

Nadine McQuarrie – Curriculum Vitae

Address: Department of Geosciences
Guyot Hall, Princeton University
Princeton, New Jersey 08544-1003
Telephone: 609-258-7024
Web page: <http://princeton.edu/geosciences/people/mcquarrie>

Professional Experience

2004- Assistant Professor, Princeton University
2001-2004 Postdoctoral Scholar in Tectonics, California Institute of Technology.
1997-2001 Research Assistant/ Teaching Assistant, University of Arizona.
1995-1997 Research Assistant/ Teaching Assistant, Idaho State University

Education

B.A., Geology major (honors), Whitman College, Walla Walla , WA, 1993.
M.S., Geology (structure/tectonics), Idaho State University, 1997.
Ph.D., Geosciences (structure/tectonics/geodynamics), University of Arizona, 2001.

Awards and Fellowships

2000, 2001 Peter J. Coney Graduate Fellowship, University of Arizona.
1997, 1998 Sultzter Earth Science Scholarship, University of Arizona.
1996 Idaho Space Grant Consortium Fellowship, NASA, Idaho State University.
1995 EPSCoR Research Assistantship, EPSCoR, Idaho State University.
1993 Honors in Geology, Whitman College, Walla Walla, WA
1992 Albert Ripley Leeds prize in Geology, Whitman College, Walla Walla, WA

Research Interests

The geometric, kinematic and erosional evolution of mountain belts. Current research activities focus on linking the geometry and kinematics of mapped structures to thermochronometer cooling ages to look at the interplay between tectonics and erosion on exhumation patterns and morphology of mountain ranges. Active research projects include the kinematic evolution of the Himalayan fold-thrust belt in Bhutan, the 3-D geometry of shortening in the Bolivian orocline, timing and distribution of shortening in the Subandean zone Bolivia and Peru, documenting the evolution of the North America-Farallon-Pacific plate boundary through palinspastically restoring volcanic and geophysical (Earthscope) datasets, evaluating the timing of collision and the amount of subducted continental crust in the arc-continent collision zone of Timor and determining the amount of shortening and sequential development of the central Appalachian fold-thrust belt, Pennsylvania.

Professional Affiliations

American Geophysical Union
Geological Society of America

Professional Services and Activities

- 2010 SG&T 30th Anniversary Keynote Lecture committee (GSA)
- 2008-present Editorial Board Geology
- 2008 Session convener, American Geophysical Union (AGU), San Francisco CA 2008. *"Paleo- and Neotethyan Closure: Geological Consequences and Geodynamic and Paleoclimatological Inferences."*
- 2008 National Science Foundation panel member
- 2006 Session convener, GSA national meeting, Philadelphia, PA 2006. *"Unraveling Tectonics: the power behind balanced cross sections and kinematic reconstructions."*
- 2004 Session convener, GSA national meeting, Denver CO, 2004. *"Thrust Belts and Plateaus: The Anatomy of Convergent Systems."*
- 2002-present Reviewer for Earth and Planetary Science Letters, Fondyct (Chilean national funding agency), Geological Society of America Bulletin, Geological Journal International, Geology, Geosphere, Journal of Geophysical Research (Solid Earth and Earth Surface Processes), Journal of Structural Geology, National Science Foundation, NSERC (National Science and Engineering Research Council) Canada, Nature Geoscience, Precambrian Research, Tectonics, Tectonophysics,

Invited Talks

- 2010 *Himalayan mass balance: a Bhutan Perspective*
Brown University, Providence RI
Brigham Young University, Provo, UT
Rutgers University, New Brunswick NJ
Lamont-Dougherty Earth Observatory, Palisades NY
University of Pennsylvania, Philadelphia PA
- 2009 *What induces the collapse of orogens? Is South America next?*
GSA national meeting, Portland OR
Signals of continent-continent collision: When did Arabia and Eurasia collide"
GSA national meeting, Portland OR
Surface constraints on the temporal and spatial evolution of the Farallon-Pacific-North America plate boundary
AGU Joint Assembly, Toronto, Ont. Canada
- Himalayan mass balance: a Bhutan Perspective*
Massachusetts Institute of Technology, Boston MA
Stanford University, Palo Alto CA
California Institute of Technology, Pasadena CA
- Filling the eastern Himalayan Gap: Structural Architecture and Kinematics of the Himalayan Orogen in Bhutan*
University of Maryland, College Park MD
University of Rochester, Rochester NY

