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PERSONAL

Born: Los Angeles, CA, 7/30/62

Married: to Heather Bacon-Putirka; three daughters, Noelani Ann (b. 8/9/87), Sarah Elizabeth (b. 4/15/02), and Naomi Marie (b. 6/20/04).

EDUCATION

Degrees:

10/97 Ph.D., Geological Sciences, Columbia University, New York, NY
11/92 M.S., Geology, California State University, Los Angeles, CA
8/86 B.S., Geology, California State University, Northridge, CA

Other Institutions Attended:

7/83 Texas Tech University, Lubbock, TX (Field Camp in Salida CO)
1981-1983 Glendale Community College, Glendale, CA

PRESENT POSITION

8/12 – present Professor, California State University, Fresno
Department of Earth and Environmental Sciences.
7/12 – present Editor, *American Mineralogist*
7/07-9/12 Associate Professor, California State University, Fresno
Department of Earth and Environmental Sciences.

PRIOR POSITIONS

7/02-7/07 Assistant Professor, California State University, Fresno
Department of Earth and Environmental Sciences
8/99-7/02 Assistant Professor, Indiana University of PA Geoscience Department
10/97-8/99 Post-Doctoral Research Staff Member, Lawrence Livermore National
Laboratory, Livermore, CA.
9/92-5/95 Teaching Assistant, Columbia University, New York, NY. Igneous
and Metamorphic Petrology Labs
9/92-5/95 Teaching Assistant, California State University, Los Angeles, CA.
Oceanography Lab, Geology of National Parks
8/86-6/91 Teacher, Los Angeles Unified School District, Sun Valley, CA
Courses Taught: Algebra, Physical Science

COLLABORATIONS AND OTHER AFFILIATIONS

Armienti, Pietro, University of Pisa, Italy
Busby, Cathy: University of CA, Santa Barbara
Clynne, Michael, U.S. Geological Survey, Menlo Park, CA
Condit, Christopher: University of Massachusetts, Amherst

Kuntz, Mel: U.S. Geological Survey, Denver, CO
Mollo, Silvio, National Institute of Geophysics and Volcanology, Rome, Italy
Paterson, Scott, University of Southern California, Los Angeles, CA
Perfit, Michael, University of Florida, Gainesville
Ryerson, Frederick, Lawrence Livermore National Laboratory

GRADUATE AND POSTDOCTORAL ADVISORS

Johnson, Marie, U.S. Military Academy at West Point (member, Ph.D. thesis committee)
Kinzler, Rosamond, Natural History Museum, New York (member, Ph.D. thesis committee)
Langmuir, Charles, Columbia University (member, Ph.D. thesis committee)
Longhi, John, Columbia University (member, Ph.D. thesis committee)
Ryerson, Frederick, Lawrence Livermore National Laboratory, Post-doctoral advisor
Walker, David, Columbia University (Ph.D. thesis advisor)

GRANTS & AWARDS

2013-2015 NSF - Collaborative Research: Recharge, Mixing and Eruption Triggering Mechanisms at Chaos Crags and 1915 Eruptions, Lassen Volcanic Center, California, \$105,372; Award #: NSF – 1250323.
2013-2015 NSF - "Collaborative Research: From Gabbros to Granites - An Investigation of Arc-Scale Differentiation at the Guadalupe Igneous Complex, Sierra Nevada, CA, \$103,169; Award # NSF – 1250322.
2007-2009 NSF - Collaborative: Collaborative Research: Origin and Significance of High Potassium Volcanism: Insights from the Ancestral Cascades, California. Award: \$157,804. Award # NSF-EAR 0711150
2004-2005 NSF-Research at Undergraduate Institutions (PI); *Award*: \$105,188
Topic: RUI: An investigation of the Mauna Kea magma plumbing system: insights from mineral composition from the HSDP core. Award # NSF-EAR 0337345.
2004 NSF-Major Research Instrumentation Initiative (PI); *Award*: \$148,105
Topic: Acquisition of an X-ray Diffraction Instrument: Developing an Interdisciplinary; Research/Teaching X-ray Diffraction Laboratory; Co-PIs: Zhi Wang (CSU Fresno, DEES); Horacio Ferriz (CSU Stanislaus, Geology and Physics Dept.). Award # NSF-EAR 0421272
2003 Claude Laval Jr. Award for Innovative Technology and Research; Award (PI): \$5,000. "Some New Instrumental Techniques applied to Hawaiian Volcanism".
2002-2003 NSF-Major Research Instrumentation Initiative (PI); *Award*: \$303,297 (NSF Contribution: \$198,106; Matching Funds: \$105,191); *Topic*: "Development of an X-ray Fluorescence Laboratory: Integrating Geology Undergraduate Coursework with Geochemical Research"; *Co-PI's*: Steve Hovan (Geoscience), Charles Lake (Chemistry), Devki Talwar (Physics). Lab is currently being developed at Cal State Fresno. Award # NSF-EAR 0313688.

