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Education:

1988 Ph.D. Geology, State University of New York at Albany
1984 M.Sc. Geology, State University of New York at Albany
1980 B.Sc. Geology, Hobart & William Smith Colleges, Geneva, NY

Professional Experience:

2014-present Michael G. & Susan T. Thonis Professor of Earth Sciences, Syracuse University
2000-present Director, Syracuse University Noble Gas Isotopic Research Laboratory Associate → Full Professor, Dept. of Earth Sciences, Syracuse University, NY
1997-2000 Associate Professor, Geosciences Department, University of Arizona, Tucson, AZ
1991-1997 Assistant Professor, Geosciences Department, University of Arizona, Tucson, AZ
1988-1991 Postdoctoral Fellow, Geochronology and Isotope Geochemistry, Research School of Earth Sciences, Australian National University, Canberra, Australia
1982 Earth Science & Physics Teacher, Masters School, Dobbs Ferry, New York
1980-1981 Processing Geophysicist, Western Geophysical Co. of America, Englewood, CO

Professional Awards and Affiliations

2016 Erskine Fellowship, Canterbury University, Christchurch, New Zealand
2014 inaugural Michael G. & Susan T. Thonis Professor of Earth Sciences, Syracuse University
2014 appointed to the International Standing Committee on Thermochronology
2014 member of NSF appointed committee to assess Challenges and Opportunities for U.S. Geochronology
2010 Syracuse University Chancellor's Citation for Faculty Excellence and Scholarly Distinction
2006 inaugural Marie Tharp Fellow, The Earth Institute at Columbia University, NYC
2005 Geological Society of America Fellow
2008-2005 International Union of Geological Sciences, Commission on Solid Earth Composition & Evolution
2005 International Lithosphere Program, Task Force IV Scientific Committee on "Ultra-Deep Continental Crust Subduction"
2002- Geology Research Associate in the Research and Collections Division, NY State Museum, Albany, NY
Membership in: American Geophysical Union, Geological Society of America (Fellow), Geochemical Society, New Zealand Antarctic Society, The Antarctic Society,

Geological Society of New Zealand, Association of Women Geoscientists, Women in Science and Engineering, Sigma Xi, 500 Women Scientists

CURRENT RESEARCH INTERESTS

- Noble gas studies in Earth and Planetary Sciences
- Application of thermochronology, petrology, and structural geology to tectonics
- Pressure-temperature-time-deformation (P-T-t-D) evolution of plate boundary zones
- Extensional tectonics

PUBLICATIONS

Google Scholar: 4731 citations; h-index 37; i-10 index 57

Report to the U.S. National Science Foundation

Harrison, T.M., Baldwin, S.L., M. Caffee, G. Gehrels, Schoene, B.L., Shuster, D.S., Singer, B., 2015. It's About Time: Opportunities and Challenges to U.S. Geochronology. Institute of Geophysics and Planetary Physics Publication 6539, University of California, Los Angeles, 56. pp.

Chapters in Scholarly Books and Monographs

Baldwin S.L., Fitzgerald P.G., Malusà M.G. (2019) Crustal Exhumation of Plutonic and Metamorphic Rocks: Constraints from Fission-Track Thermochronology. In: Malusà M., Fitzgerald P. (eds) Fission-Track Thermochronology and its Application to Geology. Springer Textbooks in Earth Sciences, Geography and Environment. Springer, https://doi.org/10.1007/978-3-319-89421-8_13.

Baldwin, S.L., T. Rawling and P.G. Fitzgerald, 2007, Thermochronology of the New Caledonia high pressure terrane: Implications of mid-Tertiary plate boundary in processes in the southwest Pacific, *in* Convergent Margin Terranes and Associated Regions: A Tribute to W.G. Ernst, Geological of America Special Paper 419, Editors M. Cloos, W. D. Carlson, M. C. Gilbert, J. G. Liou, and S. S. Sorensen, p. 117-134.

Baldwin, S.L., 1996, Contrasting P-T-t histories for blueschists from the western Baja terrane and Aegean: effects of synsubduction exhumation and backarc extension, *in* Bebout, G.E., Scholl, D.W., Kirby, S.H., and Platt, J.P., Subduction Top to Bottom, American Geophysical Union, p. 135-141.

Refereed Journal Articles (*denotes student co-author)

Baldwin, S.L., *Schönig, J., *Gonzalez, J.P., Davies, H., von Eynatten, H., Garnet sand reveals rock recycling processes in the youngest exhumed high- and ultrahigh-pressure terrane on Earth, Proceedings of the National Academy of Sciences, Jan 2021, 118 (3) e2017231118; DOI:10.1073/pnas.2017231118.

*Gonzalez, J.P., Baldwin, S.L., Thomas, J.B., Nachlas, W.O., and Fitzgerald, P.G., Evidence for ultrahigh-pressure metamorphism discovered in the Appalachian orogen, Geology (Boulder) (June 2020) 48 (10): 947-951.

Jordan, T., Fulton, P., Tester, J., Bruhn, D., Asanuma, H., Harms, U., Wang, C., Schmitt, D., Vardon, P.J., Hofmann, H., Pasquini, T., Smith, J., and the workshop participants, Borehole research in New York State can advance utilization of low-

enthalpy geothermal energy, management of potential risks, and understanding of deep sedimentary and crystalline geologic systems, *Sci. Dril.*, 28, 75–91, 2020.
<https://doi.org/10.5194/sd-28-75-2020>.

