

Matthew J. Kohn

Personal Data

Address: Department of Geosciences
Boise State University
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Educational Experience

1991: Ph. D. in Geology, Rensselaer Polytechnic Institute, Troy, NY 12180
1989: M. S. in Geology, Rensselaer Polytechnic Institute, Troy, NY 12180
1986: B. S. in Geology, Massachusetts Institute of Technology, Cambridge, MA 02139

Research Interests and Expertise

Development and use of geochemical techniques to investigate paleoclimate, paleobiology and orogenesis, including major elements, trace elements, stable isotopes, and radiogenic isotopes. Chemical and isotopic analysis of metamorphic minerals. Climatic and physiological analysis of organic phosphates. Stable isotope, electron microprobe, ion microprobe and ICP-MS analysis; geochronology; thermodynamics, kinetics and phase equilibria.

Research and Teaching Positions

2010- Professor, Boise State University
2007-2010 Associate Professor, Boise State University
2005-2006 Visiting Professor, sabbatical leave, Washington State University
2004-2007 Associate Professor, University of South Carolina
1998-2004 Assistant Professor, University of South Carolina
1996-98 Post-Doctoral research staff member, Lawrence Livermore National Laboratory
1994-96 Research scientist, University of Wisconsin - Madison.
1995 Visiting Assistant Professor, Northern Illinois University (Fall Semester).
1991-93 NSF Post-Doctoral fellow, stable isotope geochemistry, UW-Madison.
1986-91 NSF graduate fellow, RA, TA, metamorphic petrology, RPI.
1983-86 Undergraduate researcher, sedimentology and structural geology, MIT.

Awards, Fellowships, and Honors

Undergraduate Research (MIT):

Sea Grant, 1984, 1985; Goetze Grant, 1985

Graduate Research (RPI):

GSA research grant, 1987, 1988; Sigma Xi grant, 1987; NSF graduate fellowship, 1986-1989

Professional:

NSF post-doctoral fellowship, 1991-1993
Two Thumbs Up Award, 2002 (Teaching/service award, USC; multiple recipients each year)
Undergraduate Research Mentor of the Year Award, 2004 (USC; 1 recipient each year)
Fellow, Mineralogical Society of America (2007)
Fellow, Geological Society of America (2008)
University Distinguished Professor, BSU (2011; permanent designation)

Proposals Funded (~\$3M)

Petrologic and chronologic evaluation of Himalayan tectonic models in southern Bhutan. NSF-Tectonics. 2011-2013, \$204k.

Acquisition of a stable isotope mass spectrometer for Earth science and ecological research. NSF-Instrumentation and Facilities (lead PI). 2009-2010, \$377k.

Acquisition of a 213nm laser and cathodoluminescence-detector for microanalysis of zircon and other Earth materials. NSF-Instrumentation and Facilities (lead PI), 2008-2009, \$138k.

Collaborative research: Testing mechanical models of Himalayan orogenesis in NW India (co-PI with D. Robinson). NSF-Tectonics, 2008-2011, \$275k.

Collaborative research: How did the grassland biome evolve in South America? (co-PI with C.A.E. Strömberg and R.H. Madden). NSF-Paleobiology, 2008-2011, \$100k.

Collaborative Research: Tectonic rates from differential garnet geochronology (lead PI with F.S. Spear). NSF-Petrology & Geochemistry, 2008-2010, \$105k.

Acquisition of a stable isotope ratio mass spectrometer for climate change research (co-PI with R. Thunell). NSF-Instrumentation and Facilities, 2006-2007, \$336k

Testing paleoenvironmental models of the Cretaceous Western Interior Seaway via stable isotopes of fossil turtles and fish. PRF (American Chemical Society), 2006-2008, \$79k.