- University of Wyoming, Laramie WY
University of Southern California, L.A. CA
- 2008 *Deformation vs. precipitation: Temporal variations in climate and tectonic coupling in the central Andes*
University of California Riverside, Riverside, CA
Lamont-Dougherty Earth Observatory, Palisades. NY
- 2007 *What controls the width of mountains, examples from the Andes*
Low Parker Distinguished Visiting lecturer—Colorado College
- Deformation vs. Precipitation: what controls the width of mountains*
University of Michigan, Ann Arbor MI
- Testing climate-tectonic coupling in the Central Andes*
Harvard, Cambridge MA
- 2006 *Are Precipitation and Deformation linked in the Central Andes*
Lehigh University, Bethlehem PA
Dartmouth College, Hanover NH
- 2005 *Reconstructing the West: past problems, current solutions and implications for paleoseismic and geodetic rates*
Department of Terrestrial Magnetism, Carnegie Institute of Washington, Washington DC
Lamont-Dougherty Earth Observatory, Palisades NY
University of North Carolina, Chapel Hill NC
University of Colorado, Boulder CO
- How the west was widened*
Washington and Lee University, Lexington, VA
Dickinson College, Carlisle PA
- 2004 *Cenozoic evolution of the Neotethys and implications for the causes of plate motions*
Arizona State University, Tempe AZ
- Sequential strain maps of continental extension: Comparing variations in geologic to geodetic strain rates in the Basin and Range*
Brigham Young University, Provo UT
- 2003 *Cenozoic evolution of the Neotethys and implications for the causes of plate motions”*
Princeton University, Princeton NJ
California Institute of Technology, Pasadena CA
- Death of an Ocean, Creation of an Orogen, the kinematic evolution of the Zagros Mountains, Iran*
Colorado College, Colorado Springs CO
University of California, Los Angeles, Los Angeles CA
Brigham Young University, Provo UT

Balancing Geologic cross-sections: (Short Course in structural geology)
Colorado College, Colorado Springs CO

2002 *Dissecting an Orogen, Interpretations of map patterns and field observations across the Bolivian Andes*
University of California Davis, Davis CA

Backthrusts, Megathrusts and the construction of the Andean Plateau
Princeton University, Princeton NJ

2001 *Deformation in the back-arc of the Andean Orogen, Bolivia*
Sergeomin, La Paz, Bolivia

2000 *The making of a high elevation plateau—insights from the Colorado Plateau and the Altiplano*
California Institute of Technology, Pasadena CA

Supervisory Duties

Graduate Students Supervised

2007 Nicole Gotberg, M.A.

Title: “Crustal thickening budget compared to shortening estimates in southern Peru (12-14° S).” Current Position: Senior staff geologist, Geosyntec consultants, Oakland Ca

2008 Sarah Johnston, M.A.

Title: “Evolution of the Ecuadorian cordillera from integrated structure and thermochronology.” Current Position: Geologist II at CHA (formerly Clough, Harbour, & Associates), Albany NY.

2010 Sean Long, Ph.D.

Title: “Evolution of eastern Himalayan deformation: Geometry and kinematics of the Himalayan fold-thrust belt, eastern and central Bhutan.”
Current Position: Assistant Research Professor, University of Nevada, Reno.

2006- present Tobgay Tobgay, Ph.D. (in progress)

Title: “The structural and tectono-metamorphic history of western Bhutan.”

2008- present Nate Eichelberger Ph.D. (in progress)

Title: “3-D kinematics of the Bolivian Orocline.”

2009-present Garrett Tate Ph.D (in progress)

Title: “Active Arc-Continent Accretion in Timor.”

Postdoctoral Researchers Supervised

2006-2007 Andrew Leier-- Hess Fellow, Elevation history of the Andean plateau: combining sedimentology, structural geology and oxygen isotopes in paleosols and mammal teeth.
Current Position: Assistant Professor at the University of Calgary.