- Nachlas, W., Baldwin, S., Thomas, J., & Ackerson, M. (2020). Investigation of N in Ammonium-bearing Silicates with Electron Probe Microanalysis (EPMA). *Microscopy and Microanalysis*, 26(S2), 42-43. doi:10.1017/S1431927620013203
- Faryad, S.W., Baldwin, S.L., Jedlicka, R., Ježek, J., 2019, Two-stage garnet growth in coesite eclogite from the southeastern Papua New Guinea (U)HP terrane and its geodynamic significance *Contributions to Mineralogy and Petrology*, 174: 73. <https://doi.org/10.1007/s00410-019-1612-4>.
- *Gonzalez, J., Thomas, J.B., Baldwin, S.L., Alvaro, M. 2019, Quartz-in-Garnet and Ti-in-Quartz (QuiG-TiQ) thermobarometry: methodology and first application to a quartzofeldspathic gneiss from eastern Papua New Guinea, *Journal of Metamorphic Geology*, DOI: 10.1111/jmg.12508
- *Gonzalez, J., and Baldwin, S. L., Modeling white mica pressure-temperature-time (P-T-t) paths using $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronologic and thermobarometric data, *Terra Nova*. 2019; 00:1–10. <https://doi.org/10.1111/ter.12381>.
- *Osborne, Z.R., Thomas, J.B., Nachlas, W.O., Baldwin, S.L., Holycross, M.E., Spear, F.S., and Watson E.B., 2019, An experimentally calibrated thermobarometric solubility model for titanium in coesite (TitaniC), *Contributions to Mineralogy and Petrology*, 174:34, <https://doi.org/10.1007/s00410-019-1575-5>.
- Liao, J., Malusà, M.G., Liang, Z., Baldwin, S.L., Fitzgerald P.G., and Gerya, T., 2018, Divergent plate motion drives rapid exhumation of (ultra)high pressure rocks, *Earth and Planetary Science Letters*, 491, 67-80. <https://doi.org/10.1016/j.epsl.2018.03.024>.
- Das, J.P., Baldwin, S.L., Delano, J.W., 2016, $^{40}\text{Ar}/^{39}\text{Ar}$ and cosmic ray exposure ages of plagioclase-rich lithic fragments from Apollo 17 regolith, 78461, *Earth, Planets, and Space*, 68:11, DOI 10.1186/s40623-016-0381-9.
- Harrison, M., S. Baldwin, M. Caffee, G. Gehrels, B. Schoene, D. Shuster, and B. Singer (2015), Geochronology: It's about time, *Eos*, 96, doi:10.1029/2015EO041901. Published on 28 December 2015.
- Baldwin, S.L., Das, J.P., 2015, Atmospheric Ar and Ne returned from mantle depths to the Earth's surface via forearc recycling, *Proc. National Academy of Sci.*, www.pnas.org/cgi/doi/10.1073/pnas.142412211.
- Malusà, M.G., Faccenna, C., Baldwin, S.L., Fitzgerald, P.G., Rossetti, F., Balestrieri, M.L., Danišik, M., Ellero, A., Ottria G., Piromallo, C., 2015, Contrasting styles of (U)HP exhumation along the Cenozoic Adria-Europe plate boundary (Western Alps, Calabria, Corsica), *Geochem. Geophys. Geosyst.*, 16, doi:10.1002/2015GC005767.
- Baldwin, S.L., 2015, Zircon dissolution and growth during metamorphism, *American Mineralogist*, <http://dx.doi.org/10.2138/am-2015-5279>.
- * Gombosi, D.J., Baldwin, S.L., Watson, E.B., Swindle, T.D., Delano, J.W., Roberge, W.G., 2015, Argon Diffusion in Apollo 16 Impact Glass Spherules:

Implications for $^{40}\text{Ar}/^{39}\text{Ar}$ Dating of Lunar Impact Events *Geochimica et Cosmochimica Acta*, 251-268, doi.org/10.1016/j.gca.2014.09.031.

- *Zirakparvar, A., Baldwin S.L., and Schmitt, A.K., 2014, Zircon growth in (U)HP quartzofeldspathic host gneisses exhumed in the Woodlark Rift of Papua New Guinea, *Geochem. Geophys. Geosyst.*, 15, 1258–1282, doi:10.1002/2013GC004964.
- Bröcker, M., Baldwin, S. & *Arkudas, R. (2013). The geologic significance of $^{40}\text{Ar}/^{39}\text{Ar}$ and Rb–Sr white mica ages from Syros and Sifnos, Greece: a record of continuous (re)crystallization during exhumation? *Journal of Metamorphic Geology*, DOI: 10.1111/jmg.12037.
- *Gombosi, D.J., Garver, J., Baldwin, S.L., 2013, On the development of electron probe zircon fission track thermochronology, *Chemical Geology*, doi: 10.1016/j.chemgeo.2013.11.005.
- *Zirakparvar, N.A., Baldwin, S.L., Vervoort, J.D., 2013, The origin and evolution of the Woodlark Rift of Papua New Guinea, *Gondwana Research*, 23, 931-943; doi: 10.1016/j.gr.2012.06.013.
- Baldwin, S.L., Fitzgerald, P.G., and Webb, L.E., 2012, Tectonics of the New Guinea region, *Annu. Rev. Earth Planet. Sci.* 40:495-520. 10.1146/annurev-earth-040809-152540.
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- *Zirakparvar, N.A., Baldwin, S.L., Vervoort, J.D., 2012, The origin and evolution of the Woodlark Rift of Papua New Guinea, *Gondwana Research*; doi: 10.1016/j.gr.2012.06.013
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- Little, T.A., Hacker, B.R., Gordon, S.M., Baldwin, S.L., Fitzgerald, P.G., Ellis, S., *Korchinski, M., 2011, Diapiric exhumation of Earth's youngest (UHP) eclogites in the gneiss domes of the D'Entrecasteaux Islands, Papua New Guinea, *Tectonophysics*, 510, 39-68.

