

Curriculum Vitae

Prof. Dr. med. Niels Voigt

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Research Interests

- Regulation of ion channels and calcium signaling in the normal and diseased heart
- Regulation of mitochondrial calcium-homeostasis in normal and diseased heart
- Development of cardiac arrhythmia models based on engineered heart muscle

Education

- 2016 - Professor for Molecular Pharmacology, Department of Pharmacology and Toxicology, University Medical Center Göttingen, University of Göttingen, Germany
- 2012 - 2016 Postdoctoral Scientist, Institute of Pharmacology, University of Duisburg-Essen, Germany
- 2014 Facultas Docendi & Venia Legendi (Senior Lecturer in Pharmacology and Toxicology)
- 2013 Board Certification in Pharmacology and Toxicology
- 2010 - 2012 Postdoctoral Scientist, Division of Experimental Cardiology, Medical Faculty Mannheim, Heidelberg University, Germany
- 2008 - 2010 Postdoctoral Scientist, Department of Pharmacology and Toxicology, Medical Faculty, Dresden University of Technology, Germany
- 2007 M.D. with merits ('summa cum laude') from the Medical Faculty "Carl Gustav Carus", Dresden University of Technology, Germany
- 2007 Clinical examination and Graduation from Medical School
- 2000 - 2007 Medical School, Medical Faculty "Carl Gustav Carus", Dresden University of Technology, Germany
- 2003 - 2006 Doctoral thesis at the Department of Pharmacology and Toxicology, Dresden University of Technology, Germany

Experience at Research Institutes Abroad

- 2013: **Laboratory of Dr. W. Jonathan Lederer**, University of Maryland, Baltimore, USA
- 2008: **Laboratory of Prof. Dr. David Eisner and Prof. Dr. Andrew Trafford**, University of Manchester, Manchester, United Kingdom
- 2006: **Laboratory of Prof. Dr. Stanley Nattel**, Montreal Heart Institute, Montreal, Canada

Awards

- 2015: **Teaching Award** of the Medical Faculty of the University Duisburg-Essen 2015, Germany
- 2015: **Oskar-Lapp-Award**, German Cardiac Society, Germany
- 2013: **Best of Basic Science Abstracts Award**, American Heart Association Scientific Sessions 2013, Dallas, USA
- 2011: **Poster Award**, 35th Meeting of the European Working Group on Cardiac Cellular Electrophysiology, European Society of Cardiology, Oslo, Norway
- 2010: **Highest Scoring Abstract Award from Germany**, American Heart Association, Scientific Sessions 2010, Chicago, USA
- 2009: **Woldemar Mobitz Award**, German Cardiac Society, Germany
- 2009: **Carl Gustav Carus Award** for an outstanding dissertation, Medical Faculty, Dresden University of Technology, Germany
- 2004: **Young Investigator Award 2004 (3rd Place)**, International Society for Heart Research (ISHR, European Section)

Editorial Boards

- American Journal of Physiology – Heart and Circulatory Physiology
- Archives of Medical Science
- Basic Research in Cardiology
- Circulation: Genomic and Precision Medicine
- Journal of Molecular and Cellular Cardiology
- Naunyn-Schmiedeberg's Archives of Pharmacology

Reviewer for Scientific Journals

Basic Research in Cardiology, Biochimica et Biophysica Acta - Molecular Cell Research, BioMed Central (BMC) Research Notes, Cellular Physiology and Biochemistry, Circulation Arrhythmia and Electrophysiology, Clinical Epidemiology, European Journal of Pharmacology, Fundamental and Clinical Pharmacology, Frontiers in Pharmacology, Heart, Hypertension, International Journal of Cardiology, Journal of Cardiovascular Disease Research, Journal of Cardiovascular Pharmacology, Journal of Molecular and Cellular Cardiology, International Journal of Cardiology, Naunyn Schmiedeberg's Archive of Pharmacology, Physiological Reports

Professional Memberships

- American Heart Association, Fellow (FAHA)
- Cardiac Electrophysiology Society (CES)
- Working Group on Cardiac Cellular Electrophysiology (EWGCCE), European Society of Cardiology (ESC)
- German Cardiac Society (DGK)
- German Society of Experimental and Clinical Pharmacology and Toxicology (DGPT)
- Heart Rhythm Society (HRS)
- European Society of Cardiology, Fellow (FESC)

Funding

- 2024 - 2026 Deutsche Forschungsgemeinschaft (DFG VO 1468/6-1): "Altered cytosolic calcium buffering contributes to arrhythmogenesis in patients with atrial fibrillation"
- 2021 - 2024: Deutsches Zentrum für Herz-Kreislauf-Forschung e.V. (DZHK), DZHK-BHF-DHF Cooperation: "DNA damage in cytoskeletal protein mutation-induced Atrial Fibrillation: a guide to novel treatment and screening targets (DnAFiX)", Partnership Research Grant with Prof. Dr. Bianca J.J.M. Brundel, Amsterdam UMC, VUmc.
- Since 2020: Deutsches Zentrum für Herz-Kreislauf-Forschung e.V. (DZHK), Shared Expertise (SE181): "Cellular electrophysiology and excitation-contraction coupling in atrial and ventricular cardiomyocytes"
- 2018 - 2024: Deutsche Forschungsgemeinschaft (DFG), Collaborative Research Center 1002 Project A13 (CRC1002 A13): "Abnormal cytosolic calcium buffering and its role in atrial arrhythmogenesis in patients with heart failure"
- 2016 - 2022: Deutsche Forschungsgemeinschaft, International Research Training Group Project 12 (DFG IRTG1816 RP12): "Remodeling of human atrial cardiomyocytes in response to in-vitro tachypacing"
- since 2016: Deutsche Forschungsgemeinschaft (DFG VO 1568/3-1): "The role of atrial mitochondrial Ca²⁺-handling in arrhythmogenesis in patients with atrial fibrillation"
- 2016 - 2020: Else Kröner-Fresenius-Stiftung (EKFS 2016_A20): "Cellular basis for triggers and perpetuators of postoperative atrial fibrillation."

