

## Publikationen 2016

Shemesh N, Jespersen SN, Alexander DC, Cohen Y, Drobnjak I, Dyrby TB, Finsterbusch J, Koch MA, Kuder T, Laun F, Lawrenz M, Lundell H, Mitra PP, Nilsson M, Özarslan E, Topgaard D, Westin CF: Conventions and nomenclature for double diffusion encoding NMR and MRI. *Magnetic Resonance in Medicine* 75 (1), 82-87, 2016.

Lommen J, Konstandin S, Kramer P, Schad LR: Enhancing the quantification of tissue sodium content by MRI: time-efficient sodium B1 mapping at clinical field strengths. *NMR in Biomedicine* 29 (2), 129-136, 2016.

Schroeder H, Komljenovic D, Hecker M, Korff T: Transdermal drug targeting and functional imaging of tumor blood vessels in the mouse. *FASEB Journal* 30 (2), 923-932, 2016.

Dinu-Biringer R, Nees F, Falquez R, Berger M, Barnow S: Different roads to the same destination - The impact of impulsivity on decision-making processes under risk within a rewarding context in a healthy male sample. *Psychiatry Research* 248, 12-22, 2016.

Wrede KH, Dammann P, Johst S, Monninghoff C, Schlamann M, Maderwald S, Sandalcioglu IE, Ladd ME, Forsting M, Sure U, Umutlu L: Non-Enhanced MR Imaging of Cerebral Arteriovenous Malformations at 7 Tesla. *European Radiology* 26 (3), 829-839, 2016.

Benkhedah N, Hoffmann SH, Biller A, Nagel AM: Evaluation of adaptive combination of 30-channel head receive coil array data in  $(^{23}\text{Na})$  MR imaging. *Magnetic Resonance in Medicine* 75 (2), 527-536, 2016.

Deistung A, Stefanescu MR, Ernst TM, Schlamann M, Ladd ME, Reichenbach JR, Timmann D: Structural and Functional Magnetic Resonance Imaging of the Cerebellum: Considerations for Assessing Cerebellar Ataxias. *Cerebellum* 15 (1), 21-25, 2016.

Lagemaat MW, Breukels V, Vos EK, Kerr AB, van Uden MJ, Orzada S, Bitz AK, Maas MC, Scheenen TW:  $^1\text{H}$  MR spectroscopic imaging of the prostate at 7T using spectral-spatial pulses. *Magnetic Resonance in Medicine* 75 (3), 933-945, 2016.

Laun FB, Mueller L, Kuder TA: NMR-based diffusion lattice imaging. *Physical Review / E* 93 (3-1), 032401, 2016.

Ladd ME, Delorme S: Physiology made visible. *Radiologe* 56 (2), 105-105, 2016.

Behl NG, Gnahn C, Bachert P, Ladd ME, Nagel AM: Three-dimensional dictionary-learning reconstruction of Na MRI data. *Magnetic Resonance in Medicine* 75 (4), 1605-1616, 2016.

Roesler M, Nagel AM, Umatham R, Bachert P, Benkhedah N: In vivo Observation of Quadrupolar Splitting in  $^{39}\text{K}$  Magnetic Resonance Spectroscopy of Human Muscle Tissue. *NMR in Biomedicine* 29 (4), 451-457, 2016.

Lazik A, Theysohn JM, Geis C, Johst S, Ladd ME, Quick HH, Kraff O: 7 Tesla quantitative hip MRI: T1, T2 and T2\* mapping of hip cartilage in healthy volunteers. *European Radiology* 26 (5), 1245-1253, 2016.

Pagel M, Hassert R, John T, Braun K, Wiessler M, Abel B, Beck-Sickinge AG: Multifunctional Coating Improves Cell Adhesion on Titanium by using Cooperatively Acting Peptides. *Angewandte Chemie - International Edition* 55 (15), 4826-4830, 2016.

