

Prof. Dr.-Ing. Rainer Helmig

Chair, Department of Hydromechanics and Modelling of Hydrosystems

Institute for Modelling Hydraulic and Environmental Systems

University of Stuttgart

Pfaffenwaldring 61

70569 Stuttgart

Tel.: +49-711-685 64741

E-mail: rainer.helmig@iws.uni-stuttgart.de; www.hydrosys.uni-stuttgart.de/

Academic Career

born March 26, 1957	Hamm, Germany
1981	Graduation in Civil Engineering (Dipl.-Ing. (FH), University of Applied Sciences, Münster)
1986	Graduation in Civil Engineering (Dipl.-Ing.), University of Hannover
1988 – 1992	Research assistant, Institute of Fluid Mechanics, University of Hannover
February 1993	Doctoral degree (Dr.-Ing.), University of Hannover
1993 – 1997	Research assistant, Institute of Hydraulic Engineering, University of Stuttgart
November 1996	Habilitation degree (Dr.-Ing. habil.), University of Stuttgart
1997 – 1998	Acting Professor for Numerical Methods and Information Processing, Technical University (TU) of Braunschweig
1998 – 2000	Full Professor for Numerical Methods and Information Processing at the Institute of Computer Applications in Civil Engineering, TU Braunschweig
since 2000	Full Professor of Hydromechanics and Modelling of Hydrosystems, Director Institute for Modelling Hydraulic and Environmental Systems, University of Stuttgart

Internal and External Positions, Miscellaneous

- Member of the editorial boards of *Advances in Water Resources* (since 1999), *Computational Geosciences* (since 2007), *GEM – Journal on Geomathematics* (since 2009); Associate Editor of *Water Resources Research* (since 2011)
- Peer reviewer for, among others, the German Research Foundation (DFG), the German Federal Ministry of Education and Research, the European Union, the Research Council of Norway, the Dutch National Science Foundation, the Danish Council for Strategic Research, the Swiss National Science Foundation, USA National Science Foundation
- Vice-spokesman of the Collaborative Research Centre SFB404 “Multifield Problems in Continuum Mechanics” (DFG) from May 2002 to December 2006
- Elected member (2003-2006) and elected Chairman (2006-2011) of the Senate Commission on Water Research of the German Research Foundation (DFG)
- German spokesman of the International Research Training Group “Non-linearities and upscaling in porous media” (NUPUS (DFG)) in cooperation with the Dutch universities Delft, Eindhoven, Utrecht and Wageningen and the Norwegian university Bergen (since 2007)
- Principal investigator and member of the Executive Board of the Cluster of Excellence “Simulation Technology” at the University of Stuttgart (since April 2007)
- Course coordinator at the University of Stuttgart of the study programs: Simulation Technology (since 2009), Environmental Engineering (2001-2008), Water Resources Engineering and Management (2002-2004), International Doctoral Program Environment Water (2002-2004)
- Member of the joint steering committee of the GEOTECHNOLOGIEN research programme of the German Federal Ministry of Education and Research (since 2008)
- Information and dialogue process initiated by ExxonMobil on the safety and environmental impact of fracking in natural-gas production: member of the expert committee (2011-2012)
- President of the International Society for Porous Media (InterPore, 2009-2011)
- Elected co-chair for 2014 and chair for 2016 Gordon Research Conference “Flow and Transport in Permeable Media”
- Darcy Lecturer 2015, selected by the US National Ground Water Association
- 19 invited keynote and plenary lectures at international conferences during the past 5 years, e.g. Gordon Conference 2010 and 2012, Shell lecture 2013, Rice University, Houston, USA
- Main supervisor to 40 doctoral students (past and present) and 6 habilitation candidates
- Member of more than 100 doctoral committees (in Germany, Denmark, France, Greece, the Netherlands, Norway, Switzerland and Canada) and 17 habilitation committees (in Germany, Switzerland and France)

