

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:

2013-2014	Acting Chair, Department of Earth and Planetary Sciences
2000-2008	Chair, Department of Geology, UC Davis
July 2003	Visiting Professor, Ecole Normale Supérieure de Lyon, France
1998-present	Professor, Department of Earth and Planetary Sciences (formerly Geology), UC Davis
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

Products (from over 75):

Five publications most closely related to the proposed project –

- Schroder S, Peterson JA, Obermaier H, **Kellogg LH**, Joy KI, and Hagen H. (2012). Visualization of Flow Behavior in Earth Mantle Convection. *IEEE Transactions on Visualization and Computer Graphics*, 18: 2198-2207.
- Kreylos, O, Oskin, M, Cowgill E, Gold P, Elliott A, **Kellogg L**. (2013). Point-based computing on scanned terrain with LidarViewer. *Geosphere*, Geological Society of America, 9: 546-556. doi:10.1130/GES00705.1
- Yikilmaz MB, Turcotte DL, Heien EM, **Kellogg LH**, Rundle JB. (2014). Critical Jump Distance for Propagating Earthquake Ruptures Across Step-Overs, *Pure and Applied Geophysics*, 33: 1-7. doi: 10.1007/s00024-014-0786-y
- Arrial PA, Flyer N, Wright GB, **Kellogg LH**. (2014). On the sensitivity of 3-D thermal convection codes to numerical discretization: a model intercomparison. *Geoscientific Model Development Discussions*, 7: 2033-2064.
- Mumladze T, Forte AM, Cowgill ES, Trexler CC, Niemi NA, Yikilmaz MB, **Kellogg LH**. (2015). Subducted, detached, and torn slabs beneath the Greater Caucasus. *Geo. Res. J*, 5: 36-46.

Five additional significant publications –

- Kellogg LH**, Hager BH, van der Hilst R. (1999). Compositional stratification in the deep mantle. *Science*, 283: 1881-1884.
- Subramanian N, **Kellogg LH**, Turcotte DL. (2009). Statistics of advective stretching in three-dimensional incompressible flows. *J Statistical Physics*, 136: 926-944.
- Bernardin T, Cowgill E, Kreylos O, Bowles C, Gold P, Hamann B, **Kellogg L**. (2011). Crusta: a new Virtual Globe for Real-time Visualization of Sub-meter Digital Topography at Planetary Scales. *Computers and Geosciences*, 37: 75-85. doi:10.1016/j.cageo.2010.02.006
- Cowgill E, Bernardin TS, Oskin ME, Bowles C, Yikilmaz MB, Kreylos O, Elliott AJ, Bishop S, Gold RD, Morelan A, Bawden GW, Hamann B, **Kellogg L**. (2012). Interactive terrain visualization enables virtual field work during rapid scientific response to the 2010 Haiti earthquake. *Geosphere*, Geological Society of America, 8: 787-804. doi:10.1130/GES00687.1
- Moore, EM, Yikilmaz, MB, **Kellogg LH**. (2013). Tectonics: 50 years after the revolution, *Geological Society of America Special Papers* 500. 321-369.

Synergistic Activities:

- **Leadership** – Director, Computational Infrastructure for Geodynamics; Director, U Davis W. M. Keck Center for Active Visualization in the Earth Sciences; Member, UC Davis Graduate Groups in Applied Mathematics and in Computer Science.
- **Professional Society Memberships** – American Geophysical Union (Fellow), American Academy of Arts and Sciences (Fellow), SIAM, American Association for the Advancement of Science (Fellow),

- Geological Society of America, Sigma Xi, Geochemical Society, Seismological Society of America
- **Professional Activities** – GEO Advisory Committee, NSF, 2009-2014 (Chair 2010-14); 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; Science Steering Committee, Computational Infrastructure in Geodynamics, 2006-2009; Virginia Tech NSF ADVANCE Program Leadership Seminar Series Speaker, 2004; Phillips/Association of Women Geoscientists Distinguished Speaker, 1995, 2001, 2012; Chair, Steering Committee for a New Science Plan for Cooperative Studies of Earth's Deep Interior, 2003-2004; Steering Committee, Cooperative Institute for Deep Earth Research (CIDER); Chair, NSF Workshop on Frontiers of Mathematical Geosciences, 2001; Editorial Board, Physics of the Earth and Planetary Interiors, 1998-present; American Geophysical Union, Tectonophysics Section Secretary (elected office), 1998-2000.
- **Outreach and Diversity Activities (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, Burlington VT)
 - "Seeing into the Earth" interactive 3D display at 2008 California State Fair UC Davis Pavilion, viewed by 16,000 individuals
 - Arts-Science-Technology Collaboration: COLLAPSE: Suddenly Falling Down, a performance by Della Davidson featuring Art-Science-Technology collaboration, October-November 2007 (received the 2008 Isadora Duncan Award for Visual Design)
 - UC Davis Chancellor's Award in Diversity and Community, 2005 (for recruiting and retaining faculty); participant in UC Davis ADVANCE program
 - Francis Birch Lecture, American Geophysical Union, Fall 2001