PUBLICATIONS

IN REVIEW

Putirka, K., Canchola, J., Rash, J., Smith, O., Torrez, G., Paterson, S., and Ducea, M. (in review) Pluton assembly and the genesis of granitic magmas: insights from the GIC pluton in cross section, Sierra Nevada Batholith, California, *American Mineralogist*.

Lessel, J., and Putirka, K. (in review) New thermobarometers for Martian Igneous Rocks, *American Mineralogist*.

BOOKS AND FIELD GUIDES EDITED

Formation of the Sierra Nevada Batholith: Magmatic and Tectonic Processes and Their Tempos. GSA Field guide, Geological Society of America, 2014; Memeti, V., Paterson, S.R., and Putirka, K.D. [Editors]. (in press)

Geologic excursions from Fresno, California, and the Central Valley; A Tour of California's Iconic Geology. GSA Field Guide, Geological Society of America, 2013; Putirka, Keith [editor]

Minerals, Inclusions and Volcanic Processes. *Reviews in Mineralogy and Geochemistry*, Mineralogical Society of America 2008; Putirka, Keith D. and Tepley, Frank J., III.

IN PRESS OR IN PRINT

Putirka, K. (2013) Editorial: Why publish your best papers in *American Mineralogist*: An International Journal of Earth and Planetary Materials, *American Mineralogist*, v. 98, p. 1377-1378.

Putirka, K.D., Canchola, J., McNaughton, M., Paterson, S.R., Smith, O., Torrez, G., and Ducea, M. (2014) Day 1: The Guadalupe Igneous Complex – From Gabbros to Granites, in: *Formation of the Sierra Nevada Batholith: magmatic and tectonic processes and their tempos*, GSA Field guide, Geological Society of America, 2014; Memeti, V., Paterson, S.R., and Putirka, K.D. [Editors]. (in press)

Paterson, S.R., Lackey, J.S., Miller, J.S., Miller, R.B., Mundil, R., and Putirka, K.D. (2014) Introduction, in: *Formation of the Sierra Nevada Batholith: magmatic and tectonic processes and their tempos*, GSA Field guide, Geological Society of America, 2014; Memeti, V., Paterson, S.R., and Putirka, K.D. [Editors]. (in press)

Putirka, K., Kunz, M., Swainson, I., and Thomson, J. (2013) Journal impact factors; their relevance and their influence on society-published scientific journals. *American Mineralogist*, v. 98, p. 1055-1065.

Mollo, S., Putirka, K., Iezzi, G., and Scarlato, P. (2013) The control of cooling rate on titanomagnetite composition: Implications for a geospeedometry model applicable to alkaline rocks from Mt. Etna volcano. *Contributions to Mineralogy and Petrology*, v. 165, p. 457-475.

Mollo, S., Putirka, K., Misiti, V., Soligo, M., and Scarlato, P. (2013) A new test for equilibrium-based on clinopyroxene-melt pairs; clues on the solidification temperatures of Etnean alkaline melts at post-eruptive conditions. *Chemical Geology*, v. 352, p. 92-100.

