PAMELA C. BURNLEY

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EDUCATION

Ph.D., Geology, University of California, Davis. March 1990. Dissertation: *The effect of nonhydrostatic stress on the olivine-spinel transformation in* Mg_2GeO_4. Advisor: Dr. H. W. Green II.

Master of Science, Geology, University of California, Davis. March 1986. Thesis: *Metamorphic petrology, structure and stratigraphy of the Chloride Cliff area, Funeral Mountains, Death Valley, California.* Advisor: Dr. H. W. Day.

Bachelor of Science, Brown University, Providence, Rhode Island. June 1982. Senior thesis: *Tremolite deformation: an experimental study*. Advisor: Dr. J. Tullis

ACADEMIC APPOINTMENTS

High Pressure Science and Engineering Center (HiPSEC),
Department of Geoscience and Department of Physics & Astronomy
University of Nevada, Las Vegas

Associate Professor	7/17 - present
Associate Research Professor	8/07 – 7/17
Associate Director, HiPSEC	7/14 - present
Department of Geosciences, Georgia State University	
Adjunct Professor	7/07 -7/09
Associate Professor	8/06 – 7/07
Assistant Professor	1/98 – 8/06
CIRES, University of Colorado at Boulder	
Research Scientist III	5/97-12/97
Research Associate	11/93- 5/97
Department of Geological Sciences, University of Colorado	
Lecturer	9/95-12/95
Department of Geological and Geophysical Sciences, Princeton University	
Research Associate	11/91 - 10/93
Department of Geological Sciences, Cornell University	
Visiting Scientist	4/90 - 3/93
Chemistry Department, Cornell University	
Teaching Associate	9/90-6/91
Tompkins and Tioga Counties, New York	
Substitute Teacher	3/90-6/90

INSTRUCTIONAL ACTIVITIES

Courses Taught at University of Nevada Las Vegas

Geology 101

Introductory Geology: Exploring Planet Earth
Geology 220
Mineralogy
Geology 704X (on-line course: *http://faculty.unlv.edu/pburnley/COMPRESMP101.html*)
Introduction to Mineral Physics
Geology 796
Advanced Topics in Geoscience: Deformation of Crystalline Materials
Geology 642x/442x
Geophysics

Courses Taught at Georgia State University
Geology 1121H
Honors Introductory Geosciences I: Earth's Internal Processes
Geology 1122H
Honors Introductory Geosciences II: Earth's External Processes
Geology 3002
Introduction to Earth Materials
Geology 4097
Readings in Geophysics
Geoscience Learning Community
Geology in the Field
Geology 4500/6500 & 8500
Introduction to Geophysics
Geology 3001/7001
Concepts of Earth Science
Geology 1121K
Introductory Geosciences I: Earth's Internal Processes
Geology 7021
Introductory Geosciences I for Teachers: Earth's Internal Processes
Geology 7022
Introductory Geosciences I for Teachers: Earth's External Processes
Natural Science Sequence 3001 (team taught with Dr. R. Nave)
Integrated Science I: Physics and Astronomy
Natural Science Sequence 3002 (lead instructor)
Integrated Science II: Earth Science
Natural Science Sequence 3003 (team taught with Dr. B. Baumstark)
Integrated Science III: Geology and Biology

Student Research Supervision
Undergraduate senior thesis and independent study:
Katie Davis (2000), Charmel Dozier (2000), Barabara Brocks (2001, 2002), Buffy Chournos (2002), Jamarcus Terrel (2003), Verra Kustori (2003), Beth Lavoie (2006), Amy Cooper (2011), Chris Cline (2011), Katie Peterson (2013), Richard Rowland (2013), Adela Fernandez (2015), Nolan Regis (2015), Jeremiah Smith (2015), Danielle Ottaviano (2015), Alex Goya (2016)
Atlanta Consortium for Research in the Earth Sciences REU (summer program):
17 students (1999 - 2004)
Undergraduate researchers supervised (University of Nevada Las Vegas):
46 students (2007 - 2016)
Master's non-thesis (Georgia State University):
Deblina Datta (2008)

