
Cin-Ty A. Lee

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Websites

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Born: 1974

Nationality: U.S. citizen

Academic History

6/11 - Rice University (Full Professor)
6/08 - 5/11 Rice University (Associate Professor)
5/02 - 5/08 Rice University (Assistant Professor)
2/01 – 2/02 California Institute of Technology (post-doctoral Fellow)
post-doctoral advisor Gerald J. Wasserburg
9/96 – 3/01 Harvard University (Ph.D. - geochemistry)
doctoral advisor Roberta L. Rudnick
9/92 – 6/96 University of California, Berkeley (B.A.- geology)
undergraduate advisor George H. Brimhall, Jr.

Other academic experience

2012 [Miller visiting professor](#) at UC Berkeley
2011 Visiting professor at the School of Ocean and Environmental Sciences, University of Tokyo
2002 Visiting professor at Academia Sinica, Taiwan

Awards, Scholarships (after 2003)

2012 Agassiz Lecturer, Harvard University
2012 Miller Visiting Professor, UC Berkeley
<http://millerinstitute.berkeley.edu/all.php?nav=48#Earth%20&%20Planetary%20Science>
2011 Mutch Lecturer, Brown University
2010 Geological Society of America Fellow
2009 Donath Medal – Geological Society of America
(<http://www.geosociety.org/awards/aboutAwards.htm#donath>)
2009 Clarke Medal – Geochemical Society
(<http://www.geochemsoc.org/awards/fwclarkeaward.htm>)
2008 Kuno Award – American Geophysical Union – Volcanology, Geochemistry, Petrology
(http://vgp.agu.org/kuno_award.html)
2005 David and Lucile Packard Fellow (www.packard.org)
2005 Great Texas Birding Classic – 2nd place team UTC section
2004 Great Texas Birding Classic – 1st place team UTC section (214 species in 24 hours)

Honorary Lectures

2012 Agassiz Lecturer, Harvard University

2011 Mutch Lecturer, Brown University

Miscellaneous awards prior to my PhD.

Mineralogical Society of America Grant for Research – 2000

Derek Bok Distinguished Teaching Award (Harvard University) 1999

National Science Foundation Graduate Fellowship – 1996-1999

Departmental Citation (University of California, Berkeley) -1995

University of California, Berkeley Alumni Leadership Scholarship – 1992 and 1995

Geological Society of America Outstanding Senior Award – 1995

Association for Rewards to College Scientists (ARCS) Scholarship – 1995

Cross Scholarship

National Merit Finalist – 1992

California State Science Fair, Zoology Category: “*How does avian diversity relate to the physiognomy of an urban habitat in southern California during winter?*” - 1991

San Bernardino Valley Audubon Society Scholarship – 1989

Riverside Unified School District Art Contest Finalist – 1984

Research statement

I use isotope and trace-element geochemistry, petrology, field geology and simple geodynamic models to investigate the physical and chemical processes of planetary differentiation, with particular emphasis on the origin and evolution of the Earth's crust and mantle. I am also investigating the chemical interactions between the solid Earth (crust + mantle), the hydrosphere and the atmosphere. I am particularly interested in deep Earth connections to long-term climate change. Finally, through collaborations, I am investigating the chemistry of extraterrestrial rocks, such as meteorites.

My most important contributions fall in the following categories.

- 1) the petrogenetic and dynamic origins of continents, particularly the origin of continental lithospheric mantle and continental crust.
- 2) how continental lithospheric mantle is chemically modified and how this affects the long-term evolution of continental lithosphere
- 3) mantle geochemistry and petrology; constraints on trace element partitioning and mantle redox

Teaching statement

I currently teach igneous and metamorphic petrology and radiogenic isotope and trace-element geochemistry. I also co-teach our spring field mapping course, which involves 9 days of mapping in Big Bend National Park, TX.

ESCI 101 – The Earth

ESCI 502 – Advanced Field Geology

ESCI 322 –Earth Chemistry and Materials

ESCI 410 – Optical Mineralogy/Petrography

ESCI 412 – Advanced Petrology

ESCI 430 – Isotope and trace-element geochemistry (sole instructor)

ESCI 334 – Geological and Geophysical Techniques – field geology (co-taught with Morgan)
ESCI 414 - Introduction to the physics and chemistry of the atmosphere (Lee and Lenardic)
ESCI 434 – Introduction to mass spectrometry (sole instructor)
ESCI 562 – Advanced topics in Geophysics (co-taught with Lenardic, Levander, and Niu)
ESCI 518 – Dimensional Analysis in the Earth sciences and beyond (Lenardic and Lee)
ESCI 413 – Introduction to the dynamics and physical properties of the Earth
BIOS 337 – Field Bird Biology Laboratory (Dept of Ecology and Evolutionary Biology)

Other courses that I can teach or participate in

Physics and chemistry of the Earth
Introductory geodynamics
General Geology
Ore geology

Analytical experience

Clean laboratory experience; quadrupole and magnetic-sector ICP-MS, multiple collector magnetic-sector icp-ms (MC-ICP-MS), laser ablation, thermal ionization mass spectrometry, electron microprobe, fourier transform infrared-spectroscopy.

Field mapping experience

1. Poleta Folds, White Mountains, California: 3 weeks of mapping as an undergraduate.
2. Berkeley Hills, California: 1 semester of mapping as an undergraduate
3. Sierran foothills: 3 weeks of magnetometer surveys of Eocene paleo-river channels (undergraduate)
4. Sun city complex in the Peninsular Ranges, CA: mapping for fun
5. Mariscal fold, Big Bend National Park, TX: mapping each spring since 2003 as an instructor.
6. Feather River Ophiolite, CA – mapping for an NSF-funded project.
7. Peninsular Ranges Batholith, CA
8. Cretaceous stratigraphy in west Texas
9. Magma mixing in the Perris pluton, California
10. Skarns in the eastern Peninsular Ranges Batholith

Organized geologic field trips

1. Southern California and Owens Valley – annual field trip for Rice undergraduates; sole leader
2. New Mexico, Rio Grande Rift – field trip for Rice undergraduates
3. Big Bend National Park – Mariscal Mountain – Field Geology at Rice University
4. Geology of Big Cottonwood Canyon, Wasatch Mtns, Utah; Packard fellows meeting
5. Transect across California from Coast Ranges, Sierra Nevada foothills, Sierra Nevada batholiths, Long Valley, Owens Valley, Death Valley
6. Geology of northern Utah, western Wyoming, and southeastern Idaho
7. Geology of the Llano uplift, Texas
8. Geology in the Yerington porphyry copper deposit, Nevada
9. Cretaceous Interior Seaway, west Texas

FUNDING

Active Grants

- 2011-2015 NSF-EAR 1119315 – The deep lithosphere filter and the growth of continental arcs, \$339,084
2009-2010 NSF-EAR 0918577 - Quantifying the role of chemical weathering on the composition of the continental crust using Mg isotopes and other tracers, 100,000\$
2008-2011 NSF- EAR 0745540 EARTHSCOPE: Collaborative Research: Mantle Dynamics and Magmatism Across the Basin and Range, co-PI with Don Forsyth (Brown U; lead university) and Terry Plank (Lamont-Doherty Earth Observatory); \$90,000
2007-2010 NSF- EAR 0365338 “Collaborative Research: Field and Modeling-Based Tests of the Role of Water in Nominally Anhydrous Minerals in controlling the Strength/Stability of Continental Lithospheric Mantle” 01/01/07 – 12/31/09; \$190,000; Lead PI with Lenardic, Mackwell, Peslier.
2005-2010 Packard Foundation Fellowship, 2005-2010; \$725,000; sole PI