Putirka, K., and Platt, B. (2012) Basin-and-Range volcanism as a passive response to extensional tectonics, in review, *Geosphere*, v. 8, doi: 10.1130/GES00803.1.

Paterson, S.R., Lackey, J.S., Memeti, V., Miller, R.B., Miller, J.S., Mundil, R., and Putirka, K.D. (2013) Formation of the Sierra Nevada Batholith; magmatic and tectonic processes and their tempos. *GSA Today*. V. 23, p. 15-17.

Armienti, P., Perinelli, C., and Putirka, K.D., 2012, Deep-level magma ascent rates at Mt. Etna (Sicily, Italy), in review, *Journal of Petrology*, accepted.

Putirka, K., Jean, M., Sharma, R., Torrez, G., Carlson, C. (2012) Cenozoic volcanism in

- the Sierra Nevada, and a new model for lithosphere degradation, *Geosphere*, v. 8, p. 265-291, doi:10.1130/GES00728.1
- Putirka, K., and Busby, C. (2011) Introduction: Origin and evolution of the Sierra Nevada and Walker Lane, *Geosphere*, v. p. 1269-1272, doi:10.1130/GES00761.1
- Putirka, K.D., Ryerson, F.J., Perfit, M., and Ridley, W.I. (2011) Mineralogy and composition of the oceanic mantle, *Journal of Petrology*, v. 52, p. 279-313.
- Mollo, S., Putirka, K., Iezzi, G., Pierdomenico, D.G., and Scarlato, P. (2011) Plagioclase-melt (dis)equilibrium due to cooling dynamics: implications for thermometry, barometry and hygrometry, *Lithos*, v. 125, p. 221-235.
- Armienti, P., Gasperini, D., Perinelli, C., and Putirka, K.D. (2009) A new model for estimating deep-level magma ascent rates from thermobarometry: an example from Mt. Etna, and implications for deep-seated magma dehydration, *Acta Vulcanologica*, v. 21, p. 145-158.
- Putirka, K and Kuntz, M., Unruh, D., Vaid, N. (2009) Magma evolution and ascent at the Craters of the Moon and neighboring volcanic fields, southern ID, USA: implications for the evolution of polygenetic and monogenetic fields, *Journal of Petrology*, v. 50, p. 1639-1665.
- Busby, C.J., and Putirka, K. (2009) Cretaceous-Cenozoic landscape evolution of the SW USA: evidence from Cenozoic paleocanyon fill in the central Sierra Nevada, *International Geology Review*, v. 51, p. 670-701.
- Koerner, A., Busby, C.J., Putirka, K., and Pluhar, C., 2009, New evidence for alternating effusive and explosive eruptions form the type section of the Stanislaus Group in the “cataract” paleocanyon, central Sierra Nevada, *International Geology Reviews*, v. 51, p. 962-985.
- Gorny, C., Busby, C., Pluhar, C.J., Hagan, J., and Putirka, K. (2009) An in-depth look at distal Sierra Nevada paleochannel fill drill cores through the Table Mountain Latite near Kings Ferry, *International Geology Review*, v. 51, p. 824-842.
- Hagan, J.C., Busby, C.J., Putirka, K., Renne, P. (2009) Cenozoic paleocanyon evolution, ancestral Cascades arc volcanism, and structure of the Hope Valley – Carson Pass Region, Sierra Nevada, California, *International Geology Reviews*, v. 51, p. 777-823.
- Du Bray, E.A., John, D.A., Putirka, K., and Cousens, B. (2009) Geochemical database for igneous rocks of the ancestral Cascades arc—southern segment, California and Nevada, U.S. Geological Survey Digital Data Series 439, 1 CD-ROM. [Available at URL <http://pubs.usgs.gov/ds/439>]
- Putirka, K. D. (2008) Thermometers and barometers for volcanic systems, in: Putirka, K. D., and Tepley, F. eds., *Rev. Mineral. Geochem.* vol. 69, p 61-120.
- Putirka, K.D. (2008) Introduction to Minerals, Inclusions and Volcanic Processes, in: Putirka, K. D., and Tepley, F. eds., *Rev. Mineral. Geochem.* vol. 69, p. 1-8.
- Putirka, K. (2008) Hot arguments to cool off plume debate?: Comment, *Geology*, doi: 10.1130/G25165C.1.
- Putirka, K. (2008) Excess Temperatures at Ocean Islands: Implications for Mantle Layering and Convection, *Geology*, v. 36, p. 283-286.
- Busby, C.J., Hagan, J., Putirka, K., Pluhar, C., Gans, P., Rood, D., DeOeo, S., Skilling, I. Wagner, D. (2008) The ancestral Cascades arc: Implications for the development of the Sierran microplate and tectonic significance of high K₂O volcanism. In, J. Wright and J. Shervais (ed.) *Ophiolites, Arcs and Batholiths*, *Geol. Soc. Am. Spec. Paper* 438, 331-378.