- *Zirakparvar N.A., S.L. Baldwin, J.D. Vervoort, 2011. Lu–Hf garnet geochronology applied to plate boundary zones: Insights from the (U)HP terrane exhumed within the Woodlark Rift, *Earth and Planetary Science Letters*, Volume 309, Issue 1-2, p. 56-66.
- *Beamud, E., J.A. Munoz, P.G. Fitzgerald, S.L. Baldwin, M. Garcés, L. Cabrera and J.R. Metcalf, 2010. Magnetostratigraphy and detrital apatite fission track thermochronology in syntectonic conglomerates: constraints on the exhumation of the South-Central Pyrenees. *Basin Research*. DOI: 10.1111/j.1365-2117.2010.00492.x
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- Metcalf, J.R., Fitzgerald, P.G., Baldwin, S.L., Muñoz J.-A., 2009. Thermochronology of a convergent orogen: constraints on the timing of thrust faulting and subsequent exhumation of the Maladeta Pluton in the Central Pyrenean Axial Zone *Earth and Planetary Science Letters* 287, 488–503.
- Baldwin, S.L., Webb, L.E., and Monteleone, B.D., 2008. Late Miocene coesite-eclogite exhumed in the Woodlark Rift, *Geology*, v. 36; no. 9; p. 735–738; doi: 10.1130/G25144A.1.
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- Little, T. A., S. L. Baldwin, P. G. Fitzgerald, and B. Monteleone, 2007, Continental rifting and metamorphic core complex formation ahead of the Woodlark spreading ridge, D'Entrecasteaux Islands, Papua New Guinea, *Tectonics*, 26, TC1002, doi:10.1029/2005TC001911.
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- Batt, G.E., Baldwin, S.L., *Cottam, M.A., Fitzgerald, P.G., Brandon, M.T., Spell, T.L., 2004, Cenozoic plate boundary evolution in the South Island of New Zealand: New thermochronological constraints, *Tectonics*, Vol. 23, No. 4, TC4001, 10.1029/2003TC001527.
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- Fitzgerald, P.G., Muñoz, J.A., Coney, P.J. and Baldwin, S.L., 1999, Asymmetric exhumation across the Pyrenean orogen: implications for the tectonic evolution of collisional orogens, *Earth and Planetary Science Letters*, 173, 157-170.
- Baldwin, S.L., and Lister, G.S., 1998, Thermochronology of the South Cyclades Shear Zone, Ios, Greece: the effects of ductile shear in the argon partial retention zone (PRZ), *Journal of Geophysical Research*, 103(B4), 7315-7336.
- *Bonini, J.A., and Baldwin, S.L., 1998, Mesozoic metamorphic and Mid to Late Tertiary magmatic events on Magdalena and Santa Margarita Islands, Baja California Sur, Mexico: implications for the tectonic evolution of the Baja California continental borderland, *Geological Society of America Bulletin*, 110(8), 1094-1104.
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- Lister, G.S., and Baldwin, S.L., 1996, Modelling the effect of arbitrary P-T-t histories on argon diffusion in minerals using the MacArgon program for the Apple Macintosh: *Tectonophysics*, v. 253, p. 83-109.

- Baldwin, S.L., and Ireland, T., 1995, A tale of two eras: Plio-Pleistocene unroofing of Cenozoic and Late Archean zircons from active metamorphic core complexes, Solomon Sea, Papua New Guinea: *Geology*, 23, 1023-1026.
- *Burkland, M.K., Swindle, T.D., and Baldwin, S.L., 1995, Isothermal heating experiments on Bjurböle: Implications for the release mechanisms of radiogenic ^{129}Xe : *Geochimica et Cosmochimica Acta*, 59(10), 2085-2094.
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Chapters in Field Trip Guidebooks

*Vandenberg, L., Lister, G., and Baldwin, S.L., 1996, The lower plate of the Ios core complex, Traverse 1, in *Inside the Aegean Metamorphic Core Complexes*, Lister, G., and Forster, M., eds. Australian Crustal Research Centre Technical Publication 45, 27-34.

Technical Reports

Fitzgerald, P.G., Baldwin, S.L., *Miller, S.R., and Dingle, G., 1996, Geologic and Thermochronologic studies along the front of the Transantarctic Mountains near the Shackleton and Liv Glaciers: *Antarctic Journal of US*, 31(2), 20-22.

*Miller, S.R., Fitzgerald, P.G., Baldwin, S.L., and Dingle, G., 1996, Structural and geomorphological observations at Cape Surprise, Shackleton Glacier area: *Antarctic Journal of US*, 31(2), 23-25.

Conference and Other Reports

Baldwin, S.L., and Lister, G.S., 1999, Penrose Conference Report: Mid-Cretaceous to Recent Plate Boundary Processes in the Southwest Pacific, *G.S.A. Today*, vol.9, no.10, p.13-15.

GRANTS AND CONTRACTS

Federal

Storage and diffusion of carbon and nitrogen in crustal materials, Department of Energy, Baldwin, S.L., PI, SU award \$299,997; collaborative with RPI, Watson E.B., Schaller, M., PIs. 09/01/2016-08/31/2021, with two year no cost extension.

MRI: Acquisition of an electron microprobe at Syracuse University: a central New York regional user facility, NSF MRI, Thomas, J., PI, Baldwin, S.L., Samson, S.D., Gilbert, J., co-PIs, \$836,819, 09/16 –09/17.

Setting the Stage for Life: From Interstellar Clouds to early Earth and Mars, NASA Astrobiology Institute, 1/1/09-12/31/15 (with no-cost extension), Whittet, D. PI, Watson, E.B., Ciolek, G., Ferris J., Delano J., Gaffey, M., Baldwin, S.L., Wayne Roberge, W., Swindle T., McGown, L. co-PIs. \$7.891 million; \$454,371 SU component.

Collaborative Research: How Is Rifting Exhuming the Youngest HP/UHP Rocks on Earth?, NSF EAR Continental Dynamics Program, 7/1/08-7/31/14 (with no-cost extensions) Baldwin, S.L., PI, Abers, G., Buck, R. Gaherty, J., Hacker, B., Fitzgerald, P., Mann, P., Plank, T., Webb, L., co-PIs, \$3.596 million; SU component \$1,282,741.

Experimental Determination of Ar and Ne Diffusivities in Lunar Impact Glasses, NASA Earth and Space Science Fellowship, 9/1/10-8/31/13, Suzanne Baldwin PI, David Gombosi PhD fellowship recipient, \$74,326.

