

## CURRICULUM VITAE

### **John B. Brady**

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### **Education**

A.B. 1970 Harvard College (Geological Sciences)  
M.S. 1972 U.C.L.A. (Geology)  
Ph.D. 1975 Harvard University (Geology)  
Ph.D. Thesis: "Intergranular diffusion in metamorphic rocks"

### **Employment**

2019-present: Mary E. Moses Professor Emeritus, Smith College  
2003-2019: Mary E. Moses Professor, Smith College  
1987-03: Professor of Geology, Smith College  
1985-87: Associate Dean of the Faculty, Smith College  
1983-85, 1988-89, 1996-98, 2005-07, 2012-14, 2018-19 Chairman, Department of Geology, Smith College  
1982, 1983 (summers): Faculty Member, Indiana University Geologic Field Station  
1981-87: Associate Professor of Geology, Smith College  
1979-81: Assistant Professor of Geology, Smith College  
1978-79: Temporary Staff Geochemist, Geophysical Laboratory, Carnegie Institution of Washington  
1978 (summer): Geologist, U.S. Geological Survey, Branch of Exploration Research, Denver  
1975-78: Assistant Professor of Geology, Smith College (mineralogy, petrology, geochemistry)  
1973-75: Teaching Fellow in Geology, Harvard University (petrology, petrography)  
1969, 1970 (summers): Teaching Associate, Indiana University Geologic Field Station

### **Grants and Awards**

NSF Graduate Fellow 1970-1973.  
American Chemical Society, Petroleum Research Fund Type G Grant (\$10,000) 1978-1980. Project Topic: Thermal models of regional metamorphism.  
NSF Instructional Scientific Equipment Program Grant (\$20,000) 1980-1982. Project Title: X-ray diffraction equipment for applications in geology and chemistry.  
NSF (RUI) Earth Sciences: Experimental and Theoretical Geochemistry (\$72,532) 1985-1988. Project Title: Experimental determination of the effect of Mn on Fe-Mg partitioning between biotite and garnet.  
NSF College Science Instrumentation Program (\$43,667) 1985-1987. Project Title: An energy-dispersive x-ray spectrometer and luminoscope for analytical petrography.  
American Chemical Society, Petroleum Research Fund Type G Grant Supplement (\$4,500) with M. Darby Dyar. 1988-1989. Project Topic: Garnet-Biotite Geothermometry.  
NSF Instrumentation and Laboratory Improvement Program (\$55,100). 1992-94. Project Title: An automated powder x-ray diffraction system for use in undergraduate teaching and student research.  
Mineralogical Society of America Lecturer (1993-1994)  
NSF Undergraduate Faculty Enhancement Program (\$113,848). 1996-97. Project Title: A Training Workshop for Teaching Mineralogy  
NSF Division of Earth Sciences (\$51,500). Co-PI with Gordon Brown, Stanford University. 1997-99. Project Title: Support for a Mineralogical Society of America Coordinator of Internet Resources.  
National Association of Geology Teachers Distinguished Lecturer (1998-2000)  
NSF Division of Earth Sciences (\$71,578). 2003-2005. Project Title: Fe-Mg Interdiffusion in Orthopyroxene and Olivine: A Collaborative Study using Rutherford Backscattering to Measure Fe-Mg Diffusion Coefficients at 600-900°C.  
Sherrerd Prize for Distinguished Teaching, Smith College. Fall 2008.  
Mineralogical Society of America President (2009-10)

NSF Major Research Instrumentation (\$321,985). Co-PI with Richard Briggs, Biological Sciences. 2010-2012.  
 Project Title: MRI: Acquisition of a Scanning Electron Microscope.  
 First Recipient of the GeoCUR Undergraduate Research Mentor Award of the Council on Undergraduate Research,  
 Geosciences Division. Fall 2011.  
 NSF TUES (\$109,055). Collaborative grant with Darby Dyar, Mt. Holyoke College, and Eileen McGowan, Holyoke  
 Community College. 2012-2017. Project Title: Building Analytical Competence for Geoscience  
 Students through use of Spectroscopic Tools.  
 Smith College Honored Professor Award (2017)