- Garrison, N.J., Busby, C.J., Putirka, K., Gans, P.B., and Wagner, D.L. (2008) A Mantle Plume Beneath California? The Mid-Miocene Lovejoy Flood Basalt, Northern California, in Ophiolites, Arcs, and Batholiths, Geol. Soc. Am., Special Paper 438, 551-572.
- Putirka, K., and Busby, C.J. (2007) The tectonic significance of high K₂O volcanism in the Sierra Nevada, California, *Geology*, v. 35, p. 923-926.
- Putirka, K., Perfit, M., Ryerson, F.J., and Jackson, M.G. (2007) Ambient and excess mantle temperatures, olivine thermometry, and active vs. passive upwelling, *Chemical Geology*, v. 241, p. 177-206.
- Putirka, K. (2005a) Mantle potential temperatures at Hawaii, Iceland, and the mid-ocean ridge system, as inferred from olivine phenocrysts: Evidence for thermally-driven mantle plumes, *Geochemistry, Geophysics, Geosystems*, doi:10.1029/005GC000915
- Putirka, K., (2005b) Igneous thermometers and barometers based on plagioclase + liquid equilibria: test of some existing models and new calibrations, *American Mineralogist*, v. 90, p. 336-346.
- Putirka, K. and Kuntz, M. (2005) A Mineralogic View Into the Magma Plumbing Systems of the Craters of the Moon and Neighboring Volcanic Lava Fields in the Snake River Plain, ID. Goldschmidt Meeting, Moscow ID, post-meeting trip.
- Putirka, K. and Condit, C. (2003) A cross section of a magma conduit system at the margins of the Colorado Plateau, *Geology*, v. 31, 701-704.
- Putirka, K., Ryerson, F. J., and Mikaelian, H. (2003) New igneous thermobarometers for mafic and evolved lava compositions, based on clinopyroxene + liquid equilibria, *American Mineralogist*, v. 88, p. 1542-1554.
- Putirka, K. (1999a) Melting depths and mantle heterogeneity beneath Hawaii and the East Pacific Rise: Constraints from Na/Ti and REE ratios, *Journal of Geophysical Research*, v. 104, p. 2817—2829.
- Putirka, K. (1999b) Clinopyroxene+liquid equilibrium to 100 kbar and 2450 K, *Contributions to Mineralogy and Petrology*, v. 135, p. 151-163.
- Putirka, K. (1998a) Garnet+liquid equilibrium, *Contributions to Mineralogy and Petrology*, v. 131, p. 273—288.
- Putirka, K. (1997a) Magma transport at Hawaii: inferences from igneous thermobarometry, *Geology*, v. 25, p. 69—72.
- Putirka, K., M. Johnson, R. Kinzler, and D. Walker (1996) Thermobarometry of mafic igneous rocks based on clinopyroxene-liquid equilibria, 0-30 kbar, *Contributions to Mineralogy and Petrology*, v. 123, p. 92-108.

