf A, Kroller-Schon S, Kashani F, Roohani S, et al. The SGLT2 inhibitor empagliflozin improves the primary diabetic complications in ZDF rats. *Redox Biol.* 2017;13:370-85.
3. **Steven S**, Jurk K, Kopp M, Kroller-Schon S, Mikhed Y, Schwierczek K, et al. Glucagon-like peptide-1 receptor signalling reduces microvascular thrombosis, nitro-oxidative stress and platelet activation in endotoxaemic mice. *Br J Pharmacol.* 2017;174(12):1620-32.
4. **Steven S**, Oelze M, Brandt M, Ullmann E, Kroller-Schon S, Heeren T, et al. Pentaerythritol Tetranitrate In Vivo Treatment Improves Oxidative Stress and Vascular Dysfunction by Suppression of Endothelin-1 Signaling in Monocrotaline-Induced Pulmonary Hypertension. *Oxid Med Cell Longev.* 2017;2017:4353462.
5. Munzel T, Daiber A, **Steven S**, Tran LP, Ullmann E, Kossmann S, et al. Effects of noise on vascular function, oxidative stress, and inflammation: mechanistic insight from studies in mice. *Eur Heart J.* 2017.
6. Kroller-Schon S, **Steven S**, Kossmann S, Scholz A, Daub S, Oelze M, et al. Molecular mechanisms of the crosstalk between mitochondria and NADPH oxidase through reactive oxygen species-studies in white blood cells and in animal models. *Antioxid Redox Signal.* 2014;20(2):247-66.
7. Wang X., Hausding., Weng SY., Kim Y., **Steven S**., Klein T., Daiber A., Schuppan D. Gliptins Suppress Inflammatory Macrophage Activation to Mitigate Inflammation, Fibrosis, Oxidative Stress, and Vascular Dysfunction in Models of Nonalcoholic Steatohepatitis and Liver Fibrosis. *Antioxid Redox Signal.* 2018 Jan 10;28(2):87-109. doi: 10.1089/ars.2016.6953. Epub 2017 Jul 25.
8. Knorr M, Hausding M, Kroller-Schuhmacher S, **Steven S**, Oelze M, Heeren T, et al. Nitroglycerin-induced endothelial dysfunction and tolerance involve adverse phosphorylation and S-Glutathionylation of endothelial nitric oxide synthase: beneficial effects of therapy with the AT1 receptor blocker telmisartan. *Arterioscler Thromb Vasc Biol.* 2011;31(10):2223-31.
9. Kroller-Schon S, Daiber A, **Steven S**, Oelze M, Frenis K, Kalinovic S, et al. Crucial role for Nox2 and sleep deprivation in aircraft noise-induced vascular and cerebral oxidative stress, inflammation, and gene regulation. *Eur Heart J.* 2018;39(38):3528-39.
10. Munzel T, Schmidt FP, **Steven S**, Herzog J, Daiber A, and Sorensen M. Environmental Noise and the Cardiovascular System. *J Am Coll Cardiol.* 2018;71(6):688-97.

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