Previous grants

- 2004-2008 NSF 0409423 Collaborative Research: On the Origins of Primitive Magmas in the Cascade Volcanic Arc, \$193,477.00; primary PI with Chesley
2006-2007 NSF EAR – 0549268 Acquisition of laser ablation system to quantify matrix and grain boundary trace element partitioning in olivine and pyroxenes: an integrated bulk and in situ approach, \$115,100; sole PI
2005-2007 NSF EAR-0440033 “Resolving the paradox of fO₂ in arcs” (\$180,000), Lead PI with Leeman
2004-2006 NSF-EAR-0352803 “Meeting of Young Researchers in the Earth Sciences MYRES: A Conference Series and Community Development Initiative” (\$63,180), sole PI
2002-2006 NSF-EAR-0309121 “Thermodynamic, petrologic, geochemical and isotopic constraints on metal mobility during hydrothermal serpentinization of ultramafics” (\$214,023), Sole PI
2003-2004 NSF-EAR-0236761 “Upgrade of JEOL JSM-840 Scanning microscope” (\$37,690); co-PI with A Lutgge

Honor Societies

Golden Key National Honor Society, Phi Beta Kappa, Sigma Xi

Professional Societies

Geochemical Society
American Geophysical Union
Geological Society of America
Society of Exploration Geologists

Employment

2011 Full Professor, Rice University, Dept. Earth Science
2008 Associate Professor, Rice University, Dept. Earth Science
2002 Assistant Professor, Rice University, Department of Geology and Geophysics
2001 Postdoctoral Fellow, California Institute of Technology (Prof. Gerald Wasserburg)
1995 grader: Geochemistry 131 “Theoretical geochemistry” (UC Berkeley, Prof. Harold Helgeson)
1994 lab assistant: thin section and sample preparation (UC Berkeley, Prof. Ian S. Carmichael)
1994 grader: Geology 10 “Planetary Geology” (UC Berkeley, Prof. Raymond Jeanloz)
1993 research assistant (geomorphology): United States Dept. Agriculture Pacific Southwest Research Station (supervisor, Peter Wohlgemuth)
1991 research assistant: United States Salinity Laboratory, Riverside, CA (supervisor, Dr. Suarez)

Languages

Fluent in English, speaking ability in Mandarin Chinese, reading ability in French and Spanish

Editorial positions

Associate Editor – Journal of Geophysical Research (2011-present)

Editorial Advisory Board for Earth and Planetary Science Letters (2009-present)

Departmental and university service

Seminar committee

Faculty Search committee member

Departmental webpage committee

Public Service

Solicited Journal Reviews: *Science*, *Chemical Geology*, *Earth and Planetary Science Letters*, *Geochimica Cosmochimica Acta*, *Contributions to Mineralogy and Petrology*, *Geochemical Journal*, *G-cubed*, *Geology*, *Physics of the Earth and Planetary Interiors*, *Tectonophysics*, *Journal of Geophysical Research*, *Journal of Petrology*, *Lithos*

Reviews for funding agencies

NSF – EAR – Petrology and Geochemistry, Instrumentation and Facilities, Geology and Paleontology, Continental Dynamics, Geophysics, Tectonics, Ocean sciences, Margins Program

ACS – Petroleum Research Fund

ETH – Swiss Federal Institute of Science and Technology

Canadian Research Council

2011 – Student mentor for Empowering Leadership Alliance of Rice University (under-represented minorities and women)

2011 – NSF Panel member for two panels

2011 – Earthscope steering committee

2011 – CIDER (Cooperative Institute for Deep Earth Research) – steering and planning committee

2011 – AGU Kuno Awards committee

2011 – Goldschmidt 2011, Thematic session leader

2011 – NSF Panel member

2010 – NSF Panel member

2010 – Program Planner; US National Academy of Sciences joint meeting with Japan Society for the Promotion of Science

2010 CIDER (Cooperative Institute for Deep Earth Research) – steering committee

2009- NSF Panel member (EAR)

2009- Program Planner for Kavli Frontiers of Science Meetings – US National Academy of Science

2008 CIDER (Cooperative Institute for Deep Earth Research) – member of steering committee

2006 Earthscope workshop participant

2006 Instructor at CIDER Workshop at UC Santa Barbara

2005 NASA – Geology and Geophysics Panelist

2004 Steering Committee Member for first MYRES “Meeting of Young Researchers in the Earth Sciences” – La Jolla, CA

Departmental and University Service

Departmental

Graduate Admissions, Course Curriculum Committee, Radiation Safety Officer, Search committees

University

Scholarship Committee, Affirmative Action Committee

Students supervised or advised

Current

Emily Chin (PhD) – good ‘ol hard core petrology

Kelley Liao (MSc) – magma-wallrock interaction

Monica Erdman (PhD)

Past students

PhD (primary advisor) = 2

Zheng-xue Li (PhD – 2007) – Serpentinization; global water cycle, lithosphere dynamics; now at Veritas

Mark G. Little (PhD 2007) – Weathering and soil formation; public policy; Luce Fellow; now GSA Congressional Science Fellow in Washington

MSc. (primary advisor)

Nigel Watt (M.Sc. 2011) – impacts and craters

Heather Dalton (MSc, 2009) – Martian meteorites (now Education/Outreach Officer at Lunar and Planetary Institute, Clear Lake, TX)

Amy Maloy – lunar granulites (MSc 2007; joint with Lunar and Planetary Institute)

Min Hu (MSc 2007) – marine geochemistry of redox sensitive elements

H. Patrick Young – (MSc 2009; Grenvillian lithospheric mantle; now PhD student at Yale U)

BSc. (primary advisor)

Blake Dyer (B.Sc., 2010) – now PhD candidate at Princeton University

Masaru Oka – (undergrad summer intern from Stanford University)

Artemis Harbert – (B. Sc. 2008)

Michael Kallstrom (B.Sc. 2008) – now M.Sc. candidate at University of Texas, Austin

Stephen Turner – (B.Sc. 2007) – arc-related harzburgites; now PhD candidate at Harvard U

Ulyana Horodyskyj (B.Sc. 2007) – Origin of eclogites; MSc. Brown University, now PhD candidate at U Colorado

Janelle Homburg (BSc - 2006 – now Phd candidate at Columbia University)

Nivedita Thiagarajan (BSc 2005) – Varnish studies; magnetite ores (now PhD candidate Caltech)

Co-advised

Jessica Hawthorne (B.Sc. 2007; now PhD candidate at Princeton University)

Martin Collier (BSc 2004 – PhD Columbia University, now at Exxon.

Shayda Naficy (undergrad)

Postdoctorates

Current

Dr. Peter Luffi - petrology

Past

Dr. Tobias Höink – geodynamics

Dr. Bing Shen – Mg isotopes (Shell; soon to be at Beijing University)

Dr. Da-Ren Wen - petrology

Dr. Veronique Le Roux (WHOI)

Dr. Arnaud Agranier (2005-2007) – isotope geochemistry of arc lavas; now professor at
Universite de Bretagne Occidentale, France

Dr. Maik Pertermann – (2006-2007) mantle petrology, geochemistry; now faculty at San
Jacinto College, Houston, TX

Peer-reviewed publications in the Earth sciences

* denotes student and \$ denotes post-doctoral associate working with me

papers can be downloaded here: <http://www.ruf.rice.edu/~ctlee>

citation rates can be found at RESEARCHERID.COM (www.researcherID.com)

researcherID #: A-5469-2008

total citations: 1313

H-index: 23

In progress, possibly perpetually

Lee, C.-T. A., Modeling the behavior of chalcophile elements in igneous processes

Lee, C.-T. A., Darwin's finches revisited and the concept of peripatetic speciation.

