

**CURRICULUM VITAE  
THOMAS KRIEG**

**DATE AND PLACE OF BIRTH:** 1967, Fulda, Germany

**CURRENT POSITIONS**

Associate Professor, Department of Medicine, University of Cambridge  
Honorary Consultant Physician, Acute Medicine, Addenbrooke's Hospital, Cambridge

**TEACHING**

Clinical lead "Clinical Pharmacology and Therapeutics", Clinical School, Cambridge  
Teaching Associate, Gonville and Caius College, Cambridge

**BRIEF CHRONOLOGY OF TRAINING AND EMPLOYMENT:**

2009 – present Associate Professor and Honorary Consultant, University of Cambridge  
2009 GMC Specialty Registration, General Internal Medicine and Clinical Pharmacology  
2006 – 09 Consultant, Cardiology, University Greifswald  
2008 Board exam Pharmacology and Toxicology  
2004 Board exam Internal Medicine  
2004 – 06 Post-doc: Cardiology, University Greifswald  
2001 – 04 Post-doc: Physiology, University of South Alabama, Mobile  
1999 – 01 Fellow and Research Assistant: Cardiology, University Greifswald  
1997 – 99 Residency: Cardiology, Städt. Krankenhaus Ludwigshafen  
1997 Dissertation (magna cum laude)  
1996 – 97 Residency: Internal Medicine, Herz-Jesu-Krankenhaus Fulda  
1995 Bachelor of Science in Medicine, Albert-Ludwig University Freiburg

**HONORS AND AWARDS**

2010 Honorary Professor, Hebei United University, Tangshan  
Since 2009 Adjunct Associate Professor, University of South Alabama, Mobile  
2005 Habilitation, Dr. med. habil., University Greifswald  
2003 Young Investigators Award Finalist, Int. Society of Heart Research  
2002 Young Investigator Research Prize, American Heart Association  
2001 – 02 Research grant, Aventis Pharma  
2000 – 01 Research grant, Krupp Foundation

**COUNCIL**

Secretary of the ESC Working Group on Cellular Biology (since 07/2020)  
Council of the British Society of Cardiovascular Research (2017 - 2020)

**SELECTED PUBLICATIONS (total number: 115, h-index 36)**

Yu X, Chen X, Amrute-Nayak M, Allgeyer E, Zhao A, Chenoweth H, Clement M, Harrison J, Doreth C, Sirinakis G, **Krieg T**, Zhou H, Huang H, Tokuraku K, St Johnston D, Mallat Z, Li X. MARK4 controls ischaemic heart failure through microtubule detyrosination. *Nature* (in press) doi:10.1038/s41586-021-03573-5.

Yin Z, Burger N, Kula-Alwar D, Aksentijevic D, Bridges HR, Prag HA, Grba DN, Viscomi C, James AM, Mottahedin A, **Krieg T**, Murphy MP, Hirst J. Structural basis for a complex I mutation that blocks pathological ROS production. *Nat Commun.* 2021;12(1):707. doi:10.1038/s41467-021-20942-w.

Park M, Nishimura T, Baeza-Garza CD, Caldwell ST, Boon Li Pun P, Prag HA, Young T, Sauchanka O, Logan A, Forkink M, Gruszczuk AV, Prime TA, Arndt S, Naudi A, Pamplona R, Coughlan MT, Tate MT, Ritchie RH, Caicci F, Kaludercic N, Di Lisa F, Smith RAJ, Hartley RC, Murphy MP, **Krieg T**. Confirmation of the cardioprotective effect of MitoGamide in the diabetic heart. *Cardiovasc Drugs Ther.* 2020;34:823-834. doi: 10.1007/s10557-020-07086-7

