

Sang-Mook Lee

Associate Professor
Marine Geology and Geophysics

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Born: October, 1962, Seoul, Korea
Citizenship: Republic of Korea
Married with three children
Quadriplegic (C4 complete), paralyzed neck down

Education

Ph.D., Feb. 1995, Massachusetts Institute of Technology/Woods Hole Oceanographic Institution, Joint Program in Oceanography/Applied Ocean Science and Engineering
Dissertation: *Tectonics of the East Pacific Rise: Studies of Faulting Characteristics, and Magnetic and Gravity Anomalies*
Supervisors: Sean C. Solomon (MIT) and G. M. Purdy (WHOI)
B.S., Feb. 1985, Seoul National University, College of Natural Sciences, Dept of Oceanography

Work Experiences

Sep. 1986-Jul. 1993: Graduate Research Assistant, Dept of Earth, Atmospheric, and Planetary Sciences, Massachusetts Institute of Technology
Apr. 1995-Feb. 1996: Guest Investigator, Dept of Geology and Geophysics, Woods Hole Oceanographic Institution
Feb. 1996-Jan. 1998: Senior Research Assistant, Dept of Geological Sciences, University of Durham, England
Feb. 1998-Feb. 2003: Senior Research Scientist, Korea Ocean Research and Development Institute
Mar. 2003-Dec. 2003: Principal Research Scientist, Korea Ocean Research and Development Institute
Dec. 2003-Mar.2010: Assistant Professor, School of Earth and Environmental Sciences, Seoul National University
Apr. 2010-Present: Associate Professor, School of Earth and Environmental Sciences, Seoul National University
Mar. 2009-Present: Adjunct Professor and Chair, Interdisciplinary Graduate Program in Computational Science and Technology, Seoul National University

Sep. 2009-Present: Adjunct Professor, College of Liberal Studies, Seoul National University
Nov. 2009-Present: Director, Institute of Technologies for Living Together, Advanced Institutes of Convergence Technology, Seoul National University
Jun. 2010-Present: Program Manager, QoLT Industrial Infrastructure Development Center, Ministry of Knowledge and Economy, Republic of Korea
Mar. 2011-Present: Chair, Interdisciplinary Undergraduate Program in Computational Sciences, Seoul National University
Apr. 2014-July 2014: Visiting Scientist, Institut de Physique du Globe de Paris (IPGP), University of Paris VII, Diderot
Jan. 2019-Mar. 2019, Visiting Scientist, Earthquake Research Institute (ERI), The University of Tokyo

Professional Society and Committee Service

American Geophysical Union (AGU), Asia-Oceania Geosciences Society (AOGS), Korean Oceanographical Society, Korean Geophysical Society, Geological Society of Korea, Korean Academy of Science and Technology, Associate Member (Oct. 2009-Present)

Program Committee, Ocean Sciences, Western Pacific Geophysics Meeting (WPGM), July 2002, Wellington, New Zealand

Korean Oceanographical Society, 2001-Present, Editorial Board

Korean Geophysical Society, 2004-Present, Executive Committee

Ocean and Polar Research, Guest Editor, 2002

InterRidge National Correspondent (Korea), 1996-2005

InterRidge Steering Committee, 2000-2005

InterRidge Back-Arc Basin Working Group Chair, 2001-2004

InterRidge Workshop, Beijing China, October 2003, Organizing Committee

RIDGE 2000-InterRidge Joint Theoretical Institute on Back-Arc Basin, Jeju Island, May 2004, Korea, Local Organizer

Korea Ocean Drilling Program (KODP), Scientific Committee, 2001-2003

Asia-Oceania Geosciences Society (AOGS), Interim Council Secretary, 2003-2004.

Ocean Sciences Journal, editorial board, 2004-2007

Geosciences Journal, editorial board, January 1, 2005-Present

Asia-Oceania Geosciences Society (AOGS), Local Advisory Committee for 2008 General Assembly in Busan, Korea

Presidential Council for Informative Society, Member (Nov. 2009-Present)

Korean Academy of Science and Technology (KAST), Convergence Committee, Member (May 2010-Present)

Prime Ministerial Committee for Disability Policy Coordination, Member (Dec. 2012-Present)

Seoul Metropolitan Office of Education, Special Committee on Happy Education, Member (Feb. 2013-Jan. 2015)

Sustainable Development Committee of Metropolitan City of Seoul, Member (Sep. 2013-Aug. 2015)

Research Vessel Shared Use Committee, Ministry of Oceans and Fisheries, Member (Sep. 2015-Present)

International Union of Geodesy and Geophysics (IUGG) Korean Committee, President (Mar. 2016-Present)

Asia-Oceania Geosciences Society (AOGS), Chair of Local Organizing Committee for 2020 General Assembly in Hongcheon, Gangwon Province, Korea
Chair of the Organizing Committee of PyeongChang Forum on Earth Environment as the legacy of 2018 Winter Olympic (Sep. 2017)

Field Experience

Chief scientist and participant in more than 15 scientific cruises since 1988, including:
Near-bottom sidescan sonar (TOBI) survey of the Southwest Indian Ridge, FUJI cruise (1997), R/V *Marion Dufresne*, Scientist.
Three campaigns in the western Pacific (Ayu Trough, Manus Basin and Caroline plate) under Daeyang Program (2000-2002), R/V *Onnuri*, Chief Scientist
KORDI-University of Hawaii joint survey of the manganese nodule field in the eastern Pacific using MR1 (KAIMANA) (2000), R/V *Onnuri*, Chief Scientist
ODP Leg 193, Manus Basin, Papua New Guinea (2000-2001), R/V *JOIDES Resolution*, Paleomagnetist
Geophysical survey of the Hero Fracture Zone and Antarctic margin under Korean Antarctic Program (1999-2000), R/V *Onnuri*, Scientist
Deeptow magnetic survey of the Jurassic Quiet Zone (2002-2003), R/V *Thomas G. Thompson*, Co-Chief Scientist with Maurice Tivey and Will Sager
Collaborations with Japanese scientists onboard R/V *Hakuho-maru*, *Tansei-maru*, and *Natushima*.
Marine heat flow measurements in Ulleung Basin, East Sea/Sea of Japan using R/V *Tamhae II*, Project Leader.