Lee, C.-T. A., Use of first row transition metals in igneous geochemistry.

Lee, C.-T. A., Boundary-layer differentiation of magma bodies and the origin of high silica rhyolites

Lee, C.-T. A., Inflected geotherms, cold adiabats, and other artifacts of thermobarometry

Lee, C.-T. A., Magmatic recharge, mafic enclaves, and compositional diversity.

Lee, C.-T. A., The Cambrian explosion and the global oxygen cycle.

Bouchet, R., Lee, C.-T. A., Volatile element depletions in tektites.

Lee, C.-T. A., Estimating melting temperatures of peridotite protoliths

Lee, C-T A, Yang, W., Ingram, L., Sulfur elemental and isotopic composition of rock standards.

Lee, C-T A, Yang, W, Ingram L, Sulfur isotopic systematics of the mantle wedge

Huang, Lee, et al. He and Pb chronometry

Lee, C-T A, Cenozoic climatic cooling

Liao, Lee, Morton, Non-magmatic mafic enclaves in granitoids

Lee, Little, Chemical versus physical weathering in rapidly uplifting mountains

SUBMITTED

Chin, E. J., Lee, C.-T. A., Tollstrup, D. L., Xie, L.-W., Wimpenny, J. B., Yin, Q.-Z., Emplacement of passive margin sediments into deep crustal hot zones of continental arcs: interplay of tectonic and magmatic thickening in the formation of continental crust.

Gazel, E., Plank, T., Forsyth, D., Bendersky, C., Lee, C.-T. A., Hauri, E., Lithosphere vs. Asthenosphere sources at Big Pine volcanic field.

Lee, C.-T. A., Shen, B., Slotnick, B., Liao, K., Yokoyama, Y., Lenardic, A., Dasgupta, R., Jellinek, M., Lackey, J. S., Tice, M., Schneider, T., Dickens, G., Continent-island arc fluctuations, growth of crustal carbonates and long-term climate change, in revision PNAS.

[§]Shen, B., Wimpenny, J., Yin, Q.-Z., Tollstrup, D., Lee, C.-T. A., Magnesium isotope systematics of endoskarns: implications for wallrock reaction in magma chambers.

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2012**

77. **Lee, C-T A**, The physics and chemistry of recycling lower continental crust, in press for *Treatise of Geochemistry*.

76. Tollstrup, D. L., Xie, L.-W., Wimpenny, J. B., Chin, E. J., **Lee, C.-T.**, Yin, Q.-Z., 2012, A trio of laser ablation in concert with two ICP-MSs: simultaneous, pulse-by-pulse determination of U-Pb discordant ages and a single spot Hf isotope ratio analysis in complex zircons from petrographic thin sections, *Geochemistry Geophysics Geosystems* 13; Q03017, doi:10.1029/2011GC004027..

75. **Lee, C.-T. A.**, P. Luffi, Chin, E. J., Bouchet, R., Dasgupta, R., Morton, D. M., Le Roux, V., Yin, Q.-Z., Jin, D., 2012. Copper systematics in arc magmas and implications for crust-mantle differentiation. *Science* 336:64-68.

74. **Lee, C-T A**, Grand, S. P., 2012, Intraplate volcanism, *Nature* 482:314-315.

73. *Chin, E. J., **Lee, C-T A**, Luffi, P, Tice, M, 2012, Deep lithospheric thickening and refertilization beneath continental arcs: case study of the P, T and compositional evolution of peridotite xenoliths from the Sierra Nevada, California, *J. Petrology* 53:477-511.

72. Mittlefehldt, D. W., Beck, A. W., **Lee, C.-T. A.**, McSween, H. Y., Jr., Buchanan, P. C., 2012, Compositional constraints on the genesis of diogenites, *Meteoritics and Planetary Science* 47: 72-98.

2011

71. Lenardic, A., Moresi, L., Jellinek, A. M., O'Neill, C. J., Cooper, C. M., **Lee, C.-T.**, 2011, Continents, supercontinents, mantle thermal mixing, and mantle thermal isolation: theory, numerical simulations, and laboratory experiments, *Geochemistry, Geophysics, Geosystems* 12: Q10016; doi:10.1029/2011GC003663.

70. Nielsen, S. G., Goff, M., Hesselbo, S. P., Jenkyns, H. C., LaRowe, D. E., **Lee, C.-T. A.**, 2011, Thallium isotopes in early diagenetic pyrite – a paleoredox proxy? *Geochimica Cosmochimica Acta* 75: 6690-6704.

69. Beck, A. W., Mittlefehldt, D. W., McSween, Jr., H. Y., Rumble, D., **Lee, C.-T. A.**, Bodnar, R. J., 2011, MIL 03443, a dunite from asteroid 4 Vesta: evidence for its classification and cumulate origin, *Meteoritics and Planetary Science* 46: 1133-1151. Doi:10.1111/j.1945-5100.2011.01219.x

68. [§]Le Roux, V., Dasgupta, R., **Lee, C.-T. A.**, 2011, Mineralogical heterogeneities in the Earth's mantle: constraints from Mn, Co, Ni and Zn partitioning during partial melting, *Earth and Planetary Science Letters* 307:395-408.

67. *Watt, N. J., Bouchet, R., **Lee, C.-T. A.**, 2011, Exploration of tektite formation processes through water and metal content measurements, *Meteoritics and Planetary Science*; 46:1025-1032; DOI: 10.1111/j.1945-5100.2011.01207.x

66. Richter, K., King, C., Danielson, L., Pando, K., **Lee, C.-T. A.**, 2011, Experimental determination of the metal/silicate partition coefficient of Germanium: implications for core and mantle differentiation, *Earth Planetary Science Letters* 304:379-388.

65. Levander, A., Schmandt, B., Miller, M. S., Liu, K., Karlstrom, K. E., Crow, R. S., **Lee, C.-T. A.**, Humphreys, E. D., 2011, Continuing Colorado Plateau uplift by delamination-style convective lithospheric downwelling, *Nature* 472:461-466; doi:10.1038/nature100001.

64. *Dyer, B., **Lee, C.-T. A.**, Leeman, W. P., Tice, M., 2011, Open-system behavior during pluton-wallrock interaction as constrained from a study of endoskarns in the Sierra Nevada batholith, *J. Petrology*, 52(10): 1987-2008; doi:10.1093/petrology/egr037.

63. Lee, C.-T. A., Luffi, P., Chin, E., 2011, Building and destroying continental mantle, *Annual Reviews of Earth and Planetary Sciences* 39:59-90.
62. Danadurai, S. K., Chellam, S., Lee, C.-T., Fraser, M., 2011, Trace elemental analysis of airborne particulate matter using dynamic reaction cell ICP-MS: application to monitoring episodic industrial emission events, *Analytica Chimica Acta*, 686: 40-49.
61. ^SShen, B., Lee, C.-T. A., Xiao, S., 2011, Germanium/silica ratios in diagenetic chert nodules from the Ediacaran Doushantou Formation, South China, *Chemical Geology* 280:323-335.

