

EWALD MOSER, PhD - Short CV:

Dr. Ewald Moser is a tenured Associate Professor of Medical Physics and Biophysics in the Centre of Biomedical Engineering and Physics and the Department of Diagnostic Radiology, Medical University of Vienna, Vienna, Austria, and Adjunct Professor of Physics in Psychiatry at the Department of Psychiatry, University of Pennsylvania, Medical Centre, Philadelphia, USA.

Currently he serves the Executive Board of the European Society of Magnetic Resonance in Medicine (ESMRMB) as the head of the Education and Workshop committee. He is a member of the Editorial Board of MAGMA, the official journal of the ESMRMB, The Open Spectroscopy Journal, and the World Journal of Radiology.

Dr. Moser was educated at the University of Technology in Graz, Austria, where he received his “Diplomingenieur” (MSc level) in Technical Physics, and at the University of Technology and Atominstitut in Vienna, Austria, where he received his doctorate (PhD level) in Technical Physics. After receiving his PhD in 1981 he worked at the University of Geneva, Switzerland in 1981/82, and subsequently returned to the University of Technology in Graz (A). In 1982/83 he accepted a position at the Medical School, University of Vienna (A) where he started the first experimental NMR program in 1985. In 1987 he started collaborating with the Department of Diagnostic Radiology on quantitative MRI, proton MR spectroscopy (1990) and functional MRI (1992) on a 1.5 T clinical research scanner. In 1988 he was appointed Assistant Professor at the Department of Medical Physics, University of Vienna (A). In 1988 he was also awarded an Erwin Schrödinger stipend to join Prof. J.S. Leigh's lab at the MMRRCC, University of Pennsylvania Medical Centre and in 1989/90 he joined Prof. G.K. Radda's group in Oxford (UK). In 1991 he obtained his Habilitation in Medical Physics and Biophysics from the University of Vienna and was appointed Associate Professor. His scientific activities led to substantial funding for MR research and resulted in the installation of a 3T research scanner in 1996, in close collaboration with the Department of Diagnostic Radiology, University of Vienna, Medical School. In 2003 the joint efforts of the Departments of Medical Physics and Diagnostic Radiology led to the foundation of the MR Centre of Excellence, Vienna, where he has been appointed Scientific Director. Substantial grants from the Ministry of Science and Research, the General Hospital and the City of Vienna, Siemens Medical Solutions, and the newly founded Medical University of Vienna enable the installation of a Siemens TIM TRIO scanner in 2006, a new building for a 7 T system and, finally, the installation of a Siemens 7 T whole body scanner by 2008.

Research interests: Development of (ultra) high field methodology, fMRI methods and applications in Psychology and Psychiatry, metabolic studies via (interleaved) multi-nuclear MRS and MRSI in brain, muscle and liver.

Selected Publications (last 5 years):

- C. Windischberger, R. Lanzenberger, A. Holik, C. Spindelegger, P. Stein, U. Moser, F. Gerstl, M. Fink, E. Moser, S. Kasper. "Area-specific modulation of neural activation comparing Escitalopram and Citalopram revealed by pharmacological fMRI at 3T". *Neuroimage* **49** (2010) 1161-70
- W. Bogner, S. Gruber, K. Pinker, G. Grabner, A. Stadlbauer, M. Weber, E. Moser, Th. Helbich, S. Trattnig. "Diffusion-weighted MRI for differentiation of breast lesions at 3.0 Tesla: How does selection of diffusion schemes affect diagnosis?", *Radiology* **253** (2009) 341 - 51
- S. Robinson, G. Basso, N. Soldati, U. Sailer, J. Jovicich, L. Bruzzone, I. Kryspin Exner, H. Bauer, E. Moser. "The resting state of the basal ganglia's motor circuit", *BMC Neuroscience* **10** (2009) 137 (14 pages)
- J. Szendroedi, M. Chmelik, A. I. Schmid, P. Nowotny, A. Brehm, M. Krssak, E. Moser, M. Roden. "Abnormal hepatic energy homeostasis in type 2 diabetes", *Hepatology* **50** (2009) 1079-86
- W. Bogner, M. Chmelik, A.I. Schmid, E. Moser, S. Trattnig, S. Gruber. "Assessment of 31P relaxation times in the human calf muscle: a comparison between 3 and 7 Tesla in vivo", *Magn. Res. Med.* **62** (2009) 574-82
- B. Derntl, U. Habel, C. Windischberger, S. Robinson, I. Kryspin-Exner, R.C. Gur, E. Moser. „General and specific responsiveness of the amygdala during explicit emotion recognition", *BMC Neuroscience* **10** (2009) 91 (14 pages)
- A. Weissenbacher, C. Kasess, F. Gerstl, R. Lanzenberger, E. Moser, C. Windischberger. "Correlations and Anti-correlations in Resting State Functional Connectivity MRI: A Quantitative Comparison of Preprocessing Strategies", *Neuroimage* **47** (2009) 1408-16
- B. Derntl, U. Habel, S. Robinson, C. Windischberger, I. Kryspin-Exner, R. C. Gur, E. Moser. "Amygdala activation during recognition of emotions in a foreign ethnic group is associated with duration of stay", *Soc. Neurosci.* **4** (2009) 294 – 307
- G. Kacerovsky-Bielesz, M. Chmelik, C. Ling, R. Pokan, J. Szendroedi, M. Farukuoye, M. Kacerovsky, A.I. Schmid, S. Gruber, M. Wolzt, E. Moser, G. Pacini, G. Smekal, L. Groop, M. Roden. "Short-term exercise training does not stimulate skeletal muscle ATP synthesis in relatives of humans with type 2 diabetic", *Diabetes* **58** (2009) 1333 - 41
- B. Derntl, C. Windischberger, S. Robinson, I. Kryspin-Exner, R. C. Gur, E. Moser, U. Habel. "Testosterone is associated with amygdala activity in fear and anger recognition in healthy young males", *Psychoneuroendocrinology* **34** (2009) 687 – 93
- E. Moser, A. Stadlbauer, C. Windischberger, H.H. Quick, M.E. Ladd. "Magnetic Resonance Methodology", *Eur J Nucl Med Mol Imaging* supplement on PET/MR (2009) **36** (Suppl 1): S30–S41; Erratum: **36** (Suppl 1): S42–S43

