

Curriculum Vitae

Terry L. Spell

ADDRESS

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EDUCATION

- Ph.D. Geology, 1991, State University of New York, Albany, New York, Dissertation - "The application of microanalytical techniques in isotope geochemistry: 1. Single crystal $^{40}\text{Ar}/^{39}\text{Ar}$ dating of rhyolites in the Jemez Volcanic Field, New Mexico, with implications for evolution of the magma system. 2. Towards development of a laser microprobe Fourier transform mass spectrometer for U-Pb isotopic analysis of zircon", 275 pp.
- M.S. Geology, 1987, New Mexico Institute of Mining and Technology, Socorro, New Mexico, Thesis - "Geochemistry of Valle Grande Member ring fracture rhyolites, Valles Caldera, New Mexico", 213 pp.
- B.S. Geology, 1985, State University of West Georgia, Carrollton, Georgia, Senior Thesis - "Geology and geochemistry of rhyolites of the Helena Volcanic Field, Montana", 78 pp.

GRADUATE AND POST-GRADUATE ADVISORS

Ian McDougall (Australian National University)
T. Mark Harrison (University of California - Los Angeles)
Stephen E. DeLong (State University of New York - Albany)
Philip R. Kyle (New Mexico Tech)

RESEARCH INTERESTS

My research interests fall into three general areas; volcanology, thermochronology and development/intercalibration of isotopic dating techniques. Common to all of these areas of research is $^{40}\text{Ar}/^{39}\text{Ar}$ dating involving operations of the Nevada Isotope Geochronology Laboratory here at UNLV.

Large continental volcanic centers often generate shallow silicic magma bodies that produce caldera-forming events in which 100's to 1,000's km^3 of magma are erupted. The study of these volcanic systems has long been a focus of igneous petrology, yet in many ways they remain poorly understood. The most effective approach to understanding the evolution of these systems involves integration of high resolution $^{40}\text{Ar}/^{39}\text{Ar}$ dating with geochemical and isotopic data, especially at the intracrystalline scale. This allows precise chronologic constraints to be placed on eruptive volume and periodicity, genetic relationships between mafic, intermediate and silicic magmas, and the pre-eruptive temporal evolution of silicic magma systems. Current research in this area is aimed at providing constraints on the origin and petrogenesis of volcanic rocks associated with the multicyclic calderas of the Jemez volcanic field (New Mexico), Yellowstone volcanic field (Wyoming) and the laccolith-caldera complex exposed at the Solitario (Texas).

Major tectonic events, such as extensional thinning of continental crust leading to metamorphic core complex formation, induce a lithospheric scale thermal response. These thermal events are recorded in various isotopic systems contained within minerals of the rocks involved; thus by isotopic dating the timing, rates and duration of major tectonic events can be recovered. Current research in this area includes the thermochronology / tectonics of Cretaceous continental extension associated with breakup of the Pacific margin of Gondwana (Stewart Island, New Zealand), late Tertiary to Quaternary uplift and unroofing of the rocks along the Alpine fault due to convergence between the Pacific and Australian plates (South Island, New Zealand), and timing of extensional collapse of the Sevier Orogen (western North America).

In addition to these field based research areas, I have a long-standing interest in issues regarding development and intercalibration of isotopic dating methods. This includes both to interlaboratory calibrations involving age standards in $^{40}\text{Ar}/^{39}\text{Ar}$ dating and calibrations in which different isotopic dating methods are compared. Recent and active projects include intercalibration / characterization of $^{40}\text{Ar}/^{39}\text{Ar}$ dating standards, intercalibration of $^{40}\text{Ar}/^{39}\text{Ar}$ K-feldspar thermochronometry with other isotopic dating methods, development of cosmogenic ^{38}Ar as a dating tool, and work on dating timing of paleosol formation via authigenic clays.