Kueper M, Kaschani P, Thurling M, Stefanescu MR, Burciu RG, Goricke S, Maderwald S, Ladd ME, Hautzel, H., Timmann, D.: Cerebellar fMRI Activation Increases with Increasing Working Memory Demands. *Cerebellum* 15 (3), 322-335, 2016.

Hahnemann ML, Kraff O, Maderwald S, Johst S, Orzada S, Umutlu L, Ladd ME, Quick HH, Lauenstein TC: Non-enhanced magnetic resonance imaging of the small bowel at 7 Tesla in comparison to 1.5 Tesla: First steps towards clinical application. *Magnetic Resonance Imaging* 34 (5), 668-673, 2016.

Ernst TM, Beyer L, Mueller OM, Goericke S, Ladd ME, Gerwig M, Timmann D: Pronounced reduction of acquisition of conditioned eyeblink responses in young adults with focal cerebellar lesions impedes conclusions on the role of the cerebellum in extinction and savings. *Neuropsychologia* 85, 287-300, 2016.

Klauss M, Mayer P, Maier-Hein K, Laun FB, Mehrabi A, Kauczor HU, Stieltjes B: IVIM-diffusion-MRI for the differentiation of solid benign and malign hypervascular liver lesions-Evaluation with two different MR scanners. *European Journal of Radiology* 85 (7), 1289-1294, 2016.

Chen B, Schoemberg T, Kraff O, Dammann P, Bitz AK, Schlamann M, Quick HH, Ladd ME, Sure U, Wrede KH: Cranial fixation plates in cerebral magnetic resonance imaging: a 3 and 7 Tesla in vivo image quality study. *Magnetic Resonance Materials in Physics Biology and Medicine* 29 (3), 389-398, 2016.

Voelker MN, Kraff O, Brenner D, Wollrab A, Weinberger O, Berger MC, Robinson S, Bogner W, Wiggins C, Trampel R, Stocker T, Niendorf T, Quick HH, Norris DG, Ladd ME, Speck O: The traveling heads: multicenter brain imaging at 7 Tesla. *Magnetic Resonance Materials in Physics Biology and Medicine* 29 (3), 399-415, 2016.

Bickelhaupt S, Laun FB, Tesdorff J, Lederer W, Daniel H, Stieber A, Delorme S, Schlemmer HP: Fast and Noninvasive Characterization of Suspicious Lesions Detected at Breast Cancer X-Ray Screening: Capability of Diffusion-weighted MR Imaging with MIPs. *Radiology* 278 (3), 689-697, 2016.

Schmidt K, Forkmann K, Sinke C, Gratz M, Bitz A, Bingel U: The differential effect of trigeminal vs. peripheral pain stimulation on visual processing and memory encoding is influenced by pain-related fear. *Neuroimage* 134, 386-395, 2016.

Uhrig M, Simons D, Kachelriess M, Pisana F, Kuchenbecker S, Schlemmer HP: Advanced abdominal imaging with dual energy CT is feasible without increasing radiation dose. *Cancer Imaging* 16 (1), 15, 2016.

Faby S, Maier J, Sawall S, Simons D, Schlemmer HP, Lell M, Kachelriess M: An efficient computational approach to model statistical correlations in photon counting x-ray detectors. *Medical Physics* 43 (7), 3945-3960, 2016.

Kuntz J, Ritschl L, Knaup M, Kachelriess M: The rotate-plus-shift C-arm trajectory. Part II. Exact reconstruction from less than 180 degrees rotation. *Medical Physics* 43 (5), 2303, 2016.

Ritschl L, Kuntz J, Fleischmann C, Kachelriess M: The rotate-plus-shift C-arm trajectory. Part I. Complete data with less than 180 degrees rotation. *Medical Physics* 43 (5), 2295, 2016.