Undergraduate Theses

- ST_05 Richard Lease, "Offset paleochannel indicates 22.5 km Miocene dextral shear on the Bristol-Granite Mountains fault zone: Mojave Desert, Eastern California Shear Zone."
- ST_05 Margee Prat, "Reconstructing Basin and Range extension in the mantle lithosphere from 10 Ma to present. "
- JP_F05 Alison Warren, "The mid-Paleozoic Antler orogeny and possible tectonic settings"
- JP_F05 Logan West, "The geologic history behind the Cretaceous igneous intrusions of Arkansas"
- JP_F05 William Levandowski, "Alleghanian deformation in the Susquehanna River Valley, Valley and Ridge Province, Pennsylvania"
- JP_S06 William Levandowski, "Evolution of the Gold Butte Area, southeastern Nevada Basin and Range"
- JP_S06 Jamitto Flemming, "Investigation of low-angle normal faults in the Basin and Range: Jumbled Mountain, Southern Nevada"
- JP_F06 Jesse Chadwick, "Structural inheritance in the Teton Range, Wyoming."
- JP_S07 Christian Millet, "The use of sequential reconstructed cross sections to investigate deformation in fold-thrust belts: an application to the Andes of southern Peru."
- JP_S08 Natasha Lavdovsky, "Finite strain in the Valley and Ridge province of the central Appalachians"
- ST_08 Daphne Tess M. Cecil-Cockwell, "Deformation, sedimentation, and uplift history of the eastern Cordillera of Bolivia"
- JP_S09 Christopher Hepburn, "The internal deformation and strain of Bhutan."
- JP_S09 Benjamin Oliver, "Constructing a balanced cross-section through the Susquehanna Valley, Pennsylvania."

Research Grants

Collaborative Research: Australia Down Under: Quantification of Rates and Amount of Continental Subduction During Neogene Arc-Continent Collision on Timor, NSF-Tectonics, April, 2010, Princeton component: \$ 332,368.

CAUGHT Central Andean Uplift: the Geodynamics of High Topography, NSF- Continental Dynamics, July 2009, Princeton component: \$265,065.

Constraints on regional-scale deformation across the Pennsylvania salient as deduced from geologic cross-sections, Pennsylvania Geologic Survey, 2008, \$24,391 (*collaborative proposal, awarded to Dickinson College*).

Constraints on regional-scale deformation across the Pennsylvania salient as deduced from geologic cross-sections, Pennsylvania Geologic Survey, 2007, \$18,871 (*collaborative proposal, awarded to Dickinson College*).

Structural Architecture and Kinematics of the Himalayan orogen in Bhutan, NSF-Tectonics, June 2007, \$369,415.

Publications

Refereed articles (* indicates graduate student co-author, † indicates undergraduate student)