- Along-Strike Variation of the Uplift and Exhumation of the Pyrenean Orogen: Constraining the Evolution of an Intraplate Collisional Orogen, Fitzgerald, P.G., and Baldwin, S.L., PIs, NSF-EAR Tectonics Program, 7/1/06-6/30/09, \$315,146.
- Marie Tharp Fellowship, The Earth Institute at Columbia University, Lamont-Doherty Earth Observatory, NSF ADVANCE Program, 2/06-5/06, \$30,000.
- Phase II Technician Support: Syracuse University Noble Gas Isotope Research Laboratory (SUNGIRL)", Baldwin, S.L., Fitzgerald, P.G., PIs, \$150,000, NSF-EAR Instrumentation and Facilities Program, 7/1/05-6/30/07.
- Acquisition of an Excimer Laser System for Syracuse University Noble Gas Isotope Research Laboratory (SUNGIRL), NSF-EAR Instrumentation and Facilities Program, Baldwin, S.L., and Webb, L.E., PIs, \$77,340, 12/15/03 - 12/14/05.
- Continental Extension in the Western Woodlark Basin: P-T-t-D constraints from Normanby and Misima Islands, NSF-EAR Tectonics Program Baldwin S.L., P.I., Fitzgerald, P.G. co-PI, \$312,000, 6/01/02-5/31/05.
- Travel to NSF sponsored Workshop on "Thermal processes in the context of EarthScope", Salt Lake City, UT, March 2004.
- Supplement Tracking the West Antarctic rift flank, National Science Foundation OPP-9615294 (Fitzgerald, P.G., and Baldwin, S.L., PIs), \$70,000, 9/1/02 - 8/31/03.
- Technician support: Syracuse University Noble Gas Isotope Research Laboratory (SUNGIRL), EAR 01-30833 (Baldwin, S.L., and Fitzgerald, P.G., PIs), \$210,000, 3/1/02 - 2/29/05.
- Travel to NSF sponsored Margins Education and Planning Workshop on "Rupturing of Continental Lithosphere in the Gulf of California/Salton Trough Region", Puerto Vallarta, Mexico, October 2000.
- Travel to NSF-OPP sponsored Antarctic Neotectonics workshop, Ceresa di Pontignano (Siena, Italy), July 11-15th, 2001.
- An In-Situ Geochronology System based on laser-induced breakdown spectroscopy and noble gas mass spectrometry, NASA, (Swindle, T.D., P.I.; Chutjian, A., Cremers, D., Baldwin, S.L., Boynton, W.V., Kring, D.A., Darrach, M., co-Is/collaborators) \$651,934, 2/1/00- 1/31/03.
- Collaborative Research: Exhumation of the Transantarctic Mountains: constraints from (U-Th)/He dating of apatites, National Science Foundation, (Fitzgerald, P.G., Baldwin, S.L., co-PIs) \$65,000, 6/1/00-5/31/02; collaborative with Farley, K.A., Caltech.
- Collaborative Research: Investigation of the evolution of the Southern Alps of New Zealand through thermochronologic analysis of west coast granites, National Science Foundation, (Brandon, M.T., Batt, G.E., Baldwin, S.L., co-PIs) \$222,244, 12/1/99-12/1/01.
- P-T-t histories of basement rocks recovered from ODP Leg 180: Active Continental Extension in the Western Woodlark Basin, JOI/Texas A&M Research Foundation, (Baldwin, S.L., PI), \$46,894, 12/1/98-6/1/01.

Support for Penrose Conference on Mid-Cretaceous to Recent Plate Boundary Processes in the Southwest Pacific; National Science Foundation (Baldwin, S.L., and Lister, G.S., co-convenors), \$15,000, March 1999.

Penrose Conference: Mid-Cretaceous to Recent Plate Boundary Processes in the Southwest Pacific; Geological Society of America (Baldwin, S.L., and Lister, G.S., co-convenors), \$4,000, March 1999.

Technician Support: Noble Gas Mass Spectrometry Laboratory; National Science Foundation (Baldwin, S.L., Swindle, T.D., and Zreda, M., PIs), \$52,000, February 1, 1998 - February 1, 2000.

REU Supplement, Tracking the West Antarctic Rift flank; National Science Foundation, Office of Polar Programs (Fitzgerald, P.G. and Baldwin, S.L., PIs), \$5,000, September 1, 2002 – August 31, 2004.

Tracking the West Antarctic Rift flank; National Science Foundation, Office of Polar Programs (Fitzgerald, P.G. and Baldwin, S.L., PIs), \$465,035, July 1, 1998- June 30, 2002.

Upgrade of mineral separation laboratory and thermochronology research facilities; National Science Foundation (Baldwin, S.L. and Fitzgerald, P.G., PIs), \$30,000, June 1, 1995 - August 31, 1997.

Technician Support: Noble Gas Mass Spectrometry Laboratory; National Science Foundation (Baldwin, S.L. and Swindle, T.D., PIs), \$60,000, August 1, 1994-January 31, 1998.

Noble gas studies of early solar system history; National Aeronautics and Space Administration (Swindle, T.D., PI; Baldwin, S.L., Co-PI), \$39,463, June 1, 1994-June 1, 1995.

Thermochronologic constraints on the formation of the Transantarctic Mountains, Antarctica; National Science Foundation (Fitzgerald, P.G. and Baldwin, S.L., PIs), \$286,183, July 1, 1994 - October 31, 1998.

Thermochronologic evolution of the high-pressure metamorphic terranes and granodiorites of New Caledonia; National Science Foundation (Baldwin, S.L., PI), \$120,680, February 15, 1994- January 31, 1998.

Noble gas studies of early solar system history; National Aeronautics and Space Administration (Swindle, T.D., PI; Baldwin, S.L., Co-PI), \$25,750, June 1, 1993-June 1, 1994.

Noble gas studies of early solar system history; National Aeronautics and Space Administration (Swindle, T.D., PI; Baldwin, S.L., Co-PI), \$25,000, June 1, 1992-June 1, 1993.

Age, origin, and tectonic significance of Mesozoic rocks in the Magdalena-Margarita region, SW Baja California Sur, Mexico; National Science Foundation (Sedlock, R.L., PI), \$89,314 (subcontract to Baldwin, S.L.), July 1, 1991-June 30, 1993.