MEMBERSHIPS

American Geophysical Union
Geological Society of America
Mineralogical Society of America
International Association of Volcanology and Chemistry of the Earth's Interior

GRANTS AND AWARDS

2007 – NSF SGER - Novel Approach to Arid Soil Dating: Extraction and $^{40}\text{Ar}/^{39}\text{Ar}$ Geochronology of Pedogenic Sepiolite and Palygorskite, \$29,936 (Co-PI Brenda Buck)
2003 - Texas A&M D.O.E. Reactor Sharing Grant - \$3,400
2002 - Texas A&M D.O.E. Reactor Sharing Grant - \$4,000
2001 - UNLV SITE Grant, Granite Mtns. Research - \$3,232
2001 - Texas A&M D.O.E. Reactor Sharing Grant - \$6,000
2000 – Texas A&M D.O.E. Reactor Sharing Grant - \$7,250
1999 – Texas A&M D.O.E. Reactor Sharing Grant - \$4,000
1998 – UNLV Faculty Travel Grant - \$400
1998 – Texas A&M D.O.E. Reactor Sharing Grant - \$5,000
1998 – NSF/EPSCoR – Supplement to Nevada Isotope Geochronology Laboratory - \$21,211
1997 - NSF/EPSCoR - Nevada Isotope Geochronology Laboratory - \$457,478
1986/1987 - Associated Western Universities Thesis Parts Program Grant - Los Alamos National Laboratory, New Mexico - Summer field support
1986 - New Mexico Geological Society Research Grant - \$500
1984 - American Mineralogist Undergraduate Award

EMPLOYMENT HISTORY

2002 - Present: Associate Professor, Department of Geoscience, University of Nevada, Las Vegas
1996 - 2002: Assistant Professor, Department of Geoscience, University of Nevada, Las Vegas
1994 - 1996: Research Assistant Professor, Department of Geosciences, University of Houston
1991 - 1994: Postdoctoral Fellow, Isotope Geochemistry Group, Research School of Earth Sciences, The Australian National University

- 1987 - 1991: Research/Teaching Assistant, Department of Geological Sciences, State University of New York at Albany, taught undergraduate labs in optical mineralogy, petrology and physical geology
- 1985 - 1987: Teaching Assistant, Department of Geosciences, New Mexico Tech, taught undergraduate labs in mineralogy, optical mineralogy, and petrology
- 1983 - 1985: Laboratory Technician, Department of Geology, State University of West Georgia

PUBLICATIONS (including in press)

- Kaymakci, N., Aldanmaz, E., Langereis, C., **Spell, T. L.**, Gurer, O. F., and Zanetti, K. A., 2007, Late Miocene transcurrent tectonics in NW Turkey: Evidence from palaeomagnetism and ^{40}Ar - ^{39}Ar dating of alkaline volcanic rocks, *Geological Magazine*, v. 144, p. 379-392.
- Verdel, C., Wernicke, B.P., Ramezani, J., Hassanzedeh, J., Renne, P.R., and **Spell, T.L.**, 2007, Geology and thermochronology of Tertiary Cordilleran-style metamorphic core complexes in the Saghand region of central Iran, *Geological Society of America Bulletin*, v. 119, no. 7/8, p. 961-977.
- Kula, J.L., Tulloch, A.J., **Spell, T.L.** and Wells, M.L., 2007, Two-stage rifting of Zealandia-Australia-Antarctica: evidence from $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronometry of the Sisters shear zone; Stewart Island, NZ, *Geology*, v. 35, no. 5, p. 411-414
- Edgar, C.J., Wolff, J.A., Olin, P.H., Nichols, H.J., Pittari, A., Cas, R.A.F., Reiners, P.W., **Spell, T.L.** and Marti, J., 2007, The late Quaternary Diego Hernandez Formation, Tenerife: a complex cycle of voluminous explosive phonolitic eruptions and the factors responsible, *Journal of Volcanology and Geothermal Research*, v. 160, p. 59-85.
- Tulloch, A.J., Beggs, M., Kula, J.K., **Spell, T.L.**, Mortimer, N., 2006, The Sisters Shear Zone, Cordillera Zealandia and their influence on the early development of the Great South Basin, *New Zealand Petroleum Conference Proceedings*, Paper #59, 11 p.
- Noble, D.C., Rios, C.A., Vidal, C.E., **Spell, T.L.**, Zanetti, K.A., Angeles, Z.C., Ochoa, J.L.A., and Cruz, S.R.C., 2005, Late Cretaceous basalt in the Rio Mala Valley, central Peru: Evidence for extension and mafic magmatism prior to Late Cretaceous – Paleocene plutonism and silicic volcanism, *Geological Society of Peru Special Volume #6*, p. 141-148.
- Noble, D.C., Vidal, C.E., Angeles, Z.C., Wise, J.M., Zanetti, K.A., and **Spell, T.L.**, 2005, Caldera related ash-flow tuff of Paleocene age in central Peru and its significance for Late Cretaceous and Paleocene magmatism, sedimentation and tectonism, *Geological Society of Peru Special Volume #6*, p. 127-140.
- Wells, M.L., Beyene, M.A., **Spell, T.L.**, Kula, J.L., Miller, D.A. and Zanetti, K.A., 2005, The Pinto Shear Zone; A Laramide Synconvergent Extensional Shear Zone in the Mojave Desert Region of the Southwestern Cordilleran Orogen, western United States, *Journal of Structural Geology*, Vol. 27/9, p. 1697-1720.
- Leavitt, E.D., **Spell, T.L.**, Wallace, A.R., Goldstrand, P.M., and Arehart, G.B., 2004, Geochronology of the Midas Low-sulfidation Epithermal Gold-Silver Deposit, Elko County, Nevada, *Economic Geology*, v. 99, p. 1665-1686.