- *Long, S.P., **McQuarrie, N.**, *Tobgay, T., *Hawthorn, J., (in press) Quantifying Internal Strain and Deformation Temperature in the Eastern Himalaya, Bhutan: Implications for the Evolution of Strain in Thrust Sheets: *Journal of Structural Geology*.
- *Long, S.P., **McQuarrie, N.**, *Tobgay, T., *Rose, C.V., Gehrels, G., and Grujic, D. (in press) Tectonostratigraphy of the Lesser Himalaya of Bhutan: Implications for the Stratigraphic Architecture of the Northern Indian Margin: *Geological Society of America Bulletin*, doi: 10.1130/B30202.1
- *Long, S.P., **McQuarrie, N.**, *Tobgay, T., and Grujic, D. (in press) Geometry and crustal shortening of the Himalayan fold-thrust belt in Bhutan: *Geological Society of America Bulletin*, doi: 10.1130/B30203.1
- *Tobgay, T., *Long, S.P., **McQuarrie, N.**, Ducea, M., and Gehrels, G., 2010, Using isotopic and chronologic data to fingerprint strata: The challenges and benefits of variable sources to tectonic interpretations, the Paro Formation, Bhutan Himalaya: *Tectonics* v, 29, TC6023, doi: 10.1029/2009TC002637.
- McQuarrie, N.** and Oskin, M., 2010, Palinspastic restoration of NAVDat and implications for the origin of magmatism in southwestern North America: *Journal of Geophysical Research*, v. 115, B10401 doi:10.1029/2009JB0006435.
- Leier, A.L., McQuarrie, N., Horton, B.K., and Gehrels, G.E., 2010, Upper Oligocene conglomerate units in the Altiplano, Central Andes: the record of deformation and deposition along the margin of a hinterland basin: *Journal of Sedimentary Research*, v. 80, p. 750-762, doi: 10.21 10/jsr.2010.064.
- *Long, S.P. and **McQuarrie, N.**, 2010, Placing limits on channel flow: insights from the Bhutan Himalaya: *Earth and Planetary Science Letters*, v. 290, p. 375-390, doi: 10.1016/j.epsl.2009.12.033
- *Gotberg, N., **McQuarrie, N.** and Carlotto, V., 2010, Comparison of crustal thickening budget and shortening estimates in southern Peru (12-14°S): Implications for mass balance and rotations in the "Bolivian orocline": *Geological Society of America Bulletin*, v. 122, p. 727-742, doi:10.1130/B26477.1.
- †Lease, R.O., **McQuarrie, N.**, Oskin, M., Leier, A., 2009, Dextral shear on the Bristol-Granite Mountains Fault zone: Successful geologic prediction from kinematic compatibility of the Eastern California Shear zone: *Journal of Geology*, v. 117, p. 37-53 DOI: 10.1086/593320.
- McQuarrie, N.**, Ehlers, T.A., *Barnes, J., Meade, B., 2008, Temporal variation in climate and tectonic coupling in the central Andes: *Geology*, v. 36, p. 999-1002, doi: 10.1130/G25124A.1
- *Sigloch, K., **McQuarrie, N.**, and Nolet, G., 2008, Two-stage subduction history under North America inferred from multiple-frequency tomography: *Nature Geosciences*, v. 1 doi:10.1038/ngeo231.
- McQuarrie, N.**, Robinson, D., *Long, S., *Tobgay, T., Grujic, D., Gehrels, G., Ducea, M., 2008, Preliminary stratigraphic and structural architecture of Bhutan: Implications for the along strike architecture of the Himalayan system: *Earth and Planetary Science Letters*, v. 272, p. 105-117, doi: 10.1016/j.epsl.2008.04.030.
- McQuarrie, N.**, *Barnes, J., Ehlers, T.A., 2008, Geometric, kinematic and erosional history of the central Andean Plateau (15-17°S), northern Bolivia: *Tectonics*, v. 27, TC3007, doi:10.1029/2006TC002054.

- *Barnes, J.B., Ehlers, T.A., **McQuarrie, N.**, O'Sullivan, P.B., Tawackoli, S., 2008, Thermochronometer record of central Andean plateau growth, Bolivia (19.5°S): *Tectonics*, v. 27, TC3003, doi:10.1029/2007TC002174.
- *Barnes, J.B., Ehlers, T.A., **McQuarrie, N.**, O'Sullivan, P.B., Pelletier, J.D., 2006, Eocene to recent variations in erosion across the central Andean fold-thrust belt, northern Bolivia: implications for plateau evolution: *Earth and Planetary Science Letters*, v. 248, p. 118-133.
- McQuarrie, N.** and Wernicke, B.P., 2005, An Animated Tectonic Reconstruction of Southwestern North America since 36 MA: *Geosphere*, v. 1, p 147-172. doi: 10.1130/GES00016.1
- McQuarrie, N.**, Horton, B.K., Zandt, G., Beck, S., and DeCelles, P.G., 2005, The lithospheric evolution of the central Andean Plateau: *Tectonophysics*, v. 399, p. 15-37.
- McQuarrie, N.**, 2004, Crustal-scale geometry of Zagros fold-thrust belt, Iran: *Journal of Structural Geology*, v. 26, p. 519-535.
- McQuarrie, N.**, Stock, J.M., Verdel, C., and Wernicke, B.P., 2003, Cenozoic evolution of the Neotethys and implications for the causes of plate motions: *Geophysical Research Letters*, v. 30, p. 2036, doi:10.1029/2003GL017992.
- McQuarrie, N.**, 2002, Initial plate geometry, shortening variations, and evolution of the Bolivian orocline: *Geology*, v. 30, p. 867-870.
- McQuarrie, N.**, 2002, The kinematic history of the central Andean fold-thrust belt, Bolivia: implications for building a high plateau: *Geological Society of America Bulletin*, v. 114, p. 950-963.
- McQuarrie, N.** and Davis, G.H., 2002, Crossing the several scales of strain-accomplishing mechanisms: the central Andean fold-thrust belt: *Journal of Structural Geology*, v. 24, p 1587-1602.
- Rodgers, D.W., Ore, H.T., Bobo, R., **McQuarrie, N.**, and Zentner, N., 2002, Extension and subsidence of the eastern Snake River Plain, in Bonnicksen, B., McCurry, M.O., and White, C., *The Geology of the Snake River Plain: Idaho Geological Survey Special Publication*.
- McQuarrie, N.** and DeCelles, P.G., 2001, Geometry and Structural Evolution of the Central Andean Backthrust Belt, Bolivia: *Tectonics*, v. 20 p. 669-692.
- McQuarrie, N.** and Chase C.G., 2000, Raising the Colorado Plateau: *Geology*, v. 28, p. 91-94.
- McQuarrie, N.** and Rodgers, D.W., 1998, Subsidence of a volcanic basin by flexure and lower crustal flow -- the eastern Snake River Plain, Idaho: *Tectonics*, v. 17, p. 203-220.

