

LORRAINE J. HWANG

Professional Preparation:

University of California	Berkeley, CA	Geophysics	BA, Honors, Phi Beta Kappa, 1985
California Institute of Technology	Pasadena, CA	Seismology	MS, NSF Graduate Fellow, 1987
California Institute of Technology	Pasadena, CA	Seismology	PhD, 1990
University of California Extension	Davis, CA	Financial Accounting	2006
University of California Extension	Davis, CA	Management Accounting	2007
University of California Extension	Davis, CA	Foundations of Public Policy	2009

Appointments:

2012-present	Associate Director, Computational Infrastructure for Geodynamics, University of California, Davis, Davis, CA
2007-2012	Research Coordinator, California Institute for Energy and Environment, University of California, Berkeley, Sacramento, CA
2007	Implementations Manager, Revionics, Granite Bay, CA
2005-2006	Consultant/Analyst, Network for Earthquake Engineering Simulation, Davis, CA
2001-2005	Senior Implementation Manager, Decision Academic Graphics, Ottawa, ON
2001	Project Analyst, University of California, Davis
2000	Project Manager, Community College Foundation, Sacramento, CA
1993-1994	Visiting Assistant Professor of Physics, Claremont McKenna College
1991-1993	Research Associate (National Research Council Graduate Fellow), United States Geological Survey, Pasadena, CA
1993	Network Analyst, California Institute of Technology, Pasadena, CA
1985-1990	Graduate Teaching Assistant, Graduate Research Assistant, California Institute of Technology, Pasadena, CA
1982-1986	Physical Science Aide, United States Geological Survey, Menlo Park, CA

Products:

Selected publications most closely related to the proposed project –

- Hwang L**, Brown M. (2012). *Technology Transfer Plan*. California Institute for Energy and Environment. Berkeley, California. Available through: uc-ciee.org.
- James D, Wilkins-Diehr N, Stodden V, Colbry D, Rosales C, Fahey M, Shi J, Silva RF, Lee K, Roskies R, Loewe L, Lindsey S, Kooper R, Barba L, Bailey D, Borwein J, Corcho O, Deelman E, Dietze M, Gilbert B, Harkes J, Keele S, Kumar P, Lee J, Linke E, Marciano R, Marini L, Mattman C, Mattson D, McHenry K, McLay R, Miguez S, Minsker B, Perez-Hernandez M, Ryan D, Rynge M, Santana-Perez I, Satyanarayanan M, St. Clair G, Webster K, Hovig E, Katz DS, Kay S, Sandve G, Skinner D, Allen G, Cazes J, Won Cho K, Fonseca J, **Hwang L**, Koesterke L, Patel P, Pouchard L, Seidel E, Suriarachchi I. (2014). Standing Together for Reproducibility in Large-Scale Computing: report on reproducibility@XSEDE, arXiv:1412.5557.
- Cooper K, Mittelstadt E, Currie C, van Wijk J, Kellogg L, **Hwang L**, Arrowsmith R. (2015). Moving Lithospheric Modeling Forward: Attributes of a community computer code. GSA Today, doi:10.1130/GSATG230GW.1

Additional significant publications –

- Hwang L**, Mooney W. (1986). Velocity and Q structure of the Great Valley, California, based on synthetic seismogram modeling of seismic refraction data. Bull. Seism. Soc. Am., 76: 1053-1067.
- Hwang L**, Magistrale H, Kanamori H. (1990). Teleseismic source parameters and rupture characteristics of the 24 November 1987, Superstition Hills earthquake. Bull. Seism. Soc. Am., 80: 43-56.
- IOGCC Task Force on Carbon Capture and Geologic Storage, Bliss K, Bengal L, Tew B., Jr. (2010). *IOGCC CCGS Task Force Phase II Biennial Review of the Legal and Regulatory Environment for the Storage of Carbon Dioxide in Geologic Structures*. Interstate Oil and Gas Compact Commission.