- Bartolini, C., Lang, H., and **Spell, T.L.**, 2004, Geochronology, geochemistry, and tectonic setting of the Mesozoic Nazas Arc in North-Central Mexico, and its continuation to Northern South America, in C. Bartolini, R.T. Buffler, and J. Blickwede, eds. *The Circum-Gulf of Mexico and the Caribbean: Hydrocarbon Habitats, Basin Formation, and Plate Tectonics*, AAPG Memoir 79, p.427-461.
- Batt, G.E., Baldwin, S.L., Cottam, M., Fitzgerald, P.G., Brandon, M.T., and **Spell, T.L.**, 2004, Cenozoic Plate Boundary Evolution in the South Island of New Zealand: New Thermochronological Constraints, *Tectonics*, v. 23, No. 4, TC4001, 10.1029/2003TC001527.
- Reiners, P.W., **Spell, T.L.**, Nicolescu, S., and Zanetti, K.A., 2004, Zircon (U-Th)/He thermochronometry: He diffusion and intercalibration with $^{40}\text{Ar}/^{39}\text{Ar}$ dating, *Geochemica et Cosmochemica Acta*, v. 68, p. 1857-1887.
- Trop, J.M., Ridgway, K.D., and **Spell, T.L.**, 2003, Sedimentary record of transpressional tectonics and ridge subduction in the Tertiary Matanuska Valley-Talkeetna Mountains forearc basin, southern Alaska, *Geological Society of America Special Paper 371: Geology of a transpressional orogen developed during ridge-trench interaction along the north Pacific margin*, V.B. Sisson, S. Roeske, and T. L. Pavlis, eds., 353 p.
- Spell, T.L.**, Zanetti, K.A, Spencer, J.E., Richard, S.M., Ferguson, C.A., Skotnicki, S.J., and Orr, T., 2003 , Eighteen new $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronologic analyses from southern and central Arizona, *Arizona Geological Survey Open File Report 03-03*, 63 p.
- Spell, T.L.** and McDougall, I., 2003, Characterization and calibration of $^{40}\text{Ar}/^{39}\text{Ar}$ dating standards, *Chem. Geol.*, v. 198, p. 189-211.
- Davis, G.A., Yadong, Z., Darby, B.J. and **Spell, T.L.**, 2002, Geometric and temporal evolution of an extensional detachment fault, Hohhot metamorphic core complex, Inner Mongolia, China, *Geology*, v. 30, p. 1003-1006.
- Downing, R.F., Smith, E.I., Orndorff, R.L., **Spell, T.L.** and Zanetti, K.L., 2001, Imaging the Colorado Plateau - Basin and Range Transition Zone using basalt geochemistry, geochronology and geographic information systems: in Erskine, M.C., Faulds, J.E., Bartley, J.M., and Rowley, P.D., The Geologic Transition, High Plateaus to Great Basin-A Symposium and Field Guide, The J.H. Mackin Volume, Utah Geological Association Publication 30 and Pacific Section American Association of Petroleum Geologists Publication GB 78, p. 127-154.
- Spell, T.L.**, Smith, E.I., Sanford, A. and Zanetti, K.A., 2001, Systematics of xenocrystic contamination: Preservation of discrete feldspar populations at McCullough Pass Caldera revealed by $^{40}\text{Ar}/^{39}\text{Ar}$ dating, *Earth and Planetary Science Letters*. v. 190/3-4, p. 153-165.
- Justet, L. and **Spell, T.L.**, 2001, Effusive eruptions from a large shallow magma chamber: The Bearhead Rhyolite, Jemez Volcanic Field, New Mexico, *Jour. Volc. Geotherm. Res.*, v. 107, p. 241-264.
- Leavitt, E.D., Goldstrand, P., Schmidt, D., Wallace, A.R., **Spell, T.**, and Arehart, G., 2000, Geochronology of the Midas gold-silver deposit and its relationship to volcanism and mineralization along the northern Nevada rift, in Wallace, A.R., and John, D.A., (eds.), Volcanic history, structure, and mineral deposits of the north-central northern Nevada rift: *Geological Society of Nevada 2000 Symposium Field Trip Guidebook*, No.8, p.157-162.