In Review

- Sak, P.B., **McQuarrie, N.**, †Oliver, B.P., †Lavdovsky, N., Jackson, M.S., (in review) Unraveling the central Appalachian fold-thrust belt, Pennsylvania: the power of sequentially restored balanced cross sections for a blind fold-thrust belt: *Journal of Structural Geology*.
- *Porter, R., Zandt, G., **McQuarrie, N.**, (in review) Pervasive lower crustal seismic anisotropy in southern California: Evidence for underplated schists, *Lithosphere*.
- *Long, S.P., **McQuarrie, N.**, *Tobgay, T., Grujic, D., Hollister, L., (in review) Geologic Map of Bhutan, *Journal of Maps*.

Maps

- Sak, P.B., **McQuarrie, N.**, and †Lavdovsky, N., 2008, Preliminary bedrock geologic map of the middle portion of the Susquehanna River valley, Dauphin Juniata, Northumberland,

- Perry and Snyder Counties, Pennsylvania: Pennsylvania Geological Survey, 4th ser., 1p., Portable Document Format (PDF).
- Rodgers, D.W., Long, S.P., **McQuarrie, N.**, Hersley, C.F., and Burgel, W.D, 2006, Geologic Map of the Inkam Quadrangle, Bannock County, Idaho: Idaho Geological Survey Technical Report 06-2, scale 1:24,000, (two sheets).