2010

60. Lee, C.-T. A., Luffi, P., Le Roux, V., Dasgupta, R., Albarede, F., Leeman, W., 2010, The redox state of arc mantle using Zn/Fe systematics, *Nature* 468:681-685, doi:10.1038/nature09617
59. Blichert-Toft, J., Moynier, F., Lee, C.-T. A., Telouk, P., Albarede, F., 2010, The early formation of IVA iron meteorite parent body, *Earth Planetary Science Letters* 296: 469-480; doi:10.1016/j.epsl.2010.05.036.
58. ^SLe Roux, V., Lee, C.-T. A., Turner, S., 2010, Zn/Fe systematics in mafic and ultramafic systems: implications for detecting major element heterogeneities in the Earth's mantle, *Geochimica Cosmochimica Acta* 74:2779-2796.
57. Righter, K., Pando, K., Danielson, L. R., Lee, C.-T., 2010, Partitioning of Mo, P and other siderophile elements (Cu, Ga, Sn, Ni Co, Cr, Mn, V, W) between metal and silicate melt as a function of temperature and melt composition, *Earth and Planetary Science Letters*, 291:1-9.
56. Lee, C.-T. A., Luffi, P., Höink, T., Li, J., Dasgupta, R., Hernlund, J., 2010, Upside-down differentiation and generation of a "primordial" lower mantle, *Nature* 463:930-933, doi:10.1038/nature08824.
55. Dasgupta, R., Jackson, M. G., Lee, C.-T. A., 2010, Major element mantle heterogeneity constrained by chemistry of ocean island basalts, *Earth and Planetary Science Letters* 289:377-392.
54. *Little, M. G., Lee, C.-T. A., 2010, Distribution of labile elements in an andosol soil profile from Mount Meru, Tanzania, *Journal of African Earth Sciences*; 57:444-454; doi:10.1016/j.jafrearsci.2009.12.001

2009

53. ^SShen, B., Jacobsen, B., Lee, C.-T. A., Yin, Q.-Z., Morton, D. M., 2009, The Mg isotopic systematics of granitoids in continental arcs and implications for the role of chemical weathering in crust formation, *Proceedings of the National Academy of Sciences* 106:20652-20657; doi:10.1073/pnas.0910663106.
52. *Young, H. P., Lee, C.-T. A., 2009, Fluid-metasomatized mantle beneath the Ouachita belt of southern Laurentia: fate of lithospheric mantle in a continental orogenic belt, *Lithosphere* 1: 370-383.
51. *Horodyskyj, U., Lee, C.-T. A., Luffi, P., 2009, Geochemical evidence for exhumation of eclogite via serpentinite channels in ocean-continent subduction zones, *Geosphere* 5: 426-438; doi:10.1130/GES00502.1.
50. Savov, I. P., Leeman, W. P., Lee, C.-T. A., Shirey, S. B., 2009, Boron isotopic variations in NW USA rhyolites: Yellowstone, Snake River Plain, Eastern Oregon, *J. Volcanology and Geothermal Research* 188: 162-172; doi:10.1016/j.jvolgeores.2009.03.008.
49. Debaille, V., Tronnes, R. G., Brandon, A. D., Waight, T. E., Graham, D. W., Lee, C.-T. A., 2009, Primitive off-rift basalts from Iceland and Jan Mayen: Os-isotopic evidence for a mantle source containing enriched subcontinental lithosphere, *Geochimica Cosmochimica Acta* 73: 3423-3449; doi:10.1016/j.gca.2009.03.002.
48. Canil, D., Lee, C.-T. A., 2009, Were deep cratonic roots hydrated in Archean oceans? *Geology* 37:667-670. Doi: 10.1130/G25610A.1
47. ^SLuffi, P., Saleeby, J., Lee, C.-T. A., Ducea, M. N., 2009, Lithospheric mantle duplex beneath the central Mojave Desert revealed by xenoliths from Dish Hill, California, *J. Geophysical Research*, 114: B03202, doi:10.1029/2008JB005906.

46. [Lee, C.-T. A.](#), [§]Luffi, P., Plank, T., *Dalton, H. A., Leeman, W. P., 2009, Constraints on the depths and temperatures of basaltic magma generation on Earth and other terrestrial planets using new thermobarometers for mafic magmas, *Earth Planet. Sci. Lett.* 279:20-33.

2008

45. [Lee, C-T A](#), *Oka, M, Luffi, P, Agranier, A., 2008, Internal distribution of Li and B in serpentinites from the Feather River Ophiolite, California based on laser ablation ICP-MS, *Geochemistry, Geophysics, Geosystems* 9: doi:10.1029/2008GC002078.
44. *Li, Z-X A, [Lee, C-T A](#), Peslier, A, Lenardic, A, Mackwell, S J, 2008, Water contents in mantle xenoliths from the Colorado Plateau and vicinity: implications for the rheology and hydration-induced thinning of continental lithosphere, *J. Geophys. Res.* 113: doi:10.1029/2007JB005540.
43. [Lee, C.-T. A.](#), Luffi, P., Höink, T., Li, Z.-X. A., Lenardic, A., 2008, The role of serpentine in preferential craton formation in the late Archean by lithosphere underthrusting, *Earth Planet. Sci. Lett.* 269: 96-104.
42. [Lee, C-T A](#), Morton, D M, Little, M G, Kistler, R, Horodyskyj, U, Leeman, W P, Agranier, A, 2008, Regulating continent growth and composition by chemical weathering, *Proceedings of the National Academy of Sciences* 105:4981-4985.
41. [§]Höink, T., [Lee, C.-T. A.](#), Hawthorne, J., Lenardic, A., 2008, Paleo-viscometry of magma bodies, *Earth Planet Sci. Lett.* 267:100-106.
40. [§]Miller, M. S., [Lee, C.-T. A.](#), 2008, Possible chemical modification of oceanic lithosphere by hotspot magmatism: seismic evidence from the junction of Ninetyeast Ridge and the Sumatra-Andaman arc, *Earth Planet Sci. Lett.* 265: 386-395.
39. *Nijjer, S., Rogers, W. E., [Lee, C.-T. A.](#), Siemann, E., 2008, The effects of soil biota and fertilization on the success of *Sapium sebiferum*, *Applied Soil Ecology* 38: 1-11.

2007

38. Courtier, A. M., Jackson, M. G., Lawrence, J. F., Wang, Z., [Lee, C.-T. A.](#), Halama, R., Warren, J. M., Workman, R., Xu, W., Hirschmann, M. M., Larson, A. M., Hart, S. R., Lithgow-Bertelloni, C., Stixrude, L., Chen, W.-P., 2007, Correlation of seismic and petrologic thermometers suggests deep thermal anomalies beneath hotspots, *Earth Planet Sci. Lett.* 264: 308-316.
37. [Lee, C.-T. A.](#), Morton, D. M., Kistler, R. W., Baird, A. K., 2007, Petrology and tectonics of Phanerozoic continent formation: from island arcs to accretion and continental arc magmatism, *Earth Planet. Sci. Lett.* 263: 370-387.
36. [§]Agranier, A., [Lee, C.-T. A.](#), Li, Z.-X. A., Leeman, W. P., 2007, Fluid mobile element budgets in serpentinitized oceanic lithospheric mantle: insights from B, As, Li, Pb, PGEs and Os isotopes in the Feather River Ophiolite, California, *Chem. Geol.* 245: 230-241.
35. [§]O'Neill, C., Lenardic, A., Moresi, L., Torsvik, T. & [Lee, C.-T. A.](#), 2007, Episodic Precambrian subduction, *Earth Planet. Sci. Lett.* 262: 552-562.
34. [Lee, C-T A](#), Yin, Q.-Z., Lenardic, A, Agranier, A., O'Neill, C J, Thiagarajan, N., 2007, Trace-element composition of Fe-rich residual liquids formed by fractional crystallization: implications for the Hadean magma ocean, *Geochimica Cosmochimica Acta* 71:3601-3615.
33. [§]Agranier, A., [Lee, C.-T. A.](#), 2007, Quantifying trace-element disequilibria in mantle xenoliths and abyssal peridotites, *Earth Planet. Sci. Lett.* 257: 290-298.
32. *Horodyskyj, U., [Lee, C-T A](#), Ducea, M N, 2007, Similarities between Archean high MgO eclogites and Phanerozoic arc-eclogite cumulates and the role of arcs in Archean continent formation, *Earth Planet. Sci. Lett.* 256: 510-520.
31. [Lee, C.-T. A.](#), Chen, W.-P., 2007, Possible density segregation of subducted oceanic lithosphere along a weak serpentinite layer and implications for compositional stratification of the Earth's mantle, *Earth Planet. Sci. Lett.* 255: 357-366.
30. [Lee, C-T A](#), Harbert, A, Leeman, W P, 2007, Extension of lattice strain theory to mineral/mineral rare-earth element partitioning: a tool for assessing disequilibrium and developing internally