- Spell, T.L.**, McDougall, I., and Tulloch, A.J., 2000, Thermochronologic constraints on the breakup of the Pacific Gondwana margin: The Paparoa Metamorphic Core Complex, South Island, New Zealand, *Tectonics*, v. 19, p. 433-451.
- Spell, T.L.**, Kyle, P.R., and Baker, J., 1996, Geochronology and geochemistry of the Cerro Toledo Rhyolite, *New Mexico Geological Society - 47th Annual Field Conference Guidebook*, p. 263-268.
- Spell, T.L.**, McDougall, I., and Doulgeris, A., 1996, Cerro Toledo Rhyolite, Jemez Volcanic Field, New Mexico: $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of the transition between two caldera forming eruptions, *Geol. Soc. Am. Bull.*, v. 108, p. 1549-1566.
- Stix, J., Layne, G.D., and **Spell, T.L.**, 1995, The behavior of light lithophile and halogen elements in felsic magma: Geochemistry of post-Valles caldera rhyolites, Jemez volcanic field, New Mexico, *J. Volcanol. Geotherm. Res.*, v. 67, p. 61-77.
- Spell, T.L.** and Harrison, T.M., 1993, $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology of post-Valles Caldera rhyolites, Jemez Mountains volcanic field, New Mexico, *J. Geophys. Res.*, v. 98, p. 8031-8051.
- Spell, T.L.**, DeLong, S.E., and Creasy, W.R., 1993, Characterization of Fourier transform ion cyclotron resonance mass spectrometry for quantitative isotope ratio measurements, *Int. Jour. Mass Spectrom. Ion Phys.*, v. 124, p. 223-239.
- Spell, T.L.**, Kyle, P.R., Thirlwall, M.F., and Campbell, A., 1993, Isotopic and geochemical constraints on the origin and evolution of postcollapse rhyolites in the Valles Caldera, New Mexico: *J. Geophys. Res.*, v. 98, p. 19,723-19,739.
- Spell, T.L.** and McDougall, I., 1992, Revisions to the age of the Brunhes - Matuyama boundary and the Pleistocene geomagnetic polarity timescale, *Geophys. Res. Lett.*, v. 19, p. 1181-1184.
- Self, S., Wolff, J.A., **Spell, T.L.**, Skuba, C.E., and Morrissey, M.M., 1991, Revisions to the stratigraphy and volcanology of the post-0.5 Ma units and the volcanic section of VC-1 core hole, Valles Caldera, New Mexico, *J. Geophys. Res.*, v. 96, p. 4107-4116.
- Spell, T.L.** and Norrell, G.T., 1990, The Ropes Creek assemblage: Petrology, geochemistry, and tectonic setting of an ophiolitic thrust sheet in the southern Appalachians, *Am. J. Science*, v. 290, p. 811-842.
- Spell, T.L.**, Harrison, T.M., and Wolff, J.A., 1990, $^{40}\text{Ar}/^{39}\text{Ar}$ dating of the Bandelier Tuff and San Diego Canyon ignimbrites, Jemez Mountains, New Mexico: Temporal constraints on magmatic evolution, *J. Volcanol. Geotherm. Res.*, v. 43, p. 175-193.
- Spell, T.L.** and Kyle, P.R., 1989, Petrogenesis of Valle Grande Member rhyolites, Valles Caldera, New Mexico: Implications for evolution of the Jemez Mountains magmatic system, *J. Geophys. Res.*, v. 94, p. 10379-10396.