Andrea Sikora (2000)

Master's thesis (University of Nevada Las Vegas)

Alex Drue (MS, Fall 2011)
Chris Cline (MS, Spring 2014)
Kara Marsac (MS, Spring 2015)
Dan Haber (MS, Fall 2015)
Richard Rowland (Spring 2015 – present)
Nolan Regis (Fall 2015 – present)
Genevieve Kidman (Fall 2017 – present)

Significant Outreach Activities

Montessori Visions Academy, Las Vegas
Science curriculum development and classroom instruction 4-6th grade (spring 2010)

Partnership for Reform in Science and Mathematics (PRISM)
American Association for Future Teachers – Workshop Leader 2004
Atlanta Public Schools/PRISM Summer Institute – Workshop Leader 2004

Natural South Episode #207: "Tale of Two Canyons", Salt Run Productions
Consultant and on-camera expert – aired April 2003

Eisenhower Project: "Enhancing Web Based Teaching" (PI, Dr. J. Hassard)
Cedar Grove Middle School – Workshop leader 2001, 2002

Grady High School, Atlanta Public Schools
Exploratory course: Geology of Georgia – Spring 2001

American Geological Institute & Georgia State University
Earth Comm workshop – Instructor 1998

SciTrek Workshop for in-service teachers
Model Rivers – Workshop Leader 1998

GRANTS AND CONTRACTS

NSF EAR-9418685 *Absolute Pressure and Temperature Calibration to 6 GPa and 1700 K*, PI: Ivan C. Getting, CoI: Pamela C. Burnley, 2/1/95-1/31/97, $158,121

NSF EAR-9506710 *Investigation of Martensitic-like Transformation Kinetics for the Olivine to Spinel Transformation at High Pressure*, PI: Pamela C. Burnley, 8/1/95-7/31/97 $68,096

NSF EAR-9706289 *Collaborative Investigation of Internal Stresses and Strains Induced by the Olivine-Spinel Transformation: Mechanical Models and Microstructural Observations,* PI: Pamela C. Burnley, CoI: Martin L. Dunn, 8/1/97-7/21/99, $113,000

NSF EAR-9820666 *Collaborative Proposal: Atlanta Consortium for Research in the Earth Sciences (ACRES): Research Experiences for Undergraduates and Science Teachers*, PI: Pamela C. Burnley, CoI: John Yin, 3/1/99-2/28/01,$189,554

NSF EAR-9706289 *REU Supplement: Collaborative Investigation of Internal Stresses and Strains Induced by the Olivine-Spinel Transformation: Mechanical Models and Microstructural Observations,* PI: Pamela C. Burnley, 8/23/99-9/30/00, $10,200

NSF EAR-0079721 *Acquisition of a Laser Ablation Single Collector High Resolution Inductively Coupled Plasma Mass Spectrometer*, PI: A. Mohamad Ghazi, Co-I: Pamela Burnley, Seth Rose, W. Crawford Elliott, David Vanko, 08/21/00-07/31/02, $287,099

NSF EAR-0139539 *Collaborative REU Site Proposal: Atlanta Consortium for Research in the Earth Sciences ACRES: Research Experiences for Undergraduates and Science Teachers*, PI: Pamela C. Burnley, Co-I: Beth A. Christensen, Crawford W. Elliott, Zhi-Yong Yin, 03/01/02-02/28/05, $326,680

NSF EAR-0136107 *Collaborative Research: COMPRES Grand Challenges for Experimental Study of Plastic Deformation*, PI: Pamela C. Burnley, 02/01/02-01/31/06, $196,109

NSF EAR-0405796 *REU Supplement COMPRES Grand Challenges for Experimental Study of Plastic Deformation*, PI: Pamela C. Burnley $10,581