**Publications**  
 (student co-authors marked with \*)

- Stout, J.H., **Brady, J.B.**, Weber, F., Page, R.A. (1973) Evidence for Quaternary movement on the McKinley strand of the Denali fault in the Delta River area, Alaska: *Geological Society of America Bulletin* **84**, 939-948.
- Brady, J.B.** (1974) Coexisting actinolite and hornblende from west-central New Hampshire: *American Mineralogist* **59**, 529-535.
- Brady, J.B.** (1975) Reference frames and diffusion coefficients: *American Journal of Science* **275**, 954-983.
- Brady, J.B.** (1975) Chemical components and diffusion: *American Journal of Science* **275**, 1073-1088.
- Brady, J.B.** (1977) Metasomatic zones in metamorphic rocks: *Geochimica et Cosmochimica Acta* **41**, 113-125.
- Brady, J.B.** (1978) SYMMETRY: an interactive graphics computer program to teach symmetry recognition: *Computers and Geosciences* **4**, 179-187.
- Brady, J.B.** (1979) Intergranular diffusion in quartz-periclase reaction couples: *Carnegie Institution of Washington Yearbook* **78**, 577-580.
- McCallister, R.H., **Brady, J.B.**, and Mysen, B.O. (1979) Self-diffusion of calcium in diopside: *Carnegie Institution of Washington Yearbook* **78**, 574-577.
- Brady, J.B.** and Stout, J.H. (1980) Normalizations of thermodynamic properties and some implications for graphical and analytical problems in petrology: *American Journal of Science* **280**, 173-189.
- Boctor, N.Z. and **Brady, J.B.** (1980) Interdiffusion of S and Se in tiemannite: *American Mineralogist* **65**, 797-799.
- Brady, J.B.** and Frantz, J.H. (1980) A micro-analytical technique for determination of aluminum in aqueous solutions: *American Mineralogist* **65**, 1249-1251.
- Brady, J.B.** and McCallister, R.H. (1983) Diffusion data for clinopyroxenes from homogenization and self-diffusion experiments: *American Mineralogist* **68**, 95-105.
- Brady, J.B.** and Yund, R.H. (1983) Interdiffusion of K and Na in alkali feldspars: *American Mineralogist* **68**, 106-111.
- Brady, J.B.** (1983) Intergranular diffusion in metamorphic rocks: *American Journal of Science* **283-A**, 181-200.
- Brady, J.B.** and White, B. (1983) *Fifty Hikes in Massachusetts*: Backcountry Publications, Woodstock, Vermont, 224p.
- Brady, J.B.** (1985) Review of *Kinetics and Equilibrium in Mineral Reactions*, S.K. Saxena, Editor: *American Scientist* **73**, 80.
- Brady, J.B.** (1987) Coarsening of fine-scale exsolution lamellae: *American Mineralogist* **72**, 697-706.
- Brady, J.B.** (1988) The role of volatiles in the thermal history of metamorphic terranes: *Journal of Petrology* **29**, 1187-1213.
- Brady, J.B.** and Burnham, C.W., Associate Editors (1991) *The Thompson Issue*: *American Mineralogist* **76**, 685-1080.
- Burnham, C.W. and **Brady, J.B.** (1991) Introduction to the Thompson issue: *American Mineralogist* **76**, 685-688.
- Brady, J.B.** (1992) Does ice dissolve or does halite melt? -- A low-temperature liquidus experiment for petrology classes: *Journal of Geological Education*, **40**, 116-118.
- Brady, J.B.** and White, B. (1992) *Fifty Hikes in Massachusetts, Second Edition*: Backcountry Publications, Woodstock, Vermont, 223p.
- Cheney, J.T. and **Brady, J.B.** (1992) Petrology of the high-alumina Hoosac schist from the chloritoid+garnet through the kyanite+biotite zones in western Massachusetts: in Robinson, P. and Brady, J.B., editors, *Guidebook for Field Trips in the Connecticut Valley Region of Massachusetts and Adjacent States*, NEIGC 84th Annual Meeting, Amherst, MA, 332-357.
- Robinson, P. and **Brady, J.B.**, editors (1992) *Guidebook for Field Trips in the Connecticut Valley Region of Massachusetts and Adjacent States*, NEIGC 84th Meeting, Amherst, MA, 520p.
- Brady, J.B.** (1994) Memorial of Benjamin M. Shaub; 1893-1993: *American Mineralogist*, **79**, 1017-1018.