PAPERS IN REVIEW

- Wells, M.L., **Spell, T.L.**, Zanetti, K.A., and Hoisch, T.D., in review, Laserprobe argon dating of strain fringes: Mid-Cretaceous synconvergent orogen-parallel extension in the interior of the Sevier orogen, *Tectonics*.

Wise, J.M., Noble, D.C., **Spell, T.L.**, and Zanetti, K.A., in review, Timing of the Quechua II contraction in the Ayacucho intermontane basin: evidence for episodic deformation in the central Peruvian Andes, *Journal of South American Earth Sciences*.

Onal, A., Boztug, D., Mehmet, A., **Spell, T.L.**, Kurum, S., in review, $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology and geochemistry of felsic and mafic lavas of the bi-modal Orduzu (Malatya) volcanic system of the Neogene Yamada volcanism of Eastern Anatolia, Turkey, *Geological Magazine*.

Kurum, S., Onal, A., Boztug, D., **Spell, T.L.**, Arslan, M., in review, $^{40}\text{Ar}/^{39}\text{Ar}$ age determination and geochemistry of the Yamadag volcanics in the Arapgir area (Malatya province), Eastern Anatolia, Turkey, *Journal of Asian Earth Sciences*.

PAPERS IN PREPARATION

Justet, L. and **Spell, T.L.**, New $^{40}\text{Ar}/^{39}\text{Ar}$ ages from the Jemez Volcanic Field, NM: Periodic volcanism culminating in two major silicic phases, to be submitted to *Jour. Geophys. Res.*

Spell T.L., Tulloch A.J., and Allibone, A., Assembly and breakup of the Pacific Gondwana Margin: The geologic record from Stewart Island, New Zealand, to be submitted to *Tectonics*

Spell, T.L., Kyle, P.R., Thirlwall, M.F., and Chivas, A.R., Evolution of the Bandelier magma system during multicyclic caldera collapse events: Isotopic and geochemical constraints from the Cerro Toledo Rhyolite, to be submitted to *Jour. Geophys. Res.*

Kula, J.K., Zanetti, K.A. and **Spell, T.L.**, $^{40}\text{Ar}/^{39}\text{Ar}$ age spectra from artificially mixed micas, to be submitted to *Chemical Geology*

PAPERS PRESENTED AT PROFESSIONAL MEETINGS

Wooton, K.M. and **Spell, T.L.**, 2007, Latest Yellowstone Volcanism: Roaring Mountain Rhyolites, Yellowstone Volcanic Field, Wyoming, accepted for GSA National Meeting, October.

Wells, M.L., Spell, T.L., Arriola, T. and Hoisch, T.D., 2007, A Mid-Cretaceous Age for Orogen Parallel Extension in the Interior of the Sevier Orogen Constrained by Laserprobe $^{40}\text{Ar}/^{39}\text{Ar}$ Dating of Strain Fringes, accepted for GSA National Meeting, October.

Kula, J.L., Tulloch, A.J., **Spell, T.L.**, and Wells, M.L., 2006, $^{40}\text{Ar}/^{39}\text{Ar}$ Thermochronometry of the Sisters Shear Zone, Stewart Island, New Zealand; Implications for Driving Mechanisms and Multi-Stage Breakup of the Pacific Margin of Gondwana: *EOS Trans. Am. Geophysical Union*, 87(52), Fall Meet. Suppl., Abstract T53A-1588

Kula, J.L., Tulloch, A.J., **Spell, T.L.**, Wells, M.L., 2005, Timing of continental extension leading to separation of eastern New Zealand from west Antarctica; $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronometry from Stewart Island, NZ: *Geol. Soc. Am. Abstr. w/ Prog.*, v. 37.

Spell, T.L., Smith, E.I., Nastanski, N., and Bennett, K., 2004, Establishment and Evolution of a new Silicic Magma System North of Yellowstone Caldera: Geochronology, Geochemistry and Petrographic Relationships of Extracaldera Basalts and Rhyolites in the Norris-Mammoth Corridor: *EOS Trans. Am. Geophysical Union*, v. 85, no. 47, Abstract V52B-08.