Georgia State University, FY 2005 Student Technology Fee, Proposal #2.1.15 *Computational Facilities for Geology Students*, $40,872

Georgia State University FY2007-2008 *Improving Retention and Timely Graduation Rates for Geosciences Majors (Geography & Geology)*, $92,200

NSF EAR-0652894 *CSEDI Collaborative Research: Grand Challenge for Experimental Study of Plastic Deformation Under Deep Earth Conditions*, PI: Pamela C. Burnley, 05/01/07-04/31/10, $168,142

University of Nevada, Las Vegas FY2008 Research Infrastructure Award Program, *Acquisition of an Electron Backscatter Detector (EBSD)*, PI: Adam Simon, CoI: Pamela Burnley, Jean Cline, Andrew Cornelius, Ken Czerwinski, John Farley, Clemens Heske, Ganqing Jiang, Rod Metcalf, Malcolm Nicol, Michael Pravica, Gene Smith, Wanda Taylor, Oliver Tschauner, Michael Wells. 1/08-6/08, $97,232

NSF EAR-0838579 *In-situ Synchrotron X-ray Diffraction Study of Quartz Deformation*, PI: Pamela C. Burnley, 09/01/09-08/31/12, $305,314

COMPRES/University of Illinois (sub contract to NSF award) *Mineral Physics Educational Modules for Advanced Undergraduates and Graduate Students*, PI: Pamela C. Burnley, 01/17/11-05/21/12, $86,346

COMPRES/University of Illinois (sub contract to NSF award) *Mineral Physics on the World Wide Web – a Comprehensive Approach*, PI: Pamela C. Burnley, Co-I: Sylvia-Monique Thomas 06/1/12-5/31/14, $86,548

NSF EAR -1220548 *Quantifying Rare Earth (REE) and High Field Strength (HFSE) Element Mobility in Fluids at Conditions Appropriate for Forearc to Subarc Cold and Hot Subduction Zones*, PI: Adam C. Simon, Co-I: Oliver Tschauner and Pamela C. Burnley, 8/15/12 – 7/31/15, $379,393

DOE SSAA *High Presssure Science and Engineering Center*, PI: Yusheng Zhao, Co-I: Andrew Cornelius, Pamela Burnley, Changfeng Chen, Paul Forster, Michaeal Pravica, Oliver Tschauner, Barabara Lavina, Ravhi Kumar, Liping Wang, and Valentin Iota, 1/1/13 – 12/31/17, $13,000,000

DOE SDRD (with National Security Technologies LLC) *Predictive Radiological Background Distributions from Geologic Data*, PI: Pamela C. Burnley, Co-I: Elizabeth Hausrath 10/1/13-09/31/15, $210,444

NSF EAR - 1361339 C*SEDI Collaborative Research: Grand Challenge for Experimental Study of Plastic Deformation Under Deep Earth Conditions*, PI: Pamela C. Burnley, 08/01/14 – 07/31/17, $263,998

NSF EAR - 1417218 *Testing Stress Percolation as a Model for Stress Transmission in Rocks* PI: Pamela C. Burnley, 08/01/14 – 07/31/17, $327,979

Army Research Office, *Understanding the Geologic Causes of Variations in Natural Radiological Background* PI: Pamela C. Burnley, CoI: Elisabeth Hausrath, 9/1/15 – 8/31/18, $355,768

ADMINISTRATIVE EXPERIENCE AND COMMITTEE SERVICE

Georgia State University

Atlanta Consortium for Research in the Earth Sciences (ACRES)
Summer Research Experiences for Undergraduates and Teachers
Director 1999-2005

Department of Geosciences
Educational Technology Committee, Chair 1998-2007
Undergraduate Learning Outcomes Assessment, Chair 2005-2007
Department Chair Search Committee, Chair 2007

