

## Dr. Dominik v. Elverfeldt

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### Research Interests

- Preclinical research on rodents
- Molecular Imaging
- Functionalised iron oxide particles
- <sup>31</sup>P MRS on renal grafts

### Projects

- [Head of AMIR \(Advanced Molecular Imaging Research Center\)](#)

### Publications

Journal papers (\* these Authors contributed equally)

- Gierthmuehlen M, Freiman T, Elverfeldt D.v., Kaminsky, J Microsurgical approach to the spinal canal in rats. *Neuroscience Methods*
- Harsan L, Paul D, Schnell S, Kreher B, Hennig J, Staiger J, von Elverfeldt D. In vivo Diffusion Tensor Magnetif Resonance Imaging and Fiber Tracking of the mouse brain. *NMR in Biomedicine* in press
- von zur Muhlen C, Fink A, Salaklang J, Paul D, Neudorfer I, Berti V, Merkle A, Peter K, Bode C, von Elverfeldt D. Imaging monocytes with iron oxide nanoparticles targeted towards the monocyte integrin MAC-1 does not result in improved atherosclerotic plaque detection by in vivo MRI. *Contrast Media and Molecular Imaging* in press
- Paul D, Zaitsev M, Harsan L, Kurutsch A, Splitthoff DN, Hennel F, Choli M, von Elverfeldt D. Implementation and Application of PSF-Based EPI Distortion Correction to High Field Animal Imaging. *Int J Biomed Imaging*. 2009;946271. Epub 2009 Dec 31. PMID: 20069119
- Hadjidemetriou, S., Reichardt, W., Buechert, M., Hennig, J., von Elverfeldt, D. Analysis of MR images of mice in preclinical treatment monitoring of polycystic kidney disease. *Proc. of the 12th International Conference on MICCAI. LNCS*. Sep 2009
- Hagemeyer CE, von Zur Muhlen C, von Elverfeldt D, Peter K. Single-chain antibodies as diagnostic tools and therapeutic agents. *Thrombosis and haemostasis* 2009;101(6):1012-1019.
- Reichardt W, Daniel Romaker, Anne Becker, Martin Buechert, von Elverfeldt D Monitoring Kidney and Renal Cyst Volumes applying MR approaches on a Rapamycin treated Mouse Model of ADPKD. *Magn Reson Mater Phy* 2009 June; 22(3): 143-9.
- Reichardt W, Dürr C, von Elverfeldt D, Jüttner E, Gerlach UV, Yamada M, Smith B, Negrin RS, Zeiser R. Impact of mammalian target of rapamycin inhibition on lymphoid homing and tolerogenic function of nanoparticle-labeled dendritic cells following allogeneic hematopoietic cell transplantation. *J Immunol*. 2008 Oct 1;181(7):4770-9.
- von zur Muhlen C\*, von Elverfeldt D\*, Moeller J, Chodhury R, Paul D, Hagemeyer C, Becker A-K, Neudorfer I, Schwarz M, Bode C, Peter K. A magnetic resonance imaging contrast agent targeted towards activated platelets allows in vivo detection of thrombosis and monitoring of thrombolysis. *Circulation* 2008 Jul 15;118(3):258-67
- Shih Y-Y, Büchert M, Chung H-W, Hennig J, von Elverfeldt D. Vitamin C estimation with standard 1H spectroscopy using a clinical 3T MR-system: Detectability and Reliability within the human brain. *Journal of Magnetic Resonance Imaging* 2008 Aug;28(2):351-8
- Schurigt U, Sevenich L, Vannier C, Gajda M, Schwinde A, Werner F, Stahl A, von Elverfeldt D, Becker AK, Bogyo M, Peters C, Reinheckel T Trial of the cysteine cathepsin inhibitor JPM-OEt on early and advanced mammary cancer stages in the MTV-PyMT-transgenic mouse model. *Biological Chemistry*, 2008 Aug; 389: 1067-1074
- Zhong K, Leupold J, von Elverfeldt D, Speck O The Molecular Basis for Gray and White Matter Contrast in Phase Imaging. *Neuroimage* 2008 May 1;40(4):1561-6. (in press)

