

Dr. Andreas M. Schmid

Personal Data

Status/Function: Group Leader
Scientific focus: Multimodal Imaging of Abdominal Tumors and Liver Diseases
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Education and qualifications

2008-2012: Full-time PhD student
Laboratory for Preclinical Imaging, Eberhard Karls University Tuebingen, Germany
(Degree: Dr. sc. hum.)
2001-2007: Full-time student
Philipps University Marburg, Germany (Degree: Diploma in Physics)

Work Experience

2014 – present: Group Leader, MR and Multimodal Imaging Science, Werner Siemens Imaging Center, Tübingen, Germany
08.2013 - 03.2014: Visiting Scientist, Centre for Advanced Imaging, University of Queensland, Brisbane, Australia
2012 – 2013: Post-doctoral researcher
Werner Siemens Imaging Center, Tübingen, Germany

Teaching Experience

Since 2016: Lecture “Preclinical MRI” & “in vivo MR Spectroscopy” as part of “Medical Technology” curriculum
Since 2014: Supervision of lab-internships
2013: Lecture “Bildgebung am lebenden Organismus” as part of „Aktuelle Aspekte der Biomedizinischen Technik“
Since 2012: Supervision of Bachelor- and Master theses

Professional Memberships

- Expert pool of National Committee for the Protection of Animals Used for Scientific Purposes for the Federal Republic of Germany
 - European Society for Molecular Imaging
 - Deutsche Physikalische Gesellschaft
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Additional Qualifications and Skills

- Metabonomics Workshop, Bruker BioSpin GmbH, Rheinstetten, 2015
- Advanced Certificate “Preclinical Imaging in Small Laboratory Animals – PRIMA” (Modules 1 – 4), 2012
- International Workshop on Magnetic Particle Imaging IWMPI, Bremen, Germany, 2012
- PET Pharmacokinetics Course, Sitges, Spain, 2011
- Basic Course Animal Care (“Versuchstierkundliches Privatissimum zur Erlangung tierschutz- und versuchstierkundlicher Fachkenntnisse nach §9 Abs 1 des TSchG”), Tübingen, 2008
- Basic Course “IDEA Programming”, Erlangen, 2008
- Basic Programming Skills (Mathematica, MatLab, LabView)