Timing, conditions, and rates of thrust transport in the Nepalese Himalaya. NSF-Tectonics, 2005-2008, \$130k

Testing Paleozoic vs. Cenozoic metamorphism in the Greater Himalaya, Nepal. NSF-Petrology & Geochemistry, 2005-2006, \$36k

Collaborative Research: Extensional unroofing of the central Menderes metamorphic complex, southwestern Turkey (Co-PI with Elizabeth Catlos). NSF-Tectonics, 2005-2008, \$50k.

Timing and magnitude of climate change across the Eocene-Oligocene transition, northern Great Plains, USA, NSF – Paleoclimate, 2004-2007, \$231k.

Evolution of LREE+Th distributions in minerals during prograde metamorphism, NSF – Petrology & Geochemistry 2003-2005, \$88k

SGER: Fossil bone as a paleoclimate indicator. NSF – Geology and Paleontology 2003-2005, \$24k.

Collaborative Research: Acadian vs. Taconian tectonism in the southern Appalachian Western Blue Ridge – Implications for models of terrane accretion, (lead PI), NSF – Tectonics, 2003-2005, \$135k.

Metamorphic evolution of the Main Central Thrust, Nepal. NSF – Petrology & Geochemistry, 2000-2004, \$209k.

Monazite dating via the electron microprobe: a new geochronologic technique. USC, 2001-2002, \$12k.

Constraints on Miocene uplift of the central Cascade Range, Oregon. NSF, 2000-2002, \$136K.

Mountain building and climate change. USC, 1999-2000, \$10k

Oxygen isotope compositions of fossil biogenic phosphates: climate reconstruction in East Africa. (With M. Schoeninger and J. Valley). NSF, 1996-1997, \$60k.

Case study investigation of the relationships between fluid infiltration and deformation using oxygen isotope zoning in metamorphic porphyroblasts. NSF, 1994-1996, \$92k.

Determination of the importance of fluid infiltration during regional metamorphism via modeling and measurement of oxygen isotope zonation in garnet. NSF, 1991-1993, \$70k.

Supervision of Postdoctoral Scholars.

1. Christopher Parkinson. Himalayan tectonics. 2001 – 2003
2. Jennifer Chambers. Himalayan tectonics. 2008 – 2010
3. Stacey Corrie. Himalayan tectonics. 2010 –
4. Celina Suarez. Trace elements in fossils. 2011 –

Supervision of Doctoral Students.

1. Alessandro Zanazzi “Paleoclimatology and paleoecology of the Eocene-Oligocene transition, central North America” PhD 2009.
2. Alan B. Coulson. “Ecologic and paleontologic utility of marine turtle bone phosphate oxygen isotopes” PhD 2009.
3. Stacey Corrie “Geochemical and geochronological constraints on the tectonothermal history of the central and eastern Nepal Himalaya.” PhD 2010.

Supervision of Masters Students.

1. Jennifer Josef "Continental paleoclimate of Southern Argentina, 38 Ma to the present" M.S., 2002.
2. Robert King "Characterization of fluid flow and metasomatism in the mantle wedge from Franciscan Complex ultramafic blocks" M.S., 2002.
3. Stacey Corrie "Age of metamorphism and tectonic evolution of the Western Blue Ridge, Great Smoky Mountains, NC." M.S., 2005
4. Jessica Sousa "Measuring the rate of garnet growth: implications for Rb-Sr garnet geochronology" M.S. 2011.
5. Andrea Wolfowicz "Ti-in-quartz temperatures of mylonitic orthogneiss, Scandinavian Caledonides" M.S. anticipated 2012.

Supervision of Undergraduate Senior Theses.

1. Jennifer Miselis "Oxygen isotope record of Cascade Range uplift" 2001.
2. Stacey Russo "Paleoclimate record of Plio-Pleistocene Idaho from oxygen isotope compositions of fossil teeth" 2002.
3. Cari Fuller "Ultra-High Pressure metamorphism in Brazil" 2003.

Supervision of Undergraduate Research (Underlined name = research resulted in student co-authored journal publication).