- Prag HA, Pala L, Kula-Alwar D, Mulvey JF, Luping D, Beach TE, Booty LM, Hall AR, James AM, Xu Z, Saeb-Parsy K, Hartley RC, Murphy MP, **Krieg T**. Ester prodrugs of malonate with enhanced intracellular delivery protect against cardiac ischemia-reperfusion injury in vivo. *Cardiovasc Drugs Ther*. 2020 (in press). doi: 10.1007/s10557-020-07033-6
- Zuurbier CJ, Bertrand L, Beauloye CR, Andreadou I, Ruiz-Meana M, Jespersen NR, Kula-Alwar D, Prag HA, Eric Botker H, Dambrova M, Montessuit C, Kaambre T, Liepinsh E, Brookes PS, **Krieg T**. Cardiac metabolism as a driver and therapeutic target of myocardial infarction. *J Cell Mol Med*. 2020 Jun;24(11):5937-5954. doi: 10.1111/jcmm.15180
- Kula-Alwar D, Prag HA, **Krieg T**. Targeting succinate metabolism in ischemia/reperfusion injury. *Circulation* 2019 Dec 10;140(24):1968-1970. doi: 10.1161/CIRCULATIONAHA.119.042791
- Antonucci S, Mulvey JF, Burger N, Di Sante M, Hall AR, Hinchey EC, Caldwell ST, Gruszczczyk AV, Deshwal S, Hartley RC, Kaludercic N, Murphy MP, Di Lisa F, **Krieg T**. Selective mitochondrial superoxide generation *in vivo* is cardioprotective through hormesis. *Free Radic Biol Med*. 2019;134:678-687. doi: 10.1016/j.freeradbiomed.2019.01.034.
- Kohlhauer M, Pell VR, Burger N, Spiroski AM, Gruszczczyk A, Mulvey JF, Mottahedin A, Costa ASH, Frezza C, Ghaleh B, Murphy MP, Tissier R, **Krieg T**. Protection against cardiac ischemia-reperfusion injury by hypothermia and by inhibition of succinate accumulation and oxidation is additive. *Basic Res Cardiol* 2019;114:18. doi:10.1007/s00395-019-0727-0.
- Kohlhauer M, Dawkins S, Costa ASH, Lee R, Young T, Pell VR, Choudhury RP, Banning AP, Kharbanda RK, Saeb-Parsy K, Murphy MP, Frezza C, **Krieg T\***, Channon KM\*. Metabolomic profiling in acute ST-segment-elevation myocardial infarction identifies succinate as an early marker of human ischemia-reperfusion injury. *J Am Heart Assoc* 2018;7(8): e007546. doi: 10.1161/JAHA.117.007546. \* **joint corresponding author**.
- Pell VR, Spiroski A-M, Mulvey J, Burger N, Costa ASH, Logan A, Gruszczczyk AV, Rosa T, James AM, Frezza C, Murphy MP, **Krieg T**. Ischemic preconditioning protects against cardiac ischemia reperfusion injury without affecting succinate accumulation or oxidation. *J Mol Cell Cardiol*. 2018;123:88-91. doi: 10.1016/j.yjmcc.2018.08.010.
- Pell VR, Chouchani ET, Frezza C, Murphy MP, **Krieg T**. Succinate metabolism: a new therapeutic target for myocardial reperfusion injury. *Cardiovasc Res*. 2016;111:134-41. doi:10.1093/cvr/cvw100.
- Pell VR, Chouchani ET, Murphy MP, Brookes PS, **Krieg T**. Moving forwards by blocking back-flow: the yin and yang of MI therapy. *Circ Res* 2016;118:898-906. doi:10.1161/CIRCRESAHA.115.306569.
- Chouchani ET, Pell VR, James AM, Work LM, Saeb-Parsy K, Frezza C, **Krieg T**, Murphy MP. A unifying mechanism for mitochondrial superoxide production during ischemia-reperfusion injury. *Cell Metab* 2016;23:254-63. doi: 10.1016/j.cmet.2015.12.009.
- Chouchani ET, Pell VR, Gaude E, Aksentijević D, Sundier SY, Robb EL, Logan A, Nadtochiy SM, Ord ENJ, Smith AC, Eyassu F, Shirley R, Hu C-H, Dare AJ, James AM, Rogatti S, Hartley RC, Eaton S, Costa ASH, Brookes PS, Davidson SM, Duchon MR, Saeb-Parsy K, Shattock MJ, Robinson AJ, Work LM, Frezza C, **Krieg T\***, Murphy MP\*. Ischaemic accumulation of succinate controls reperfusion injury through mitochondrial ROS. *Nature* 2014;515:431-5. doi:10.1038/nature13909. \* **joint corresponding author**.
- Methner C, Chouchani ET, Buonincontri G, Sawiak SJ, Murphy MP, **Krieg T**. Mitochondria selective S-nitrosation by MitoSNO protects against post-infarct heart failure in mouse hearts. *Eur J Heart Fail* 2014;16:712-7. doi:10.1002/ejhf.100.
- Chouchani ET, Methner C, Nadtochiy SM, Logan A, Pell VR, Ding S, James AM, Cochemé HM, Reinhold J, Lilley KS, Partridge L, Fearnley IM, Robinson AJ, Hartley RC, Smith RAJ, **Krieg T**, Brookes PS, Murphy MP. Cardioprotection by S-nitrosation of a cysteine switch on mitochondrial complex I. *Nat Med* 2013;19:753-9. doi:10.1038/nm.3212.