

ROBERT BUCHWALDT

EMPLOYMENT

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**Boston University, Boston, MA, USA**

*Since September 2014*

**Research Assistant Professor, Department of Earth and Environment**

Conducting geological, petrological, geochemical, and geochronological research on different scientific projects and responsible for the courses (including lectures, laboratories, and fieldtrips): *Natural Disasters, Oceanography, Introduction into Earth System Science and Climate, Environmental Change & Sustainability, Introduction to Structural Geology, Quantitative Methods for the Earth Sciences II, Earth History, Introduction to Geochemistry, Geodynamics and Landscape Evolution: Tectonics, Surface Processes, & Climate.*

Research projects include:

- Detrital-zircon geochronology and provenance of the El Oro Metamorphic Complex, Ecuador: Geodynamic implications for the evolution of the western Gondwana margin during the Paleozoic
- Terrane amalgamation at mid crustal levels, using Rhode Island's Avalon Terrane as example
- Exploring the sedimentation rates of the Late Jurassic Morrison formation using the Trail of Time section

**Massachusetts Institute of Technology, Cambridge, MA, USA**

*May 2013-2016*

**Visiting Scientist, Radiogenic Isotope Laboratory**

Continuation of projects started as a Research Associate as well as new projects.

**Boston College, Boston, MA, USA**

*January 2013- June 2014*

**Adjunct Professor, Department of Earth and Environmental Science**

Responsible for the courses (including lectures, laboratories, and fieldtrips): *Earth Materials, Oceanography, Mobile Earth, and Earth Processes and Risks.*

**Massachusetts Institute of Technology, Cambridge, MA, USA**

*May 2008 – May 2013*

**Research Associate, Radiogenic Isotope Laboratory**

Responsible for safe and efficient daily operation of the laboratory and mass spectrometers, as well as contract work and support data for proposals.

Research projects included:

- Calibrating the geologic timescale by using high-precision geochronology in the Cambrian time period.
- Understanding the timing and transition between opening and closing of oceanic basins in supercontinent cycles using petrology, geochemistry, and high-precision geochronology.
- Exploring the evolution of the northern Proto-Andean margin in Ecuador using high-precision geochronology, petrology, and geochemistry.
- Interpretation of surface expressions and their timing due to slab dynamics within the Central Anatolian plateau, Turkey.

- Exploring the timing of the Messinian Salinity Gap and its influence to climate change in the mediterianian area.
- Crystallization ages and thermal histories of Anorthosites and Anatectites: ‘Implications for Anorthosite emplacement and thermal contributions to Precambrian crustal evolution.’
- Emplacement timing of Granites and Pegmatites within the Caledonian/Appalachian Orogeny: a window into the thermo-tectonic processes during orogenic evolution using Nashoba terrane as example.

**Washington University in St. Louis, MO, USA**

*September 2006 – May 2008*

**Lecturer, Department of Earth and Planetary Sciences**

- Responsible for undergraduate and graduate-level geology courses (including lectures, laboratories, and fieldtrips): *Earth and the Environment, Human Use of the Earth, Structural Geology, Regional Geology, Geologic Field Methods, and Environmental Geology.*

**St. Louis University, St. Louis, MO, USA**  
2004

*January 2004 – May*

**Adjunct Professor, Department of Earth and Atmospheric Science**

Responsible for the courses (lectures, laboratories, and fieldtrips): *Introduction to Mineralogy and Petrology.*

## **EDUCATION**

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**Washington University in St. Louis, MO, USA**

*1999-2006*

- **Doctor of Philosophy**, thesis title: ‘Petrology and geochemistry of magmatic rocks from Northern Madagascar.’ Supervisors: Dr. Robert D. Tucker, Dr. Robert F. Dymek (May 2006).
- **Master of Science**, thesis title: ‘Geothermobarometry and U-Pb geochronology of metapelitic granulites and pelitic migmatites from the Lokoho region, Northern Madagascar.’ Supervisors: Dr. Robert D. Tucker, Dr. Robert F. Dymek (September 2001).

Research projects included:

- Application and development of GIS applications to assess volcanic hazards, using the Tungurahua volcano in Ecuador as an example.
- A petrological, geochemical, and geochronological investigation of the alkaline igneous rocks in the Cameroon Volcanic Line focused on understanding the dynamic difference between volcanic emplacement in crustal versus oceanic environments.
- Neoproterozoic crust formation and terrane suturing in the East African orogen: a geological, geochemical, and geochronological investigation in northern Madagascar.
- Lithosphere asthenosphere interaction, using Cenozoic volcanism of northern Madagascar as an example.