Nagel AM, Umathum R, Roesler MB, Ladd ME, Litvak I, Gorkov PL, Brey WW, Schepkin VD: K-39 and Na-23 relaxation times and MRI of rat head at 21.1T. *NMR in Biomedicine* 29 (6), 759-766, 2016.

Majer CL, Meyer S, Konrad S, Sarli E, Bartelmann M: Reconstruction of the mass distribution of galaxy clusters from the inversion of the thermal Sunyaev-Zel'dovich effect. *Monthly Notices of the Royal Astronomical Society* 460 (1), 844-854, 2016.

Matsushige T, Chen B, Dammann P, Johst S, Quick HH, Ladd ME, Forsting M, Sure U, Wrede KH: Microanatomy of the subcallosal artery: an in-vivo 7 T magnetic resonance angiography study. *European Radiology* 26 (9), 2908-2914, 2016.

Neumann JO, Giese H, Nagel AM, Biller A, Unterberg A, Meinzer HP: MR Angiography at 7T to Visualize Cerebrovascular Territories. *Journal of Neuroimaging* 26 (5), 519-524, 2016.

Weber MA, Nagel AM, Marschar AM, Glemser P, Jurkat-Rott K, Wolf MB, Ladd ME, Schlemmer HP, Kauczor HU, Lehmann-Horn F: ERRATUM: 7-T (35)Cl and (23)Na MR Imaging for Detection of Mutation-dependent Alterations in Muscular Edema and Fat Fraction with Sodium and Chloride Concentrations in Muscular Periodic Paralysis. (Originally published in: *Radiology* 2016;280(3):848-859). *Radiology* 281 (1), 326, 2016.

Straub S, Laun FB, Emmerich J, Jobke B, Hauswald H, Katayama S, Herfarth, K, Schlemmer HP, Ladd ME, Ziener CH, Bonekamp D, Roethke MC: Potential of quantitative susceptibility mapping for detection of prostatic calcifications. *Journal of Magnetic Resonance Imaging* 2016.

Hering J, Laun FB, Lederer W, Daniel H, Kuder TA, Stieber A, Delorme S, Maier-Hein KH, Schlemmer HP, Bickelhaupt S: Applicability and discriminative value of a semiautomatic three-dimensional spherical volume for the assessment of the apparent diffusion coefficient in suspicious breast lesions-feasibility study. *Clinical Imaging* 40 (6), 1280-1285, 2016.

Niendorf T, Paul K, Oezerdem C, Graessl A, Klix S, Huelnhagen T, Hezel F, Rieger J, Waiczies H, Frahm J, Nagel AM, Oberacke EI, Winter L: W(h)ither Human Cardiac and Body Magnetic Resonance at Ultrahigh Fields? Technical Advances, Practical Considerations, Applications, and Clinical Opportunities. *NMR in Biomedicine* 29 (9), 1173-1197, 2016.

Matsushige T, Kraemer M, Schlamann M, Berlit P, Foersting M, Ladd ME, Sure U, Wrede KH: Ventricular Microaneurysms in Moyamoya Angiopathy Visualized with 7T MR Angiography. *American Journal of Neuroradiology* 37 (9), 1669-1672, 2016.

Lazik-Palm A, Kraff O, Johst S, Quick HH, Ladd ME, Geis C, Korsmeier K, Landgraeber S, Theysohn JM: Morphological and Quantitative 7 T MRI of Hip Cartilage Transplants in Comparison to 3 T-Initial Experiences. *Investigative Radiology* 51 (9), 552-559, 2016.

Straub S, Ladd ME, Wetscherek A, Laun FB: On contrast mechanisms in p-space imaging. *Magnetic Resonance in Medicine* 75 (6), 2526-2533, 2016.

Freitag MT, Maier-Hein KH, Binczyk F, Laun FB, Weber C, Bonekamp D, Tarnawski R, Bobek-Billewicz B, Polanska J, Majchrzak H, Stieltjes B: Early Detection of Malignant Transformation in Resected WHO

II Low-Grade Glioma Using Diffusion Tensor-Derived Quantitative Measures. PLoS ONE 11 (10), e0164679, 2016.