1. L. Childs Cantey. 1999-1999. "Electron microprobe characterization of South Carolina eclogites". B.S., 2000
2. Jennifer Miselis. 1999-2001. "Paleoclimate evolution of central Oregon as a monitor of Cascade Range uplift". B.S., 2001
3. Stacia Russo. 2001-2002. "Oxygen Isotopes of teeth". B.S., 2002
4. Margaret Malloy. 2001-2002. "Electron microprobe dating of metamorphic monazite, Great Smoky Mountains, NC". B.S. 2002.
5. Cari Fuller. 2002-2003. "UHP metamorphism in Brazil." B.S. 2003.
6. J. McIver Law. 2001-2003. "Oxygen isotopic and climatic history of central Oregon and western Idaho during the last 5 million years." B. S. 2003.
7. Lauren Byrne. 2001-2002. "Oxygen isotopes of teeth, and carbon isotopes of plant phytoliths".
8. Kim Davis. 2002-2003. "Stable isotope composition of fossil bone vs. paleosol carbonate – use for paleoclimate studies". B.S. 2004
9. Moriah McKay. 2003-2005. "Carbon isotope compositions of Pleistocene fauna, South Carolina". B.S. 2005
10. Michael Grigsby. 2009-2009. "Stable isotope compositions of modern herbivore, omnivore, and carnivore teeth from Idaho." B.S. 2009
11. Michelle Gordon. 2009-2010. "Stable isotope compositions of fossil teeth from southern Argentina. B.S. anticipated 2011.
12. Jennifer Morris. 2010-2011. "Trace elements in modern teeth from Idaho" B.S., 2011
13. Alma Palacios. 2011-present. Stable isotope paleoecology of the mid-Pliocene, Hagerman Fossil Beds National Monument, Idaho" B.S. anticipated 2013.

Other Research Supervision.

Mark Wieland. Electron microprobe analyst, 2002 – 2003.
 J. McIver Law. Stable isotope analyst, 2003 – 2005.
 Emily Hinz. PhD candidate, geophysics. Trace elements in teeth, 2008-2009.
 Shannon Murray. PhD candidate, geophysics. Trace elements in wood, 2009-2010.
 Erika Akin. Stable isotope analyst, 2009 – 2010.
 Dr. Samantha Evans. Stable isotope research scientist, 2010 –

Professional Memberships (current only)

American Geophysical Union
 Geochemical Society
 Geological Society of America

Service (external):

Secretary, Volcanology-Geochemistry-Petrology section, AGU (2010-2012)
Member, Executive Committee, VGP section, AGU (2010-2012)
Member, Proposal Review Panel, NSF (2007-2009)
Member, Development Committee, SVP (2005-)
Member, Bowen Award Committee, AGU (2004-2006)
AE: Geological Society of America Bulletin (2001-2010)
AE: Journal of Geophysical Research (1998-2001)
Member, Proposal Review Panel, IGPP-LLNL (1998)

Reviewer For:

National Science Foundation:

Anthropology
Continental Dynamics
Instrumentation and Facilities
Major Research Instrumentation
Petrology & Geochemistry
Sedimentary Geology and Paleobiology
Tectonics

German National Science Foundation

Graduate Women in Science

IGPP-LLNL

Petroleum Research Fund

Swiss National Science Foundation

American Journal of Physical Anthropology

American Journal of Science

American Mineralogist

Biogeosciences

Canadian Mineralogist

Chemical Geology

Contributions to Mineralogy and Petrology

Current Anthropology

Earth and Planetary Science Letters

Geochimica et Cosmochimica Acta

Geological Society of America Bulletin

Geology

Geosphere

Journal of Archaeological Science

Journal of Biogeography

Journal of Geology

Journal of the Geological Society

Journal of Geophysical Research

Journal of Metamorphic Geology

Journal of Petrology

Journal of South American Earth Sciences

Oecologia

Palaeogeography, Palaeoclimatology, Palaeoecology

Palaios

Paleobiology

PLoS One

Proceedings of the Idaho Academy of Science

Quaternary Science Reviews

Science

Service (internal – college, university, or administrative positions only):