**Johannes Gutenberg University, Mainz, Germany**

*1998–1999*

**Max Planck Institute for Geochemistry in Mainz, Germany**

- **Co-investigator** on the DAAD-PROBRAL Cooperation Project entitled: ‘Isotopic studies for the understanding of the geologic evolution of the São Francisco basin and its mineralization.’
- **Diplom** (Master of Science equivalent), Geology major. Thesis topic: ‘Geochemical, geochronological and isotopic analysis of the Galway Granite, Eire.’ Supervisors: Dr. Alfred Kröner, Dr. Wolfgang Todt, and Dr. Martin Feely. (December 1998)

Research projects included:

- Timing of Neoproterozoic glaciation and its implication for the ‘snowball earth’ hypothesis.
- Understanding the emplacement of the Galway granite using petrology, geochemistry, and geochronology.

**University College Galway, Galway, Ireland**

*1994–1995*

- **Bachelor of Science, Honors, Geology major.** Thesis topic: ‘Numerical Analysis of features of the Shannawonna fault system.’ Supervisors: Dr. Alfred Kröner, Dr. Martin Feely. (June 1995)

**Johannes Gutenberg University, Mainz, Germany**

*1990–1994*

- **Vordiplom** (Pre-diploma) in the Department of Geology, Mineralogy, Mathematics and Physics. (April 1994)

## **INTERNSHIPS**

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**Geochimica et Cosmochimica Acta, St. Louis, MO, USA**

*2001-2002*

- **Editorial Assistant.** Duties included manuscript management and communication with authors, associate editors, and reviewers.

**European Union of Geoscience, Strasbourg, France**

*1996-1997*

- **Scientific Secretary** for the ‘European Union of Geoscience’ meeting in Strasbourg, France. Duties included meeting logistics regarding the scientific program.

**TNO Institute of Applied Geoscience, Delft, Netherlands**

*January, 1996*

- **Research Intern.** Efor and production of geothermal energy, underground energy storage, and large-scale underground storage of waste materials.

**BEB Erdöl und Erdgas GmbH, Hanover, Germany**

*August-September, 1994*

- Oil and gas exploration in East Germany and seismic data processing using VMS and UNIX computer systems.

## **INVITED SEMINAR TALKS**

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**Boston University, USA, Departmental Seminar**

*November, 2017*

Title: Rates of Change: Understanding Climate Change in Deep Time

**Wellesley College, USA, Departmental Seminar**

*April, 2017*

Title: Clocks in Rocks: Timing the evolution of mountains

**Stony Brook University, USA, Departmental Seminar**

*April, 2016*

*Title:* Age of the earliest Paleolithic sites in Eastern Africa using High precision geochronology of zircons from volcanic ashes, an inside in the rates of Hominide evolution.

**University of New Mexico, USA, Departmental Seminar**

*October, 2013*

*Title:* Rates and Dates, using High-Precision Zircon Geochronology, Petrology, and Geochemistry to understand the Evolution of Granite Plutons and their influence in Crustal Evolution

**Boston College, USA, Departmental Faculty Colloquium**

*September, 2013*

*Title:* Geochronology: the Science of Rates of Change

**Massachussets Institute of Technology, USA, Departmental Seminar**

*September, 2012*

*Title:* Understanding the timing within Metamorphic Core Complexes: Using The Paparoa Complex, New Zealand, as a natural laboratory

**University of Otago, New Zealand, Departmental Seminar**

*February, 2011*

*Title:* Change we can believe in: how high-precision geochronology changed our understanding of the dynamic earth

**University Christchurch, New Zealand, Departmental Seminar**

*March, 2010*

*Title:* Understanding the dynamics of the continental Lithosphere: Insights from the usage of High Precision Geochronology within Orogenic Belts

**Lunar and Planetary Institute, USA, Lecture Series**

*February, 2008*

*Title:* Petrogenetic understanding of felsic magmatism of Madagascar, Cameroon, and Canada: A planetary approach

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**COMMUNITY/CAMPUS PARTICIPATION**