Scientific Activities

since 2024	Nucleus member of the European Working Group of Cardiac Cellular Electrophysiology, European Society of Cardiology
since 2024	Member of the Professional/Public Education & Publications Committee, Council of Genomic and Precision Medicine, American Heart Association
2021 – 2023	Past-Chair of the Working Group on "Cellular Electrophysiology" (AG18) of the German Cardiac Society
2019 – 2022	Early Career Committee Member, Council of Genomic and Precision Medicine, American Heart Association
2018 – 2021	Chair of the Working Group on "Cellular Electrophysiology" (AG18) of the German Cardiac Society
2016 - 2020	Nucleus member of "Scientists of Tomorrow", European Society of Cardiology
2016 – 2018	Vice-Chair of the Working Group on "Cellular Electrophysiology" (AG18) of the German Cardiac Society
2016 - 2020	Ex-officio board member of Council of Stroke, European Society of Cardiology
2014 - 2024	Nucleus member of the Working Group on "Cellular Electrophysiology" (AG18) of the German Cardiac Society
2013 – 2017	Nucleus member of the Working Group on "Myocardial Function and Energetics" (AG13) of the German Cardiac Society

Selected Publications

Five most important

- Fakuade FE, Hubricht D, Möller V, Sobitov I, Liutkute A, Döring Y, Seibertz F, Gerloff M, Pronto JRD, Haghghi F, Brandenburg S, Alhussini K, Ignatyeva N, Bonhoff Y, Kestel S, El-Essawi A, Jebran AF, Großmann M, Danner BC, Baraki H, Schmidt C, Sossalla S, Kutschka I, Bening C, Maack C, Linke WA, Heijman J, Lehnart SE, Kensah G, Ebert A, Mason FE, **Voigt N** (2024) *Impaired intracellular calcium buffering contributes to the arrhythmogenic substrate in atrial myocytes from patients with atrial fibrillation*. *Circulation*, online ahead of print. doi: 10.1161/CIRCULATIONAHA.123.066577.
- Bode D, Pronto JRD, Schiattarella G, **Voigt N** (2024) *Metabolic remodelling in atrial fibrillation: manifestations, mechanisms and clinical implications*. *Nat Rev Cardiol*, online ahead of print. doi: 10.1038/s41569-024-01038-6.
- **Voigt N**, Heijman J, Wang Q, Chiang DY, Li N, Karck M, Wehrens XHT, Nattel S, Dobrev D. (2014) *Cellular and molecular mechanisms of atrial arrhythmogenesis in patients with paroxysmal atrial fibrillation*. *Circulation*, 129 (2): 145-56.
- **Voigt N**, Li N, Wang Q, Wang W, Trafford AW, Abu-Taha I, Sun Q, Wieland T, Nattel S, Ravens U, Wehrens XHT, Dobrev D. (2012) *Enhanced sarcoplasmic reticulum Ca^{2+} leak and increased Na^+ - Ca^{2+} exchanger function underlie delayed afterdepolarizations in patients with chronic atrial fibrillation*. *Circulation*, 125 (17): 2059-70. (Highlighted in *Circulation's* "Most Read Articles in Arrhythmia and Electrophysiology", *Circulation* 2013, 127: e509-19)
- Makary S*, **Voigt N***, Maguy A*, Wakili R, Nishida K, Harada M, Dobrev D, Nattel S. (2011) *Differential protein kinase C isoform regulation and increased constitutive activity of acetylcholine-regulated potassium channels in atrial remodeling*. *Circ Res*, 109 (9): 1031-43. *Equal contribution.

Book Chapters

- Nattel S, Heijman J, **Voigt N**, Wehrens XHT, Dobrev D (2017) The molecular pathophysiology of atrial fibrillation. *Cardiac Electrophysiology: From Cell to Bedside*. Zipes D, Jalife J, Stevenson W (eds), 7th edition, Elsevier, pp. 396-408 ISBN: 978-0-3234-4733-1
- Dobrev D, **Voigt N**, Nattel S (2013) Cholinergic and constitutive regulation of atrial potassium channels. *Cardiac Electrophysiology: From Cell to Bedside*. Zipes D, Jalife J (eds), 6th edition, Elsevier, pp. 383-91. ISBN: 978-1-4556-2856-5
- Nattel S, **Voigt N**, Dobrev D (2013) Molecular pathophysiology of atrial fibrillation. *Cardiac Electrophysiology: From Cell to Bedside*. Zipes D, Jalife J (eds), 6th edition, Elsevier, pp. 449-58. ISBN: 978-1-4556-2856-5