Honors and Awards

National Fellowship for Abroad Studies, 1986-1989, Korea Ministry of Education
Ocean Venture Fund, 1987, Woods Hole Oceanographic Institution
Achievement Award, 2001, Korea Ocean Research and Development Institute
Special Commendation, December 2008, City of San Francisco
Medal of Merit, June 2009, Republic of Korea
Welfare Award (Grand Prize), April 2011, Metropolitan City of Seoul
Seoul National University Best Teacher Award of the Year, November 2015, Seoul National University
Order of Service Merit, June 2017, Republic of Korea

Publications (Last 5 years)

- Book

* 0.1 Gram of Hope (in Korean), Sang-Mook Lee and In-Shik Kang, RandomHouse Korea, pp. 341, 2008.

- Edited Book

* Back-Arc Spreading Systems: Geological, Biological, Chemical, and Physical Interactions, edited by Dave M. Christie, Charles R. Fisher, Sang-Mook Lee, and Sharon Givens,

Geophysical Monograph Series 166, American Geophysical Union, Washington, DC, pp. 303, 2006.

* Subduction Dynamics: From Mantle Flow to Mega Disasters, edited by Gabriele Morra, David A. Yuen, Scott D. King, Sang-Mook Lee, Seth Stein, Geophysical Monograph Series, ISBN: 978-1-118-88885-8, 210 pages, American Geophysical Union, October 2015.

- Refereed Journal Articles

* Eunyoung Kim, Douglas R. Toomey, Emilie E. E. Hooft, William S. D. Wilcock, Robert T. Weekly, Sang-Mook Lee, and YoungHee Kim, Upper crustal Vp/Vs ratios at the Endeavour segment, Juan de Fuca Ridge, from joint inversion of P and S travel times: Implications for hydrothermal circulation, G-Cubed, doi: 10.1029/2018GC007921, (in press) 2019.

* Yoon-Mi Kim, Sang-Mook Lee, Analysis of Gravity Anomalies in the Ulleung Basin (East Sea/Sea of Japan) and Its Implications for the Crustal Structure of Rift-dominated Back-arc Basin (in press), Physics of the Earth and Planetary Interiors, 2017.

* Jonguk Kim, Sang-Joon Pak, Jai-Woon Moon, Sang-Mook Lee, Jihye Oh, Finlay M. Stuart, Mantle heterogeneity in the source region of mid-ocean ridge basalts along the northern Central Indian Ridge (8°S-17°S), Geochemistry, Geophysics, Geosystems, 18, 4, 1419-1434, doi: 10.1002/2016GC006673, 2017.

* Jae-Hyeon Parq, Sung Keun Lee, Sang-Mook Lee, Jaejun Yu, Ab Initio Study of Elastic Properties of High-Pressure Polymorphs of CO₂ Phases II and V, J. Phys. Chem. C, 120 (40), 23152-23164, doi: 10.1021/acs.jpcc.6b07833, 2016.

* Young Hong Shin, C.K. Shum, Carla Braitenberg, Sang-Mook Lee, Sung -Ho Na, Kwang Sun Choi, Houtse Hsu, Young-Sue Park, Mutaek Lim, Moho topography, ranges and folds of Tibet by analysis of global gravity models and GOCE data, Scientific Reports, 5, 11681, doi:10.1038/srep11681, 2015.

* Chungwan Lim, Jaeho Jang, Insung Lee, Guebuem Kim, Sang-Mook Lee, Yeongmin Kim, Hyoungbum Kim, Alan J. Kaufman, Sulfur isotope and chemical compositions of the wet precipitation in two major urban areas, Seoul and Busan, Korea, Journal of Asian Earth Sciences, 79, 415-425, 2014.

* Byung-Dal So, David A. Yuen, Sang-Mook Lee, An efficient implicit-explicit adaptive time stepping scheme for multiple-time scale problems in shear zone development, Geochemistry Geophysics Geosystems, 14, 9, 3462-3478, 2013.

* Young-Gyun Kim, Sang-Mook Lee, Young Keun Jin, Boris Baranov, Anatoly Obzhirov, Alexander Salomatin, Hitoshi Shoji, The stability of gas hydrate field in the northeastern continental slope of Sakhalin Island, Sea of Okhotsk, as inferred from analysis of heat flow data and its implications for slope failures, Marine and Petroleum Geology, 45, 198-207, 2013.

* Gabriele Morra, Dave A. Yuen, Sang-Mook Lee, Subduction: From Mantle Flow to Great Earthquakes, EOS AGU, 93, 45, 457, 2012.

* Byung-Dal So, David A. Yuen, Klaus Regenauer-Lieb, Sang-Mook Lee, Asymmetric lithospheric instability facilitated by shear modulus contrast: Implications for shear zones, Geophysical Journal International, 190, 1, 23-36, 2012.