- Guest Editor for *Precambrian Research* (4.7): Commemorative Issue for Alfred Kröner.
- Peer Reviewer for several ranking journals, including *Nature* (Impact Factor 8.1), *Earth and Planetary Science Letters* (4.0), *Geology* (4.3), *Metamorphic Petrology* (4.1), and *American Mineralogist* (2.1).
- Session Convenor for several sessions during GSA and AGU Meetings
- Peer Reviewer for NSF and NASA proposals
- Interviews with TV, radio, and local and national newspapers  
(recently, PBS: *Couriosity Desk*, *Couriosity Cruise (Fund raiser)* and *Science Friday*, *Boston Globe*, *Frankfurter Allgemeine Zeitung*)
- Scientific Advisor for BBC for the series “Madagascar” and “Earth” by David Attenborough
- Member of the EARTHTIME Outreach Program to reach high school students in the Boston metropolitan area
- Talks at local Mineral and Rock clubs
- Faculty Advisor for Geological Student Society at Boston University

- Mentor and tutor for Geology at High Schools in cooperation with Cambridge School Volunteers and Science Olympiad

## ACHIEVEMENTS

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- 2006 German - Cameroon Cooperation Fellowship  
 2004 Carl Tolman Award for outstanding work as Teaching Assistant in the course *Earth and the Environment*  
 2002–2003 The Otto E. Gansow Memorial Scholarship  
 2003 Carl Tolman Award for outstanding work as Teaching Assistant in the courses: *Evolution of the Earth and Solar System*  
 2002 GSA Graduate Student Fellowship  
 2002 Award for outstanding work as Teaching Assistant in Petrology  
 1998 IGRM Young Scientist Award for the presentation “Single zircon Ages and Sm/Nd isotope analyses of the Galway Granite Batholith, Western Ireland”  
 1994–1995 Scholarship from Deutsche Industriegemeinschaft for young scientist  
 1994–1995 BDG ‘Förderungsstipendium’ scholarship for geologic studies  
 1990–1994 ‘Herzogtum Nassau’ scholarship

## GRANT SUPPORT

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### *Submitted*

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(NSF) PI for P1660327: What are the implications of anorthosite emplacement and anatectite formation in the thermal evolution of the Precambrian crust? (238,000 Pending)

(NSF) PI for P1650190: Revisiting the role and timing of the exotic Hope Valley Zone in the southeastern New England Appalachians during orogenic amalgamation (\$ 298,000 Pending)

### *Active*

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(Universidad de las Fuerzas Armadas-ESPE, Ecuador) Co-PI, PI- Toulkeridis, Theofilos (2010): How did the northern proto-Andean margin in Ecuador form? (50,000)

### *Expired*

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(NSF) Co-author for 1411552; PI-Bowring (2014): Collaborative Research: Toward a global timeline of biological and ocean geochemical change during the early Cambrian (\$358,426)

(DFG) Co-author for DFG: STR373/25–1(2011); PI-Schildgen, Taylor (2011): Anatolian plateau climate and tectonic hazards, ITN ALerT.

(NSF) Co-author for 0931839; PI-Bowring, Samuel (2009): Acquisition of a Thermal Ionization Mass Spectrometer for EARTHTIME (\$496,411)

## PUBLICATIONS

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### *Citation indices*

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**Google:** Citation, 1575; h-index, 20; i10-index, 31

**Research Gate:** 27.85 (100% Publications)

### *Peer Review Papers*

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**Buchwaldt, R.**, Tucker, R. D., Dymek, R. F., Criss, R. E.: Petrogenesis of a Phonolite-Trachyte Succession from Massif du Tsaratanana, N-Madagascar, a example for Lithosphere asthenosphere interaction.- *Precambrian Research*, in review (2018).

**Buchwaldt, R.:** Geologic and Geochronological Investigation in Madagascar: A key to understand the behaviour of an ancient Mountain belt.- In: Murck, B. and Skinner, B.: *Geology Today*, John Wiley & Son, 2, in press (2018).

**Buchwaldt, R.**, Kröner, A., Feely, M., Todt, W., Toulkeridis, T.: Geochronology and Nd-Sr systematics of Caledonian Granites: New implication on the Caledonian Orogeny.- *J. Geol. Soc. London*, in press (2018).