State

The University of Arizona Center for Thermochronology and Noble Gas Studies: Keck Foundation Matching Funds, University of Arizona, Baldwin, S.L., Swindle, T.D., Zreda, M., Fitzgerald, P.G., PIs, \$40,000, July 1, 1996 - June 30, 1998.

Upgrade of mineral separation laboratory and thermochronology research facilities; University of Arizona (Baldwin, S.L. and Fitzgerald, P.G., PIs), \$29,980, June 1, 1995-June 1, 1997.

Timing of uplift, faulting, and mylonite formation in the Pinaleno Mountains, SE Arizona; University of Arizona Small Grants Program (Johnson, R., PI), \$4875 (subcontract to Baldwin, S.L.), December 14, 1992-December 14, 1993.

$^{40}\text{Ar}/^{39}\text{Ar}$ thermochronology of the Catalina metamorphic core complex, Arizona; University of Arizona Small Grants Program (Baldwin, S.L., PI), \$5000, January 1, 1993-December 31, 1993.

Other

Syracuse University Small Equipment grant, Acquisition of a HiCube 300H pumping station for the Syracuse University Noble Gas Isotope Research Laboratory, \$9706, 2019.

Science Equipment Excellence Fund (SEEF) for enhancement of undergraduate labs, \$69,520 to Dept of Earth Sciences for petrographic microscopes for use in EAR 110 Dynamic Earth laboratories; 2014-2015.

Mineralogy K-12 Outreach Activities, S.L. Baldwin, P.I., Soling Program, College of Arts & Sciences, Syracuse University, \$14,226, 2004-2008.

Episodicity during Orogenesis, Lister, G.S., PI, Baldwin, S.L., Bertrand, J., Bouillier, A., Burg, J., Fanning, M., Foster, D., co-PI's, Australian Research Council, AU\$402,200, 1/2001-12/2003.

The University of Arizona Center for Thermochronology and Noble Gas Studies, W.M. Keck Foundation (S.L. Baldwin, P.G. Fitzgerald, T. Swindle, and M. Zreda, PIs), \$300,000, June 1, 1995-June 1, 1996.

INVITED TALKS AT COLLOQUIA OR SEMINARS

Syracuse University, K.D. Nelson Lecture, Department of Earth Sciences April 25, 2019, "The (U)HP terrane of southeastern Papua New Guinea: a modern analogue for (U)HP terranes globally".

University of Iowa, Iowa City, Iowa, Dept of Earth and Environmental Sciences, Feb 2, 2018, "Discovering the World's Youngest Exhumed Ultrahigh-Pressure Terrane"

University of Canterbury, Christchurch, New Zealand, Feb 25, 2016, Dept of Geological Sciences Research Seminar, "Discovering the World's Youngest Exhumed Ultrahigh-Pressure Terrane"

University of Canterbury, Christchurch, New Zealand, March 31, 2016 Geol 473 Seminar, Dept of Geological Sciences, University of Canterbury "Geodynamic Evolution of New Zealand"

University of Pittsburgh, Department of Geology and Planetary Science Colloquium Series, October 1, 2015, "Discovering the World's Youngest Exhumed Ultrahigh-Pressure Terrane"

Università Roma Tre, Dept. of Geological Sciences, June 19, 2013, "Linking mantle dynamics and plate tectonics in New Guinea: insights from exhumed (U)HP rocks".

American Museum of Natural History, Department of Earth and Planetary Sciences, December 13, 2012, "Linking mantle dynamics and plate tectonics in New Guinea; insights from exhumed (U)HP rocks".

Lamont Doherty Earth Observatory of Columbia University, Geodynamics seminar, May 7, 2012.

Dipartimento di Scienze Geologiche e Geotecnologie, Università Di Milano-Bicocco, Dec. 2, 2011.

Université Joseph Fourier, ISTERRE (Institut des Sciences de la Terre), Grenoble, Dec. 2, 2011.

Department of Geology, University of Papua New Guinea, Port Moresby, March 8, 2010.

"Thermochronology of Solar System Materials" NY Center for Astrobiology, Rensselaer Polytechnic Institute, April 27, 2009.

NASA webinar, Astrobiology Seminar Series, RPI Team Overview, April 27, 2009.

Department of Earth & Environmental Sciences Seminar, Rensselaer Polytechnic Institute, NY, November 12, 2008

Department of Geology, Washington State University, Pullman, WA, March 6, 2008

IGERT Joint Program in Applied Mathematics and Earth & Environmental Physics, Columbia University, April 27, 2006

Smith Lecture, Department of Geological Sciences, University of Michigan, April 7, 2006

Department of Geology, Occidental College, March 3, 2006

Department of Earth Sciences, University of Southern California, March 6, 2006

Earth Science Colloquium at Lamont Doherty Earth Observatory, Columbia University, February 27, 2006

School of Earth Sciences, Victoria University of Wellington, April 2005

Department of Earth Sciences, Boston University, April 2004

Department of Geology and Geophysics, Yale University, March 2004

Department of Earth Sciences, Syracuse University, April 2003

Dept. of Earth and Atmospheric Sciences, Cornell University, October 2003

Five College Geology Distinguished Lecture (Amherst College, University of Massachusetts, Hampshire College, Mount Holyoke College), Amherst, MA, November 2002

Department of Geosciences, Pennsylvania State University, State College, PA, October 2002

Department of Earth Sciences, University of Rochester, Rochester, NY, April 2001

Department of Geosciences, Colgate University, Hamilton, NY, April 2001

Dept. of Earth and Atmospheric Sciences, University of Albany, Albany, NY, November 2000

Department of Earth Sciences, Syracuse University, February 1999

Geosciences Department, University of Arizona, October 1998

Geology Department, New Mexico Tech, November 1998

Research School of Earth Sciences, Victoria University of Wellington, September 1997

Department of Earth Sciences, Monash University, Melbourne, Australia, August 1997

Institute of Geological and Nuclear Sciences, Wellington, New Zealand, July 1997

Department of Geological Sciences, University of Canterbury, Christchurch, May 1997

Department of Earth and Planetary Sciences, University of New Mexico, September 1996

Department of Geology, Arizona State University April, 1996

Thermochronology Seminar, University of California at Los Angeles, December 1991

Department of Geology, Australian National University, April 1991

Research School of Earth Sciences, Australian National University, September 1991

INVITED PAPERS PRESENTED AT CONFERENCES OR SYMPOSIA

2017 invited keynote, Geochemical dynamics in subduction zones session, 12th International Eclogite Conference, Åre, Sweden.

