

Volker Rasche, Prof. Dr. rer. nat., *17.12.1963, male

Professor for experimental cardiovascular magnetic resonance imaging

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Curriculum vitae

Since 09/05	Professor (W3 oL) for cardiovascular MRI, University of Ulm
08/04 – 08/05	Visiting Scientist, Massachusetts General Hospital (MGH), Harvard Medical School, Boston, USA,
05/01 – 09/01	Visiting Scientist, Advanced Technology Labs, Seattle, USA
01/91 – 08/04	Directive research position in the field of cardiovascular imaging and strategy, Philips Research Europe, Hamburg
07/90 – 07/93	Research and educational position, University of Bielefeld
1990 – 1995	Thesis Dr. rer. nat., University of Bielefeld
1983 – 1990	Study of Physics, University of Bielefeld

Research fields

Medical imaging technologies, translational medical imaging, multi-modal medical imaging, motion-encoded MRI, ultra-short echo time MRI, small animal imaging for cardiovascular, pulmonary, and neurological applications.

Memberships

International Society of Magnetic Resonance in Medicine (ISMRM) and its German chapter

Editorial/Reviewer

Member editorial board BioMed Research International

Reviewer for DFG (German Research Foundation), CIRC Arrhythmia & Electrophysiology, IEEE Transaction on Medical Imaging, IEEE Transaction on Signal Processing, IEEE Signal Processing Letters, Medical Physics, Physics in Medicine and Biology, Investigative Radiology, Magnetic Resonance in Medicine, Journal of Magnetic resonance in Medicine, NMR in Biomedicine, Journal of Cardiovascular Magnetic Resonance, MAGMA

Funding

total sum as principle investigator: 2.811.276,-€ (Research projects)
 + 1.700.000,-€ (Zukunftsoffensive III)
 + 1.429.190,-€ (Art. 91b GG)

total sum as coinvestigator: 539.470,-€

most important funded projects from the last 5 years:

- DFG, RA 1660/6-1 "Vom Molekül zum Menschen: Zentrum für translationale Bildgebung an der Universität Ulm". Duration: 2016-2018. Funding: 570.100,-€
- EU – Horizon 2020, HYPERDIAMOND. Duration 2016-2019. Funding: 361.250,-€
- DFG, SFB 1143: Project Z03 „Trauma diagnostics“. Duration: 2015-2018. Funding: 130.800,- €
- DentsplySirona: „Dental MRI“. Duration: 2012-2018. Funding 1.000.000,- €

Organisation / Management:

Since 2016 Spokesman DFG Center for Translational Imaging, Ulm University
Since 2012 Head Core Facility Small Animal Imaging, Ulm University
Since 2012 Member editorial board BioMed Research International
2003/2004 Member of the global strategic workgroup "Future of Cardiology", Philips Medical Systems

Prizes / Awards:

2010 Industrial collaboration award, Ulm University
2008 Teaching award, Ulm University
2002 Innovation award, Philips Research Europe
2001 Principal Scientist, Philips Research Europe
2001 Innovation award, Philips Research Europe

Selected publications (10 most important publications of the last 10 years)

> 110 scientific articles published, > 200 Conference Contributions, > 65 patents

> 4500 (>2400) citations, h-index = 35 (24), i10-index = 102 (65) all (since 2012), google scholar

1. Paul J, Wundrak S, Hombach V, Rottbauer W, **Rasche V**. On the influence of respiratory motion in radial tissue phase mapping cardiac MRI. J Magn Reson Imaging. 2016 Apr 18. doi: 10.1002/jmri.25286
2. Wundrak S, Paul J, Ulrici J, Hell E, Geibel MA, Bernhardt P, Rottbauer W, **Rasche V**. A self-gating method for time-resolved imaging of nonuniform motion. Magn Reson Med. 2015 Oct 9. doi: 10.1002/mrm.26000
3. Wundrak S, Paul J, Ulrici J, Hell E, Geibel MA, Bernhardt P, Rottbauer W, **Rasche V**. Golden ratio sparse MRI using tiny golden angles. Magn Reson Med. 2016 Jun;75(6):2372-8. doi: 10.1002/mrm.25831
4. Zuo Z, Syrovets T, Genze F, Abaei A, Ma G, Simmet T, **Rasche V**. High-resolution MRI analysis of breast cancer xenograft on the chick chorioallantoic membrane. NMR Biomed. 2015 Apr;28(4):440-7. doi: 10.1002/nbm.3270
5. Wundrak S, Paul J, Ulrici J, Hell E, **Rasche V**. A small surrogate for the golden angle in time-resolved radial MRI based generalized fibonacci sequences. IEEE Trans Med Imaging. 2015 Jun;34(6):1262-9.
6. Paul J, Divkovic E, Wundrak S, Neumann H, **Rasche V**. High Resolution Respiratory Self-Gated Golden Angle Cardiac MRI: Comparison of Self-Gating Methods in Combination with k-t SPARSE SENSE. Magn Reson Med 2014; doi: 10.1002/mrm.25102. [Epub ahead of print]

7. Martins VC, Busch K, Juraeva D, Blum C, Ludwig C, **Rasche V**, Lasitschka F, Mastitsky S, Brors B, Hielscher T, Fehling HJ, Rodewald HR. Cell competition is a tumour suppressor mechanism in the thymus. *Nature*. 2014 May 22;509(7501):465-70
8. Mueller HP, Vernikouskaya I, Kassubek J, Ludolph AC, Stiller D, **Rasche V**. Diffusion tensor magnetic resonance imaging of the brain in APP transgenic mice: a cohort study. *PlosOne* 2013;8(6):e67630.
9. Weiger M, Pruessmann KP, Bracher AK, Köhler S, Lehmann V, Wolfram U, Hennel F, **Rasche V**. High-resolution ZTE imaging of human teeth. *NMR Biomed*. 2012 Jan 31. doi: 10.1002/nbm.2783
10. Lutz A, Bornstedt A, Nienhaus GU, **Rasche V**. Acceleration of tissue phase mapping by k-t BLAST: a detailed analysis of the influence of k-t-BLAST for the quantification of myocardial motion at 3T. *J Cardiovasc Magn Reson*. 2011;13:5