New Faculty Search Committee, Sedimentology and Stratigraphy Subcommittee Chair 2006
Standards Based Teacher Education Project (STEP)
STEP Science Subcommittee, Member 1998-2007
STEP Taskforce, Member 1999-2000
Professional Education Faculty
Member 1998-2007
Professional Education Council 2005-2007
Diversity Subcommittee, Member 2003-2005
Department of Early Childhood Education
Science Education Faculty Search Committee, Member 2003
Department of Middle Secondary and Instructional Technology
TEEMS Program Admissions Interview Committee, Member 2000-2001

University of Nevada, Las Vegas

Department of Geoscience
Rock Preparation Laboratory, Manager 1/2011 - present
Curriculum Reform, Learning Outcomes Subcommittee, Chair 2010
Scholarship Committee, Member 2008 – present
Education and Outreach Committee, Member 2010- present
High Pressure Science and Engineering Center
Graduate Education Coordinator, 2010 - 2014

PROFESSIONAL SERVICE

Consortium for Materials Properties Research in Earth Sciences (COMPRES)
Executive Committee, Chair 2013-2015
Ad hoc Education and Outreach Committee, Member 2012-2013
Infrastructure and Development Committee, Chair 2010-2012
Long Range planning group, Education subcommittee, Chair 2010
Infrastructure and Development Committee, Member 2002-2008, 2013
Executive Committee, Member 2001-2002
Central Office Standing Committee, Chair 2001-2002
Mineralogical Society of America
Roebling Medal Committee, Member 2015-2016
Councilor, 2010-2013
Mineralogical Society of America Award Committee, Chair 2013
Dana Award Committee, Chair 2012
Kraus Research Award Committee, Chair 2011
Ad Hoc Committee on Meetings, Member 1998-2000
Representative to AGU Spring Meeting Program Committee, Member 1997-2000
NSLS-II 4DE Beamline, Beamline Proposal Writing Team
Member 2010
Physics and Chemistry of Minerals, Springer
North American Editor 2007 - 2010
National Science Foundation
Division of Earth Sciences, Panel member 2/96, 2/97, 4/98, 1/00, 11/00, 5/2007 – 11/2009
University System of Georgia Consortia for Science Teacher Professional Development
Earth and Space Sciences Subcommittee, Member 2003-2007
American Geophysical Union
Bucher Medal Committee, Member 2013-2014
Paul Silver Award Nomination Committee, Member 2012

Public Information Committee, Member 1998-2000
Representative of the Mineral and Rock Physics Committee to the Spring Meeting Program Committee 1999-2000
Volcanology, Petrology and Geochemistry Section, Meetings Committee, Member 1998-2000
Representative of the Mineral and Rock Physics Committee to the Meetings Program Committee 1997-1999

National Association for the Advancement of Colored People
NAACP ACT-SO National Annual Awards, Earth and Space Science Judge 2014

St. Vrain Valley School District
Science Proficiency Writing Committee, Member 1995-1997

International Association of Seismology and Physics of the Earth's Interior
Commission on Physical Properties of Materials of the Earth's Interior, Secretary 1995-1999

Association for Women Geoscientists
Denver Chapter, Treasurer 1994-1997

Reviewer for American Mineralogist, Physics and Chemistry of Minerals, Earth and Planetary Science Letters, Journal of Geophysical Research, Geophysical Research Letters, Physics of Earth and Planetary Interiors, Chemical Physics Letters, Science, Nature, W. H. Freeman and Company, Wiley and Sons, Prentice Hall, Brooks Cole, Pearson, Columbia University Press, Addison Wesley, McGraw-Hill, and the National Science Foundation.