Member, BSU Distinguished Professor Award Committee (2011-)
Member, BSU Honorary Doctorate Committee (2010-)
Member, BSU Employee Campaign Committee (2009-2011)
Member, BSU Interdisciplinary Studies Committee (2008-)
Member, BSU COAS Awards and Honors Committee (2009-)
Director of Undergraduate Studies, Geological Sciences, USC (2004-2005)
Department representative, USC Electron Microscopy Center Advisory Committee (2000-2006)
Chair, Ethics Committee, Geological Sciences, USC (1999 – 2006)

Classes Taught

Geology of the National Parks (non-majors)
Introduction to geology (Physical Geology; non-majors)
Introductory mineralogy (undergraduate majors)
Rocks and minerals/Earth materials (undergraduate majors)
Evolution of mountain belts (undergraduate majors)
Field Geology (undergraduate majors)
Igneous and metamorphic petrology (undergraduate- and graduate-level)
Stable isotope geochemistry (undergraduate- and graduate-level)
Radiogenic isotope geochemistry (undergraduate- and graduate-level)
Paleoclimatology and Paleoceanography (graduate-level)
Methods in stable isotope geochemistry (graduate-level)
Analytical methods (graduate-level)
Southern Appalachian tectonics (graduate-level)
Scandinavian Caledonides tectonics (graduate-level)
Invited lectures in undergraduate and graduate courses in: stable isotopes, geochemistry, regional tectonics, paleoclimate, and phase equilibria.

Field Work**North America:**

New England Appalachians (1986-1995, 1998)
Central Ontario (1992)
Death Valley (1993)
Adirondacks, New York (1995)
Northern New Mexico (1995)
Northern California (1998, 1999)
Southern Appalachians (1999-2005)
Central and southeastern Oregon (2000-2005)
Southern Colorado, northern New Mexico (field camp; 2004-2008)
Northwest Nebraska and East Central Wyoming (2005-2006)

Asia:

Central Nepal (1997, 2001)
Western Turkey (2006)
NW India (2007, 2009)
Bhutan (2008, 2011)

South America:

Southern Chile (1987)
Southern Argentina (2009, 2010, 2012)

Europe:

Swiss, Austrian and Italian Alps (1993, 2009)
Northern Norway (2010)

Publications

Books: 2 books edited

Kohn, MJ (2007) Paleoaltimetry: geochemical and thermodynamic approaches. Reviews in Mineralogy and Geochemistry, v. **66**, Mineralogical Society of America and Geochemical Society, Washington D.C.

Kohn, MJ, Rakovan, J, and Hughes, J, eds. (2002) Phosphates: Geochemical, Geobiological and Materials Importance. Reviews in Mineralogy and Geochemistry, v. **48**, Mineralogical Society of America and Geochemical Society, Washington, D. C.

Articles: 80 peer-reviewed papers published or in press; 11 papers in review/prep. After 1991, double underlined names are undergraduate students; underlined names are graduate students; (>3000 citations total; h = 33); † = ≥100 citations; †† = ≥250 citations

Rev./Prep. **Kohn, MJ**, Tomkins, H, and Corrie, SL Bacterial control of metamorphic mineral assemblages. Geology, in prep.

Kohn, MJ, Vervoort, JD, King, RL, and Corrie, SL. The Taconic orogeny in the southern Appalachians: abrupt termination of protracted collision. Geological Society of America Bulletin, in prep.

Kohn, MJ. Sodium controls trace element uptake in garnet. American Mineralogist, in prep.

Kohn, MJ, Corrie, SL, and Olin, P. Geochronology of eclogites. Earth and Planetary Science Letters. In prep.