Awards

- Dresden Prize for Groundwater Research, 1995
- Teaching award for the lecture “Hydromechanics” at the University of Stuttgart (winter semester 2007/08)
- Elected member of the Heidelberg Academy of Sciences and Humanities (Heidelberger Akademie der Wissenschaften, since 2010)
- NOW-von Humboldt Stiftungspreis 2012
- NGWA Darcy Lecturer 2015

Memberships in professional scientific organisations

American Geophysical Union, International Association for Hydro-Environment Engineering and Research, International Society for Porous Media, International Water Association, Society for Industrial and Applied Mathematics, Society of Petroleum Engineers

Research visits

USA: March – October 1991, Lawrence Berkeley Laboratory, University of California at Berkeley
USA: January 1999, Institute for Mathematics and its Applications, University of Minnesota
USA: March 1999, Institute for Scientific Computation, Texas A&M University
Japan: May 2000, Saitama und Tokyo University
USA: June 2002, Mount Holyoke College, South Hadley, Massachusetts, Institute for Mathematics
USA: March 2003, Institute for Scientific Computation, Texas A&M University
China: July 2005, Visiting professor, Shandong University, Jinan
Norway: April and May 2006, University of Bergen, CIPR
Netherlands: June 2006, University of Utrecht
Netherlands: September 2010, TU Eindhoven
Netherlands: April – July 2012, University of Utrecht

Organising und scientific committees (selected, since 2006)

- Gordon Research Conference on Flow and Transport in Permeable Media, Vice-Chair (Lewiston, ME, USA, 6.-11.7.2014)
- International Conference on Computational Methods in Water Resources (Stuttgart, 10.-13.6.2014)
- International Conference on Non-linearities and Upscaling in Porous Media (Bergen, Norway, 30.9.-2.10.2013)
- Fourth International Conference on Porous Media and its Applications in Science, Engineering and Industry (Potsdam, 17.–22.6.2012)
- Computational Methods in Water Resources (CMWR) 2012 (Urbana-Champaign, IL, USA, 18.–21.6.2012)
- Fourth International Conference on Porous Media (Purdue University, West Lafayette, IN, USA, 14.-16.5.2012)
- Organization of a session on Complex Porous Media at the AGU fall meeting, San Francisco, USA (12.2010)
- Second International Conference on “Challenges of Porous Media” (College Station, Texas, USA, 14.–16.3.2010)
- Organization of a session on Complex Porous Media at the AGU fall meeting, San Francisco, USA (12.2009)
- International Conference on Non-linearities and Upscaling in Porous Media (Stuttgart, 5.–7.10.2009)
- Workshop on Modelling and Risk Assessment of Geological Storage of CO₂ (Svalbard, Norway, 3.–6.8.2009)
- First International Conference on “Challenges of Porous Media” (Kaiserslautern, 11.–14.3.2009)
- 11th European Conference on the Mathematics of Oil Recovery (Bergen, Norwegen, 8.–11.9.2008)
- Gordon Research Conference on Flow and Transport in Permeable Media (Oxford, UK, 13.-18.7.2008)
- IAHR International Groundwater Symposium 2008: Flow and Transport in Heterogeneous Subsurface Formations: Theory, Modelling & Applications (Istanbul, Türkei, 18. – 20.6.2008)

- Numerical Models for Carbon Dioxide Storage in Geological Formations (Stuttgart, 2.-4.4.2008)
- International Conference on Multifield Problems (Stuttgart, 4. – 6.10.2006)
- Gordon Research Conference: Flow and Transport in Permeable Media (Andover, NH, USA, 30.7.–4.8.2006)
- Multiscale Modeling of Flow and Transport in Porous Media (Monte Verità, Schweiz, 7.–12.4.2006)
- Model Concepts for Fluid-Fluid and Fluid-Solid Interactions (Freudenstadt, 20.–22.3.2006)