consistent partition coefficients between olivine, orthopyroxene, clinopyroxene and basaltic melt, *Geochimica Cosmochimica Acta* doi:10.1016/j.gca.2006.09.014, v. 71: 481-496.

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29. Ott, U., Yin, Q.-Z., [Lee, C. T.](#), 2006, s-Process signatures in bulk presolar silicon carbide: a multi-element study, *Memorie della Societa Astronomica Italiana*, 77:891-896.
28. *Little, M. G., and [Lee, C-T A](#), 2006, On the formation of an inverted weathering profile on Mount Kilimanjaro, Tanzania: buried paleosol or groundwater weathering? *Chemical Geology* 235:205-221; doi:10.1016/j.chemgeo.2006.06.012.
27. *Li, Z-X A, and [Lee, C-T A](#), 2006, Geochemical investigation of serpentinized oceanic lithospheric mantle in the Feather River Ophiolite, California: implications for the recycling rate of water by subduction, *Chemical Geology* 235: 161-185.
26. Yin, Q.-Z., [Lee, C-T A](#), Ott, U., 2006, Signatures of the s-process in presolar silicon carbide grains: barium through hafnium, *Astrophysical Journal* 647:676-684.
25. Levander, A., Niu, F., [Lee, C.-T. A.](#), Cheng, X., 2006, Imag(in)ing the continental lithosphere, *Tectonophysics* 416: 167-185.
24. [Lee C.-T. A.](#) (2006) Geochemical/petrologic constraints on the origin of cratonic mantle. In *Archean geodynamics and environments*, Vol. 164 (ed. K. Benn, J.-C. Mareschal, and K. C. Condie), pp. 89-114. American Geophysical Union Monograph.
23. [Lee, C-T A](#), Cheng, X., Horodyskyj, U., 2006, The development and refinement of continental arcs by primary basaltic magmatism, garnet pyroxenite accumulation, basaltic recharge and delamination: insights from the Sierra Nevada, *Contrib. Mineral. Petrol.* 151:222-242; (DOI 10.1007/s00410-005-0056-1).

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22. [Lee, C.-T. A.](#), 2005, Trace-element evidence for hydrous metasomatism at the base of the North American lithosphere and possible association with Laramide low angle subduction, *Journal of Geology* 113:673-685.
21. [Lee, C.-T. A.](#), Leeman, W. P., Canil, D., Li, Z.X.A., 2005, Similar V/Sc systematics in MORB and arc basalts: implications for the oxygen fugacities of their mantle source regions, *Journal of Petrology* 46 (11): 2313-2336.
20. Liu, Y., Shan, G., [Lee, C.-T. A.](#), Hu, S., Liu, X., Honglin, Y., 2005, Melt-peridotite interactions: links between garnet pyroxenite and high-Mg# signature of continental crust, *Earth Planet. Sci. Lett.* 234, 39-57.
19. [Lee, C.-T. A.](#), Lenardic, A., Cooper, C., Niu, F., Levander A., 2005, The role of chemical boundary layers in regulating the thickness of continental and oceanic thermal boundary layers, *Earth Planet. Sci. Lett.* 230, 379-395.

2004

18. *Li, Z.X.A., [Lee, C.-T. A.](#), 2004, The constancy of upper mantle fO₂ through time inferred from V/Sc ratios in basalts, *Earth Planet. Sci. Lett.* 228, 483-493.
17. *Thiagarajan, N., [Lee, C.-T. A.](#), 2004, Trace-element evidence for the origin of desert varnish by direct aqueous atmospheric deposition, *Earth Planet. Sci. Lett.* 224: 131-141.
16. F. Niu, A. Levander, C.M. Cooper, [C.-T. A. Lee](#), A. Lenardic, D.E. James, 2004, Seismic Constraints on the Depth and Composition of the Mantle Keel beneath the Kaapvaal Craton, *Earth Planet. Sci. Lett.* 224: 337-346.
15. Schmitz, B., Peucker-Ehrenbrink, B., Heilmann-Clausen, C., Aberg, G., Asaro, F., [Lee, C.-T. A.](#), Basaltic explosive volcanism, but no comet impact, at the Paleocene-Eocene boundary: high-resolution chemical and isotopic records from Egypt, Spain and Denmark, *Earth Planet. Sci. Lett.* 225: 1-17.
14. [Lee, C.-T. A.](#), 2004 Are the core and mantle on speaking terms?, *Science* 306:64-65.

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13. [Lee, C.-T. A.](#), Compositional variation of density and seismic velocities in natural peridotites at STP conditions: Implications for seismic imaging of compositional heterogeneities in the upper mantle, *J. Geophys. Res.*, 108(B9), 2441, doi:10.1029/2003JB002413, 2003.
12. [Lee, C-T A](#), Brandon, A. D., Norman, M., 2003, Vanadium in peridotites as a proxy for paleo-fO₂ during partial melting: prospects, limitations, and implications, *Geochimica Cosmochimica Acta* **67**:3045-3064.
11. [C.-T.A. Lee](#), G.J. Wasserburg and F.T. Kyte, Platinum group elements (PGE) and rhenium in marine sediments across the Cretaceous-Tertiary boundary: constraints on Re-PGE transport in the marine environment, *Geochim. Cosmochim. Acta* **67**, 655-670, 2003.

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10. [Lee, C-T A.](#), 2002, Platinum-group element geochemistry of peridotite xenoliths from the Sierra Nevada and the Basin and Range, California, *Geochim. Cosmochim. Acta* **66**: 3987-4005.
9. Rudnick, R. L., [Lee, C-T](#), 2002, Osmium isotope constraints on the tectonic evolution of the lithosphere in the southwestern United States, *International Geology Review*, **44**:501-511.

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8. [Lee, C-T](#), Rudnick, R L, and Brimhall, G. H., Jr., 2001, Deep lithospheric dynamics beneath the Sierra Nevada during the Mesozoic and Cenozoic as inferred from xenolith petrology, *Geochemistry Geophysics Geosystems* **2**, 2001GC000152.
7. Q.Z. Yin, S.B. Jacobsen, [C.-T. Lee](#), W.F. McDonough, R.L. Rudnick and I. Horn, A gravimetric K₂OsCl₆ standard: application to precise and accurate Os spike calibration, *Geochim. Cosmochim. Acta* **65**, 2113-2127, 2001.
6. [Lee, C-T](#), Yin, Q-Z, Rudnick, R L, Jacobsen, S B, 2001, Preservation of ancient and fertile lithospheric mantle beneath the southwestern United States, *Nature* **411**, 69-73.
5. [Lee, C-T](#), Yin, Q-Z, Lee, T-C, 2001, An internal normalization technique for unmixing total-spiked mixtures with application to MC-ICP-MS, *Computers and Geosciences* **27**, 577-581.

