Novel transmitter designs for magnetic resonance imaging

Aussenhofer, S.A.

CURRICULUM VITÆ

Sebastian Arnold AUSSENHOFER

Sebastian Arnold Aussenhofer was born on July 22nd in 1981 in Karlstadt, Germany. He was trained as a biological technical assistant at the Biozentrum of the Julius-Maximilians-Unversity of Wuerzburg from 1998 to 2002. After his training he worked as a technical assistant at the Institute for Experimental Physics Department V at the University of Wuerzburg. Sebastian studied from 2005 to 2010 at the School of Applied Science Hochschule Ulm in Germany and graduated as Diplomingenieur in Medical Engineering. After a short excursion to the medical device industry in 2010 he joined the C.J. Corter Center for High Field MRI at the Leiden University Medical Center in the Netherlands as a graduate student for his PhD. His thesis with the title "Novel Transmitter Designs for Magnetic Resonance Imaging" was in the subject of hardware development for magnetic resonance imaging under the supervision of Prof. Dr. A. Webb.

After his thesis Sebastian joined the medical device industry again and is working since then as project manager for NORAS MRI products GmbH in Germany. He mainly works on MRI guided intervention devices and the coordination of EU funded research projects.

During his time as a PhD student Sebastian was awarded with the ISMRM Merit award magna cum laude in 2012 for his Abstract "A quadrature HEM_{11} mode resonator as a new volume coil for high field MRI" and also in 2013 with the ISMRM Merit award magna cum laude for his abstract on "Design of a Resonant Ceramic Array for Cardiac Imaging at High Field Strengths".

Sebastian is married and has one child. In his free time he enjoys books and tries to improve his command of the Chinese language.

List of Publications

JOURNAL PUBLICATIONS

1. **S.A. Aussenhofer** and A.G. Webb, *Design and evaluation of a detunable water-based quadrature HEM_{11} mode dielectric resonator as a new type of volume coil for high field MRI*, Magnetic Resonance in Medicine **68**, 1325-31 (2012).

2. **S.A. Aussenhofer** and A.G. Webb, *High-permittivity solid ceramic resonators for high-field human MRI.*, NMR in Biomedicine **243**, 11 1555-61 (2013).

3. **S.A. Aussenhofer** and A.G. Webb, *An eight-channel transmit/receive array of TE01 mode high permittivity ceramic resonators for human imaging at 7T.*, Journal of Magnetic Resonance **26**, 122-9 (2014).

4. **S.A. Aussenhofer** and A.G. Webb, *Evaluation of plasma-based transmit coils for magnetic resonance*, Journal of Magnetic Resonance **261**, 49-53 (2015).

5. A.G. Webb, N.B. Smith, **S.A.Aussenhofer** and H. Kan, *Use of tailored higher modes of a birdcage to design a simple double tuned proton/phosphorus coil for human calf muscle studies at 7T.*, Concepts in Magnetic Resonance, 89-97 (2011).

6. P.W. de Bruin, P. Koken, M.J. Versluis, **S.A. Aussenhofer**, I. Meulenbelt, P. Boernert, and A.G. Webb, *Time-efficient interleaved human 23Na and 1H data acquisition at 7 T.* NMR in Biomedicine., 28, 1228–1235(2015).

7. A.J. Gonzales, S. Majewski, F. Sanchez, **S.A.Aussenhofer** and J.M. Benlloch, *The MINDView brain PET detector, feasibility study based on SiPM arrays.*, Journal of Nuclear Instruments and Methods in Physics Research Section A, 818, 82- 90. (2016).

CONFERENCE PROCEEDINGS

1. A.J. Gonzales, S. Majewski, F. Sanchez, **S.A.Aussenhofer** and J.M. Benlloch, *A novel brain PET insert for the MINDView project.*, IEEE Nuclear Science Symposium and Medical Imaging Conference(NSS/MIC)(2014).

2. **S.A.Aussenhofer**, J. Hubensteiner, and A. G. Webb. A quadrature HEM11 mode resonator as a new volume coil for high field MRI. 20th Annual ISMRM Meeting. Melbourne, Australia (2012). Awarded with the ISMRM Merit award magna cum laude.

3. **S.A.Aussenhofer**, and A. G. Webb. Design of a resonant ceramic array for cardic imaging at high field strengths. 21st Annual ISMRM Meeting. Salt Lake City, USA (2013). Awarded with the ISMRM Merit award magna cum laude.

4. **S.A.Aussenhofer**, and A. G. Webb. Plasma based MRI. 23rd Annual ISMRM Meeting. Toronto, Canada (2015).

5. **S.A.Aussenhofer**, and A. G. Webb. A large volume HEM dielectric resonator for musculoskeletal applications at ultra high field. 22nd Annual ISMRM Meeting. Milan, Italy (2014). Traditional Poster.

6. **S.A.Aussenhofer**, and A. G. Webb. A hybrid dielectric/birdcage double tuned volume resonator for high field MRI. 22nd Annual ISMRM Meeting. Milan, Italy (2014). Traditional Poster.

7. **S.A.Aussenhofer**, and A. G. Webb. A variable diameter resonator for high field proton and sodium musculoskeletal MRI. 22nd Annual ISMRM Meeting. Milan, Italy (2014). Traditional Poster.

8. **S.A.Aussenhofer**, and A. G. Webb. High permittivity solid ceramic resonators for High Field Human MRI. 21st Annual ISMRM Meeting. Salt Lake City, USA (2013). Traditional Poster.

9. **S.A.Aussenhofer**, and A. G. Webb. Flexible radiative antennas as transmit elements for high field MRI. 20th Annual ISMRM Meeting. Melbourne, Australia (2012). E-Poster.