**Buchwaldt, R.** and Feely, M.: Application of statistical analysis to the mapping in apparently homogeneous Megacrystic Granite, Eire.- *Irish J. Earth Sci.*, in press (2018)

Singer, B., S., Jicha B., R., Sawyer, D., Walaszczyk, I., **Buchwaldt, R.**, Mutterlose, J. (2021): Geochronology of late Albian–Cenomanian strata in the U.S. Western Interior.- *GSA Bulletin* (2021) 133 (7-8): 1665–1678.

de Witt, M., J., Bowring, S., **Buchwaldt, R.**, Dudas, F., Ö., MacPhee, D., Tagne-Kamga, G., Dunn, N., Salet, A., M., Nambatingar., D. (2021): Geochemical reconnaissance of the Guéra and Ouaddaï Massifs in Chad: evolution of Proterozoic crust in the Central Sahara Shield.- *South African Journal of Geology*, 124 (2): 353–382.

Owens, B. E., **Buchwaldt, R.**, Bailey, C. M. (2019): New U-Pb Zircon Ages for the Petersburg Batholith, Piedmont Province, Virginia.- *Southeastern Geology*, 53(4), 215-227.

Currano, E. D., Pinheiro, E. R.S., **Buchwaldt, R.**, Clyde, W. C., Miller, I. M. (2019): Endemism in Wyoming plant and insect herbivore communities during the early Eocene hothouse.- *Paleobiology*, 45(3), 421-439. doi:10.1017/pab.2019.18

Galli, K. G., **Buchwaldt, R.**, Lucas Spencer G., Tanner, L. (2018): New CA-TIMS dates from the Brushy Basin Member, Morrison Formation, Western Colorado, USA: Implication for Rates of Sedimentation and Dinosaur Evolution.- *Geological Journal*, 126(5): 473-486, doi: 10.1086/699208

Keenan, T.E., Encarnación, J., **Buchwaldt, R.**, Fernandez, D., Mattinson, J., Rasoazanamparany, C., Luetkemeyer, B. P. (2016): Rapid conversion of an oceanic spreading center to a subduction zone inferred from high-precision geochronology.- *PNAS*, 113 (47) E7359-E7366, doi:10.1073/pnas.1609999113

Bradley, D., Shea, E., **Buchwaldt, R.**, Bowring, R., Benowitz, J., O'Sullivan, P., McCauley, A. (2016): Geochronology and Tectonic Context of Lithium-Cesium-Tantalum Pegmatites in the Appalachians.- *Canadian Minerologist*, 54, doi: 10.3749/canmin.1600035.

Bold, U., Smith, E. F., Rooney, A. D., Bowering, S.A., **Buchwaldt, R.**, Dudas, F. O., Ramezani, J., Crowley, J. L., Schrag, D. P., MacDonald, F. A.. (2015): Neoproterozoic stratigraphy of Zavkhan terrane of Mongolia: the DOI: 10.2475/01.2016.01 backbone for Cryogenian and Early Ediacaran chemostratigraphic records.- *American Journal of Science*, 316, 1-63,