Morgan M, Dobson I, Adapa R, Carreras B, Dawar V, Kumbale M, Hardiman R, **Hwang L**, Lesieutre B, Kim J, Makarov Y, Samaan N, Newman D, Varadan S. (Pacific Northwest National Laboratory, University of Wisconsin-Madison, Electric Power Research Institute, BACV Solutions, Southern Company, CIEE/PIER, University of Alaska – Fairbanks, and KEMA). (2011). *Extreme Events Phase 2*. California Energy Commission. Publication number: CEC-MR-08-03.

Synergistic Activities:

- **Project Management –**
 - Manage day-to-day operations, project planning, outreach and strategic initiatives for the Computational Infrastructure for Geodynamics, an NSF supported cyberinfrastructure facility with over 70 national and international member institutions and its collaborations and partnerships including initiatives in high performance computing and software citation.
 - Provide project management and program development elements for Electric Grid Research and West Coast Carbon Sequestration Partnership (WESTCARB) working with partners across multiple private, public and governmental institutions contributing to program planning, project development and implementation, budget and schedule tracking, reporting, technical assistance, public outreach, and coordination. Serve as program lead for WESTCARB Regional Characterization coordinating and managing over \$5 million of research for geologic characterization and seismic risk for carbon sequestration. Develop statements of work and budgets, and review deliverables. Manage contract and budget changes. Develop science program for next project phase identifying research and principal investigators.
- **Professional Service –** WESTCARB representative to the Interstate Oil and Gas Compact Commission Task Forces on Carbon Capture and Geologic Storage, and on Offshore CO₂ Storage – Legal and Regulatory issues; participates on the Technical Advisory Team for the California Carbon Capture and Storage Review Panel.
- **Innovations in Teaching and Training –** Worked in conjunction with UC Berkeley to redesign portal for the online WESTCARB Carbon Atlas for research and outreach/education. Initiated and run CIG webinar series which draws from a pool of experts from mathematicians, to computer scientists, and to geoscientists, to bring together a cross-cutting community of faculty, students and researchers to both inform and disseminate knowledge on the tools and methodologies employed to further the study of problems in geodynamic.
- **Industry Collaborations –** Projects managed by California Institute for Energy and Environment included collaborations with EPRI, PG&E, SDG&E, SCEC, CAISO, PNNL, BPA & Southern Company as contractors or stakeholders providing in-kind support.

Collaborators and Other Affiliations

Collaborators and Co-Editors – Ram Adapa (EPRI); Jennifer Arrigo (Consortium of Universities for the Advancement of Hydrologic Science, Inc.); Ramon Arrowsmith (Arizona State U); Jon Aurnou (UCLA); Lawrence E. Bengal (Arkansas Oil and Gas Commission); John Henry Beyer (LBNL); Merwin Brown (California Institute for Energy and Environment); Elizabeth Burton (LBNL); Benjamin Carreras (BACV Solutions); Lloyd Cibulka (California Institute for Energy and Environment); Katie Cooper (Washington State U); Claire Currie (U Alberta); Eric Mittelstadt (U Idaho); Vikas Dawar (U Wisconsin); Ian Dobson (Iowa State U); Rod Hardiman (Southern Company); INCITE Team (Argonne Leadership Computing Facility); Louise Kellogg (UC Davis); Janghoon Kim (U Wisconsin); Murali Kumbale (Southern Company); Bernard Lesieutre (U Wisconsin); Yuri Makarov (PNNL); Niall Mateer (California Institute for Energy and Environment); Mark Morgan (PNNL); Larry Myer (LBNL); Richard Myhre (BKI); David Newman (U Alaska); Scott Peckham (Community Surface Dynamics Modeling System); Nader Samaan (PNNL); MacKenzie Smith (UC Davis); David Tarboten (Utah State U); Siri Varadan (KEMA); Total number of collaborators and co-editors: ~40; **Graduate Advisors and Postdoctoral Sponsors –** Graduate: Hiroo Kanamori, Emeritus (California Institute of Technology); Postdoctoral: Thomas Heaton (California Institute of Technology); Total number of advisors: 2; **Thesis Advisor and Postgraduate-Scholar Sponsor –** None