

Curriculum Vitae – Gerhard J. Schütz

Univ.Prof. D.I. Dr. Gerhard J. Schütz
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Personal Data

Date of Birth: 17.2.1969
Place of Birth: Linz / Austria
Nationality: Austria

Research Interests

- Developing and applying single molecule spectroscopy and imaging methods for the *in vivo* analysis of plasma membrane proteins and lipids.
- Understanding the functional role of plasma membrane nanostructures
- Molecular mechanism of early T cell signaling

Scientific and Professional Background

1988-1995 Study of Technical Physics at the Johannes Kepler University Linz
1995 Master Degree “Studies of the dynamics of single membrane constituents using fluorescence microscopy”
1997 PhD with “Single Molecule Optical Microscopy: Applications to Biosystems”
1997-2001 Postdoctoral fellow at the Biophysics Institute, Johannes Kepler University Linz
2001-2004 University Assistant at the Biophysics Institute, Johannes Kepler University Linz
2004 Venia Docendi (Habilitation) in Biophysics, Johannes Kepler University Linz
2004-2011 Associate Professor at the Biophysics Institute, Johannes Kepler University Linz
since 2011 Full Professor at the Institute of Applied Physics, Vienna University of Technology

Five Selected Research Projects

2012-2018	FWF	SFB “Transmembrane Transporters in Health and Disease” - Subunit stoichiometry and supermolecular organization of transmembrane transporters
2013-2016	FWF	Single Molecule Platform for Protein Interaction Analysis
2012 - 2015	FWF	Subunit stoichiometry and supermolecular organization of transmembrane transporters (subproject of SFB35 “Transmembrane Transporters in Health and Disease”)
2009 - 2012	ESF/FWF	Lipid-protein interactions in membrane organisation – Detecting rafts in the live cell plasma membrane: from resting state to signaling
2004 - 2012	START award, FWF, Austria	Immunology at a Nanoscopic View: A Single-Molecule Approach

Honors

- Amersham Pharmacia Biotech Award, 2001
- Upper-Austrian Award for Young Scientists 2003
- START-Award 2004

Memberships

- Junge Kurie of the Austrian Academy of Sciences

- Austrian Society for Biomedical Engineering (ÖGBMT): board member
- Austrian Biophysical Society (ÖBG): past president
- Austrian Physical Society (ÖPG)
- American Biophysical Society

Invited Lectures

Dr. Schütz presented his research in 182 invited talks at international conferences and seminars (listed are the five most important)

2002	46 th Annual Meeting of the Biophysical Society, 23.-27.2.2002, San Francisco
2005	The 2 nd Yamada Symposium on Key Natural Organic Molecules in Biological Systems, Awajy Yumebutai International Conference Center, Hyogo, Japan
2007	Boehringer Ingelheim Fonds International Titisee Conferences: Trends in Optical Microscopy
2011	8 th EBSA European Biophysics Congress, Budapest, Hungary
2012	Boehringer Ingelheim Fonds International Titisee Conferences: Lipids as organizers of cell membranes

Ad-Hoc Reviewer for international peer-reviewed journals (selection): Science, Nat. Methods, Nature Protocols, Proc. Natl. Acad. Sci. USA, Nano Letters, EMBO J., J. Cell Biol., Biophys J.

Collaboration partners (selection):

Johannes Huppa: Medical University of Vienna, Austria
 Hannes Stockinger: Medical University of Vienna, Austria
 Harald Sitte: Medical University of Vienna, Austria.
 Herbert Stangl, Medical University of Vienna, Austria
 Susanne Zeilinger: University of Innsbruck, Austria
 Peter Hinterdorfer: Johannes Kepler University Linz, Austria
 Laszlo Vigh: Institute of Biochemistry, Biological Research Center, Hungarian Academy of Sciences, Szeged, Hungary

Supervision of PhD students

Dr. Schütz has been supervising 23 PhD students (16 finished, 7 ongoing)

Publications

Dr. Schütz co-authored 91 research papers and 38 invited review or book articles (listed are the five most important)

Andreas Anderluh, Tina Hofmaier, Enrico Klotzsch, Oliver Kudlacek, Thomas Stockner, Harald H. Sitte, Gerhard J. Schütz

Nat. Commun. **8** (2017) 14089

Direct PIP₂ binding mediates stable oligomer-formation of the serotonin transporter

Florian Baumgart, Andreas Arnold, Konrad Leskovar, Kaj Staszek, Martin Fölser, Julian Weghuber, Hannes Stockinger, Gerhard J. Schütz

Nature Methods **13** (2016) 661-664

Varying label density allows artifact-free analysis of membrane protein nanoclusters

E. Klotzsch, A. Smorodchenko, L. Löfler, R. Moldzio, E. Parkinson, G. J. Schütz, E. E. Pohl

Proc. Natl. Acad. Sci. USA **112** (2015) 130-135

Super-resolution microscopy reveals spatial separation of UCP4 and F0F1-ATP synthase in neuronal mitochondria

Eva Sevcsik, Mario Brameshuber, Martin Fölser, Julian Weghuber, Alf Honigmann, Gerhard J. Schütz

Nat. Commun. **6** (2015) 6969

GPI-anchored proteins do not reside in ordered domains in the live cell plasma membrane

J. B. Huppa, M. Axmann, M. A. Mörtelmaier, B. F. Lillemeier, E. W. Newell, M. Brameshuber, L. O. Klein,
G. J. Schütz, M. M. Davis
Nature **463** (2010) 963-967.
TCR-peptide-MHC interactions in situ show accelerated kinetics and increased affinity