Spell, T.L., and Nastanski, N., 2004, Ion Microprobe $^{206}\text{Pb}/^{238}\text{U}$ and $^{230}\text{Th}/^{238}\text{U}$ Zircon Ages from Extracaldera Rhyolites at Yellowstone: Constraints on Magma Residence Times and Evolution, *Geol. Soc. Am. Abstr. w/ Prog.*, Vol. 36, No. 5, p. 431-432.

- Nastanski, N, and **Spell, T.L.**, 2004, Extracaldera rhyolites north of the Yellowstone Plateau Volcanic Field caldera complex: An evolving silicic magma system and site of future large volume eruptions?, *Geol. Soc. Am. Abstr. w/ Prog.*, Vol. 36, No. 5, p. 431.
- Nastanski, N, and **Spell, T.L.**, 2004, Do the young extracaldera rhyolites north of Yellowstone Caldera mark the beginnings of a 4th volcanic cycle in the Yellowstone Plateau Volcanic Field?, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 36, No. 4, p. 11.
- Wells, M.L., Sheeley, J.C., **Spell, T.L.**, Kelly, E.D., and Hoisch, T.D., 2004, Eocene extension in northwestern Utah-southern Idaho: Early motion on the polyphase Middle Mountain shear zone: *Geol. Soc. Am. Abstr. w/ Prog.*, v. 36, p. 73.
- Spell, T.L.**, Henry, C., and James, E.J., 2003, Crustal and mantle sources of magmas from the Solitario laccolith/caldera complex, southwest Texas, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 35, n. 6, p. 325.
- Leavitt, E., **Spell, T.L.**, Wallace, A.R., Goldstrand, P., and Arehart, G.B., 2003, Volcano-Tectonic setting of the Midas epithermal vein deposit, Elko County, Nevada, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 35, n. 4, p. 61.
- Justet, L. and **Spell, T.L.**, 2002, Re-examining the Petrogenesis of the Tschicoma Dacite, Jemez Volcanic Field, NM: Geochemical and Geochronologic Evidence for Distinct Pulses of Volcanism, *EOS Trans. AGU* 83 (47), Fall Meeting Supplement, p. F1437.
- Wells, M.L., **Spell, T.L.**, and Grove, M., 2002, Late Cretaceous intrusion and extensional exhumation of the Cadiz Valley Batholith, Iron Mountains, southeastern California, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 34, n. 6, p. 178.
- Justet, L. and **Spell, T.L.**, 2002, New ⁴⁰Ar/³⁹Ar ages from the Jemez Volcanic Field, NM: Periodic volcanism culminating in two major silicic phases, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 34, n. 6, p. 341.
- Kula, J., **Spell, T.L.**, and Wells, M.L., 2002, Syntectonic intrusion and exhumation of a Mesozoic plutonic complex in the late Cretaceous, Granite Mountains, southeastern California, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 34, n. 6, p. 249.
- Reiners, P.W., and **Spell, T.L.**, 2002, Intercalibration of zircon (U-Th)/He and K-feldspar ⁴⁰Ar/³⁹Ar thermochronometry, V.M.Goldschmidt Conference abstracts, p. A632.
- Garcia, C., Erickson, R., and **Spell, T.L.**, 2002, Petrology of the Salt Creek Pluton, Northern Salt Spring Hills, Ca, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 34, n. 5, p. 121.
- Schiefelbein, I.M., Taylor, W.J., and **Spell, T.L.**, 2001, Fault geometry and linkage along normal faults: Examples from the Sevier Fault, SW Utah, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 33, n. 6, p. A-25.
- Sheely, Jay C., Wells, M., and **Spell, T.L.**, 2001, Timing and kinematics of an Eocene-Miocene shear zone: Grouse Creek Mountains, Utah, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 33, n. 6, p. A-148.
- Cornell, D., Butler, T., Holm, D., Hacker, D., and **Spell, T.L.**, 2001, Stratigraphy and Ar/Ar ages of volcanic rocks of the Pinto Quadrangle, Colorado plateau transition zone, SW Utah, AAPG meeting.