ABSTRACTS/PRESENTATIONS (CSU FRESNO STUDENT AUTHORS ARE UNDERLINED):

- Johnson, M.R., and Putirka, K.D. (2013) The magma transport system of the Mono Craters, California, American Geophysical Union Fall Meeting, abstract # 1816750.
- Putirka, K., Canchola, J., Rash, J., Smith, O., Torrez, G., Paterson, S., and Ducea, M. (2013) In situ crystallization differentiation within a bi-modal granite-gabbro complex: an example from the Guadalupe Igneous Complex, Sierra Nevada Batholith, California, GSA annual Meeting, Denver, CO, abstract #226991.
- Putirka, K., Canchola, J., Rash, J., Smith, O., Torrez, G., Paterson, S., and Ducea, M. (2013) Incremental growth of granitic magma bodies: the Guadalupe Igneous Complex, Sierra Nevada Batholith, California, GSA Cordilleran Section Meeting, Fresno, CA, abstract #219517.

- Lessel, J., and Putirka, K. (2012) New thermobarometers for Martian Igneous Rocks, AGU fall meeting, 2012.
- Johnson, M.R., and Putirka, D. (2012) An analysis of the magma supply system at Mono Craters, California, AGU fall meeting, 2012.
- Scruggs, M., Adreienne, O., Putirka, K., Clynnne, M., Tepley, F. (2012) Vesiculation and textural variations within mafic enclaves of the Chaos Crags, Lassen Volcanic Center, California, AGU fall meeting, 2012.
- Asami, R.T., Putirka, K.D., Pluhar, C.J., Farner, M.J., Torrez, G., Shrum, B., Jones, S., (2012), Evidence of varying magma chambers and magmatic evolutionary histories for the Table Mountain Formation in the Carson-Iceberg Wilderness region, Sonora Pass, California, AGU, fall meeting, 2012.
- Farner, M.J., Pluhar, C.J., Asami, R.T., Putirka, K.D., Busby, C.J., Renne, P.R. (2012) Paleomagnetism, Geochronology, and Geochemistry of the Type Section of the Stanislaus Group: Reference Parameters from the Stable Sierra Nevada Microplate, CA, AGU fall meeting, 2012.
- Busby, C., Schmitt, A.K., Melosh, B.L., Putirka, K., Melosh, G., Iriarte, S., and Andrews, G. (2012) Ignimbrite Stratigraphy of the “Volcanic” Western Cordillera and Adjacent Altiplano in the region of the Puchuldiza Geothermal Area (19°15’S to 19°25’S), Northern Chile: Implications for Altiplano Uplift, GSA Abstracts with Programs Vol. 44, No. 7, Abstract No: 209085.
- Armienti, P., Perinelli, C., and Putirka, K. (2012) Deep-level magma dehydration and ascent rates at Mt. Etna (Sicily, Italy). EGU2012-4706
- Putirka, K. (2011) A new view of Cenozoic lithosphere degradation (“Delamination”) beneath the Sierra Nevada, submitted to AGU fall meeting, Dec. 1-5, 2011.
- Jackson, B.A., Putirka, K., Clynnne, M., Wood, A., Jackson, J., and Farner, M. (2011) Pre-eruption magmatic events recorded by vesicles in mafic enclaves: evidence form the 1915 eruption of Lassen Peak, California, submitted to AGU fall meeting, Dec. 1-5, 2011.
- Letsinger, H., Cancholla, J., McNaughton, M., Neptune, C., Paterson, S., Putirka, K., Rolfs, S., and Steinert, B. (2011) A view into the roots of Sierra Nevada plutons: A study of the Guadalupe Igneous Complex, in the western foothills of the Sierra Nevada, California, submitted to AGU fall meeting, Dec. 1-5, 2011.
- Lowry, A., Schutt, D., Putirka, K., Jean, M., and Perez-Guissinye, M. (2011) Hypothesis-testing proposed control of strain weakening by crustal quartz abundance, submitted to AGU fall meeting, Dec. 1-5, 2011.
- Platt, B., and Putirka, K. (2011) A reconstruction of paleo-positions of Basin and Range volcanic rocks, and implications for tectonic controls (Mendocino Triple Junction Migration) on volcanism, submitted to AGU fall meeting, Dec. 1-5, 2011.
- Torrez, G., Carlson, C., Putirka, K., Pluhar, C., and Sharma, R. (2011) Correlations and Areal Distribution of the Table Mountain Formation, Stanislaus Group; Central Sierra Nevada, California. submitted to AGU fall meeting, Dec. 1-5, 2011.
- Mollo, S., Putirka, K., Iezzi, G., Del Gaudio, P., Scarlatto, P. (2011) Interpreting plagioclase-melt (dis)equilibrium due to cooling dynamics: implications for thermometry, barometry and hygrometry, Geophysical Research Abstracts v. 13, European Geophysical Union General Assembly 2011
- Putirka, K. and Busby, C. (2010) The meaning of high K₂O volcanism in the U.S. Cordillera, AGU fall meeting, V11B-2261.