INVITED LECTURES AND COLLOQUIA

Invited speaker

Rock Deformation Gordon Conference, Summer 1997, 2016
EGU General Assembly Spring 2014 in session: *Mechanical effects during mineral reactions: A departure from lithostatic pressure – a myth or fact?*
National Science Teachers Association, Annual meeting, Spring 2004 *AGU Lecture*
CSEDI Deep Earthquake workshop, Winter 1994
AGU Spring 1993 meeting in session: *Kinetics and Transport Properties of Minerals*

Invited colloquia

University of Wyoming, Cornell University, Princeton University, State University of New York at Stony Brook, University of Colorado at Boulder, Arizona State University, Los Alamos National Laboratory (IGPP), University of Northern Colorado, University of Notre Dame, Northwestern University, Georgia Tech, Georgia Southern University, University of Georgia, Florida International University, University of New Mexico, Columbus State University, University of Nevada Las Vegas, Los Alamos National Lab (Geomaterials), University of California, Davis, University of Illinois, Stony Brook University, ETH Zurich, South Dakota School of Mines and Technology, Ecole Normale Supérieure

ACADEMIC HONORS AND AWARDS

Fellow Mineralogical Society of America, 2012
Editor's Citation for Excellence in Refereeing, American Geophysical Union, 1996
Penrose Grant: Awarded with Outstanding Mention, Geological Society of America, 1983
Graduate Fellowship, National Science Foundation, 1982

PUBLICATIONS

Peer reviewed

Kaboli, S., Burnley, P.C., Xia, G. and Green H.W. II Pressure dependence of creep in forsterite olivine: comparison of measurements from the D-DIA and Griggs apparatus. (submitted to Geophysical Research Letters, August 2017)

Mazzucchelli, M. L., Burnley, P., Angel, R J., Morganti, S. Domeneghetti, C. M., Nestola F. and Alvaro, M. Elastic geobarometry: errors arising from the geometry of the host-inclusion system. (submitted to Geology July 2017)

Kaboli, S. and Burnley P. C. ECCI, EBSD and EPSC Characterization of Rhombohedral Twinning in Polycrystalline α-Alumina Deformed in the D-DIA Apparatus. (submitted to Journal of Applied Crystallography, May 2017).

Haber, D.A., Burnley, P.C., Adcock, C.T., Malchow, R.L., Marsac, K.E.,and Hausrath, E.M., 2017, Modeling Background Radiation in Southern Nevada. *Journal of Environmental Radioactivity*, v. 171, p 41–64, doi:10.1016/j.jenvrad.2017.01.020

Haber, D.A. Malchow, R.L., Burnley, P.C., 2017 Monte Carlo Simulations of the Gamma-Ray Exposure Rates of Common Rocks. *Journal of Environmental Radioactivity*, v. 167 p 20–25, doi: 10.1016/j.jenvrad.2016.11.013

Marsac, K.E., Burnley, P.C., Adcock, C.T., Haber, D.A., Malchow, R.L., Hausrath, E.M., 2016, Modeling background radiation using geochemical data: A case study in and around Cameron, Arizona. *Journal of Environmental Radioactivity*, v.165 p. 68- 85, OSTI ID 1325309, doi: 10.1016/j.jenvrad.2016.07.012

Burnley, P. C., 2015, Elastic Plastic Self Consistent (EPSC) Modeling of Plastic Deformation in Fayalite Olivine. *American Mineralogist*. V. 100, p.1424 – 1433, OSTI ID 1332345, doi: 10.2138/am-2015-5234CCBYNCND

Tanis, E.A., Simon A.,Tschauner O., Chow P., Xiao Y., Burnley P., Cline, C., Hanchar, J.,Pettke, T., Shen, G., Zhao, Y., 2015, Experimental constraints on the mobility of Nb-rutile in NaCl- and NaF-bearing aqueous fluids during the blueschist to eclogite transition in subduction zones, *American Mineralogist*, V. 100, p.1600 – 1609, doi: 10.2138/am-2015-5031

Burnley, P. C., 2013, The Importance of Stress Percolation Patterns in Rocks and other Polycrystalline Materials. *Nature Communications*. 4:2117, doi:10.1038/ ncomms3117

Burnley, P.C, Cline, C. and Drue, A., 2013, Kinking in Mg_2GeO_4 olivine: an EBSD study. *American Mineralogist*. V. 98, p. 927–931

Burnley, P.C.and Getting I.C. 2012 Creating a High Temperature Environment at High Pressure in a Gas Piston Cylinder Apparatus. *Review of Scientific Instruments*, v. 83:1, doi: 10.1063/1.3677844

Jarrett, O. S. and Burnley, P. C. 2010 Lessons on the role of fun/playfulness from a geology undergraduate summer research program. Journal of Geoscience Education, v. 58, n. 2, p. 110-120.