Kohn, MJ and Olin, P. Compositional accuracy of laser-ablation ICP-MS analysis. Rapid Communications in Mass Spectrometry. In prep.

Dunn, RE, Madden, RH, **Kohn, MJ**, Schmitz, MD, Strömberg, CAE, Carlini, AA, Crowley, J and Ré, GH. A new high precision U/Pb geochronology for middle Eocene–early Miocene South American Land Mammal Ages of the Sarmiento Formation, Gran Barranca, Chubut Province, in prep.

Kohn, MJ and McKay, MP Paleoecology of late Pleistocene-Holocene faunas of eastern and central Wyoming, USA. Palaeogeography, Palaeoclimatology, Palaeoecology, in review.

Suarez, CA, Gonzalez, LA, Ludvigson, GA, Kirkland, JI, Cifelli, RL, and **Kohn, MJ**. Multi proxy investigation of the paleohydrology in the Early Cretaceous Cedar Mountain Formation, eastern Utah: implications for greenhouse climates and growth of the Nevadaplano Plateau. Geological Society of America Bulletin, in review.

Tobgay, T, McQuarrie, N, Long, S, **Kohn, MJ** and Corrie, SL. Constraining the age and rate of displacement along the Main Central Thrust in the western Bhutan Himalaya. Earth and Planetary Science Letters, in review.

Chambers, JA and **Kohn, MJ**. Titanium in muscovite, biotite and hornblende: modeling, thermometry, and rutile-activities in metapelites and amphibolites. American Mineralogist, in review.

- Coulson, AB, **Kohn, MJ**, and Barrick R. Large temperature and salinity differences in the Late Cretaceous North American Seaway. *Nature Geoscience*, in review.
- 2012** (80) **Kohn, MJ** (2012) Geochemical zoning in metamorphic minerals. In: *Treatise on Geochemistry*, v. 3: The Crust (R. Rudnick, ed.). Elsevier, 2nd edition. In press.
- 2011** (79) **Kohn, MJ** and Corrie, SL (2011). Preserved Zr-temperatures and U-Pb ages in high-grade metamorphic titanite: Evidence for a static hot channel in the Himalayan orogen. *Earth and Planetary Science Letters*, in press.
- (78) Corrie, SL, **Kohn, MJ** (2011) Metamorphic history of the central Himalaya, Annapurna region, Nepal and implications for tectonic models. *Geological Society of America Bulletin*, **123**, 1863-1879.
- 2010** (77) **Kohn, MJ** (2010). Carbon isotope compositions of terrestrial C3 plants as indicators of (paleo)ecology and (paleo)climate. *Proceedings of the National Academy of Sciences*, **107**, 19691-19695.
- (76) **Kohn, MJ** and McKay, MP (2010). Atmospheric circulation in the latest Pleistocene, Wyoming, from oxygen isotope compositions of fossil faunas. *Geophysical Research Letters*, **37**, L22702, doi:10.1029/2010GL045404.
- (75) Forbes, MS, **Kohn, MJ**, Bestland, EA, and Wells, RT (2010). Late Pleistocene environmental change interpreted from $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ of tooth enamel from the Black Creek Swamp Megafauna Site, Kangaroo Island, South Australia. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **291**, 319-327.
- (74) Hinz, E, and **Kohn, MJ** (2010). The effect of tissue structure and soil chemistry on trace element uptake in fossils. *Geochimica et Cosmochimica Acta*, **74**, 3213-3231.
- (73) Sachan, H., **Kohn, MJ**, Saxena, A., and Corrie, SL (2010). The Malari leucogranite, Garhwal Himalaya, northern India: chemistry, age, and tectonic implications. *Geological Society of America Bulletin*, **122**, 1865-1876.
- (72) Corrie, SL, **Kohn, MJ**, and Vervoort, JD (2010). Young eclogite from the Greater Himalayan sequence, eastern Nepal; high-precision geochronology and tectonic implications. *Earth and Planetary Science Letters*, **289**, 406-416.
- (71) **Kohn, MJ**, Paul, SK, and Corrie, SL (2010). The lower Lesser Himalayan Sequence: a Paleoproterozoic arc on the northern margin of the Indian Plate. *Geological Society of America Bulletin*, **122**, 323-335. [**A most-read article**].
- (70) **Kohn, MJ**, Zanazzi, A, and Josef, JA (2010). Stable isotopes of fossil teeth and bones at Gran Barranca as monitors of climate change and tectonics. In: R.H. Madden, A.A. Carlini, M. G. Vucetich, and R. F. Kay, Eds. *The paleontology of Gran Barranca: evolution and environmental change through the middle Cenozoic of Patagonia*. Cambridge University Press, Cambridge. pp. 341 – 361.
- 2009** (69) **Kohn, MJ** and Northrup, CJ (2009). Taking mylonites' temperatures. *Geology*, **37**, 47-50.
- (68) Zanazzi, A, **Kohn, MJ**, and Terry, DO Jr (2009). Biostratigraphy and paleoclimatology of the Eocene-Oligocene boundary section at Toadstool Park, northwestern Nebraska, U.S.A. *GSA Special Paper*, **452**, 197-214.
- (67) **Kohn, MJ** (2009). Models of garnet differential geochronology. *Geochimica et Cosmochimica Acta*, **73**, 170-182.