- Jacob, K. H., Farmer, L. G., **Buchwaldt, R.**, Bowring, S. A. (2015): Deep crustal anatexis, magma mixing, and the generation of epizonal plutons in the Southern Rocky Mountains, Colorado.- *Contribution to Mineralogy and Petrology*, 169, 7, doi:10.1007/s00410-014-1094-3.
- Landing, E., Geyer, G., **Buchwaldt, R.**, Bowring, S. A. (2015): Geochronology of the Cambrian: a precise Middle Cambrian U–Pb zircon date from the German margin of West Gondwana.- *Geological Magazine*, <http://dx.doi.org/10.1017/S0016756814000119>.
- Dorais, M. J., Bothner, W. A., **Buchwaldt, R.** (2014): The Appledore Island Diorite Of The Rye Complex, Coastal New Hampshire and Maine: Determining The Identity Of An Enigmatic Terrane.- *Atlantic Geology*, 50, doi: 10.4138/atlgol.2014.009.
- Kuiper, Y. D., Shields, C. D., Tubrett, M. N., Bennett, V., **Buchwaldt, R.** (2014): Age and provenance of a Paleoproterozoic to Devonian Canadian Cordilleran sequence of metasedimentary rocks, Thor–Odin dome, southeastern British Columbia.- *GSA Bulletin*, doi: 10.1130/B31031.1.
- Hildebrand, R. S., **Buchwaldt R.**, and Bowring, S. A. (2014): On the allochthonous nature of auriferous greenstones, Guayana shield, Venezuela.- *Gondwana Research*, 26, 1129-1140.
- Roberts, E. M., Sampson, S. D., Deino, A., Bowring, S. A., **Buchwaldt, R.** (2013): The Kaiparowits Formation: a remarkable record of Late Cretaceous terrestrial environments, ecosystems and evolution in Western North America.- in A. L. Titus and M. A. Loewen, eds., *At the Top of the Grand Staircase: The Late Cretaceous in Utah*, p.85-106, Bloomington: Indiana University Press.
- Bookhagen, B., McLean, N., **Buchwaldt, R.**, Rioux, M., Dudas, F., Bowring, S. (2013): EARTHTIME: Teaching geochronology to high school students in the US.- In: Tong, V. C. H. (ed.), *Geoscience Research and Education: Teaching at Universities*, p.171-189. Springer, Heidelberg.
- Losiak, A., Schulz, T., **Buchwaldt, R.**, Koeberl, C. (2013): Characteristics of granitic intrusions from the vicinity of the Bosumtwi impact crater, Ghana.- *Lithos*, 177, 297–313.
- Powerman, V., Shatsillo, A., Coe, R., Zhao, X., Gladkochub, D., **Buchwaldt, R.**, Pavlov, V. (2013): Palaeogeography of the Siberian platform during middle Palaeozoic (ca. 450-400 Ma): new palaeomagnetic evidence from Lena and Nyuya rivers.- *Geophysical Journal International*, 194, 1412-1440.
- Buchwaldt, R.** (2013): Pyroclastic Flows.- In: Bobrowsky, P.: *Encyclopedia of Natural Hazards*, p. 791-796, Springer, Heidelberg.
- Buchwaldt, R.** (2013): Pahoehoe Lava.- In: Bobrowsky, P.: *Encyclopedia of Natural Hazards*, p. 748, Springer, Heidelberg.
- Buchwaldt, R.** (2013): Aa Lava.- In: Bobrowsky, P.: *Encyclopedia of Natural Hazards*, p. 1, Springer, Heidelberg.
- Buchwaldt, R.** (2013): Lava.- In: Bobrowsky, P.: *Encyclopedia of Natural Hazards*, p. 623-624, Springer, Heidelberg.
- Mechor, R., **Buchwaldt, R.**, Bowring, S. A. (2013): Late Triassic bird-like tracks reported from northwest Argentina are now considered of Late Eocene age on the basis of a new date of a tuff bed of the sedimentary succession containing the fossil tracks.- *Nature*, 495, E1-E2, doi:10.1038/nature11931.
- Cosentino, D., **Buchwaldt, R.**, Sampalmieri, G., Iadanza, A., Cipollari, P., Schildgen, T. F., Hinnov, L., Ramezani, J., Bowring, S. A. (2013): Refining the Mediterranean “Messinian gap” with high-precision U-Pb zircon geochronology, central and northern Italy.- *Geology*, v. 41, p. 323-326, doi:10.1130/G33820.1.
- Schildgen, T. F., Cosentino, D., Caruso, A., **Buchwaldt, R.**, Yıldırım, Y., Bowring, S. A., Rojay, B., Echtler, H., Strecker, M. R. (2012): Surface expression of Eastern Mediterranean slab dynamics: Neogene topographic and structural evolution of the SW margin of the Central Anatolian Plateau, Turkey.- *Tectonics*, 31, TC2005, doi:10.1029/2011TC003021.
- Thomson, S. N., Gehrels, G. E., Ruiz, J., **Buchwaldt, R.** (2012): Routine U-Pb dating of apatite using laser-ablation-multicollector-ICPMS.- *Geochemistry, Geophysics, Geosystems*, 13, Q0AA21, doi:10.1029/2011GC003928.

Thompson, C. K., Kah, L. C., Astini, R., Bowring, S. A., **Buchwaldt, R.** (2012): Bentonite Geochronology, Marine Geochemistry, and the Great Ordovician Biodiversification Event (GOBE).- *Palaeogeography, Palaeoclimatology, Palaeoecology*, 321-322, 88-101.