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4. [Lee, C-T](#), Yin, Q-Z, Rudnick, R L, Chesley, J T, Jacobsen, S B, 2000, Os isotopic evidence for Mesozoic removal of lithospheric mantle beneath the Sierra Nevada, California, *Science* **289**: 1912-1916.
3. [C.-T. Lee](#), R.L. Rudnick, W.F. McDonough and I. Horn, Petrologic and geochemical investigation of carbonates in peridotite xenoliths from northeastern Tanzania, *Contrib. Mineral. Petrol.* **139**, 470-484, 2000.

1999

2. [C.-T. Lee](#) and R.L. Rudnick, Compositionally stratified cratonic lithosphere: petrology and geochemistry of peridotite xenoliths from the Labait Volcano, Tanzania, in: Proc. VIIth International Kimberlite Conference, B. J. Dawson volume, J.J. Gurney, J.L. Gurney, M.D. Pascoe and S.R. Richardson, eds., pp. 503-521, 1999.
1. Chesley, J T, Rudnick, R L, and [Lee, C-T](#), 1999, Re-Os systematics of mantle xenoliths from the East African Rift: age, structure, and history of the Tanzanian craton, *Geochimica et Cosmochimica Acta* **63**:1203-1217.

Opinions and essays (non peer-reviewed)

6. Lee, C.-T., 2009, Book Review: Isotope Geology, Elements 5:331.

5. [Lee, C.-T.](#) 2009. Book Review: Quantitative Geochemistry, Geochemical Society, Geochemical Newsletter 139.
4. [Lee, C.-T.](#) 2009. "Lee receives 2008 Hisashi Kuno Award", EOS Transactions, 90(11).
3. [Lee, C.-T.](#) 2007. "Rudnick receives N.L. Bowen award", EOS Transactions, 88(8):98-99.
2. [Lee, C.-T.](#), Little, M. G., 2006, Historically exploited should not be mocked, Letter to the Editor in The Rice Thresher, Sep 29, 2006.
1. Simons, F. J., Becker, T. W., Kellogg, J. B., Billen, M., Hardebeck, J., Lee, C.-T. A., Montesi, L. G. J., Panero, W., Zhong, S., 2004, Young solid earth researchers of the world unite! EOS Transactions, AGU, Vol. 85, Issue 16, 160-161. doi:10.1029/2004EO160011

Publications in ornithology

(*peer-reviewed)

18. [Lee, C-T](#), 2011, Answers to the January Photo Quiz, Hard Shorebirds, *Birding* 43:54-57.
17. *[Lee, C-T A](#), Wen, Y-Y, 2010, Breeding-plumaged Curlew Sandpiper *Calidris ferruginea* in Taiwan during the northern winter, *Birding Asia Bulletin of the Oriental Bird Club* 13:79.
16. [Lee, C.-T.](#), Wen, Y.-Y., 2009, The natural history of the Galapagos Islands, Natura-Aviflora Press, 156 pages, ISBN-13: 978-0-9842192-0-9.
15. *[Lee, C-T A](#), Birch, A, Hveding, H., 2009, ID av bekkasinsnipper – ett steg videre, FeltOrnitologen, in press.
14. *[Lee, C-T](#), Birch, A, Eubanks, T., 2008, Advances in the field identification of Western and Eastern Wood-Pewees, *Birding* 40: 34-40.
13. *[Lee, C-T](#) and Birch, A, 2006, Advances in the field Identification of North American dowitchers, *Birding* 38:34-43.
12. *[Lee, C-T](#) and Birch, A, 2002, Notes on the distribution, vagrancy, and field identification of American Pipit and "Siberian Pipit", *North American Birds* 56:388-398.
11. *[Lee, C-T](#) and Birch, A. 2001, Wing covert pattern as a diagnostic feature in identifying immature and female Bullock's and Baltimore Orioles: *reply to A. Jaramillo*, "Wing covert pattern as an aid to identifying female and immature Bullock's and Baltimore Orioles- Another look", *Birding*, 33: 64-68.
10. *[Lee, C-T](#) and Shany, N 1998, Birding Taiwan, *Birding* 30:492-503.
9. *[Lee, C-T](#) and Birch A, 1998, Field identification of female and immature Bullock's and Baltimore Orioles, *Birding* 30: 282-295.
8. *[Lee, C-T](#) and Birch A, 1998, Answers to the June photo quiz, *Birding* 30: 296-298.
7. *Birch, A. and [Lee, C-T](#), 1997, Field identification of Arctic and Pacific Loons, *Birding* 29: 106-115.
6. [Lee, C-T](#), 1996, Birding Taiwan: 1996 report. In *Foreign Field Note Series*, American Birding Association.
5. *[Lee, C-T](#), 1995, "Birdwatching in Riverside, California", *San Bernardino County Museum Association, Redlands*, volume 42, 218 pp., 117 figures.
4. *Birch, A and [Lee, C-T](#), 1995, Identification of the Pacific Diver - a potential vagrant to Europe, *Birding World* 8:458-466.
3. [Lee, C-T](#), 1994, A teenaged birder's syndrome, *A Bird's Eye-view* 2:6.
2. *[Lee, C-T](#), 1994, More records of breeding Barn Swallows in Riverside, California, *Western Birds* 26:155-156.
1. [Lee, C-T](#), 1994, Birding Taiwan: Trip report from summer 1994. In *Foreign Field Note Series*, American Birding Association

Invited Lectures (Earth Sciences)