- Brady, J. B.** (1995) Diffusion data for silicate minerals, glasses, and liquids: in T.H. Ahrens, editor, *Mineral Physics and Crystallography: A Handbook of Physical Constants*, AGU Reference Shelf 2, American Geophysical Union, Washington, D.C., 269-290.
- Brady, J.B.** (1995) 1994: The Geosciences in Review, *Mineralogy: Geotimes*, **40**:2, 40-41.
- Brady, J.B.** (1995) Confessions of a mineralogy professor: *Geotimes*, **40**:9, 4.
- Brady, J.B.**, and Boardman, S.J. (1995) Optical diffraction experiments using lasers -- An effective strategy for introducing mineralogy students to x-ray diffraction: *Journal of Geological Education*, **43**, 471-476.
- Brady, J.B.**, Newton, R.M., and Boardman, S.J. (1995) New uses for powder x-ray diffraction experiments in the undergraduate curriculum: *Journal of Geological Education*, **43**, 466-470.
- Robinson, P.R., **Brady, J.B.**, Hepburn, C., Hanson, L.S., and van Baalen, M.R. (1966) Format instructions for NEIGC field guides: in van Baalen, M.R., editor, *Guidebook to Field Trips in Northern New Hampshire and Adjacent Regions of Maine and Vermont*, NEIGC 88th Meeting, Mount Washington, NH, 365-367.
- Brady, J.B.** (1997) Teaching mineralogy to geology students: *Mineralogical Association of Canada Newsletter*, **56**, 3-7.
- Brady, J.B.**, Mogk, D.W., and Perkins, D., III, editors (1997) *Teaching Mineralogy*: Mineralogical Society of America, Washington, D.C., 416p.
- Brady, J.B.** (1997) Making solid solutions with alkali halides: in Brady, J.B., Mogk, D.W., and Perkins, D., editors, *Teaching Mineralogy*, Mineralogical Society of America, Washington, DC, 85-89.
- Brady, J.B.**, Cheney, J.T., \*Rhodes, A.L., \*Vasquez, A., \*Green, C., \*Duvall, M., \*Kogut, A., \*Kaufman, L., and \*Kovacic, D. (1998) Isotope geochemistry of Proterozoic talc occurrences in Archean marbles of the Ruby Mountains, southwest Montana, U.S.A.: *Geological Materials Research*, **1**, n.2, 41p. (<http://gmr.minsocam.org>); *American Mineralogist*, **88**, 246.
- Dyar, M.D., Guidotti, C.V., \*Core, D.P., \*Wearn, K.M., Wise, M.A., Francis, C.A., Johnson, K., **Brady, J.B.**, Robertson, J.D., and Cross, L.R. (1999) Stable isotope and crystal chemistry of tourmaline across pegmatite - country rock boundaries at Black Mountain and Mount Mica, southwestern Maine, U.S.A.: *European Journal of Mineralogy*, **11**, 281-294.
- Brady, J.B.** and White, B. (1999) *Fifty Hikes in Massachusetts, Third Edition*: Backcountry Publications, Woodstock, Vermont, 256p.
- Brady, J. B.** (2003) Phase diagrams from kitchen chemistry. 3 January 2008 <[http://serc.carleton.edu/NAGTWorkshops/petrology/teaching\\_examples/3659.html](http://serc.carleton.edu/NAGTWorkshops/petrology/teaching_examples/3659.html)>.