- 2008** (66) **Kohn, MJ** and Fremd, TJ (2008). Miocene tectonics and climate forcing of biodiversity, western United States. *Geology*, **36**, 783-786. [**Research highlight, Nature Geoscience**]
- (65) **Kohn, MJ** (2008). Models of diffusion-limited uptake of trace elements in fossils and rates of fossilization. *Geochimica et Cosmochimica Acta*, **72**, 3758-3770.
- (64) Coulson, A, **Kohn, MJ**, Shirley, M, Joyce, W, and Barrick, R (2008). Phosphate-oxygen isotopes from marine turtle bones: ecologic and paleoclimatic applications. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **264**, 78-84.
- (63) **Kohn, MJ** and Vervoort, JD (2008). U-Th-Pb dating of monazite via single-collector ICP-MS: pitfalls and successes. *Geochemistry, Geophysics, Geosystems*, **9**, Q04031, doi:10.1029/2007GC001899.
- (62) Corrie, SL and **Kohn, MJ** (2008). Trace element distributions in silicates during prograde metamorphic reactions: implications for monazite formation. *Journal of Metamorphic Geology*, **26**, 451-464
- (61) Zanazzi, A and **Kohn, MJ** (2008). Ecology and physiology of White River mammals based on stable isotope ratios of teeth. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **257**, 22-37.
- (60) **Kohn, MJ** (2008). P-T-t data from central Nepal support critical taper and repudiate large-scale channel flow of the Greater Himalayan Sequence. *GSA Bulletin*, **120**, 259-273. [**GSA Bulletin Featured Article; Editor's choice, Science**]
- 2007** (59) **Kohn, MJ** and Dettman, DL (2007). Paleoaltimetry from stable isotopes in fossils. *Reviews in Mineralogy and Geochemistry*. **66**, 119-154.
- (58) **Kohn, MJ** and Fremd, TJ (2007). Tectonic controls on isotope compositions and species diversification, John Day Basin, central Oregon. *PaleoBios*, **27**, 48-61.
- (57) Corrie, SL and **Kohn, MJ** (2007). Resolving the timing of orogenesis in the Western Blue Ridge, southern Appalachians via *in situ* ID-TIMS monazite geochronology. *Geology*, **35**, 627-630.
- (56) Zanazzi, A, **Kohn, MJ**, MacFadden, B, and Terry, DO (2007). Large temperature drop across the Eocene-Oligocene transition in central North America. *Nature*, **445**, 639-642.
- 2006** (55) **Kohn, MJ** and Law JM (2006). Stable isotope chemistry of fossil bone as a new paleoclimate indicator. *Geochimica et Cosmochimica Acta*, **70**, 931-946.
- 2005** (54) **Kohn, MJ**, Wieland, MP, Parkinson, CD, and Upreti BN (2005). Five generations of monazite in Langtang gneisses: Implications for chronology of the Himalayan metamorphic core. *Journal of Metamorphic Geology*. **23**, 399-406.
- (53) **Kohn, MJ**, McKay, MP, and Knight, JL (2005). Dining in the Pleistocene – who's on the menu? *Geology*, **33**, 649-652.
- (52) **Kohn, MJ** and Welker, JM (2005). On the temperature correlation of $\delta^{18}\text{O}$ in modern precipitation. *Earth and Planetary Science Letters*, **231**, 87-96.
- 2004** (51) **Kohn, MJ**, Wieland, M, Parkinson, CD, and Upreti BN (2004). Miocene faulting at plate tectonic velocity in the Main Central thrust region, central Nepal. *Earth and Planetary Science Letters*, **228**, 299-310.