- Putirka, K. and Busby, C. (2010) Tectonic controls on high K₂O volcanism and the volcanic record of lithosphere degradation, GSA Penrose Conference, August 16-20, Bridgeport, CA.
- Torrez, G. and Putirka, K. (2010) Wall rock assimilation and magma migration in the Sierra Nevada Batholith: a study of the Courtright Intrusive Zone, central California, AGU fall meeting, V43C-2396.
- Farner, M., Jackson, J.L., Putirka, K., and Wood, A. (2010) Magma mixing and crystallization at Chaos Crags, in the Lassen Volcanic Center, AGU fall meeting, V43C-2384.
- Busby, C.J., and Putirka, K. (2010) Birth of a plate boundary: transtensional tectonics and magmatism, Sierra Nevada microplate and Gulf of California Rift, GSA Tectonic Crossroads: Evolving Orogens of Eurasia-Africa-Arabia Meeting, Ankara, Turkey, Oct 4-8, #175356.
- Armienti, P., Perinelli, C., and Putirka, K.D. (2010) An empirical hygrometer for trachybasaltic melts: applications to the kinetics of magma ascent at Mt. Etna, Geophysical Research Abstracts, European Geophysical Union General Assembly, v. 12, abstract # EGU2010-8931.
- Putirka, K. (2009) A Consensus on Mantle Potential Temperatures? AGU fall meeting, 2009.
- Putirka, K. and Busby, C. (2009) On the Contrasts Between Basin and Range and Cascade Magmatism, & the Timing of Cordilleran Lithosphere Degradation, AGU fall meeting, 2009.
- Wonderly, A., Cancholla, J., and Putirka, K. (2009) Geochemical investigation of Saddlebag lake Roof Pendant and Lee Vining Intrusive Suite origins, fall meeting AGU, Abstract #V51A-1635.
- Busby, C., Putirka, K., Hagan, J., Koerner1, A., Melosh, B. (2009) Controls of Extension on Miocene Arc magmatism in the central Sierra Nevada, CA, AGU fall meeting, 2009.
- Hagan, J., Busby, C., Putirka, K. (2009) Controls of extension on climactic arc Magmatism: Ebbetts Pass-Carson Pass Area, Sierra Nevada (CA), Geol. Soc. Am Annual Meeting, fall, 2009, Abstract # 165012.
- Busby, C., Koerner, A., Putirka, K. (2009) Volcanism due to transtension at the birth of the Sierra Nevada Microplate: similarities to ongoing continental lithosphere rupture at nearby Long Valley, Geol. Soc. Am Annual Meeting, fall, 2009, Abstract # 163215.
- Busby, C.J., Putirka, K., (2009) Cretaceous-Cenozoic landscape evolution of the SW U.S.A.: Uplift and erosion of the Sierra Nevada, GSA Cordilleran Section 105th Annual Meeting (7-9 May 2009).
- Hagan, J., Busby, C., Putirka, K., Renne, P. (2009) Cenozoic paleocanyon evolution, ancestral Cascades arc volcanism and structure of the Carson Pass region, Sierra Nevada, California, GSA Cordilleran Section 105th Annual Meeting (7-9 May 2009)
- Putirka, K.D. (2008) Olivine compositions from the Hawaii Scientific Drilling Project (HSDP), Phase 2: Evidence for a peridotite mantle source region, abstracts, American Geophysical Union, fall meeting, San Francisco, 2008.
- Wonderly, A., K. Putirka, Abedini, A., and Hurwitx, S. (2007) Olivine crystallization and mantle potential temperatures beneath Yellowstone, Abstracts, American Geophysical Union, fall meeting, V53B-1324.

