Curriculum Vitae

Name	**Heiner Igel, Prof. Dr.**
Address Work	Geophysics Section, Department of Earth and Environmental Sciences, Theresienstrasse 41, 80333 Munich, heiner.igel@lmu.de
Employment history	
1982-1990	Studies in Geophysics at the University of Karlsruhe
1987-1989	Visiting student at the BGS, Edinburgh, Scotland. Diploma project on shear-wave splitting supervised by Prof. Dr. Stuart Crampin.
1990	Diplom in Geophysics, Karlsruhe University (highest mark)
1990-1993	Ph.D. student at the Institut de Physique du Globe, Paris. Thesis on "Seismic modelling and inversion" supervised by Prof. Dr. Albert Tarantola and Prof. Dr. Peter Mora. PhD with distinction.
1994-1996	Isaac Newton Fellow at the Institute of Theoretical Geophysics, (ITG) Department of Earth Sciences, Cambridge University
1996-1998	NERC Fellowship, ITG Cambridge
1998-1999	Heisenberg Fellowship by the German Research Foundation
since 1999	Professor of Geophysics/Seismology at the Ludwig-Maximilians-University Munich, Director of the seismological observatory Fürstenfeldbruck

Research Highlights

1. Theoretical analysis and implementation of **anisotropic wave propagation** using finite differences. 2. First large scale **numerical simulations in global seismology** (axisymmetric media and spherical sections). 3. Numerical operators for **unstructured grids** and initiation of *seissol* software: **Discontinuous Galerkin method** applied to wave propagation on tetrahedral grids. 4. First observational analysis and development of causal model for **rain-induced seismicity**. 5. First extensive **analysis of ring laser data**: surface waves, free oscillations. 6. (Co-)**initation of the new field rotational seismology** with fundamental work on sensitivity analysis, source inversion, surface wave dispersion, anisotropy. 7. Initiation of the **first commercial broadband rotation sensor** for seismology (blueSeis-3A) with applications in oceanography, structural engineering, planetary seismology, source physics, environmental seismology, seismic interferometry, seismic tomography.

Honors/Fellowships	
1992	Best student paper award, International Workshop on Seismic Anisotropy, Banff, 1992
1994	Fellowship by the Isaac Newton Trust, Cambridge
1996	Visiting Fellow ANU Canberra
1998	Heisenberg Fellowship (German National Science Foundation)
2008/2022/2023	Cecil-and-Ida Green Fellow SCRIPPS
2008	Visiting Professor Los Alamos National Laboratory
2013	Advanced Grant European Research Council
Since 2013	Fellow of the Center of Advanced Studies (LMU Munich)
2016	Elected full member of the German National Academy of Sciences
2021/2022	Visiting Professor IPG Paris
2025	AGU Fellow
Community Service	
1999	Editor PEPI Special Issue on Computational Seismology
Since 1999	Reviewer for National Science Funding for Germany, Switzerland, USA, France, Austria, Czech Republic, Slovakia.
2004-2024	Coordinator of EU-funded training networks SPICE and QUEST, Co-PI SPIN
Since 2007	Co-initiator and Chair of International Working Group of Rotational Seismology, main organizer of all 6 international workshops
2008-2015	Member editorial board Journal of Seismology
2009, 2012, 2021	Editor Special Issues on Rotational Seismology (BSSA, JSeis, Sensors)

Since 2010	Panel Member Evaluation European Fellowships, ERC Grants
Since 2010	Science Officer in the Seismology Division EGU
2010-2016	Topical editor Solid Earth
Since 2011	Annual SKIENCE winterschool (www.skience.de) in seismology
2015	Vice-Chair Evaluation Panel European Training Networks
2015	Initiation of online Jupyter notebooks www.seismo-live.org
2016	First Course Book in "**Computational Seismology**" (OUP)
2019	9-week COURSERA MOOC in Computational Methods **(27000 students**)
2023	EarthScope Integration & Innovation Advisory Committee
2025	AGU Gutenberg Lecture Committee
Memberships	
	AGU, EGU, SSA, DGG (German Geophysical Society)
Main Projects:	Selection
	Total sum of acquired external funding approx. 20 Million Euro.
German Research Foundation	>12 projects in computational seismology, earthquake physics, rain-induced seismicity, rotational seismology, data processing (**leading to ObsPy**), ocean plume project (RHUM-RUM), planetary seismology (NEPOS)
Bavarian Government	New seismic monitoring network for Bavaria (www.erdbeben-in-bayern.de) >30 stations in Bavaria, data transfer infrastructure etc., communication with public, ministries, the press (now in state budget)
European Commission	*2004-2007* (Coordinator). Marie-Curie Research Training Network: Seismic wave propagation and imaging in complex media: a European Network (**SPICE** www.spice-rtn.org). 14 partner institutions, 28 research positions. Research in earthquake physics, forward problems, global seismology, volcano seismology. *2009-2013* (Coordinator). Marie Curie Initial Training Network **QUEST** in the area of seismic inverse problems (www.quest-itn.org). 15 partner institutions, 30 research positions. Focus on seismic inverse problems on all scales and ambient noise analysis. *2015-2018* (Co-PI): **ExaHype**: An Exahype Hyperbolic PDE Engine. Development of new computational methods for Exascale supercomputer infrastructure (www.exahype.eu). 2015-2018 (Co-PI) **TIDES**: Time-dependent seismology. Project funded by the European Science Foundation focusing on ambient noise studies. 2019-2023: (Co-PI) **PIONEERS:** Adaptation of 6C instrumentation and analysis concepts for planetary seismology 2020-2024: (Co-PI) **SPIN**: Training network on gradient seismology, DAS, rotation sensing, nonlinear seismology
European Research Council	2014-2019: **ROMY**: Rotational Motions: a New Observable for Seismology (www.romy-erc.eu). **ERC-Advanced Grant**, 2.5 MEuro. Monitoring complete ground motions. Co-development and application of first broadband portable rotation sensors (www.blueseis.com). Design and construction of first multicomponent ring laser for geophysics and geodesy. Applications in terrestrial and planetary seismology, earthquake engineering, OBS, seismic instrumentation, earthquake physics.
Training:	32 PhD students, 28 postdoctoral fellows
Supervisees, Honors and Careers	AGU OSPA: Moritz Bernauer (2008), Christian Pelties (2011), Susanne Lehndorfer (2007), Andreas Fichtner (2009), Sabrina Keil (2020), Zihua Niu (2023) – all PhD students AGU Aki Young Scientist Award (2011): Andreas Fichtner AGU Macelwane Medal (2023): Alice Gabriel (ass. Prof.) Professorship Oxford/Nice: Karin Sigloch (ass. Prof.)

Professorship Hamburg: Céline Hadziioannou (Postdoc)