- (50) **Kohn, MJ** (2004). Oscillatory- and sector-zoned garnets record cyclic (?), rapid thrusting in central Nepal. *Geochemistry, Geophysics, Geosystems*, **5**, Q12014, doi:10.1029/2004GC000737.
- (49) **Kohn, MJ**, Josef, JA, Madden R, Kay, RF, Vucetich, G, and Carlini, AA (2004). Climate stability across the Eocene-Oligocene transition, southern Argentina. *Geology*, **32**, 621-624.
- (48) **Kohn, MJ** (2004). Reviewed Comment: Tooth enamel mineralization in ungulates: Implications for recovering a primary isotopic time-series, by Passey, B. H. and Cerling, T. E. (2002). *Geochimica et Cosmochimica Acta*, **68**, 403-405.
- (47) **Kohn, MJ** and Malloy, MA (2004). Formation of monazite via prograde metamorphic reactions among common silicates: implications for age determinations. *Geochim. Cosmochim. Acta*, **68**, 101-113.
- 2003** (46) King, RL, **Kohn, MJ**, and Eiler, JM (2003). Constraints on the petrologic structure of the subduction zone slab-mantle interface from Franciscan Complex exotic ultramafic blocks. *Geological Society of America Bulletin*, **115**, 1097-1109.
- (45) **Kohn, MJ** (2003). Geochemical zoning in metamorphic minerals. In: *Treatise on Geochemistry*, v. 3: The Crust (R. Rudnick, ed.). Elsevier. pp. 229-261.
- 2002** (44) Parkinson, CD, Maruyama, S, Liou, JG and **Kohn, MJ** (2002). Probable prevalence of coesite-stable metamorphism in collisional orogens and a reinterpretation of Barrovian metamorphism. In: *The diamond-bearing Kokchetav massif of Kazakhstan: petrochemistry and tectonic evolution of an unique ultrahigh-pressure metamorphic terrane* (eds. Parkinson, CD., Katayama, I and Liou, JG), Universal Academy Press, Tokyo. 544-563.
- (43) Parkinson, CD and **Kohn, MJ** (2002). Continental subduction to depths of 200 km: implications for intra-continental ultrapotassic magmatism. In: *The diamond-bearing Kokchetav massif of Kazakhstan: petrochemistry and tectonic evolution of an unique ultrahigh-pressure metamorphic terrane* (eds. Parkinson, CD, Katayama, I and Liou, JG), Universal Academy Press, Tokyo. 564-585.
- (42) **Kohn, MJ**, Miselis, JL, and Fremd, TJ (2002). Oxygen isotope record of Cascade Range uplift. *Earth and Planetary Science Letters*, **204**, 151-165.
- (41) Spear, FS, **Kohn, MJ**, Cheney, JT, and Florence, FP (2002). Metamorphic, thermal and tectonic evolution of central New England. *Journal of Petrology*, **43**, 2097-2120.
- (40) **Kohn, MJ** and Parkinson, CD (2002). A petrologic case for Eocene slab break-off during the Indo-Asian collision. *Geology*, **30**, 591-594.
- (39) **Kohn, MJ** and Cerling, T (2002). Stable isotope compositions of biological apatite. In: *Phosphates: Geochemical, Geobiological and Materials Importance. Reviews in Mineralogy and Geochemistry*, v. **48**. (**Kohn, MJ**, Rakovan, J, and Hughes, J, eds.) Mineralogical Society of America, Washington, D. C., pp. 455-488.