- Putirka, K., and Busby, C.J. (2007) High K volcanism in the Sierra Nevada: A signal for the initiation of Walker Lane Faulting, and range uplift, not lithosphere delamination, Abstracts, American Geophysical Union, fall meeting, T33A-1146.
- Busby, C.J., Hagan, J., and Putirka, K. (2007) Geologic evidence for eruption of voluminous high-K magmas at the onset of Walker Lane transtensional faulting, central Sierra Nevada: birth of a plate margin, not root delamination, Abstracts, American Geophysical Union, fall meeting, T33A-1145.
- Busby, C.J., Hagan, J., Putirka, K., Wagner, D., and Gans, P. (2007) Birth of a plate boundary: voluminous high-K magmatism and transtension along the central Sierran range front, California, Geol Soc. Am. Penrose Conference.
- Putirka, K. (2006) Petrologic evidence that most ocean islands derive from thermally driven mantle plumes, Abstracts, American Geophysical Union, fall meeting, V33D-07.
- Jean, M., Putirka, K., Busby, C., and Hagan, J. (2006) The Central Sierra Nevada Volcanic Field: a geochemical study of a transitional arc, Abstracts, American Geophysical Union, fall meeting, V11A-0570.
- Putirka, K. (2006), Average Potential Temperature of the Upper Mantle and Excess Temperatures Beneath Regions of Active Upwelling, Abstracts, American Geophysical Union, spring meeting, Paper Number: V21A-04.
- Hagan, J.C., Busby, C., Putirka, K., Wagner, D., and Gans, P. (2006) A Preliminary Study of the Stratigraphy, Geochronology, Geochemistry and Structure of Tertiary Volcanic Rocks in the Central Sierra Nevada, From Carson Pass to Sonora Pass, Abstracts, American Geophysical Union, spring meeting, Paper Number: V33C-0693.
- Putirka, K., (2005) Mantle temperatures, and tests of experimentally calibrated olivine-melt equilibria, Abstracts, American Geophysical Union, fall meeting, 2005, Paper Number: V41E-1508.
- Vaid, N., Putirka, K., and Kuntz, M. (2005) Evolution of the Craters of the Moon Lavas from primitive Snake River Plain basalts: inferences from plagioclase-melt thermobarometers and whole rock compositions, Abstracts, American Geophysical Union, fall meeting, 2005, Paper Number: V13E-0601.
- Sharma, R., Putirka, K., and Busby, C., (2005) Ancestral Cascade Arc volcanism in the North-Central Sierra Nevada, California, Abstracts, American Geophysical Union, fall meeting, 2005, Paper Number: V41B-1442.
- Putirka, K.D. (2005) Estimates of Mantle Temperatures based on olivine phenocrysts and olivine-melt equilibria. Goldschmidt Conference Abstracts, 2005, *Geochimica et Cosmochimica Acta*.
- Putirka, K.D., Smart, C., and Polfer, K. (2004) Mineral Compositions from the Hawaii Scientific Drilling Project (HSDP): Preliminary Results Part III – Olivine, Abstracts, American Geophysical Union, fall meeting, 2004.
- Polfer, K., Smart, C., and Putirka, K.D. (2004) Mineral Compositions from the Hawaii Scientific Drilling Project (HSDP): Preliminary Results Part I – Clinopyroxene, Abstracts, American Geophysical Union, fall meeting, 2004.
- Rood, D.H, Busby, C.J., Putirka, K.D., and Gans, P., Range Front Faulting and Ancestral Cascades Arc Magmatism in the Central Sierra Nevada at 10 Ma: Onset of Basin and Range Extension or Sierran Root Delamination? Abstracts, American Geophysical Union, fall meeting, 2004.