Hoffman, P. F., Bowring, S. A., **Buchwaldt, R.**, Hildebrand, R. S. (2011): Birthdate for the Coronation paleocean: age of initial rifting in Wopmay orogen, Canada.- *Canadian Journal of Earth Sciences*, 48, 281–293.

Owens, B. E., **Buchwaldt, R.**, Shirvell, C. R. (2010): Geochemical and geochronological evidence for Devonian magmatism revealed in the Maidens gneiss, Goochland terrane, Virginia.- *Geological Society of America Memoirs*, 206, 725-738.

**Buchwaldt, R.**, Toulkeridis, T., Ucauwun, E., Todt, W. (2008): Crustal age Domains in the Kiberan Belt of SW-Uganda: Combined Zircon geochronology and Sm-Nd isotopic investigation.- *Journal of African Earth Sciences*, 51, 4-20.

Tucker R. D., Kusky T. M., **Buchwaldt R.**, and Handke M. J. (2007): Neoproterozoic nappes and superposed folding of the Itremo Group, west-central Madagascar.- *Gondwana Research*, 12, 4, 356-379.

Toulkeridis T., **Buchwaldt R.**, Addison A. (2007): When Volcanoes Threaten, Scientists Warn.- *Geotimes*, 52, 11, 36-39.

**Buchwaldt, R.** and Thornhill, R. (2006): Symmetry of faces and sexual attractiveness: The Mathematical background, a Mineralogical approach.- *Psychology Today*, 3, 62-65.

Ring, U., **Buchwaldt, R.**, Gessner, K. (2004): Pb/Pb dating of garnet from the Anatolide belt in western Turkey: Pan-African metamorphism related to the collision of Angara with Gondwana. *Zeitschrift Deutsche Geologische Gesellschaft*, 154, 154, 537-555.

**Buchwaldt R.**, Tucker, R. D., Dymek, R. F. (2004): Geothermobarometry and U-Pb Geochronology of metapelitic granulites and pelitic migmatites from the Lokoho region, Northern Madagascar.- *American Mineralogist*, 88, 1751-1764.

Ring, U., Kröner, A., **Buchwaldt, R.**, Toulkeridis, T., Layer, P. (2002): Shear-zone patterns and eclogite-facies metamorphism in the Mozambique belt of northern Malawi, eastern-central Africa: implications for the assembly of Gondwana.- *Precambrian Research*, 116, 19-56.

Oliver, G. J. H., Chen, F., **Buchwaldt, R.**, Hegner, E. (2000): Fast tectonometamorphism and exhumation in the type area of the Barrovian and Buchan zones.- *Geology*, 28, 459-462.

**Buchwaldt, R.**, Toulkeridis, T., Babinski, M., Noce, C. M., Martins Neto, M., Hercos, C. M. (1999): Age determination and age related Provenance Analysis of the Proterozoic glaciation in central eastern Brazil.- *An. Acad. Ci.*, 71(3), 527-548.

Ring, U., Kröner, A., Layer, P., **Buchwaldt, R.**, Toulkeridis, T. (1999): Pre- or syntectonic?- Mylonitic A-type granites in strike-slip and reverse-slip shear zones, northern Malawi, east-central Africa.- *J. Geol. Soc. London*, 156, 695-714.

### *Papers in Preparation*

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**Buchwaldt, R.**, Tucker, R. D., Dymek, R. F.: Magma Mixing indicated by Feldspar zonation patterns in Miocene Rhyolitic and Trachytic flows from the Monangorivo volcanic sequence, Northern Madagascar.- in preparation.

El-Shafei, M., Kusky, T., **Buchwaldt, R.**, Tucker, R.D.: Structural and Tectonic Evolution of the Neoproterozoic Feiran-Solaf Metamorphic Belt, Sinai Peninsula: Implications for the closure of the Mozambique Ocean.- in preparation.

**Buchwaldt, R.**, Tucker, R. D., Dymek, R. F: The geochemistry and petrology of a volcanic alkaline suite from the Cenozoic Mt. Tsaratanana Volcano, Northern Madagascar: Implication to understanding of the Daly gap.- in preparation.

**Buchwaldt, R.**, Tucker, R. D., Dymek, R. F: Magmatism during Arc-Continent collision in northern Madagascar: implication for the reconstruction of the Pan-African Orogen.- in preparation.