Burnley, P.C. and Zhang, D. 2008 Interpreting in-situ x-ray diffraction data from high pressure deformation experiments using elastic plastic self consistent models: an example using quartz, Journal of Physics: Condensed Matter, v 20, doi:10.1088/0953-8984/20/28/285201, 10pp

Jarrett, O. S. and Burnley, P.C., 2007, The role of fun, playfulness, and creativity in science: Lessons from geoscientists, in *Play and Culture Studies Volume 7*, D. Sluss and O. Jarrett Eds., University Press of America, New York, 188-202.

Burnley, P.C. and Schmidt, C., 2006 Finite element modeling of elastic volume changes in fluid inclusions: Comparison with experiment, *American Mineralogist*. v91, no. 11-12, pp. 1807-1814.

Burnley, P. C., 2005, Investigation of martensitic-like transformation from Mg_2GeO_4 olivine to its spinel structure polymorph. Am. Min., v 90, no. 8-9, pp. 1315-1324.

Burnley, Pamela C., Davis, Mary K., 2004, Volume Changes in Fluid Inclusions Produced by Heating and Pressurization: A Finite Element Modeling Study. The Canadian Mineralogist, v 42, pp. 1369-1382.

Burnley, P.C., 2004, An Earth Science Scrapbook Project as an Alternative Assessment Tool. Journal of Geoscience Education, v 52, n 3, pp. 245-249.

Jarrett, O. S. and Burnley, P. C. 2003 Engagement in authentic geoscience research: Effects on undergraduates and secondary teachers. Journal of Geoscience Education, v 51, n 1, pp. 85-90.

Burnley, P. C., Jarrett, O. S., and Evans W., 2002, A Comparison of Approaches and Instruments for Evaluating a Geological Sciences Research Experiences Program, Journal of Geoscience Education, v. 50, n. 1, pp.15-24.

Hofmeister, A. Cynn, H., Burnley, P. C. and Meade, C., 1999, Vibrational Spectra of Dense, Hydrous Magnesium Silicates at Pressure: Importance of the Hydrogen Bond Angle. Am. Min. v 84, pp. 454-464.

Getting, I. C., Dutton, S. J., Burnley, P. C., Karato, S.-i., Spetzler, H. A., 1997, Shear attenuation and dispersion in MgO. Phys.Earth Planet. Lett. 99, pp. 249-257.

Phillips, B. L., Burnley, P. C., Worminghaus, K. and Navrotsky A., 1997, ^{29}Si and ^{1}H NMR Spectroscopy of High-Pressure Hydrous Magnesium Silicates. Phys. Chem. Minerals. v 24, pp. 179-190.

Cynn, H., Hofmeister, A. M., Burnley, P. C., Navrotsky, A., 1996, Thermodynamic properties and hydrogen speciation from vibrational spectra of dense hydrous magnesium silicates. Phys. Chem. Min., v 23, pp. 361-376.

Burnley, P. C. and Navrotsky, A., 1996, Synthesis of high-pressure hydrous magnesium silicates: observations and analysis. Am. Min. v 81, pp. 317-326.

Burnley, P.C., 1995, The fate of olivine in subducting slabs: a reconnaissance study. Am. Min. v 80, pp. 1293-1301.