- 2001** (38) **Kohn, MJ**, Catlos, E, Ryerson, FJ, and Harrison, TM (2001). Pressure-Temperature-time path discontinuity in the Main Central thrust zone, Central Nepal. *Geology*, **29**, 571-574.
- † (37) Catlos, E, Harrison, TM, **Kohn, MJ**, Grove, M., Lovera, OM, Ryerson, FJ, and Upreti, BN (2001). Geochronologic and thermobarometric constraints on the evolution of the Main Central Thrust, central Nepal Himalaya. *Journal of Geophysical Research*, **106**, 16177-16203.
- † (36) Dettman, D, **Kohn, MJ**, Quade, J, Ryerson, FJ, Ojha, TP, and Hamidullah, S (2001). Seasonal stable isotope evidence for a strong Asian monsoon throughout the last 10.7 Ma. *Geology*, **29**, 31-34.
- 2000** (35) **Kohn, MJ** and Spear, FS (2000). Retrograde Net Transfer Reaction (ReNTR) insurance for P-T estimates. *Geology*, **28**, 1127-1130.
- (34) Schoeninger, MJ, **Kohn, MJ**, Valley, JW (2000). Tooth oxygen isotope ratios as paleoclimate monitors in arid ecosystems. In: *Close to the Bone: Biogeochemical approaches to paleodietary analysis* (Ambrose, SH. and Katzenberg, MA., eds.), p. 117-140.
- 1999** (33) **Kohn, MJ** and Spear, FS (1999). Probing the depths of Oliverian magmas: Implications for Paleozoic tectonics in the northeastern United States. *Geology*, **27**, 803-806 .
- † (32) **Kohn, MJ**, Schoeninger, MJ, and Barker, WW (1999). Altered states: effects of diagenesis on fossil tooth chemistry. *Geochim. Cosmochim. Acta*, **63**, 2737-2747.
- (31) **Kohn, MJ** (1999). Why most "dry" rocks should cool "wet". *Am. Mineral.*, **84**, 570-580.
- † (30) Spear, FS, **Kohn, MJ**, and Cheney, JT (1999). P-T paths from anatectic pelites. *Contrib. Mineral. Petrol.*, **134**, 17-32.
- 1998** (29) **Kohn, MJ**, Riciputi, L, Stakes, D, and Orange, DL (1998). Sulfur isotope variability in biogenic pyrite: reflections of heterogeneous bacterial colonization? *Am. Mineral.*, **83**, 1454-1468.
- (28) **Kohn, MJ** and Valley, JW (1998). Oxygen isotope geochemistry of the amphiboles: Isotope effects of cation substitutions in minerals. *Geochim. Cosmochim. Acta*, **62**, 1947-1958.
- (27) **Kohn, MJ** and Valley, JW (1998). Effects of cation substitutions in garnet and pyroxene on equilibrium oxygen isotope fractionations. *J. Metamorphic Geol.*, **16**, 625-639.
- (26) **Kohn, MJ** and Valley, JW (1998). Obtaining equilibrium oxygen isotope fractionations from rocks: theory and examples. *Contrib. Mineral. Petrol.*, **132**, 209-224
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