**Buchwaldt, R.**, Toulkeridis, T., Kröner, A., Todt, W., Babinski, M., Neves, B. B., Santos, R.: Snowball Earth: A geochronological approach.- in preparation.

Bau, M., Toulkeridis, T., Ebeling, I., Glasmacher, U., Dulshi, P., **Buchwaldt, R.**, Walter, R., Todt, W.: Geochemistry and Nd isotopic composition of Paleozoic shales from Rhenohertzynian Rhenish Massif, Germany.- in preparation.

### *Abstracts*

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**Buchwaldt, R.** (2016): Refined ages of Paleozoic rocks in Rhode Island as constraints on the formation of the Appalachian Hope Valley Terrane in southeastern New England.- Geological Society of America, Denver, November 2015.

Buchanan, W. J., Kuiper, Y. D., **Buchwaldt, R.** (2016): New advances on the deformation and deformation and anatexis history of the Nashoba Terrane, New England Appalachians.- Geological Society of America, Denver, November 2015.

**Buchwaldt, R.**, Toulkeridis, T., Todt, W. (2013): Rates of magma evolution in three different granitic complexes: An inside into the petrology of granite pluton construction and thermal evolution of upper crustal Magmas.- Geological Society of America, Denver, October 2013.

Shervais, J. W., Andreasen, K., **Buchwaldt, R.**, Hanan, B. B. W. (2013): The Farmington Canyon Complex, Utah: An obduction mélange on the margin of the Wyoming province.- Geological Society of America, Denver, October 2013.

**Buchwaldt, R.**, Toulkeridis, T. (2013): Tectonomagmatic evolution of the proto-Andean Margin: Geochemical characterization and zircon U-Pb geochronologic constraints from the Ecuadorian Eastern Cordilleran granitoids.- AGU Meeting of the Americas, Cancun, Mexico, May 2013.

Rankin, D., Tucker, R. D., **Buchwaldt, R.** (2013): The Emsian Piscataquis Magmatic Belt in the Upper Connecticut Valley, New Hampshire and Vermont.- Geological Society of America Northeastern Section, Bretton Woods, New Hampshire, March 2013.

Dabrowski, D. R., Hepburn, J. C., Kuiper, Y. D., **Buchwaldt, R.** (2013): Geochronological Constraints on the Origin of the Andover Granite in the Context of the Tectonic History of the Nashoba Terrane, Eastern Massachusetts.- Geological Society of America Northeastern Section, Bretton Woods, New Hampshire, March 2013.

Bradley, D., **Buchwaldt, R.**, Shea, E., Bowring, S., O'Sullivan, P., Benowitz, J. McCauley, A., Bradley, L. (2013): Geochronology and Orogenic Context of Northern Appalachian Lithium-Cesium-Tantalum Pegmatites.- Geological Society of America Northeastern Section, Bretton Woods, New Hampshire, March 2013.

Bradley, D. C., McCauley, A., **Buchwaldt, R.**, Shea, E. K., Bowring, S. A. (2012): Lithium-Cesium-Tantalum Pegmatites Through Time, Their Orogenic Context, and Relationships to the Supercontinent Cycle.- Geological Society of America, Charlotte, November 2012.

**Buchwaldt, R.**, Owens, B. (2012): Decoding the Multiscale Magmatic Cyclicity of Magmatic Pluton Constructions, Using the Petersburg Granite, Virginia, USA, as an Example.- Geological Society of America, Charlotte, November 2012.

Toulkeridis, T., Roudriguez, M., Martin, H., Perez, N., **Buchwaldt, R.** (2012): Reactivation of the Dormant Cuicocha Caldera Lake, Northern Ecuadorian Andes.- Geological Society of America, Charlotte, November 2012.

Kaufman, A. J., Peek, S., Martin, A. J., Cui, H., Grazhankin, D., Rogov, V., Xiao, S., **Buchwaldt, R.**, Bowring, S. A. (2012): A Shorter Fuse For The Cambrian Explosion.- Geological Society of America, Charlotte, November 2012.

Kuiper, Y. D., **Buchwaldt, R.**, Lillydahl-Schroeder, H. G., Castle, J. W. (2011): Post-(?)Trans-Hudsonian Folding in the Foxe Fold Belt, Melville Peninsula, Nunavut, Canada.- Geological Society of America, Minnesota, October 2011.

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