Burnley, P.C., Bassett, W.A. and Wu, T. -c., 1995, Diamond anvil study of the transformation mechanism from the olivine to spinel phase in Co_2SiO_4, Ni_2SiO_4 and Mg_2GeO_4. Jour. Geophys. Res. v 100, pp. 17,715-17,724.

Navrotsky, A., Rapp, R. P., Smelik, E., Burnley, P., Circone, S., Chai, L., Bose, K., and Westrich, H. R., 1994, The behavior of H_2O and CO_2 in high-temperature lead borate solution calorimetry of volatile-bearing phases. Am. Min., v 79, pp. 1099-1109.

Wu, T. -c., Bassett, W.A., Burnley, P.C. and Weathers, M.S., 1993, Shear-promoted phase transformation in Fe_2SiO_4 and Mg_2SiO_4 and the mechanism of deep earthquakes. Jour. Geophys. Res. v 98, pp. 19,767-19,776.

Burnley, P.C., Green, H.W. and Prior, D., 1991, Faulting Associated with the olivine to spinel transformation in Mg_2GeO_4 and its implications for deep-focus earthquakes. Jour. Geophys. Res. v. 96, pp. 425-443.

Green, H.W. and Burnley, P.C., 1990, The failure mechanism for deep-focus earthquakes. In *Deformation Mechanisms, Rheology and Tectonics*, R.J. Knipe and E.H. Rutter eds., Geological Society Special Publication no. 54, Geological Society London. pp. 133-141.

Burnley, P.C. and Green, H.W., 1989, Stress dependence of the mechanism of the olivine-spinel transformation. Nature, v 338, pp. 753-756.

Green, H.W. and Burnley, P.C., 1989, A new, self-organizing, mechanism for deep-focus earthquakes. Nature, v 341, pp. 733-737.

Field Guide Chapters and Other Publications

Wasiolek, P., Malchow R., Burnley, P., Hausrath, E., Marsac K., Haber D., Johnsen, R. and Adcock C., "Predictive Radiological Background Distributions from Geologic Data," in *Site-Directed Research and Development*, FY 2015, National Security Technologies,

LLC, Las Vegas, Nevada, 2016, 197–204. (http://www.lanl.gov/projects/ldrd-tri-lab/_assets/docs/fy15-nstec-annual-report.pdf)

Malchow, R., P. Burnley, E. Hausrath, K. Marsac, D. Haber, and C. Adcock, "Predictive Radiological Background Distributions from Geologic Data," in *Site-Directed Research and Development*, FY 2014, National Security Technologies, LLC, Las Vegas, Nevada, 2015, 193–201.(http://www.lanl.gov/projects/ldrd-tri-lab/_assets/docs/sdrd-fy14-apr.pdf)

Burnley, P. 2012 *"High Pressure Deformation Experiments"* On the Cutting Edge – Professional Development for Geoscience Faculty, Teaching Mineral Physics Collection. http://serc.carleton.edu/NAGTWorkshops/mineralogy/mineral_physics/deformation_mechanisms.html

Burnley, P. 2012 *"Tensors: Stress, Strain and Elasticity*" On the Cutting Edge – Professional Development for Geoscience Faculty, Teaching Mineral Physics Collection. http://serc.carleton.edu/NAGTWorkshops/mineralogy/mineral_physics/tensors.html

Burnley, P. 2012 *"Phase Equilibria at High Pressure*" On the Cutting Edge – Professional Development for Geoscience Faculty, Teaching Mineral Physics Collection. http://serc.carleton.edu/NAGTWorkshops/mineralogy/mineral_physics/phase_equilibria.html

Burnley, P. 2011 *"The Multi-Anvil Apparatus"* On the Cutting Edge – Professional Development for Geoscience Faculty, Teaching Mineral Physics Collection. http://serc.carleton.edu/NAGTWorkshops/mineralogy/mineral_physics/multi_anvil.html

Burnley, P. 2011 *"The Diamond Anvil Cell (DAC)"* On the Cutting Edge – Professional Development for Geoscience Faculty, Teaching Mineral Physics Collection. http://serc.carleton.edu/NAGTWorkshops/mineralogy/mineral_physics/diamond_anvil.html

Williams, Q., Brown, M.J., Tyburczy, J., van Orman, J. Burnley, P., Parise, J., Rivers, M., Wentzcovitch R., Liebermann, R. 2010 Understanding the Building Blocks of the Planet: The Materials Science of Earth Processes, Report to the National Science Foundation. COMPRES Consortium, 68 pp.