Abstracts

- *Tate, G.W., McQuarrie, N., Bakker, R., Van Hinsbergen, D.J., Harris, R.A., 2010, Active Arc-Continent Accretion in Timor-Leste: New Structural Mapping and Quantification of Continental Subduction: Eos Trans., American Geophysical Union, 91(55), Fall Meet. Suppl., Abstract T51A-1996.
- *Long, S.P., McQuarrie, N., *Tobgay, T., Grujic, D., and Hollister, L., 2010, A new 1:500,000-scale geologic map of Bhutan: a detailed view of eastern Himalayan stratigraphy and structural geometry: Eos Trans., American Geophysical Union, 91(55), Fall Meet. Suppl., Abstract T43B-2176.
- McQuarrie, N., *Long, S.P., *Tobgay, T., Reiners, P., and Coutand, I., 2010, Tracking burial, displacement and exhumation in the Lesser Himalayas, eastern Bhutan: Eos Trans., American Geophysical Union, 91(55), Fall Meet. Suppl., Abstract T43B-2198.
- *Tobgay, T., McQuarrie, N., and *Long, S., P., 2010, Constraining age and rate of the Main Central Thrust displacement in western Bhutan: Eos Trans., American Geophysical Union, 91(55), Fall Meet. Suppl., Abstract T43B-2184.
- McQuarrie, N., Leier, A., *Long, S., 2010, Exhumation, subsidence, sedimentation and evacuation: Linking surface processes to mantle geodynamics in the Andean Plateau. Geological Society of America Abstracts with Programs, Vol. 42, No. 5, p. 183.
- *Long, S, **McQuarrie, N.**, *Tobgay, T., Reiners, P. 2010, Preliminary timing constraints on Lesser Himalayan duplex development from zircon (U-Th)/He thermochronometry, eastern Bhutan, Geological Society of America Abstracts with Programs, Vol. 42, No. 5, p. 665.
- *Tobgay, T., **McQuarrie, N.**, and *Long, S., 2009, Metamorphic grade of Paro Formation, western Bhutan and its implications: Eos Trans., American Geophysical Union, 90(54), Fall Meet. Suppl., Abstract T43C-2126.
- *Long, S., **McQuarrie, N.**, *Tobgay, T., and Grujic, D., 2009, Crustal shortening in the Himalayan fold-thrust belt, eastern and central Bhutan: Eos Trans., American Geophysical Union, 90(54), Fall Meet. Suppl., Abstract T43C-2125.
- *Porter, R., Zandt, G., **McQuarrie, N.**, Gilbert, H.J., Hacker, BR., 2009, Reconstructing the Mid-Tertiary southwestern Cordilleran crust: Crustal anisotropy, Eos Trans., American Geophysical Union, 90(54), Fall Meet. Suppl., Abstract U53A-0056.
- *Eichelberger N., and **McQuarrie, N.**, 2009, Evaluating orogen parallel transport of the upper crust within the Central Andean Orocline: Geological Society of America Abstracts with Programs, v. 41, No. 7, p. 656.
- *Long, S.P. and **McQuarrie, N.**, 2009, Placing limits on channel flow: Is central Bhutan STD-free? Geological Society of America Abstracts with Programs, v. 41. No. 7, p. 586.
- McQuarrie, N.**, 2009, Signals of continent-continent collision: When did Arabia and Eurasia collide? Geological Society of America Abstracts with Programs, v. 41. No. 7, p. 406 (invited).
- McQuarrie, N.** and Oskin, M., 2009, What induces the collapse of orogens? Is South America next? Geological Society of America Abstracts with Programs, v. 41, No. 7, p. 516 (invited).
- Sak, P.B., **McQuarrie, N.**, and †Oliver, B.P., 2009, Sequential development of the central Appalachian fold-thrust belt, Pennsylvania: Insights from a balanced geologic cross section: Geological Society of America Abstracts with Programs, v. 41, No. 7, p. 459.
- Dixon, I.T.E., Leier, A., McCartney, T., **McQuarrie, N.**, and *Long, S.P., 2009, Exploring the relationship between upper crustal deformation, sedimentation, and surface uplift in the Altiplano of the Central Andes, Bolivia: Geological Society of America Abstracts with Programs, v. 41, No. 7, p. 657.
- McQuarrie, N.** and Oskin, M., 2009, Surface constraints on the temporal and spatial evolution of the Farallon-Pacific-North America plate boundary: Eos Trans., American Geophysical Union, 90(22), joint Assembly. Suppl., Abstract T11A-03 (invited).