- Beyene, M.A., Wells, M.L., and **Spell, T.L.**, 2000, Late Cretaceous extension, Pinto Shear Zone, New York Mountains, northeastern Mojave desert, California, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 32, n. 6, p. A-3.
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- Trop, J.M., Ridgway, K.D., and **Spell, T.L.**, 2000, Tectonic controls on nonmarine deposystems in a Tertiary forearc basin, Matanuska Valley-Talkeetna Mountains, Southern Alaska, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 32, n. 7, p. A-305.
- Wells, M.L., **Spell, T.L.**, and Zanetti, K., 2000, Laserprobe $^{40}\text{Ar}/^{39}\text{Ar}$ dating of strain fringes: Albian orogen-parallel extension in the hinterland of the Sevier orogen, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 32, n. 7, p. A-106.
- Tucker, P., Hassanipak, A.A., **Spell, T.L.**, and Ghazi, A.M., 2000, Geochemistry, Petrology and $^{40}\text{Ar}/^{39}\text{Ar}$ Ages of the Shahr-e-Babak Ophiolite, Central Iran, *EOS Trans. Am. Geophysical Union*, v. 81, n. 46, p. F1280-1281.
- Sanford, A.L., Smith, E.I., and **Spell, T.L.**, 1999, The McCullough Pass Caldera, Southern Nevada: Geometry of a Relatively Undeformed Volcanic Center in the Highly Extended Northern Colorado Extensional Corridor, *Geol. Soc. Am. Abstr. w/ Prog.*, v. 31, n. 7, p. A-262.
- Spell T.L.**, Tulloch A.J., Allibone, A., Walker, N.L., 1999, Assembly and breakup of the Pacific Gondwana Margin: Another Piece of the puzzle from Stewart Island, New Zealand, *EOS Trans. Am. Geophysical Union*, v. 80, n. 46, p. F1070.
- Copeland, P. and **Spell, T.L.**, 1998, A proposal for the testing of $^{40}\text{Ar}/^{39}\text{Ar}$ dating accuracy, Annual Joint Meeting, *Geological Association of Canada and Mineralogical Association of Canada*, Quebec City, Abstract volume 23, p. A-36.
- Grantham, G.H., Guise, P.D., **Spell, T.L.**, and Havenga, A., 1998, The Chronology of Jurassic intrusions, H.U. Sverdrupfjella, Dronning Maud Land, Antarctica, in Gondwana 10; Event stratigraphy of Gondwana, eds. Almond, J., Anderson, J., Booth, P., Chinsamy-Turan, A., Cole, D., and DeWit, M.J., Pergamon, London, v. 27, p. 93.
- Justet, L. and **Spell, T.L.**, 1998, Effusive eruptions from a large shallow magma chamber?: The geochronology and geochemistry of the Bearhead Rhyolite, Jemez Volcanic Field, New Mexico, *EOS Trans. Am. Geophysical Union*, v. 79, p. 925.
- Spell, T.L.** and Henry, C.D., 1998, Geochronology and geochemical evolution of the Solitario laccolith/caldera complex, southwest Texas, *EOS Trans. Am. Geophysical Union*, v. 79, p. 976.
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PROFESSIONAL PRESENTATIONS - INVITED

University of Nevada, Reno, Department of Geological Sciences, November 21, 2003, "The Hohonu Batholith, New Zealand: A 380 Ma History of Tectonics"

University of New Mexico, Department of Earth and Planetary Science, March 1, 2002, "Thermochronology of South Island, New Zealand: Alternating Contractional and Extensional Tectonics"

University of Nevada, Las Vegas, Department of Geoscience, September 12, 2001, “The Hohonu Batholith, New Zealand: A 380 Ma History of Tectonics”

New Mexico Tech, Department of Earth and Environmental Science, April 12, 2001, “Thermochronology of the Alpine Fault, New Zealand”

Washington State University, Department of Geology, April 14, 2000, “Stewart Island, New Zealand: A Record of Cretaceous Extensional Tectonics”

California Institute of Technology, Division of Geological and Planetary Sciences, September 26, 1997, “Thermochronology of the Paparoa Metamorphic Core Complex, South Island, New Zealand: A Record of Continental Breakup”

University of Nevada, Reno, Department of Geological Sciences, October 18, 1996, “Evolution of a Large Silicic Magma System Between Two Caldera-Forming Eruptions: Jemez Volcanic Field, New Mexico”

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