92. Carnegie Institute of Washington (May, 2012)
91. Southern Methodist University, April, 2012
90. Agassiz Lecturer, Harvard University (March, 2012)
89. Scripps Institute of Oceanography, UC San Diego (February, 2012)
88. UC Davis, Feb 2012
87. UC Berkeley, Feb, 2012
86. Miller Visiting Professor talk, UC Berkeley, CA, Jan 31, 2012
85. Thomas A. Mutch Lecture, Brown University, 27 Oct, 2011
84. Rice University, International Student Orientation, “How to be a successful graduate student”, 8 Aug 2011
83. Earthscope Workshop, 19 Sep, 2011, Portland, OR
82. Copper and the Pb – paradox, Harvard, May, Dziewonski Festival, 2011
81. Pomona College, California, April, 2011
80. Tokyo Institute of Technology, Japan, Feb 2011
79. University of Tokyo, Japan, Feb, 2011 (4 Lecture series)
78. University of Tokyo, Earthquake Research Institute, Japan, Feb 2011
77. University of Oregon, 19 Jan, 2011
76. University of California, Los Angeles, 6 Jan, 2011 “Continent formation”
75. Rice University, International Studies Program, 5 Jan, 2011 – “How to be a successful Phd student”
74. American Geophysical Union, Dec 2010 – keynote “Element cycling through time”
73. University of Texas, Austin, Nov, 2010 “Long-term climate change and continent formation”
72. University of Texas, Austin, Nov, 2010 “Redox evolution of the Earth”
71. Texas A&M, Bryan, TX, Oct 2010 “Long-term climate change and continent formation”
70. Cal State Fresno, Sep, 2010 “Long-term climate change and continent formation”
69. Monterey Bay Aquarium, Packard Fellows, September, 2010, Long-term climate change
68. ETH- Zurich, Switzerland, October, 2010 “Life and legacy of continental arcs”
67. Roberts Elementary School, Sept, 2010, Volcanoes
66. Kavli Institute of Theoretical Physics, July 2010, Santa Barbara, CA; “Physics and chemistry of the Earth” chalkboard talk
65. University of Texas, Dallas, March, 2010, Legacy of continental arcs
64. Goldschmidt, keynote talk July, 2010, Redox of sub-arc mantle from Zn/Fe systematics
63. Los Alamos National Laboratory, June 2010, Long-term climate change and continent formation
62. COMPRES Meeting, June, 2010, keynote talk, Intensive variables in the Earth sciences
61. Cornell University, April 2010, Deep lithosphere filter in arcs
60. Lamont Doherty Earth Observatory, Columbia University, April, 2010
59. University of Iowa, April, 2010, Deep lithosphere filter in arcs
58. Woods Hole Oceanographic Institute/MIT, March 2010, Deep lithosphere filter in arcs
57. University of Colorado, Nov, 2009
56. Lunar and Planetary Institute, Clear Lake, Houston, TX, Oct, 2009
55. Stanford University, Nov, 2009
54. GSA Gold Lecture Series – Donath, October, 2009, Portland, OR
53. Roberts Elementary School, Houston, TX, October, 2009; “Geologic forces” for 4th graders
52. Goldschmidt, 2009, Davos, Switzerland, Keynote talk
51. University of British Columbia, March 2009
50. UC Davis, Feb 2009
49. Roberts Elementary School, Houston, TX, 9 Jan 2009; “What’s inside the Earth” for 4th graders
48. University of Southern California Nov 17, 2008

47. Boston University, Oct 2008
46. Kavli Institute of Theoretical Physics (KITP) and Cooperative Institute for Deep Earth Research (CIDER) – lecturer, summer 2008
45. UC Berkeley, “The role of serpentine in making cratonic mantle”, 16 April, 2008
44. Tulane University, Louisiana April 25, 2008
43. University of Illinois, Urbana-Champaign, Illinois January 2008
42. “Recycling mafic lower crust” American Geophysical Union, Fall, invited Dec 2007.
41. “Goldilocks problem of making continents” American Geophysical Union, Fall, invited, Dec 2007
40. “Role of weathering in modulating the growth of continents”, University of Arizona, Nov, 2007
39. “Weathering, igneous differentiation, life and the origin of continents”, Harvard University, 24 Sept 2007
38. “Role of weathering in modulating the growth of continents”, UC Berkeley, Nov, 2007
37. “Life, continents, and weathering”, Yale University, 25 April, 2007
36. “Igneous and weathering processes in the origin of continents” University of Chicago, 16 Feb, 2007.
35. “Origin of continental lithospheric mantle” U Wyoming Nov 7, 2006
34. “Making continental crust in arcs” U. Wyoming, Nov 6, 2006
33. “The origin of continental crust”, Princeton University, Oct, 2006.
32. “Making continents and continental crust”, Monterey Bay Aquarium, Packard Fellows Meeting 7 Sep, 2006.
31. CIDER 2006 Workshop – lecture series, Kavli Institute of Theoretical Physics, UC Santa Barbara, CA
30. “Chemical modification of continental lithosphere – implications for the physical evolution of continents”, keynote at Goldschmidt, Melbourne, Australia, August, 2006
29. “Continental crust formation from the Sierra Nevada and Peninsular Ranges”, keynote at Penrose conference, Alaska, July 2006.
28. “Compositional controls on seismic velocities”, invited keynote at IRIS, Tucson, AZ, May 2006
27. “Origin and evolution of continents” University of New Mexico, Oct 2005
26. “Constraints on the fO₂ of arcs from V/Sc systematics” invited talk for Goldschmidt 2005.
25. “Oceanic balance of redox-sensitive elements – constraining paleo-oxygen contents” University of Oklahoma, April, 2005.
24. “The role of chemical boundary layers in controlling the thickness of oceanic and continental thermal boundary layers”, Geological Society of America Fall Meeting 2004.
23. “Mantle geochemistry” for Meeting of Young Researchers in the Earth Sciences, La Jolla, CA, August, 2004.
22. “Origin of continental crust and deep lithosphere dynamics”, Princeton University, 11/18/03.
21. “Evolution of oxygen in the atmosphere and mantle: the vanadium perspective”, NSCORT Origins of Life, Rensselaer Polytechnic University, NY, 11/03/03.
20. “Origin of continental crust and deep lithosphere dynamics”, UC Santa Cruz, 10/28/03; Whole Earth Seminar.
19. “Origin of continental crust and deep lithosphere dynamics”, University of Houston, 10/24/03.
18. “Transport of platinum group elements in supercritical fluids”, Iceland Deep Drilling Project Organizational Meeting, Iceland, 10/13/02
17. “An overview of mantle metasomatism”, Unmixing the SNCs: chemical, petrologic, and isotopic components of Martian meteorites, NASA Johnson Space Center, 10/11/02
16. “The behavior of platinum group elements in the marine environment”, Institute of Earth Sciences, *Academica Sinica*, Taiwan 4/9/02
15. “Re-Os isotopic studies of mantle xenoliths and implications for deep lithospheric dynamics”, Institute of Earth Sciences, *Academica Sinica*, Taiwan, 4/11/02.
14. “Geochemical insights into deep lithospheric dynamics beneath western USA”, *University of California, Berkeley*, 3/19/02

13. "The origin of Archean lithospheric mantle: arcs, plumes or both", *Rice University*, 3/29/01.
12. "A geochemical approach to the tectonics and geodynamics of southwestern USA", *Rice University*, 3/28/01
11. "A geochemical approach to the tectonics and geodynamics of southwestern USA", *University of Oregon*, 3/15/01.
10. "Stability of continental lithosphere: geodynamic and geochemical constraints from southwestern USA", *University of California, Los Angeles*, 2/6/01.
9. "Stability of continental lithosphere: geodynamic and geochemical constraints from southwestern USA", *Brown University departmental colloquium*, 2/1/01.
8. "Origin of Si-enriched cratonic mantle by infusion of cumulate orthopyroxene in deep ultramafic magma chambers", *Brown University Lunchtime seminar*, 2/1/01.
7. "Deep lithospheric dynamics in the North American Cordillera", *University of California, Riverside, Geoclub*, 12/7/00.
6. "Deep lithospheric dynamics in the Sierra Nevada and Mojave Desert", *Caltech Geology Club*, 12/6/00.
5. "On the origin and stability of continental lithosphere: insights from the lithospheric mantle", *Woods Hole Oceanographic Institute*, 10/31/2000.
4. "Os isotopic evidence for delamination of lithospheric mantle beneath the Sierra Nevada", *The University of Chicago Geophysics weekly seminar* (2/25/00)
3. "Os isotopic evidence for delamination of lithospheric mantle beneath the Sierra Nevada", *Northwestern University special departmental seminar* (2/24/00)
2. "Re-Os isotopic evidence for unusual Archean lithospheric mantle beneath Mojavia (and refractory Proterozoic lithosphere beneath the Colorado Plateau): the role of bulk composition in lithosphere stability", *GSA Annual Meeting*, Reno, 11/14/00 (Deep structure of Archean cratons).
1. "Thermobarometric and Os isotopic evidence for Mesozoic delamination of lithospheric mantle beneath the Sierra Nevada", *GSA Annual Meeting*, Reno, 11/15/00 (Xenolith-based studies of the physical and chemical evolution of the deep North American lithosphere)

NATURAL HISTORY EXPERIENCE

Appointments

Member of the Texas Rare Birds Committee (2006-2008)

Teaching

BIOS 337 – Field Bird Biology at Rice University

Official talks/lectures/courses/field trips in ornithology

March, 2012, Houston Audubon Society, Lake Anahuac, TX

8 November 2008, Texas Ornithological Society Field Trip, Upper Texas Coast

11 October 2008, Geological Society of America Birding field trip, Galveston, TX

27 March, 2008, Invited Lecture, Galveston Audubon Society, Texas

29 Sep, 2007, Leader for Texas Ornithological Society Field Trip to Bolivar Flats

8 Sep, 2007, Leader and organizer of natural history field trip in Monterey and Carmel River, California; 2007 Packard Fellows Meeting and Annual outing.