- McQuarrie, N.** and Oskin, M., 2008, Palinspastic restoration of NAVDat and its implications for the origins of magmatism in western North America: *Eos Trans.*, American Geophysical Union, 89(53), Fall Meet. Suppl., Abstract U54A-03.
- *Long, S.P., **McQuarrie, N.**, *Tobgay, T., Gehrels, G., and Grujic, D., 2008, Tectonostratigraphy of the Lesser Himalaya of Bhutan: Deducing the Paleostratigraphy of the Northern Indian Margin: *Eos Trans.*, American Geophysical Union, 89(53), Fall Meet. Suppl., Abstract T31E-07.
- *Tobgay, T., **McQuarrie, N.**, Hollister, L., *Long, S., and Gehrels, G., 2008, The Paro Formation provenance and its tectonometamorphic history, Bhutan Himalaya: *Eos Trans.*, American Geophysical Union, 89(53), Fall Meet. Suppl., Abstract T33C-2066.
- Leier, A., **McQuarrie, N.**, †Cecil-Cockwell, D.T., 2008, Thrust Faulting, Exhumation and formation scale fluvial Architecture with the hinterland of the Central Andean Fold-Thrust belt, Canadian Society of Petroleum Geologists Convention, Calgary, Abstract#059, p.551.
- *Long, S.P., **McQuarrie, N.**, *Tobgay, T., and Gehrels, G., 2007, Preliminary Stratigraphy and Structure of the Lesser Himalayan Portion of the Himalayan Fold-Thrust Belt, Eastern Bhutan: *Eos Trans.*, American Geophysical Union, 88(52), Fall Meet. Suppl., Abstract T23D-1649
- McQuarrie, N.**, Ehlers, T.A., Barnes, J.B., 2007, Deformation, precipitation and the width of the Central Andean Plateau, Bolivia: *GSA Abstracts with Programs Vol. 39, No. 7.*
- Leier, A., *Johnston, S., **McQuarrie, N.**, 2007, Using oxygen isotope values of modern water and ancient carbonate to reconstruct the paleoelevation history of the Inter-Andean Valley, Ecuador: *GSA Abstracts with Programs Vol. 39, No. 7.*
- McQuarrie, N.**, Barnes, J.B., Ehlers, T.A., 2006, Geometric, kinematic and erosional history of the Central Andean Plateau, Bolivia: American Geophysical Union Fall Meeting, December, 2006, EOS, v.87.
- Leier, A., *Long, S.P., **McQuarrie, N.**, 2006, Oligo-Miocene deposition along the eastern margin of the Altiplano plateau, Salla, Bolivia: American Geophysical Union Fall Meeting, December, 2006, EOS, v.87.
- McQuarrie, N.**, 2006, The science behind making movies: Elucidating the viability of kinematic reconstructions: *GSA Abstracts with Programs Vol. 38, No. 7.*
- McQuarrie, N.** 2006, Revisiting shortening estimates along the Bolivia Orocline: implications for thermal heating, erosion and crustal flow on the development of a high elevation plateau: Backbone of the Americas, *GSA abstracts with programs Vol. 38, No. 2.*
- Barnes, J.B., Ehlers, T.A., **McQuarrie, N.**, 2006, Eocene to recent exhumation patterns correlated with deformation across 200 km of the central Andean fold-thrust belt, northern Bolivia: Backbone of the Americas, *GSA abstracts with programs Vol. 38, No. 2.*
- *Gotberg, N., **McQuarrie, N.**, Tintaya, D., 2006, Variations in both structural style and stratigraphy in the eastern fold and thrust belt of the Peruvian Andes across the northern boundary of the Andean Plateau: Backbone of the Americas, *GSA abstracts with programs Vol. 38, No. 2.*
- McQuarrie, N.**, Barnes, J., Ehlers, T.A., 2005, The relationship between deformation and exhumation in the central Andean plateau: *GSA Abstracts with Programs Vol. 37, No. 7.*
- Barnes, J., Ehlers, T.A., **McQuarrie, N.**, O' Sullivan, P.B., 2005, Erosion, Climate and the early growth of the central Andean plateau, northern Bolivia: insights from low-temperature Thermochronology: *GSA Abstracts with Programs Vol. 37, No. 7.*
- McQuarrie, N.**, Wernicke, B., 2005, Geologic evolution of the ECSZ, past problems, current solutions and implications for paleoseismic and geodetic rates: Penrose Conference, Geological Society of America, Mammoth Ca.
- †Lease, R.O., **McQuarrie, N.**, 2005, Constraining Miocene dextral shear along the Bristol-Granite Mountains fault zone with an offset paleochannel (Mojave Desert, Eastern California shear zone): Penrose Conference, Geological Society of America, Mammoth Ca.
- Wernicke, B.P., Davis, J., **McQuarrie, N.**, Neimi, N.A., 2005, Tectonic setting of intraplate right-lateral shear in the Western Great Basin: Penrose Conference, Geological Society of America, Mammoth Ca.
- McQuarrie, N.**, 2004, Sequential Kinematic Restoration as a Tool for Deciphering Evolving Plate Boundaries: the Western North America-Pacific Plate Boundary System: American Geophysical Union Fall Meeting, December, 2004, EOS, v.85.