Publications

1. Griessinger, C.M., **A.M. Schmid**, D. Sonanini, B.F. Schorg, M.A. Jarboui, D. Bukala, N. Mucha, B. Fehrenbacher, J. Steinhilber, M. Martella, U. Kohlhofer, M. Schaller, L. Zender, H.G. Rammensee, L. Quintanilla-Martinez, M. Rocken, M. Kneilling, and B.J. Pichler, The administration route of tumor-antigen-specific T-helper cells differentially modulates the tumor microenvironment and senescence. *Carcinogenesis*, 2019. 40(2): p. 289-302.
2. Mannheim, J.G., **A.M. Schmid**, J. Schwenck, P. Katiyar, K. Herfert, B.J. Pichler, and J.A. Disselhorst, PET/MRI Hybrid Systems. *Semin Nucl Med*, 2018. 48(4): p. 332-347.
3. Haubner, R., **A.M. Schmid**, A. Maurer, C. Rangger, L.G. Roig, B.J. Pichler, and I.J. Virgolini, [(68)Ga]NOTA-Galactosyl Human Serum Albumin: a Tracer for Liver Function Imaging with Improved Stability. *Mol Imaging Biol*, 2017. 19(5): p. 723-730.
4. Mannheim, J.G., **A.M. Schmid**, and B.J. Pichler, Influence of Co-57 and CT Transmission Measurements on the Quantification Accuracy and Partial Volume Effect of a Small Animal PET Scanner. *Mol Imaging Biol*, 2017. 19(6): p. 825-836.
5. Parl, C., A. Kolb, **A.M. Schmid**, H.F. Wehrl, J.A. Disselhorst, P.D. Soubiran, D. Stricker-Shaver, and B.J. Pichler, A novel optically transparent RF shielding for fully integrated PET/MRI systems. *Phys Med Biol*, 2017. 62(18): p. 7357-7378.
6. Niessner, H., J. Schmitz, G. Tabatabai, **A.M. Schmid**, C. Calaminus, T. Sinnberg, B. Weide, T.K. Eigentler, C. Garbe, B. Schitteck, L. Quintanilla-Fend, B. Bender, M. Mai, C. Praetorius, S. Beissert, G. Schackert, M.H. Muders, M. Meinhardt, G.B. Baretton, R. Dummer, K. Flaherty, B.J. Pichler, D. Kulms, D. Westphal, and F. Meier, PI3K Pathway Inhibition Achieves Potent Antitumor Activity in Melanoma Brain Metastases In Vitro and In Vivo. *Clin Cancer Res*, 2016. 22(23): p. 5818-5828.
7. Schmitz, J., J. Schwab, J. Schwenck, Q. Chen, L. Quintanilla-Martinez, M. Hahn, B. Wietek, N. Schwenzer, A. Staebler, U. Kohlhofer, O.H. Aina, N.E. Hubbard, G. Reischl, A.D. Borowsky, S. Brucker, K. Nikolaou, C. la Fougere, R.D. Cardiff, B.J. Pichler, and **A.M. Schmid**, Decoding Intratumoral Heterogeneity of Breast Cancer by Multiparametric In Vivo Imaging: A Translational Study. *Cancer Res*, 2016. 76(18): p. 5512-22.
8. Griessinger, C.M., R. Kehlbach, D. Bukala, S. Wiehr, R. Bantleon, F. Cay, **A. Schmid**, H. Braumuller, B. Fehrenbacher, M. Schaller, M. Eichner, J.L. Sutcliffe, W. Ehrlichmann, O. Eibl, G. Reischl, S.R. Cherry, M. Rocken, B.J. Pichler, and M. Kneilling, In vivo tracking of Th1 cells by PET reveals quantitative and temporal distribution and specific homing in lymphatic tissue. *J Nucl Med*, 2014. 55(2): p. 301-7.

9. Maier, F.C., H.F. Wehrl, **A.M. Schmid**, J.G. Mannheim, S. Wiehr, C. Lerdkrai, C. Calaminus, A. Stahlschmidt, L. Ye, M. Burnet, D. Stiller, O. Sabri, G. Reischl, M. Staufenbiel, O. Garaschuk, M. Jucker, and B.J. Pichler, Longitudinal PET-MRI reveals beta-amyloid deposition and rCBF dynamics and connects vascular amyloidosis to quantitative loss of perfusion. *Nat Med*, 2014. 20(12): p. 1485-92.
10. **Schmid, A.**, H. Braumuller, H.F. Wehrl, M. Rocken, and B.J. Pichler, Non-invasive monitoring of pancreatic tumor progression in the RIP1-Tag2 mouse by magnetic resonance imaging. *Mol Imaging Biol*, 2013. 15(2): p. 186-93.
11. **Schmid, A.**, J. Schmitz, J.G. Mannheim, F.C. Maier, K. Fuchs, H.F. Wehrl, and B.J. Pichler, Feasibility of sequential PET/MRI using a state-of-the-art small animal PET and a 1 T benchtop MRI. *Mol Imaging Biol*, 2013. 15(2): p. 155-65.
12. Singh, Y., A. Braeuning, **A. Schmid**, B.J. Pichler, and M. Schwarz, Selective poisoning of Ctnnb1-mutated hepatoma cells in mouse liver tumors by a single application of acetaminophen. *Arch Toxicol*, 2013. 87(8): p. 1595-607.
13. Mannheim, J.G., M.S. Judenhofer, **A. Schmid**, J. Tillmanns, D. Stiller, V. Sossi, and B.J. Pichler, Quantification accuracy and partial volume effect in dependence of the attenuation correction of a state-of-the-art small animal PET scanner. *Phys Med Biol*, 2012. 57(12): p. 3981-93.
14. **Schmid, A.**, B. Rignall, B.J. Pichler, and M. Schwarz, Quantitative analysis of the growth kinetics of chemically induced mouse liver tumors by magnetic resonance imaging. *Toxicol Sci*, 2012. 126(1): p. 52-9.
15. Wachter, B., S. Schurger, **A. Schmid**, A. Groger, R. Sadler, A. Speidel, J. Rolinger, B.J. Pichler, D. Berg, H.J. Wagner, A. von Ameln-Mayerhofer, and E. Kupperts, 6-Hydroxydopamine leads to T2 hyperintensity, decreased claudin-3 immunoreactivity and altered aquaporin 4 expression in the striatum. *Behav Brain Res*, 2012. 232(1): p. 148-58.
16. Fischer, K., V. Sossi, **A. Schmid**, M. Thunemann, F.C. Maier, M.S. Judenhofer, J.G. Mannheim, G. Reischl, and B.J. Pichler, Noninvasive nuclear imaging enables the in vivo quantification of striatal dopamine receptor expression and raclopride affinity in mice. *J Nucl Med*, 2011. 52(7): p. 1133-41.
17. Maier, F.C., M. Kneilling, G. Reischl, F. Cay, D. Bukala, **A. Schmid**, M.S. Judenhofer, M. Rocken, H.J. Machulla, and B.J. Pichler, Significant impact of different oxygen breathing conditions on noninvasive in vivo tumor-hypoxia imaging using [(1)(8)F]-fluoro-azomycinarabino-furanoside ([[(1)(8)F]FAZA). *Radiat Oncol*, 2011. 6: p. 165.
18. Hubner, C., S. Wiehr, L. Kocherscheidt, H. Wehrl, B.J. Pichler, **A. Schmid**, P. Kern, and P.T. Soboslay, Effects of in vitro exposure of Echinococcus multilocularis metacestodes to cytostatic drugs on in vivo growth and proliferation of the parasite. *Parasitol Res*, 2010. 107(2): p. 459-63.

