

Univ.-Prof. Dr. Ute SCHÄFER

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Main Research Areas

Additive Manufacturing for Medical Applications (3D-Printing), Cell Biology, Stem Cell Differentiation, Cell Replacement Therapies, Molecular Biology, (cerebral) inflammation, Animal models (with special focus on traumatic brain injury)

Education

2005: Habilitation in Experimental Surgery (Medical Faculty of the University Cologne, GER); 1990–1994: PhD in Molecular Genetics (Max Planck Institute for Molecular Genetics, Berlin, GER); 1984–1990: MSc in Biology (Leicester University, GB; Free University Berlin, GER); 1983–1984: Studies in Chemistry, Mathematics, English (Counthesthorpe College Leicester, GB)

Academic Milestones / Positions & Experience

Since 2008: Head of RU for Experimental Neurotraumatology (Medical University of Graz, Graz, AT); 2006–2008: Head of the Section Experimental Research (University Witten-Herdecke, GER); 2003–2004: Head of a Cooperative Project (University of New South Wales, Sydney, AUS); 1995–2006: Head of the Section Cell- and Molecular Biology (Medical Faculty of the University Cologne, Cologne, GER); 1994–1995: Research Associate (Johns Hopkins Medical Institutions, Maryland, USA); 1990–1994: Research Associate (Max Planck Institute for Genetics, Berlin, GER)

Research Achievements

Journal Papers Ute Schäfer

- *MicroRNA-451a overexpression induces accelerated neuronal differentiation of Ntera2/D1 cells and ablation affects neurogenesis in microRNA-451a-/- mice.* PLoS One. 2018; 13(11):e0207575-e0207575
- *Differential apoptotic response of MC3T3-E1 pre-osteoblasts to biodegradable magnesium alloys in an in vitro direct culture model.* J Mater Sci Mater Med. 2017; 28(10):155-155
- *Runx2 mediated Induction of Novel Targets ST2 and Runx3 Leads to Cooperative Regulation of Hypertrophic Differentiation in ATDC5 Chondrocytes.* Sci Rep. 2017; 7(1):17947-17947
- *Interactive reconstructions of cranial 3D implants under MeVisLab as an alternative to commercial planning software.* PLoS One. 2017; 12(3):e0172694-e0172694
- *Widespread cortical demyelination of both hemispheres can be induced by injection of pro-inflammatory cytokines via an implanted catheter in the cortex of MOG-immunized rats.* Exp Neurol. 2017; 294(7):32-44
- *Comprehensive Profiling of Modulation of Nitric Oxide Levels and Mitochondrial Activity in the Injured Brain: An Experimental Study Based on the Fluid Percussion Injury Model in Rats.* J Neurotrauma. 2017; 34(2):475-486
- *Effects of Corroded and Non-Corroded Biodegradable Mg and Mg Alloys on Viability, Morphology and Differentiation of MC3T3-E1 Cells Elicited by Direct Cell/Material Interaction.* PLoS One. 2016; 11(7):e0159879-e0159879
- *Long-term effects of enriched environment on neurofunctional outcome and CNS lesion volume after traumatic brain injury in rats.* Physiol Res. 2015; 64(1):129-145
- *Effects of the polymeric niche on neural stem cell characteristics during primary culturing.* J Mater Sci Mater Med. 2014; 25(5):1339-1355
- *Repetitive long-term hyperbaric oxygen treatment (HBOT) administered after experimental traumatic brain injury in rats induces significant remyelination and a recovery of sensorimotor function.* PLoS One. 2014; 9(5):e97750-e97750

10 most important additional research achievements

Invited Talks and Keynotes (selected):

iCAST 2017, Science & Business Award Rudolf Sallinger Fonds 2017; FARO Public Safety Conference 2017; FARO 3D Conference 2017

Organization of Conferences, Workshops:

COMET K-Project "CAMEd" Kick-Off Meeting & Communication Workshop, 2018&2019 (*Organization*)

6th Congress of the International Federation of Shock Societies & 31st Annual Conference on Shock, 2008 (*Member of the Organizational Committee*)

1st Conference of the German Association for Stem Cell Research, 2006 (*Organization*)

From the Idea to the Publication, 2003 (*Member of the Organizational Committee*)

From the Idea to the Publication, 2002 (*Member of the Organizational Committee*)