Hanley, T. B., Kar, A., Burnley, P., Scanlan, M. and Wilson, C., 2005, Phenix City gneiss amphibolite and associated rocks of the Uchee belt, western Georgia and eastern Alabama. In Field Trip Guide for the Annual Meeting of the Southeastern Section of the Geological Society of America, M. G. Steltenpohl ed., Alabama Geological Society, pp. 115.

Burnley, P. and Brocks, B., 2001, Characterization of Veins and Associated Alteration in a Bedrock Core Taken from the Brevard Zone, Cobb County, Georgia. In Across the Brevard Zone: The Chattahoochee Tunnel, Cobb County, Georgia. R. L. Kath and T. J. Crawford eds., Georgia Geological Society Guidebook, v 21, n 1, October 2001, pp. 39-41.

Abstracts

Kaboli, S. and Burnley, P.C. 2017 Applications of Real Space Crystallography in Characterization of Dislocations in Geological Materials in a Scanning Electron Microscope (SEM). Abstract MR**, Fall Meeting, AGU, New Orleans, LA.

Mazzucchelli, Mattia L., Burnley, Pamela, Angel, Ross J., Domeneghetti, M.Chiara, Nestola Fabrizio and Alvaro, Matteo 2017 Elastic geobarometry: uncertainties arising from the geometry of the host-inclusion system. *Geophysical Research Abstracts Vol. 19, EGU2017-2060-1*, EGU General Assembly 2017

Kaboli, Shirin and Burnley, Pamela 2016 Electron Channeling Contrast Imaging (ECCI) and Electron Backscatter Diffraction (EBSD) Study of Forsterite Olivine Deformed in the D-DIA Apparatus. Abstract MR23A-2679, Fall Meeting, AGU, San Francisco, Calif.

Burnley, Pamela and Kaboli, Shirin, 2016 Using in-situ diffraction, elastic plastic self-consistent models and microstructural analysis to interpret the low strain behavior of olivine polycrystals in the D-DIA apparatus. Abstract MR23A-2670, Fall Meeting, AGU, San Francisco, Calif.

Kaboli, S., Gauvin, R., and Burnley, P., 2016 Deformation Analysis of Forsterite Olivine Using Electron Channeling Contrast Imaging and Electron Backscatter Diffraction, Microscopy and

Microanalysis, Volume 22, Supplement S3, July 2016, pp 1792-1793 DOI: http://dx.doi.org/10.1017/S1431927616009806

Rowland, Richard and Burnley, Pamela 2015 Phase Equilibria and Compressibility of bastnaesite-(La) Abstract MR13B-2702, Fall Meeting, AGU, San Francisco, Calif.

Burnley, Pamela; Fernandez, Adela; Smith, Jeremiah; Goya, Alex; Haber, Daniel; Johnsen, Racheal; Marsac, Kara E. and Malchow, Russell 2015 Examining the Spatial Scale of Variations in Terrestrial Gamma-Ray Background Over Individual Bedrock Geologic Units. Geological Society of America, *Abstracts with Programs.* Vol. 47, No. 7, p. 301.

Haber, Daniel; Burnley, Pamela; Adcock, Christopher; Malchow, Russell and Hausrath, Elisabeth M. 2015 Predictive Modeling of Terrestrial Radiation Exposure from Geologic Materials. Geological Society of America, *Abstracts with Programs.* Vol. 47, No. 7, p. 723.

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