Invited Talks

- Educational Lecture auf der EMIM 2013, "Small animal PET/MRI"
- Bruker In Vivo Imaging Workshop 2013, „New applications including multi-modal PET/MR imaging using the Bruker ICON Compact High-Performance MRI system“, Turino, Italy
- Bruker BioSpin Workshop at the WMIC 2012, „New applications including multi-modal PET/MR imaging using the Bruker ICON Compact High-Performance MRI system“, Dublin, Ireland

Conferences and Courses attended

- WMIC 2017, Philadelphia, USA, "Pharmacokinetic Modelling to quantify functional liver reserve with PET/MRI", Poster presentation
- WMIC 2015, Honolulu, USA, „Asialoglycoprotein receptor imaging for functional liver reserve using [68Ga]GSA PET“, oral presentation
- WMIC 2014, Seoul, Korea, „Low caloric diet inhibits non-alcoholic fatty liver disease as measured by magnetic resonance spectroscopy.“ Poster presentation
- EMIM 2013, Torino, Italy, „New applications including multi-modal PET/MR imaging using the Bruker ICON™ Compact High-Performance MRI system“, invited talk Bruker Industry Workshop
- DGN 2012, Bremen, Germany, "Feasibility of sequential PET and 1T bench-top-MRI studies", oral presentation
- WMIC 2011, San Diego, USA, "In vivo evaluation of DEN-induced liver tumor mouse models using non-invasive MRI", Poster presentation
- EMIM 2011, Leiden, Netherlands, "In vivo comparison of mouse models of liver tumors using non-invasive MRI", Poster presentation
- WMIC 2010, Kyoto, Japan, "MRI is a powerful tool for in vivo monitoring of T cell based immunotherapy in mice with endogenous pancreatic cancer", Poster presentation

Research Grants and Fellowships

2014: Intramural Funding: ForTÜne: "In vivo characterization of molecular, metabolic and morphological patterns of PyV-mT breast tumors using PET, MR imaging and spectroscopy" (2 years PhD-student + consumables).

Awards and Honours

- Travel Stipend of WMIS 2015
- Adolf Leuze Research Award 2012, best oral presentation
- Travel Stipend of WMIS 2012

Scientific Reviews

Journals

- Oncotarget
- Magnetic Resonance Materials in Physics, Biology and Medicine
- Molecular Imaging and Biology
- International Journal of Radiology and Imaging Technology

Conferences

- World Molecular Imaging Conference (WMIC)
- European Molecular Imaging Meeting (EMIM)