6 Aug, 2007, Invited Lecture, "Shorebird migration and identification along the Upper Texas Coast", Houston Ornithology Group, Houston, TX.

4 Aug, 2007, Leader for Texas Ornithological Society shorebirding field trip, Upper Texas Coast

13 June, 2007, Invited Lecture, “Dowitcher identification: new advances and potential pitfalls”,
13 June, 2007; Los Angeles Audubon Society, West Hollywood, CA

May, 2007 Shorebird Workshop – a two-day shorebird identification course for the Houston
Audubon Society; co-taught with Glenn Olsen

Other experiences in biology

Reasonably good at identifying North American plants, reptiles, and mammals. Familiar with
insect families.

Scientific illustration

Goauche and watercolor, pen-and-ink, scratchboard, and pencil

Websites

www.natura-aviflora.com – A personal website dedicated to promoting education in natural
history at the local and grassroots level.

www.surfbirds.com – I am one of the partners involved in creating this website, which is
dedicated to world birding.

Abstracts (not peer-reviewed)

2005 and earlier only

- Lee, C-T A**, Anderson, D. L., Cheng, X., 2005, Continental Crust Formation at Arcs, The "Garnet Pyroxenite"
Delamination Cycle, And The Origin of Fertile Melting Anomalies in the Mantle, *Eos Trans. AGU*, 86(52),
Fall Meet. Suppl., Abstract_V44C-04
- ***Li, Z-X A, Lee, C-T A**, 2005, Geochemical Investigation of Serpentinized Oceanic Lithospheric Mantle in the
Feather River Ophiolite, California: Implications for the Recycling Flux of Water by Subduction, *Eos Trans.*
AGU, 86(52), Fall Meet. Suppl., Abstract_V41A-1421
- O'Neill, C. J., Lenardic, A., Moresi, L., Torsvik, T., **Lee, C-T A.**, 2005, Episodic Precambrian subduction, *Eos*
Trans. AGU, 86(52), Fall Meet. Suppl., Abstract_U43B-0835
- Agranier, A., **Lee, C-T A**, Leeman, W. P., 2005, Depth Variations in Redox State and Fluid Mobile Element
Enrichments in the Mantle Wedge Beneath the Cascades, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract
V31B-0612
- ***Hu, M., Lee, C-T A**, 2005, Increased Oxygenation of the Oceans Since the Mid-Cenozoic as Constrained by Cr/Co
and Os/Ir Ratios in Oxic Pelagic Sediments, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract PP51C-0623
- Sommer, H., Lee, C-T, Regenauer-Lieb, K., 2005, Grain boundaries, a possible water reservoir in the Earth's
mantle? *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract V53F-06.
- ***Horodyskyj, U., Lee, C-T**, 2005, An arc origin for Archean high MgO “eclogite” xenoliths? *Eos Trans. AGU*,
86(52), Fall Meet. Suppl., Abstract V41B-1438.
- ***Harbert, A., Lee, C-T**, 2005, Towards a comprehensive and internally consistent database for partition coefficients
of REEs in ultramafic minerals, *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract V43B-1575.
- Lee, C-T A**, Leeman, W P, Canil, D, Li, Z X A, 2005, Similar V/Sc systematics in MORBs and arc basalts:
implications for the oxygen fugacities of their mantle source regions, Goldschmidt Conference.
- Lee, C-T A**, Little, M G, 2005 Theoretical and observational links between erosion and chemical weathering,
Goldschmidt Conference.
- Yin, Q-Z, Ott, U, Lee, C-T, 2005, The S-process in presolar SiC grains: Barium through Hafnium. 68th Annual
Meteoritical Society Meeting, #5053.
- Lee, C-T A**, Lenardic, A., Li, Z. (2005) Transition metal evidence for coherent sections of recycled oceanic
lithosphere in hotspot source regions: implications for the origins of hotspot magmatism, *EOS Trans. AGU*
86(18), Jt. Assem. Suppl. V42A-05
- Leeman, W., **Lee, C-T A**, Canil, D, Li, Z., 2004. Similar oxygen fugacities in arc and MORB mantle source regions:
evidence from V/Sc systematics, AGU Fall.

- Lee, C-T A**, Lenardic, A., 2004, Lithospheric thickness, preservation of recycled oceanic lithosphere and the importance of water, AGU Fall.
- Li, Z.-X., **Lee, C-T A**, 2004, Geochemical constraints on the origin of serpentinization of oceanic mantle, AGU Fall
- Lee, C-T A**, 2004, Fear not the tectosphere, AGU Fall.
- Little, M. G., **Lee, C-T A**, 2004, Investigating an inverted soil column in Northern Tanzania: Could intense groundwater weathering be the culprit?, AGU Fall.
- Thiagarajan, N., **Lee, C-T A**, 2004, Trace Element Evidence for a Hydrothermal/Magmatic Origin of Stratiform Magnetite Deposits in the Crystal Spring Formation, AGU Fall.
- Lee, C-T**, Lenardic, A, Cooper, C M, Niu, F, Levander, A, The possible role of chemical boundary layers in regulating the thermal thickness of continents and oceans, GSA Fall.
- Li, Z., **Lee, C.-T.**, 2004, The constancy of upper mantle fO_2 through time inferred from V/Sc ratios in basalts: implications for the rise in atmospheric O_2 , LPI conference "Oxygen in the terrestrial planets", July 20-23, 2004.
- Lee, C-T**, Lenardic, A, Cooper, C M, Niu, F, Levander, A, On the possible role of chemical boundary layers in regulating the thermal thickness of continents and oceans, AGU Spring Meeting 2004
- Lee, C-T**, Brill, NE, The role of garnet pyroxenites in making continental crust from arc basalts, AGU Spring Meeting 2004
- Niu, F, Levander, Cooper, C M, **Lee, C-T**, Lenardic, A, James, D, Depth of the tectosphere beneath Kaapvaal craton, AGU Spring Meeting 2004.
- Brill, NE, **Lee CA**, The Origin of Continental Crust by Intracrustal Differentiation of Basalt in Magmatic Arcs: Trace and Major Element Evidence From Lower Crustal Eclogites Beneath the Sierra Nevada Batholith; *Eos Trans. AGU*, 84(46), Fall Meet. Suppl., Abstract, 2003
- Thiagarajan, N., **Lee, CA**, Trace-Element Evidence for an Aqueous Atmospheric Origin of Desert Varnish: implications for the aqueous atmospheric input flux into the ocean, *Eos Trans. AGU*, 84(46), Fall Meet. Suppl., Abstract, 2003
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