- Brady, J.B.**, and Cheney, J.T., editors (2003) *Guidebook for Field Trips in the Five College Region*, 95<sup>th</sup> Annual Meeting of the New England Intercollegiate Geological Conference, Amherst and Northampton, MA, 378p.
- Brady, J.B.**, Markley, M.J., Schumacher, J.C., Cheney, J.T., and \*Bianciardi, G.A. (2004) Aragonite pseudomorphs in high pressure marbles of Syros, Greece: *Journal of Structural Geology*, **26**, 3-9.
- Brady, J.B.**, Burger, H.R., Cheney, J.T., and Harms, T.A., editors. (2004) *Precambrian Geology of the Tobacco Root Mountains, Montana*: Geological Society of America Special Paper 377, 256p.
- Johnson, K.E., **Brady, J.B.**, \*MacFarlane, W.A., \*Thomas, R.B., \*Poulsen, C.J., and \*Sincock, M.J. (2004) Precambrian meta-ultramafic rocks from the Tobacco Root Mountains, Montana, in Brady, J.B., Burger, H.R., Cheney, J.T., and Harms, T.A., eds., *Precambrian Geology of the Tobacco Root Mountains, Montana*: Geological Society of America Special Paper 377, 71-87.
- Brady, J.B.**, \*Mohlman, H.K., \*Carmichael, S.K., \*Jacob, L.J., \*Harris, C., and \*Chaparro, W.R. (2004) General geology and geochemistry of metamorphosed Proterozoic mafic dikes and sills, Tobacco Root Mountains, Montana, in Brady, J.B., Burger, H.R., Cheney, J.T., and Harms, T.A., eds., *Precambrian Geology of the Tobacco Root Mountains, Montana*: Geological Society of America Special Paper 377, 89-104.
- Cheney, J.T., **Brady, J.B.**, \*Tierney, K.A., \*DeGraff, K.A., \*Mohlman, H.K., \*Frisch, J.D., \*Hatch, C.E., \*Steiner, M.L., \*Tuit, C., \*Steffan, K.J., \*Cady, P., \*Lowell, J., \*Archuleta, L.L., \*Hirst, J., \*Carmichael, S.K., \*Fisher, R.G.M., \*Wegmann, K.W., and \*Monteleone, B. (2004) Proterozoic metamorphism of the Tobacco Root Mountains, Montana, in Brady, J.B., Burger, H.R., Cheney, J.T., and Harms, T.A., eds., *Precambrian Geology of the Tobacco Root Mountains, Montana*: Geological Society of America Special Paper 377, 105-129.
- Brady, J.B.**, \*Kovacic, D.N., Cheney, J.T., \*Jacob, L.J., and \*King, J.T. (2004) <sup>40</sup>Ar/<sup>39</sup>Ar Ages of metamorphic rocks from the Tobacco Root Mountains, Montana, in Brady, J.B., Burger, H.R., Cheney, J.T., and Harms, T.A., eds., *Precambrian Geology of the Tobacco Root Mountains, Montana*: Geological Society of America Special Paper 377, 131-149.
- Harms, T.A., **Brady, J.B.**, Burger, H.R., and Cheney, J.T., (2004) Advances in the geology of the Tobacco Root Mountains, Montana, and their implications for the history of the northern Wyoming Province, in Brady, J.B., Burger, H.R., Cheney, J.T., and Harms, T.A., eds., *Precambrian Geology of the Tobacco Root Mountains, Montana*: Geological Society of America Special Paper 377, 227-243.