Lazik-Palm A, Kraff O, Geis C, Johst S, Goebel J, Ladd ME, Quick HH, Theysohn JM: Morphological imaging and T2 and T2\* mapping of hip cartilage at 7 Tesla MRI under the influence of intravenous gadolinium. European Radiology 26 (11), 3923-3931, 2016.

Heußner T, Rank CM, Freitag MT, Dimitrakopoulou-Strauss A, Schlemmer HP, Beyer T, Kachelrieß M: MR-consistent simultaneous reconstruction of attenuation and activity distributions to clinical non-TOF PET/MR. IEEE Transactions on Nuclear Science 63 (5), 2443-2451, 2016.

Freitag MT, Bickelhaupt S, Ziener CH, Meier-Hein KH, Radtke JP, Mosebach J, Kuder TA, Schlemmer HP, Laun FB: Selected clinically established and scientific techniques of diffusion-weighted MRI. In the context of imaging in oncology Ausgewählte klinisch etablierte und wissenschaftliche Techniken der diffusionsgewichteten Magnetresonanztomographie im Kontext der onkologischen Bildgebung (Review-Artikel). Radiologe 56 (2), 137-147, 2016.

Bickelhaupt S, Paech D, Kickingereder P, Steudle F, Lederer W, Heidi D, Götz M, Gähler N, Tichy D, Wiesenfarth M, Laun FB, Maier-Hein K, Schlemmer HP, Bonekamp D: A radiomic signature for the prediction of malignancy from contrast agent-free breast MRI with diffusion imaging in a cohort of patients with suspicious breast lesions on X-ray mammography. Journal of Magnetic Resonance in Medicine 2016.

Paech, D, Zaiss M, Windschuh J, Görke S, Milde K, Meissner J, Burth S, Kickingereder P: Wick, W., Ladd, M.E., Bachert, P., Bendszus, M., Schlemmer, H.P., Radbruch, A.: Quantitative CEST-Bildgebung bei Glioblastompatienten am 7 Tesla Ultrahochfeldtomografen. Rofo - Fortschritte Auf dem Gebiet der Roentgenstrahlen und der Bildgebenden Verfahren 188 (S 01), 2016.

Biller A, Badde S, Nagel AM, Neumann JO, Wick W, Hertenstein A, Bendszus M, Sahm F, Benkhedah N, Kleesiek J: Improved Brain Tumor Classification by Sodium Magnetic Resonance Imaging (Na-MRI): Prediction of Isocitrate Dehydrogenase (IDH) Mutation Status and Tumor Progression. American Journal of Neuroradiology 37 (1), 66-73, 2016.

Rank C, Heußner T, Wetscherek A, Freitag MT, Sedlaczek O, Schlemmer HP, Kachelrieß M: Respiratory motion compensation for simultaneous PET/MR based on highly undersampled MR data. Medical Physics 43 (12), 6234-6245, 2016.

Bickelhaupt S, Laun FB, Lederer W, Daniel H, Stieber A, Delorme S, Schlemmer HP: Diffusion-Weighted MR Mammography (DWI-MRM) - Potential in the Clarification of Suspicious Lesions Detected by X-Ray Mammography. Magnetom FLASH 65, 70-74, 2016.

Biller A, Pflugmann I, Badde S, Diem R, Wildemann B, Nagel AM, Jordan J, Benkhedah N, Kleesiek J: Sodium MRI in Multiple Sclerosis is Compatible with Intracellular Sodium Accumulation and Inflammation-Induced Hyper-Cellularity of Acute Brain Lesions. Scientific Reports 6, 31269, 2016.