2015 invited speaker, joint meeting of the Geological Society of America and Geological Society of China, session T2. Bridging Two Continents: Advances in Crustal Subduction and Ultrahigh-Pressure Metamorphism. Baltimore, MD, November 1-4, 2015.

2013 invited speaker, American Geophysical Union Fall Meeting, T44C-01 Linking Earth surface dynamics and deep tectonic processes.

2012 invited speaker, American Geophysical Union Fall Meeting, T12A Evolution of the Continental Lithosphere.

2011 invited speaker, NASA Astrobiology Executive Council meeting, "Applications of Noble Gas Studies to Astrobiology".

2011 invited speaker, GSA Annual Meeting, Ultrahigh-Pressure Metamorphism: Observations from Nano- through Outcrop- to Plate-Tectonic Scales I: In Honor of J.G. Liou, 2011 MSA Roebling Medalist.

2010 invited speaker, NSF GeoPRISMS Implementation Workshop for the Rift Initiation and Evolution (RIE) Initiative, Santa Fe, New Mexico, November 4-6, 2010

2010 invited speaker, Geological Society of America Global Meeting, Tectonics Crossroads: Evolving Orogens of Eurasia–Africa–Arabia, Middle East Technical University, Ankara-Turkey 3-8 October 2010

2009 Geological Society of America Annual meeting, invited talk in session T46. Linking Shallow to Deep Crustal Processes in Arc and Collisional Orogens

2008 invited talk at FT 2008- The Eleventh International Conference on Thermochronology, Anchorage, AK.

2007 invited talk at Subduction Zone Dynamics Conference, Ruhr- Bochum University, Germany.

2007 American Geophysical Union Fall meeting, invited speaker in session “Linking Precise Dates to Accurate Ages in Continental Tectonics”,

2006 Annual meeting of the Geological Society of America, Philadelphia, invited speaker in session on “Modern to Precambrian Subduction Systems: Convergent Margin Behavior and Evolution Over Geologic Time”.

2006 Goldschmidt Meeting, August, 2006, Melbourne Australia, invited speaker in sessions “Continental Crust Subduction and Recycling” and “Fast and Furious or Slow and Steady- Rates of Geologic Processes”.

2005 American Geophysical Union Fall meeting, invited speaker in session V54B. Ultrahigh –pressure metamorphism: multidisciplinary approaches and where to go: Geodynamics.

2005 Salt Lake City Annual Meeting of the Geologic Society of America, invited speaker in session T121. Thermochronology: Techniques, Applications, and Interpretations II, (October 16–19, 2005).

Plate Tectonics, Plumes and Planetary Lithospheres Conference, November 12-15, 2004, Houston, TX

NSF-sponsored Neotectonics Workshop Siena, Italy, July 2001

NSF-sponsored Margins Education and Planning Workshop on "Rupturing of Continental Lithosphere in the Gulf of California/Salton Trough Region", Puerto Vallarta, Mexico, October 2000.

Symposium on "Timing and Rates of Geological Processes", Fall AGU Meeting, December 2000.

8th International Symposium on Antarctic Earth Sciences, Wellington, NZ, July 1999.

Penrose Conference on Exhumation processes: Normal faulting, ductile flow, and erosion, Chania, Crete, October, 1996.

VII International Symposium on Antarctic Earth Sciences, Siena, Italy, September 1995

Cordilleran Section Meeting, Geological Society of America, Fairbanks, Alaska, May 1995

INVITED PARTICIPANT

International Continental Drilling Workshop (ICDP), Cornell University, Ithaca NY, January 8-10, 2020: Invited workshop participant. See Jordan, T., et al. "Exploring by boring: Geothermal wells as research tools." *Eos, Transactions American Geophysical*

Union 101 (2020) for a summary of this workshop.

Challenges and Opportunities for Research in Tectonics: Understanding Deformation and the Processes that Link Earth Systems, from Geologic Time to Human Time, NSF Future of Tectonics Workshop Participant, University of Wisconsin-Madison, May 20-22, 2016, and Pre-Workshop Idea Paper Contributor.

2014-2015 NSF committee charged to assess Opportunities and Challenges to U.S. Geochronology. 2014 workshop convened prior to the Goldschmidt 2014 Conference, on June 7th, in Sacramento, California and prior to the Thermochronology conference September 2014, Chamonix France. Harrison, T.M.(UCLA), Baldwin, S.L. (Syracuse), M. Caffee, (Purdue) G. Gehrels (UA), Schoene, B.L. (Princeton), Shuster, D.S. (UC Berkeley), Singer, B. (UW-Madison).

NSF GeoPRISMS Implementation Workshop for the Rift Initiation and Evolution (RIE) Initiative, Santa Fe, New Mexico, November 4-6, 2010.

ESF Topo-Europe Eurocores Project: Coupled climatic/tectonic forcing of European topography revealed through thermochronometry – Thermo-Europe; ESF/IGCP Summer school on modelling thermochronology data, September 20-23, 2009, Aussois, southeast France. Senior participant.

NSF sponsored workshop “Thermal processes in the context of EarthScope”, Salt Lake City, UT, March 2004.

NSF/USGS sponsored international workshop, "Geodynamic evolution of the Transantarctic Mountains and the West Antarctic Rift: A linked system," Estes Park, CO, April, 1994

VOLUNTEERED TALKS AT CONFERENCES

See Appendix A for list of abstracts.

CONFERENCES CONVENED

Geological Society of America Penrose Conference on "Mid-Cretaceous to Recent Plate Boundary Processes in the Southwest Pacific", Baldwin, S.L., and Lister, G.S., conveners, March 25-30, 1999, Wilderness Lodge, South Island, New Zealand.