Projects:

- CAMed – Clinical Additive Manufacturing for Medical Applications, COMET K-Project, 2018-2022, Total: 5,6 Mio. € (MUG: Consortium Leader)
- LOGOS-TBI – Light-controlled organic semiconductor implants for improved regeneration after traumatic brain injury, FWF Zukunftskolleg, 2019-2023, Total: 1,9 Mio. € (MUG: Consortium Leader)
- Die Gehirnzentrale – Neuronenwelt verständlich erklärt, FFG Talente, 2016-2018, Total: 130.000 € (MUG: Project Partner)
- iPRINT – Implant Printing: Entwicklung eines generativen Verfahrens und neuer Polymer-Compounds für personalisierte Schädel- und Gesichtsimplantate, FFG Bridge, 2014-2017, Total: 504.081 € (MUG: Consortium Leader)
- Entwicklung von strukturierten Oberflächen für die optimierte Adhäsion, Proliferation und Differenzierung von Zellen, FFG Bridge, 2010-2014, Total: 708.300 € (MUG: Project Partner)
- Die Rolle von Prominin-1/CD133 positiven Mikropartikeln in der Neubildung von Nervenzellen nach Schädelhirntrauma, Land Steiermark, 2009-2010, Total: 18.360 € (MUG: Single Project)
- Protective effects of hydroxyectoine on the inflammatory modulation of cerebral cells, Bitop, 2008-2009, Total: 80.000 €
- Contract Research: Automated selection of defined stem cell clones, which with cultivated without feeder cell layer, AVISO, 2007-2008, Total: 130.000 €
- Cimetidine-mediated protective effects in metastasizing colon carcinoma, Dr. Mildred Scheel Stiftung, 2003-2005, Total: 165.000 €
- Complex characterization of the NO-limited gene expression regulation, DFG, 2002-2004, Total: 178.000 €
- Development of a dynamic in vitro Co-culture model for the differentiation of neuronal precursor cells, BgVV, 2001-2002, 59.000 €
- Contract Research: Proteolytic enzymes in the septic shock, Mucos Inc., 2001-2002, Total: 70.000 € + HPLC-machine (60.000 €)
- Histamine and SIRS: Signal transduction and receptor regulation, DFG, 1998-2001, Total: 135.000 €

Important Awards

- Science & Business Award, Rudolf Sallinger Fonds, 2017; for the project iPRINT
- FastForward Award, Steirische Wirtschaftsförderungsgesellschaft, 2016; for the project iPRINT
- Science2Business Award, Life-Science-Karriere Services, 2016; for the project iPRINT
- Bruker Award for the best submitted abstract at the 6th International Symposium on Neuroprotection and Neurorepair, 2010
- Hannelore Kohl Preis, 2007 (in the group of young academics)
- Kölner Innovationspreis, 2002

Phd supervision

PhD supervisor ongoing: Sriveena Srinivasaiah, Vanessa Mair

Finalized: Muammer Ücal (2018), Sepideh Mostofi (2017), Christa Trattinig (2016)

Editor activity:

Editorial Board: Inflammation Research (2004 – 2009)

Reviewer activities:

Journals: Journal of Neurotrauma, BMC Research Notes, BMC Neuroscience, Biotechnology Journal, SOJ Neurology, Restorative Neurology and Neuroscience, PLoS One, Neuroscience, Journal of the Royal Society Interface, inflammation Research, Anatomical Record Part A, Stem Cells, Neuroscience Letters, Journal of Neuroscience Research, Shock, Clinical and Experimental Immunology, Biochemical Pharmacology, Clinical Immunology

Institutions: Deutsche Forschungsgemeinschaft (DFG), Wirtschaftsagentur der Stadt Wien (ZIT), Jubiläumsfonds der Österreichischen Nationalbank (ÖNB), Initiative Gehirnforschung Steiermark (Inge St.), Paracelsus Medical University Research fund (PMU-FFF), Catalan Agency for Health Technology Assessment and Research (CAHTA), Forschungsförderungskommission der MUG

Membership in scientific societies:

BioTechMed Austria; Society for Neuroscience (SfN); Austrian Neuroscience Association (ANA); Initiative Gehirnforschung Steiermark (Inge St.); Competence Network Stem Cell Research NRW; German Association for Stem Cell Research