**ECKART H. MEIBURG**

Distinguished Professor, Department of Mechanical Engineering

University of California at Santa Barbara, Santa Barbara, CA 93106

**PROFESSIONAL PREPARATION**

University of Karlsruhe Mechanical Engineering Diplom 1981

Stanford University Chemical Engineering DAAD Fellow 1981-82

University of Karlsruhe Mechanical Engineering Ph.D. 1985

Stanford University Chemical Engineering Postdoc 1986-87

**APPOINTMENTS**

2003 – 2007 Chair, Department of Mechanical and Environmental Engineering, UCSB

2000 – Present Professor, Department of Mechanical and Environmental Engineering, UCSB

1990 – 2000 Associate Professor and Professor, Dept. of Aerospace and Mech. Eng., University of Southern California

1987 – 1990 Assistant Professor, Division of Applied Mathematics, Brown University

**Visiting Appointments**

9/16-6/17 Shimizu Visiting Professor, Stanford University

12/08-1/09 Senior Gledden Fellow, University of Western Australia, Perth, Australia

Summer 06, Senior Humboldt Fellow, Max Planck Institute for Dynamics and Self-

07, 08 Organization, Göttingen, Germany

Summer 97, Visiting Professor, Institute for Fluid Dynamics, ETH Zurich, Switzerland

98, 00, 02

Summer 97, Visiting Professor, Ecole Superieure de Physique et de Chimie Industrielles

00, 02, 04 (ESPCI), Paris, France

5/94-7/94 Visiting Professor, Université Joseph Fourier, Grenoble, France

**PRODUCTS**

**Five Products Most Closely Related to this Proposal (of approximately 200 total)**

1. Meiburg, E. and Kneller, B. 2010 Turbidity Currents and Their Deposits, **Ann. Rev. Fluid Mech. 42**, 135.
2. Necker, F., Härtel, C., Kleiser, L. and Meiburg, E. 2002 High-Resolution Simulations of Particle-Driven Gravity Currents. **Int. J. of Multiphase Flow 28**, 279.
3. Maxworthy, T., Leilich, J., Simpson, J. and Meiburg, E. 2002 The Propagation of a Gravity Current in a Linearly Stratified Fluid**. J. Fluid Mech. 453**, 371.
4. Birman, V., Martin, J.E. and Meiburg E. 2005 The non-Boussinesq Lock-Exchange Problem. **J. Fluid Mech. 537**, 125.
5. Burns, P. and Meiburg, E. 2015 Sediment-laden Fresh Water above Salt Water: Non-linear Simulations. **J. Fluid Mech. 762**, 156-195.

**Other Significant Products**

1. Necker, F., Härtel, C., Kleiser, L. and Meiburg, E. 2005 Mixing and Dissipation in Particle- Driven Gravity Currents. **J. Fluid Mech. 545**, 339.
2. Härtel, C., Meiburg, E. and Necker, F. 2000 Analysis and Direct Numerical Simulation of the Flow at a Gravity Current Head. Part 1: Flow Topology and Front Speed for Slip and No-Slip Boundaries. **J. Fluid Mech. 418**, 189.
3. Nasr Azadani, M.M. and Meiburg, E.M. 2011 TURBINS: An Immersed Boundary, Navier-Stokes Code for the Simulation of Gravity and Turbidity Currents Interacting with Complex Topographies. **Comp. & Fluids. 45**, 14.
4. Ruith, M. R., Chen, P., Meiburg, E. & Maxworthy, T. 2003 Three- Dimensional Vortex Breakdown in Swirling Jets and Wakes: Direct Numerical Simulation. **J. Fluid Mech. 486**, 331.
5. Graf, F., Meiburg, E. and Härtel, C. 2002 Density-Driven Instabilities of Miscible Fluids in a Hele-Shaw Cell: Linear Stability Analysis of the Three-Dimensional Stokes Equations. **J. Fluid** **Mech. 451**, 261.

**SYNERGISTIC ACTIVITIES**

* Co-Organizer, 3-month program on Fluid-Mediated Particle Transport in Geophysical Flows, Kavli Institute for Theoretical Physics, UCSB, 2013
* Chair, Cyberinformatics and Numerics Working Group, Community Surface Dynamics Modeling System, 2009 - 2015
* Organizer, 1st, 2nd, 3rd Workshop on Modeling of Turbidity Currents and Related Gravity Currents, UCSB, 2005, 2009, 2017
* Associate Editor, European Journal of Mechanics/B, 2005 - 2014
* Associate Editor, Physics of Fluids, 2011 – 2015
* Associate Editor, Physical Review Fluids, 2016 -

**COLABORATORS AND OTHER AFFILIATIONS**

**Collaborators and Co-Editors** (last 4 years): H. Arango (Rutgers Univ.), F. Chow (UC Berkeley), G. Constantinescu (U. of Iowa), J. Dabiri (Caltech), F. Dias (U. Coll. Dublin), S. Elghobashi (UC Irvine), P. Garaud (UCSC), R. Govindarajan (TIFR), C. Harris (VIMS), J. Kim (UCLA), L. Kleiser (ETH Zurich, retired), B. Kneller (U. of Aberdeen), R. Kostachuk (Simon Frazier Univ.), L.G. Leal (UCSB), P. Linden (Cambridge), S. Llewellyn-Smith (UCSD), A. Marsden (UCSD), J. McWilliams (UCLA), P. Petitjeans (ESPCI), M. Princevac (UC Riverside), J. Rottman (UCSD), S. Sarkar (UCSD), B. Sutherland (U. of Alberta), J. Syvitski (U. of Colorado), H. Tchelepi (Stanford), M. Ungarish (Technion), G.J. van Heijst (TU Eindhoven).

**Graduate Advisor**: H. Oertel (University of Karlsruhe, emeritus)

**Postdoctoral Advisor**: G.M. Homsy (Stanford University, retired)

**Thesis Advisor** (24): V. Birman (Deutsche Bank), Z. Borden (Exxon), T. Bosse (Bosch), S. Buddhavarapu (Nortel), P. Burns (CD Adapco), C.-Y. Chen (NCTU), P. Chen (Yahoo), E. Gonzalez-Juez (Sandia), N. Goyal (Fluent), B. Hall (Ion Geophysical), R. Henniger (Sauber), B. Marcu (Space-X), J.E. Martin (Christopher Newport U.), M. Nasr-Azadani (UCSB), F. Necker (Bosch), R. Oliveira (Halliburton), N. Raju (Lucent), A. Riaz (U. of Maryland), A.M. Rogerson (Woods Hole Oceanographic Institute), M. Ruith (General Atomics), B. Selvam (ExxonMobil), E. Upchurch (Chevron), H. Vanaparthy (MicroSeismic), T. Walisch (ABB).

**Postdoctoral-Scholar Sponsor** (8): F. Blanchette (UC Merced), R. Demuth (BMW), G. Hoffmann (Fugro Pelagos), L. Lesshafft (Ecole Polytechnique, Paris), S. Radhakrishnan (UCSB), G. Ruetsch (SUN), L. Talon (U. Paris-Sud), D. Wilhelm (Alstom).

Doctoral Advisor to date: 24

Postdoctoral Advisor to date: 8