WORKSHOPS CONVENED

MAY 6-8 2012, LAMONT DOHERTY EARTH OBSERVATORY OF COLUMBIA UNIVERSITY, Papua New Guinea Continental Dynamics group meeting on “*How Is Rifting Exhuming the Youngest HP/UHP Rocks on Earth*”, G.Abers and S. Baldwin co-conveners.

December 12-13 2009, Convenor and speaker, Papua New Guinea Continental Dynamics group meeting, convened for scientists working on the project “*How Is Rifting Exhuming the Youngest HP/UHP Rocks on Earth*”, Christian Brothers Retreat and Conference Center, Napa, California,. Twenty-two scientists participated from the US, New Zealand, and Germany.

August 26, 2009, Syracuse University Women in Science And Engineering Faculty Mentoring workshop, Dr. Meggin McIntosh, *Poised for Life...Poised for Success: Maintaining Balance and Equilibrium as a Woman in Academia*.

CONFERENCE SESSIONS CONVENED

2020 GSA annual meeting session Metamorphic Geochemistry without borders: A session to honor 2020 Dana Medalist, Daniela Rubatto, Montreal, Canada. (*delayed to 2021 due to COVID*).

2012 34th International Geological Congress, Fraser, G., Baxter, E., Baldwin, S.L., co-conveners, "*Rates of Metamorphic Processes*", Brisbane, Australia.

Fall 2012 American Geophysical Union meeting, Baldwin, S.L., Malusa, M., Mann, W.P., "*Tectonic mechanisms for extension along convergent margins*", San Francisco, CA.

Fall 2010 American Geophysical Union meeting, Webb, L.E., and Baldwin, S.L., co-conveners, "*The Wilson Cycle revisited*," San Francisco, CA.

Fall 2008 American Geophysical Union meeting, Webb, L.E., and Baldwin, S.L., co-conveners, "*Microplate Geodynamics*," San Francisco, CA.

Fall 2004 American Geophysical Union meeting, Baldwin, S.L., and Mann, P., co-conveners, "*Rapid, along-strike kinematic, tectonic, and thermochronologic variations within obliquely convergent circum-Pacific plate boundary zones*," San Francisco, CA.

CURRICULUM DEVELOPMENT/COURSES TAUGHT

Geohazards and Natural Disasters

Dynamic Earth (general education science course)

Physical Geology for Earth Science majors

Mineralogy (Earth Science undergraduate majors and graduate course)

Optical Mineralogy

Petrology (Earth Science undergraduate majors and graduate course)

Geochronology (upper level undergraduate and graduate course)

Thermochronology (upper level undergraduate and graduate course)

Graduate Research Seminars –

- *Topics in Noble Gases*
- *Subduction Zone Dynamics*
- *Mineral Deposits of Australia*
- *Plate Boundary Processes in the SW Pacific*
- *(U/Th)/He dating and its application to tectonics and landscape evolution*
- *Active tectonics of New Zealand*
- *Microtectonics: unravelling P-T-t-D histories of crustal terranes*
- *Continental Extension Tectonics*
- *Microplate Dynamics*
- *Metamorphic Core Complexes in Space and Time*
- *Thermochronology of Planetary Surfaces*
- *Practicum in Scientific Communication*
- *The SESSion: Solid Earth Seminar Series*

A Sense of Place: Earth Science field-based course for high school teachers

Freshman/1st year Forum- seminar for incoming freshman/1st year students

Undergraduate Honors Seminar (HNR100)- Earth sciences, exploration and extreme environments

Geologic Research and Field Experience

2015- present	Fieldwork in Northern Appalachian Orogen
2013-2017	Fieldwork in Western Alps, Calabria, Corsica (Italy)
March 2010	Expedition leader, NSF funded fieldwork in the Woodlark Rise, Milne Bay Province, Papua New Guinea
January 2009	Expedition leader, NSF funded fieldwork in the Louisiade Archipelago of Papua New Guinea
January 2008	Expedition leader, NSF funded fieldwork in the Milne Bay region (Goodenough, Ferguson and Normanby Islands) of Papua New Guinea
June 2007	Co-Principal Investigator, NSF funded fieldwork in the central and west-central Pyrenees
March 2007	Co-Investigator, Fieldwork in the central Cyclades region of the Aegean (Syros and Sifnos); Michael Broecker. PI, University of Muenster; funded by German government
Jan 2006	Expedition leader, NSF funded fieldwork in the Milne Bay region (Goodenough and Ferguson Islands) of Papua New Guinea
Aug 2004	Fieldwork in the west central Pyrenees, funded by the Spanish Government (Department of Science and Technology through the University of Barcelona)
Oct 04, Nov 05	Geologic fieldwork, Catalina Mountains, AZ
Dec 2003	NSF funded fieldwork at Misima Island, Papua New Guinea
Dec 02 – Jan 03	Expedition leader, NSF funded fieldwork in the Milne Bay region (mainly Normanby Island) of Papua New Guinea
June 2002	Fieldwork in the central and western Pyrenees, funded by the Spanish Government (Department of Science and Technology through the University of Barcelona)
Dec 01 – Feb 02	NSF funded expedition to the Reedy Glacier, Transantarctic Mountains, P.G. Fitzgerald, expedition leader.
Feb 2001	NSF funded geologic fieldwork, Australian-Pacific plate boundary South Island, NZ.
Dec 98 – Jan 99	NSF funded expedition to the Thiel Mountains, Ohio Range, Transantarctic Mountains, P.G. Fitzgerald, expedition leader..
Sept - Oct 98	Southern fold and thrust belt of the Pyrenees, Ebro Basin, Spain.
Sept-Oct 1997	Metamorphic core complexes of the Aegean, funded by Australian Research Council, Gordon Lister,co-PI.
1997	Geologic fieldwork, South Island, NZ
Oct, 1996	Metamorphic core complexes of the Aegean, with Gordon Lister, co-PI.
Nov-Dec 95	N.S.F. funded expedition to Shackleton Glacier area, Transantarctic Mountains, P.G. Fitzgerald, expedition leader.
June-July 95	N.S.F. funded geologic fieldwork, Pyrenees, P.G. Fitzgerald, expedition leader.
June-July 94	Expedition leader, N.S.F. funded geologic fieldwork in New Caledonia.
April 1992	Geologic fieldwork, high pressure terrane, New Caledonia.
May 1992	Geologic fieldwork, metamorphic core complexes of the Basin and Range Province, AZ.
June 1992	Geologic fieldwork, high pressure terrane, Santa Margarita and Magdalena Islands, Baja California