Kolb C, Wetscherek A, Buzan MT, Werner R, Rank C, Kachelrieß M, Kreuter M, Dinkel J, Heußner CP, Maier-Hein K: Regional Lung Ventilation Analysis Using Temporally Resolved Magnetic Resonance Imaging. Journal of Computer Assisted Tomography 40 (6), 899-906, 2016.

Berger MC, Bachert P, Groebner J, Nagel AM: Multi-contrast T2-relaxometry upon visual stimulation at 3T and 7T. *Magnetic Resonance Imaging* 34 (7), 864-874, 2016.

Komljenovic D, Wiessler M, Waldeck W, Ehemann V, Pipkorn R, Schrenk HH, Debus J, Braun K: NIR-Cyanine Dye Linker: a Promising Candidate for Isochronic Fluorescence Imaging in Molecular Cancer Diagnostics and Therapy Monitoring. *Theranostics* 6 (1), 131-141, 2016.

Schuenke P, Paech D, Koehler C, Windschuh J, Bachert P, Ladd ME, Schlemmer HP, Radbruch A, Zaiss M: Fast Dynamic Glucose Enhanced MRI of brain Tumors by means of T1p.weighted imaging. *Scientific Reports* 2016.

Spicher N, Kukuk M, Maderwald S, Ladd ME: Initial evaluation of prospective cardiac triggering using photoplethysmography signals recorded with a video camera compared to pulse oximetry and electrocardiography at 7T MRI. *Biomedical Engineering Online* 15 (1), 126, 2016.

Weber MA, Nagel AM, Marschar AM, Glemser P, Jurkat-Rott K, Wolf MB, Ladd ME, Schlemmer HP, Kauczor HU, Lehmann-Horn F: 7-T Cl and Na MR Imaging for Detection of Mutation-dependent Alterations in Muscular Edema and Fat Fraction with Sodium and Chloride Concentrations in Muscular Periodic Paralysis. *Radiology* 280 (3), 848-859, 2016.

van Kaick G, Bachert P: [When a name becomes a unit: Nikola Tesla]. *Radiologe* 56 (11), 993-996, 2016.

Rink K, Benkhedah N, Berger MC, Gnahn C, Behl NG, Lommen JM, Stahl V, Bachert P, Ladd ME, Nagel AM: Iterative reconstruction of radially-sampled 31P bSSFP data using prior information from 1H MRI. *Magnetic Resonance Imaging* 37, 147-158, 2016.

Niklas M, Zimmermann F, Schlegel J, Schwager C, Debus J, Jaekel O, Abdollahi A, Greilich S: Registration procedure for spatial correlation of physical energy deposition of particle irradiation and cellular response utilizing cell-fluorescent ion track hybrid detectors. *Physics in Medicine and Biology* 61 (17), N441-N460, 2016.

#### Buchbeitrag:

Emmerich J, Laun FB, Bachert P, Straub S, Mueller L, Pfaffenberger A, Bach M.: Diskrepanz zwischen nominaler und tatsächlicher Schichtdicke in der Magnetresonanztomographie. In: Abstracts der 47. Jahrestagung der Deutschen Gesellschaft für Medizinische Physik (DGMP). Schreiber, L.M., Hoeverner, J.-B., DGMP, 167-169, 2016.

Mercea P, Pfaffenberger A, Saito N, Rank C, Gnirs R, Freitag M, Bostel T, Sterzing F, Bendl R, Giske K: Minimizing target out-of-plane motion for tracking on 2D MRI. In: Programme Book of the 18th International Conference on the use of Computers in Radiation Therapy. Institute of Cancer Research and University of Oxford, Institute of Cancer Research a, 2016.

Mueller M, Niebuhr N, Laun FB, Bach M, Pfaffenberger A: Untersuchung der geometrischen Abbildungsgenauigkeit für eine Studie zur MR-geführten Strahlentherapie. In: Abstracts der 47. Jahrestagung der Deutschen Gesellschaft für Medizinische Physik (DGMP). Schreiber LM, Hoeverner JB, DGMP, 73-74, 2016.