- Smart, C., Polfer, K., and Putirka, K.D. (2004) Mineral Compositions from the Hawaii Scientific Drilling Project (HSDP): Preliminary Results Part II – Plagioclase, Abstracts, American Geophysical Union, fall meeting, 2004.
- Putirka, K. and Kuntz, Mel (2004) Temperature-pressure (depth) estimates of magmas from the Craters of the Moon and nearby lava fields, ID, based on mineral-melt equilibria: preliminary results, Geological Society of America Abstracts with Program, Cordilleran/Rocky Mountain section joint meeting, Boise ID, submitted.
- Putirka, K. (2003) New igneous thermobarometers based on plagioclase + liquid equilibria, *Eos, Transactions, American Geophysical Union*, v. 84, fall 2003, V41C-0312.
- Putirka, K., Condit, C. (2002) An interior view of the Springerville Volcanic Field, AZ Magma Plumbing System, *Eos, Transactions, American Geophysical Union*, v. 83, F1431.
- Putirka, K. (2001) New Igneous Thermobarometers for Evolved Lava Compositions Based on Clinopyroxene + Liquid Equilibria, *Eos, Transactions, American Geophysical Union*, v. 82, p. S430.
- Smith, S. and Putirka, K. (2001) "Crystallization depths for Holocene basaltic lavas from Craters of the Moon National Monument, ID, Sigma Xi Undergraduate Research Symposium, Indiana, Pa.
- Putirka, K. (2000) Mapping the depths of mantle components, *Eos, Transactions, American Geophysical Union*, Spring meeting, 2000, Washington, DC., v. 81, p. 217.
- Putirka, K., A. Kent, I. Hutcheon I., and F. Ryerson (1999c) Preliminary results regarding phlogopite-melt saturation and water partitioning, *Eos, Transactions, American Geophysical Union*, Spring, 1999, Boston, v. 80.
- Putirka, K. (1999d) Estimating the Mineralogy of the Upper Mantle, and Partial melting Depths and Temperatures of Oceanic Basalts, in *Institute of Geophysics and Planetary Physics, 1999 Annual Report*, F. J. Ryerson ed., Lawrence Livermore National Laboratory.
- Putirka, K. (1998b) Estimates of Mantle Heterogeneity and Initial Melting Depths at Hawaii and the East Pacific Rise, *Eos, Transactions, American Geophysical Union*, Fall, 1998, v. 79, p. F939.
- Putirka, K. (1998c) Melting Depths and Heterogeneity Beneath Earth's Ocean Basins, *Institute of Geophysics and Planetary Physics, Annual Meeting*, Los Alamos, NM.
- Putirka, K. (1998d) Calibration of garnet + and clinopyroxene + liquid saturation surfaces, and some preliminary applications to komatiite petrogenesis (Invited), *Eos, Transactions American Geophysical Union*, v. 79, p. S378.
- Putirka, K. (1997b) Melt productivity during fractional melting and the apparent conflict between inferred melting depths and crustal thickness, *Eos, Transactions, American Geophysical Union*, v. 78, p. F837-F838.
- Putirka, K., M. Johnson, R. Kinzler, and D. Walker (1992) Thermobarometry of mafic igneous rocks based on pyroxene-liquid equilibria, 0-25 kb, *Eos, Transactions, American Geophysical Union*, v. 74, p. 658.
- Putirka, K. and P. Weigand (1987) Miocene volcanic rocks of the western Mojave Desert, California: evidence for magma-mixing, *Geological Society of America, Abstracts with Program*, v. 19, p. 441.