Collaborators and Other Affiliations

Collaborators and Co-Editors – G. Aldrich (UCD), P. A. Arrial (UCD), R. Arrowsmith (ASU), A. Aydin, (Stanford), G. Bawden (USGS), W. Bangerth (TAMU), M. Barall, E.E. Brodsky (UCSC), S. Bishop (UCD), T. Bernardin, S. Bond (USGS), C. M. Cooper (WSU), C. Bowles, E.S. Cowgill (UCD), C. A. Currie (U. Alberta), M. R. Diamond, J. H. Dieterich, (UCR), A. Donnellan (NASA JPL), J. Dumit (UCD), L.J. Durlowski, A. J. Elliott (UCD), G. Erlebacher, (Florida State U), N. Field (USGS), A. E. Fish (UCD), N. Flyer (NCAR), A. M. Forte (ASU), G. Gebbie (WHOI), B. Gietzel, A. Gimenez (LANL), M. T. Glasscoe (NASA JPL), R. D. Gold (USGS), R. Granat (NASA JPL), L. Grant (UCI), B. Hamann (UCD), H. Hagen (Kaiserslautern U), C. L. Harwood (UCD), E. Heien, T. Heister (Clemson), M. Hering-Bertram (Kaiserslautern U, Germany), S. Hsi (Lawrence Hall of Science), L. Hwang (UCD), K. I. Joy (UCD), R. Katz (Oxford U.), M. Karimi-Fard, P. Keller (Kaiserslautern U), W. Klein (Boston U), R. Kommu, O. Kreylos (UCD), M. Kronenberger (Kaiserslautern U), C. R. Lithgow-Bertelloni (UCL), L. Lisiecki (UCSB), J. McDermott (UCD), E. Mittelstaedt (U. Idaho), A. Morelan (UCD), T. L. Miller, E. M. Moores (UCD), Tea Mumladze (Tbilisi State U.), N. Niemi (U. Michigan), H. Obermaier (Kaiserslautern U), M.E. Oskin (UCD), W. Panero (Ohio) J. A. Peterson, F. F. Pollitz (USGS), J. H. Podoski, E.G. Puckett (UCD), S. Reed (LHS), K. Richards-Dinger (UCR), B. Romanowicz (Berkeley), M. K. Sachs (UCD), A. Sagy, G. Schladow (UCD), S. Schroder, (Kaiserslautern U), H. Segale (UCD), R. Shcherbakov (Western Ontario), M. Smith (UCD), O. Staatd (U. Rostock), L. Stixrude (UCL), K. F. Tiampo (Western Ontario), R. Strelitz (LANL), C. C. Trexler (UCD), T. Tullis (Brown), C. T. Unterborn (Ohio), M. Vanco (Kaiserslautern U), J. van Wijk (NMIMT), S. N. Ward (UCSC), C. Weber (UCD), C. E. Wilson (Stanford), J. Woodring (LANL), G. Wright (Boise State U), S. Yalowitz (Audience Viewpoints), M. Yoder, D. Yuen (Minnesota). Total number of collaborators and co-editors: > 200; **Graduate Advisors and Postdoctoral Sponsors** – Donald L. Turcotte (UC Davis). Total: 1; **Thesis Advisor and Postgraduate-Scholar Sponsor** – *Graduate students*: Gerald Bawden (USGS), Olga Bekatova (UC Davis), Margaret Glasscoe, (NASA Jet Propulsion Lab), Angela Hawkins (UC Davis), Donna Hunt (independent consultant), Justin Lindemann (UC Davis), David Manaker, (BP), Megan McLay (Cascade Volcano Observatory), Nancy Montague-Archer (Sierra College, CA), John Naliboff (NGU, Norway), C. S. Natarajan (BP), John Peterson, Beth Rowen, G. Streletz (UC Davis), M. Burak Yikilmaz (UC Davis), J. Lindemann (UC Davis) *Postdoctoral Scholars*: S. Ferrachat, F. Pollitz, M. Feighner, M. Fram, E. Heien, J. Van Aalsburg, P. Arrial. Total number of graduate students advised and postdoctoral scholars supervised: more than 30