- Barnes, J., Ehlers, T.A., **McQuarrie, N.**, 2004, New Constraints on the Erosion History of the Andean Plateau Inferred From Detrital Thermochronology Across the Northern Bolivian Thrust Belt: American Geophysical Union Fall Meeting, December, 2004, EOS, v.85.
- McQuarrie, N.**, 2004, Reconstructing the Basin and Range Province: the evolution of an extensional orogen in time and space: Geological Society of America Abstracts with Programs, v. 36, n 6.
- McQuarrie, N.**, Lavier, L., 2003, Brittle to Viscous Transition: Modeling the Evolution of the Andean Plateau: EOS, v. 84 (invited).
- McQuarrie, N.**, Wernicke, B.P., 2003, Sequential Strain Maps of Continental Extension: Comparing Variations in Geologic to Geodetic Strain Rates in the Basin and Range: EOS, v.84
- McQuarrie, N.**, Lavier, L., 2003, Modeling the evolution of Cordilleran Plateaus, Geological Society of America Abstracts with Programs, v. 35, n 6.
- McQuarrie, N.**, Stock, J.M., Verdel, C., and Wernicke, B.P., 2002, Tracking the Demise of the Neotethys Ocean Between Arabia and Eurasia: EOS, v. 83.
- McQuarrie, N.**, 2002, Crustal scale geometry of the Zagros fold-thrust belt: Basement or no Basement? Geological Society of America Abstracts with Programs, v. 34, n 6.
- McQuarrie, N.**, 2002, The structural evolution of the Central Andean fold-thrust belt, Bolivia: 5th International Symposium on Andean Geodynamics, Toulouse, France, 2002.
- McQuarrie, N.**, Horton, B.K., Zandt, G., Beck, S., and DeCelles, P.G., 2001, Lithospheric Evolution of the Central Andean Fold-Thrust Belt: Making a High Elevation Plateau: EOS, v. 82. p. 1160.
- Niemi, N.A., **McQuarrie, N.**, Friedrich, A.M., Wernicke, B.P., and Sengor, A.M.C., 2001, A large, subduction generated syntaxis in the Gondwanides of southern Gondwana-land? Geological Society of America Abstracts with Programs, v. 33, n 6.
- McQuarrie, N.** and DeCelles, P.G., 2000, Backthrust, Megathrusts and the Construction of the Andean Plateau: EOS, v. 81 p. 1118.
- McQuarrie, N.** and Chase, C.G., 2000, The connection between the Colorado Plateau and the Rocky Mountain Region: crustal thickening via intra-crustal flow: Geological Society of America Abstracts with Programs, v. 32, No.7.
- McQuarrie, N.**, 1999, Balanced cross-sections across the Altiplano: implications for amounts of shortening in the Bolivian Andes: EOS, v. 80, p. 1058
- McQuarrie, N.**, 1999, Raising the Colorado Plateau by lower crustal flow: Geological Society of America Abstracts with Programs, v. 31, p. A-24.
- Rodgers, D.W., Ore, H.T., Bobo, R., Hodges, M.K.V., **McQuarrie, N.**, and Zentner, N., 1999, Late Cenozoic deformation of the eastern Snake River Plain: Geological Society of America Abstracts with Programs, v. 31, p. A-53.
- Link P.K., Rodgers, D.W., Riesterer, J.W., Crane, T.J., **McQuarrie, N.**, and Stanford, L.R., 1999, Geologic mapping under EDMAP near Pocatello, Idaho: Geological Society of America Abstracts with Programs, v. 31, p. A-21.
- McQuarrie, N.**, and Rodgers, D.W., 1997, Crustal flexure due to subsidence of the eastern Snake River Plain, Idaho: Geological Society of America Abstracts with Programs, v. 29 p. 348.
- Rodgers, D.W., **McQuarrie, N.**, and Othberg, K.L., 1997, New interpretations of stratigraphy and structure constrain the geologic framework for the Pocatello, Idaho area: Geological Society of America Abstracts with Programs, v. 29 p. 223.
- McQuarrie, N.**, and Rodgers, D.W., 1996, Crustal downwarping adjacent to the eastern Snake River Plain, Idaho: EOS, v. 77, p. F667.
- McQuarrie, N.**, 1993, Structural analysis of the Wallula Gap Fault, Southeastern Washington: Geological Society of America Abstracts with Programs, v. 25, no. 5, p. 119.