- September 1989 Geologic fieldwork, metamorphic core complexes, Central Cyclades, Greece
- April 1989 Geologic fieldwork, metamorphic core complexes, D'Entrecasteaux Islands, Papua New Guinea
- Sept-Oct 1986 Geologic fieldwork, Polar Duke Expedition to Diego Ramirez Islands, Argentina
- 1984-1986 Three field seasons, high pressure terrane, Cedros and San Benito Islands, Baja California
- 1982- 1983 Two field seasons, geologic fieldwork, Barbados accretionary complex

PROFESSIONAL SERVICE

- 2021 [URGE](#) Participant Syracuse University faculty pod; community-wide journal reading and policy-design curriculum to help Geoscientists unlearn racism and improve accessibility, justice, equity, diversity, and inclusion in our discipline.

Professional Committees

- 2019- present Awards Committee Chair; Committee for the International Thermochronology Conferences
- 2016-2018 Geological Society of America Penrose Conference and Thompson Field Forum Review Committee
- 2014-present Committee for the International Thermochronology Conferences
- 2012-2018 American Geophysical Union, Tectonophysics Section, Jason Morgan Award Committee
- 2014-2015 NSF-appointed Steering Committee to assess Opportunities and Challenges for U.S. Geochronology
- 2012-2015 Geochemistry, Geophysics, Geosystems Theme Editor, "Lithospheric Evolution of Cenozoic UHP terranes: From Convergence to Extension"
- 2011 Nominating Committee for Officers MGPV Division of Geological Society of America
- 2005-2008 International Union of Geological Sciences, Commission on Solid Earth Composition & Evolution
- 2005- International Lithosphere Program, Scientific Committee on "Ultra-Deep Continental Crust Subduction"

Reviewer of manuscripts for: American Geophysical Union Monograph Series; Australian Journal of Earth Sciences; Contributions to Mineralogy and Petrology; Chemical Geology; Earth and Planetary Science Letters; Geochimica et Cosmochimica Acta; Geochemistry, Geophysics, Geosystems; Geological Society of America Bulletin; Geological Society of London Special Publication Series; Geology; Geophysical Journal International; Journal of Metamorphic Petrology; Journal of Geophysical Research; Lithos; Meteoritics and Planetary Science; Nature; Proceedings of the National Academy of Sciences; Science; Tectonics; Tectonophysics; Physics and Chemistry of Minerals

Reviewer of grant proposals:

U.S. National Science Foundation:

Office of Polar Programs
Earth Science Divisions of Tectonics, Petrology and Geochemistry, Instrumentation
and Facilities, Continental Dynamics,
Ocean Sciences-Marine Geology and Geophysics Program

New Zealand Marsden Foundation

Netherlands Organization for Scientific Research

Australian Research Council

Canadian Research Council

UNIVERSITY SERVICE

Syracuse University

2021 Justice, Equity, Diversity and Inclusion (JEDI) Committee Chair, Dept of Earth and
Environmental Sciences

2019-present Syracuse University Senator

2019- present Syracuse University Senate Research Committee

2017- present Syracuse University, Radiation Safety Committee, Chair

2016- 2017 Syracuse University Senator

2016- 2017 Syracuse University Senate Research Committee

2015- 2017 Graduate Admissions Committee Member, Earth Sciences Dept.

2014 Faculty Representative and Speaker at Chancellor Kent Syverud's
Inauguration as Syracuse University's 12th Chancellor and President

2013-2014 Chair, Petrology Search Committee, Earth Sciences Dept.

2012-2020 Analytical Facilities Committee, Chair, Earth Sciences Dept.

2002-2020 Women in Science and Engineering, Coordinator Faculty Mentoring
Program

2000-present Syracuse University Radiation Safety Committee

2010-2011 Geophysics Search Committee, Earth Sciences Dept.

2007-present Analytical Facilities Committee, Earth Sciences Dept.

2005-present Faculty Mentoring Committees, Earth Sciences Dept.

2002, 2008 Freshman Advisor, College of Arts & Sciences

2002, -08, -10 Freshman Summer Advisor, College of Arts & Sciences

2005 College of Arts & Sciences Committee on Programs Abroad (DIPA)

2004-05 Search Committees- Crustal Dynamics (Earth Sciences Department),
Inorganic Chemistry, Physical Chemistry (Chemistry Department)

2002 Chair, Stable Isotope Geochemist Search Committee, Earth Sciences
Department

2002, -12, -15 Freshman Forum Leader, College of Arts & Sciences

August 2001 SU Graduate School Host for International TA's

August 2001 New Faculty Orientation Discussion Group Leader

University of Arizona

1997 Annual Review Committee, Geoscience Department

1992-1996 Graduate Policy Committee, Geoscience Department

- 1995-1996 Dean of College of Science, Advisory Group
- 1995-1996 Senior Vice President for Academic Affairs and Provost, Advisory Groups
- 1994 Computer Center Information and Technology (CCIT) Focus Group
- 1994-1995 Annual Review Committee, Geoscience Department
- 1993 Small Grants Peer Review Panel

COMMUNITY SERVICE

- 2018 Meteorite presentation to Syracuse 5th grade special needs class.
- 2010 ["What does the core/mantle boundary look like?"](#) *On the Cutting Edge*
Reviewed Teaching Activity Collection; NSF funded NAGT/SERC On the
Cutting Edge-Understanding Deep Earth workshop
- 2006 Earth Science presentations to high school students, Brooklyn Friends
School, Brooklyn NY
- 2004-present Yearly Mineralogy presentations to K-12 students, Syracuse School
District.
- 2000-present Presentations to K-12 students on scientific expeditions to Antarctica
and Papua New Guinea.