

LOUISE H. KELLOGG

Professional Preparation:

Cornell University	Engineering Physics, Philosophy	BS and BA, 1982 (Dual Degree)
Cornell University	Engineering Physics	M Engineering, 1985
Cornell University	Geological Sciences	PhD, 1988

Appointments:

1998-present	Professor, Earth and Planetary Sciences (formerly Geology), UC Davis
2000-2008	Chair, Department of Geology, UC Davis
July 2003	Visiting Professor, Ecole Normale Supérieure de Lyon, France
1993-1998	Associate Professor, Geology, UC Davis
1990-1993	Assistant Professor, Geology, UC Davis
1988-1990	Myron C. Bantrell Research Fellow in Geochemistry and Geophysics, Caltech
1987	Visiting Researcher, Institut de Physique du Globe, Université de Paris VI

Selected Relevant Publications:

- Schroder, S., Peterson, J. A., Obermaier, H., Kellogg, L. H., Joy, K. I., and Hagen, H. (2012) Visualization of Flow Behavior in Earth Mantle Convection, *IEEE Transactions on Visualization and Computer Graphics*, **18**, 12, pp. 2198 - 2207,
- C. H. A. Cheng, L. H. Kellogg, S. Shkoller, and D. L. Turcotte (2008) A liquid-crystal model for friction, *Proceedings of the National Academy of Sciences*, 105, no. 23, pp. 7930-7935. doi /10.1073/pnas.0710990105,
- N, Subramanian, L. H. Kellogg, and D. L. Turcotte (2009) Statistics of advective stretching in three-dimensional incompressible flows, *J. Statistical Physics*, 136: 926-944.
- J. B. Naliboff and L. H. Kellogg, (2007) Can large increases in viscosity and thermal conductivity preserve large-scale heterogeneity in the mantle?, *Physics of the Earth and Planetary Interiors*, 161, pp. 86-102, DOI: 10.1016/j.pepi.2007.01.009.
- L. H. Kellogg, B. H. Hager, and R. van der Hilst, Compositional stratification in the deep mantle, *Science*, 283, pp. 1881-1884, 1999.

Other Significant Publications:

- O. Kreylos, Oskin, M., Cowgill, E., Gold, P., Elliott, A., and Kellogg, L. (2013), Point-based computing on scanned terrain with LidarViewer, *Geosphere*, Geological Society of America, doi:10.1130/GES00705.1
- E. S. Cowgill, Bernardin, T., Oskin, M. E., Bowles, C., Yikilmaz, M. B., Kreylos, O., Elliott, A. J., Bishop, S., Gold, R. D., Morelan, A., Bawden, G. W., Hamann, B., Kellogg, L. H. (2012), Interactive terrain visualization enables virtual field work during rapid scientific response to the 2010 Haiti earthquake, *Geosphere*, **8**, no. 4, pp. 787--804.
- T. Bernardin, E. Cowgill, O. Kreylos, C. Bowles, P. Gold, B. Hamann and L. Kellogg, Crusta: a new Virtual Globe for Real-time Visualization of Sub-meter Digital Topography at Planetary Scales (2011), *Computers and Geosciences*, v. 37, pp. 75-85, doi:10.1016/j.cageo.2010.02.006
- O. Kreylos, G. W. Bawden, and L. H. Kellogg, (2008) Immersive Visualization and Analysis of LiDAR Data, in: Bebis, G., et al., *4th International Symposium on Visual Computing (ISVC08), Part I*, LNCS 5358, Springer-Verlag Berlin Heidelberg, pp. 846-855.
- D. L. Hunt, and L. H. Kellogg Mixing and development of heterogeneities in the mantle: The role of depth-dependent viscosity, *Journal of Geophysical Research*, **106**, 6747-6759, 2001.

Synergistic Activities:

Synergistic activities in computational science and applied mathematics: Computational Infrastructure for Geodynamics; Director, W. M. Keck Center for Active Visualization in the Earth Sciences; Member, Graduate Group in Applied Mathematics, Graduate Group in Computer Science.

Professional Activities: GEO Advisory Committee, NSF, 2009-2011 (Chair 2010-12); Committee on Seismology and Geodynamics, National Research Council, 2001-2009 (Chair 2007-2009); Board on Earth Sciences and Resources, National Research Council, member 2007-2009; Steering Committee, Cooperative Institute for Deep Earth Research (CIDER); Chair, NSF Workshop on Frontiers of

Mathematical Geosciences, 2001; Member of: American Geophysical Union (Fellow), SIAM, American Association for the Advancement of Science (Fellow), American Academy of Arts and Sciences

Outreach (selected examples):

- LakeViz: an informal science education project to use 3-D visualization to raise public awareness and increase understanding and stewardship of freshwater lake ecosystems, habitats, and earth science processes (with Tahoe Environmental Research Center, Lawrence Hall of Science, and ECHO Lake Center)
- “Seeing into the Earth” interactive 3D display at 2008 California State Fair UC Davis Pavilion, viewed by 16,000 individuals; Arts Collaboration: COLLAPSE: Suddenly Falling Down, a performance by Della Davidson featuring Art-Science-Technology collaboration, October-November 2007.

Synergistic activities related to engaging a diverse workforce in STEM: Member of UC Davis ADVANCE team for developing training for faculty search committees; Speaker, Virginia Tech NSF ADVANCE Program Leadership Seminar Series, 2004; Phillips/Association of Women Geoscientists Distinguished Speaker.

Collaborators and Other Affiliations (other than UC Davis colleagues)

Collaborators: A. Aydin (Stanford), W. Bangerth (TAMU), G. Bawden (USGS), M. Barall, E. Brodsky (UC Santa Cruz), S. Bond (USGS), L. Durlofsky (Stanford U), A. Donnellan (NASA JPL), J. Dieterich (UC Riverside), A. Dziewonski (Harvard U), G. Erlebacher, (Florida State U), E. Field (USGS), N. Flyer (NCAR), H. Hagen (Kaiserslautern U, Germany), T. Heister (Clemson U), M. Karimi-Fard (Stanford), P. Keller (Kaiserslautern U, Germany), M. Knepley (U. Chicago), S. Schroder (Kaiserslautern U, Germany), H. Obermaier (Kaiserslautern U, Germany), J. Podosk (USGS), F. Pollitz (USGS), J. Tromp (Princeton), T. Tullis (Brown U), Keith Richards-Dinger (Brown U), M. Vanco ((Kaiserslautern U, Germany), M. Hering-Bertram (Kaiserslautern U, Germany), B. Romanowicz (UC Berkeley), S. Ward (UC Santa Cruz), C. Wilson (Stanford U), G. Wright (Boise State U), D. Yuen (U. Minnesota)

Graduate Advisors and Postdoctoral Sponsors: Donald L. Turcotte

Thesis Advisor and Postgraduate-Scholar Sponsor: Graduate students: G. Bawden (USGS), M. Glasscoe, (NASA Jet Propulsion Lab), D. Hunt (independent consultant), D. Manaker, (BP), M. McLay (Cascade Volcano Observatory), N. Montague-Archer (Sierra College, CA), J. Naliboff (UC Davis), C. S. Natarajan (BP), B. Rowen, M. B. Yikilmaz (UC Davis). Postdoctoral Scholars: S. Ferrachat (Institut f. Atmosphere und Klima, ETH Zurich), F. Pollitz (USGS Western Earthquake Hazards Team), M. Feighner (Solano Community College, CA), M. Fram (USGS), E. Heien (UC Davis), J. Van Aalsburg (UC Davis), Pierre Ariel (UC Davis)