- Fritsch A, Loekermann S, Kern JS, Braun A, Bösl MR, Bley T, Schumann H, von Elverfeldt D, Paul D, Erlacher M, von Rautenfeld DB, Hausser I, Fässler R, Bruckner-Tuderman L. A hypomorphic mouse model for dystrophic epidermolysis bullosa reveals disease mechanisms and responds to fibroblast therapy. *Journal of Clinical Investigation* 2008 May;118(5):1669-79.
- von zur Muhlen C\*, von Elverfeldt D\*, Choudhury RP, Ender J, Ahrens I, Schwarz M, Hennig J, Bode C, Peter K. A functionalized magnetic resonance contrast agent selectively binds to glycoprotein iib/iiia on activated human platelets under flow conditions and is detectable at clinically relevant field strengths. *Molecular Imaging* 2008 Mar-Apr;7(2):59-67
- Stalder AF, von Elverfeldt D, Paul D, Hennig J, Markl M. Variable Echo Time Imaging and Signal Characteristics of 1-M Gadobutrol Contrast Agent at 1.5 and 3T. *Magn Reson Med* 2008 Jan; 59(1):113-123
- von Elverfeldt D, Niekisch M, Quaschnig T, El Saman A, Kirste G, Kraemer-Guth A, Hennig J. Kinetics of PME/Pi in Pig Kidneys during Cold Ischemia *NMR in Biomedicine* 2007 Nov;20(7):652-657
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- von zur Muehlen C, von Elverfeldt D, Choudhury R, Bode C, Peter K A Single-chain Antibody Directed Against Activated Platelets Allows Targeted Magnetic Resonance Imaging of Human Thrombi at Clinically Relevant Field Strengths. *AHA* 2005, *Circulation* 112 (17) supplement: 1092
- Niekisch M, von Elverfeldt D, El Saman A, Hennig J, Kirste G. "Improved Pretransplant Assessment of Renal Quality via 31P-Magnetic Resonance Spectroscopy Employing Chemical Shift Imaging" *Transplantation* 2004 77(7):1041-1045
- Bilecen D, Kaspar A, Küstermann E, Seelig J, Elverfeldt D, Scheffler K. "Intrahepatic detection of the non-steroidal antirheumatic drug niflumic acid followed by in vivo and in vitro 19F MR spectroscopy in humans." *NMR Biomed.* 2003 May;16(3):144-51
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#### Conference abstracts (as first author)

- von Elverfeldt D, von zur Muhlen C, Möller J, Paul D, Becker A-K, Neubauer I, Bode C, Peter K, J. Hennig A MRI Contrast Agent Targeted for Activated Platelets Allows detection of Thrombosis and Thrombolysis in an In Vivo Mouse Model. *ISMRM 16th Annual Meeting #477* (2008)
- von Elverfeldt D, Emerich P, Weigel J, Paul D, Steinmann D, Schneider M, Runck M, Stahl C, Gutmann J, Leupold J. SSFP based high resolution 19F Imaging of the rat lung ex-vivo with FC84. *ISMRM 16th Annual Meeting #2642* (2008)
- Elverfeldt D, Buechert M, Kaufmann R, Huell M, Hennig J. "Evidence for Detection of Ascorbic Acid in the Human Brain at 3T" *ISMRM 14th Annual Meeting #3145* (2006)
- Elverfeldt D, Buschmann E, Schirmer S, Buechert M, Hennig J. "Detection of blood flow reserve in peripheral arterial disease with Muscle-BOLD" *ESMRMB 21st Annual Meeting #535* (2004)
- Elverfeldt D, Niekisch M, El Saman A, Hopt U T, Hennig J. "Temporal Behaviour of PME/Pi in Pigs´ Kidneys during Cold Ischemic Time" *ISMRM 11th Annual Meeting #43* (2003)
- Elverfeldt D, Heinze J, Hennig J. ""Electrophoretic CSI using Deuterated Acetonitrile"" *ISMRM 9th and ESMRMB 18th Joint Annual Meeting #1705* (2001)
- Elverfeldt D, Heinze J, Hennig J. "Electrophoretic CSI" *ESMRMB 17th Annual Meeting #414* (2000)
- Elverfeldt D, Querner U, Fiedler W, Berthold P, Hennig J. Experimental MRI/MRS on Seasonal Fat Deposition During Stork Migration *ISMRM Proc. 7th Annual Meeting #264* (1999)

#### Dissertation

- Dominik v. Elverfeldt *ENMR: Ortsaufgelöste Bestimmung von Migrationsgeschwindigkeiten im elektrischen Feld* Universität Freiburg 2002, Fakultät für Chemie, Pharmazie und Geowissenschaften (Prof. Heinze)

#### Diploma Thesis

- Dominik v. Elverfeldt *Numerische Simulationen zur Quantifizierung von in vivo 1H NMR Spektren* Universität Freiburg 1995, Fakultät für Physik (Prof. Runge)