- S. Gruber, K. Pinker, F. Riederer, M. Chmelík, A. Stadlbauer, M. Bittšanský, V. Mlynárik, R. Frey, W. Serles, O. Bodamer, E. Moser. "Metabolic changes in the normal ageing brain: Consistent findings from short and long echo time proton spectroscopy", *Europ. J. Radiol.* **68** (2008) 320 - 7
- M. Chmelik, A.I. Schmid, S. Gruber, J. Szendroedi, M. Krssak, S. Trattinig, E. Moser, M. Roden. "3D high-resolution magnetic resonance spectroscopic imaging for absolute quantification of 31P metabolites in human liver", *Magn. Res. Med.* **60** (2008) 796-802
- B. Derntl, C. Windischberger, S. Robinson, E. Lamplmayr, I. Kryspin-Exner, R. C. Gur, E. Moser, U. Habel. "Facial emotion recognition and amygdala activation are associated to the menstrual cycle", *Psychoneuroendocrinology* **33** (2008) 1031-40
- U. Sailer, S. Robinson; F. P. Fischmeister; D. König; C. Oppenauer; B. Lueger-Schuster; E. Moser; I. Kryspin-Exner; H. Bauer. "Altered reward processing in the nucleus accumbens and mesial prefrontal cortex of patients with posttraumatic stress disorder", *Neuropsychologia* **46** (2008) 2836-44
- S.D. Robinson, J. Pripfl, H. Bauer, E. Moser. „The impact of EPI voxel size on SNR and BOLD sensitivity in the anterior medio-temporal lobe: a comparative group study of deactivation of the Default Mode”, *Mag. Reson. Mater. Phy.* **21** (2008) 279-90
- M. Meyerspeer, T. Mandl, M. Reichel, W. Mayr, H. Kern, E. Moser. "Effects of functional electrical stimulation in thigh muscle of denervated paraplegic patients mapped with T2 imaging", *Mag. Reson. Mater. Phy.* **21** (2008) 219-26
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- F. Gerstl, C. Windischberger, M. Mitterhauser, W. Wadsak, A. Holik, K. Kletter, E. Moser, S. Kasper, R. Lanzenberger. Multimodal imaging of human early visual cortex by combining functional and molecular measurements with fMRI and PET. *Neuroimage*, **41** (2008) 204-11
- C. Bayreder, R. Schön, D. Georg, E. Moser, A. Berg. "The spatial resolution in dosimetric imaging with normoxic polymer-gels investigated with the dose modulation transfer approach", *Med. Phys.* **35** (2008) 1756-69
- C. Kasess, C. Windischberger, R. Cunnington, L. Pezawas, E. Moser. "The suppressive influence of SMA on M1 in motor imagery revealed by fMRI and dynamic causal modeling", *Neuroimage* **40** (2008) 828-37
- C. Windischberger, R. Cunnington, C. Lamm, R. Lanzenberger, H. Langenberger, L. Deecke, H. Bauer, E. Moser. "Time-resolved Analysis of fMRI signal changes using Brain Activity Movies", *J. Neurosci. Methods* **169** (2008) 222-30
- F. Riederer, M. Bittšanský, E. Lehner-Baumgartner, C. Baumgartner, V. Mlynárik, S. Gruber, E. Moser, M. Kaya, W. Serles, "Decrease of NAA with aging outside the

- seizure focus in mesial temporal lobe epilepsy - A Proton-MRS-Study at 3 Tesla”, *Brain Research* **1179** (2007) 131-9
- U. Sailer, S. Robinson, F.Ph.S. Fischmeister, E. Moser, I. Kryspin-Exner, H. Bauer. “Imaging the changing role of feedback during learning in decision-making”, *Neuroimaging* **37** (2007) 1474-86
- G.J. Kemp, M. Meyerspeer, E. Moser, “Absolute quantitation of phosphorus metabolite concentrations in human muscle in vivo by ³¹P MRS: a quantitative review”, *NMR Biomed.* **20** (2007) 555-65 (review)
- U. Habel, C. Windischberger, B. Derntl, S. Robinson, I. Kryspin-Exner, R.C. Gur, E. Moser, Amygdala activation and facial expressions: explicit emotion discrimination versus implicit emotion processing, *Neuropsychologia* **45** (2007) 2369-77
- C. Lamm, C. Windischberger, E. Moser, H. Bauer. The functional role of dorso-lateral premotor cortex during mental rotation. An event-related fMRI study separating cognitive processing steps using a novel task paradigm. *Neuroimage* **36** (2007) 1374-86. Corrigendum: *Neuroimage* **38** (2007) 764-65
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