- Morse, S.A., **Brady, J.B.**, and Sporleder, B.A., (2004). Experimental petrology of the Kiglapait intrusion: Cotectic trace for the lower zone at 5kb in graphite: *Journal of Petrology*, **45**, 2225-2259.
- Brady, J.B.**, and Cheney, J.T. (2004) The Cape Ann Plutonic Suite: A field trip for petrology classes. In Hanson, L.S., editor, *Guidebook to Field Trips from Boston, MA to Saco Bay, ME*, New England Intercollegiate Geological Conference, 96th Annual Meeting, Salem, Massachusetts, B5, 1-26.
- Mueller, P.A., Burger, H.R., Wooden, J.L., **Brady, J.B.**, Cheney, J.T., Harms, T.A., Heatherington, A.L., and Mogk, D.W. (2005) Paleoproterozoic metamorphism in the Northern Wyoming Province: Implications for the assembly of Laurentia. *The Journal of Geology*, **113**, 169-179.
- White, B., and **Brady, J.B.** (2006) *50 Hikes in Massachusetts: A Year-Round Guide to Hikes and Walks from the Top of the Berkshires to the Tip of Cape Cod, Fourth Edition*: W. W. Norton & Company, New York, 280p.
- Schumacher, J.C., **Brady, J.B.**, and Cheney, J.T. (2008) Metamorphic style and development of the blueschist- to eclogite-facies rocks, Cyclades, Greece: *IOP Conference Series: Earth and Environmental Science* **2**, 012017, 6 p, doi: 10.1088/1755-1307/2/1/012017.
- Schumacher, J.C., **Brady, J.B.**, Cheney, J.T., and \*Tonnsen, R. (2008) Glaucophane-bearing marbles on Syros, Greece. *Journal of Petrology*, **49**, 1667-1686.
- Brady, J.B.** (2009) Magma in a beaker: analog experiments with water and various salts or sugar for teaching igneous petrology. *The Canadian Mineralogist*, **47**, 457-471.
- Brady, J.B.** (2009) Siphons, water clocks, cooling coffee, and leaking capacitors: classroom activities to help students understand radiometric dating and other exponential processes. *Journal of Geoscience Education*, **57**, 196-205.
- Brady, J.B.**, and Cherniak, D.J. (2010) Diffusion in Minerals: An Overview of Published Experimental Diffusion Data, in Zhang, Y., and Cherniak, D.J., editors, *Diffusion in Minerals and Melts, Reviews in Mineralogy and Geochemistry*, **72**, 899-920.
- Brady, J.B.**, Cheney, J.T., Ramezani, J., and Thompson, M.D. (2014) The Cape Ann Plutonic Suite: Classic stops for teaching petrology along the North Shore. In Thompson, M.D., editor, *Guidebook to Field Trips in Southeastern New England (MA-NH-RI)*, New England Intercollegiate Geological Conference, 106th Annual Meeting, Wellesley, Massachusetts, A4-1 to A4-27.
- Bartholomew, P.R., Dyar, M.D., and **Brady, J.B.** (2015) The role of intensity and instrument sensitivity in Raman mineral identification. *Journal of Raman Spectroscopy*, **46**, 889-893.
- Brady, J.B.** (2015) Assuring the future of mineralogy. *American Mineralogist*, **100**, 1337-1340. doi://dx.doi.org/10.2138/am-2015-5164
- Morse, S.A., and **Brady, J.B.** (2017a) The system fayalite-albite-anorthite and the syenite problem. *American Mineralogist*, **102**, 2077-2083. <http://dx.doi.org/10.2138/am-2017-5762>
- Morse, S.A., and **Brady, J.B.** (2017b) Thermal history of the upper zone of the Kiglapait intrusion. *Journal of Petrology*, **58**, 1319-1332. doi: 10.1093/petrology/egx055
- \*Hamelin, C., **Brady, J.B.**, Cheney, J.T., Schumacher, J.C., \*Able, L.A., and Sperry, A.J. (2018) Pseudomorphs after lawsonite from Syros, Greece. *Journal of Petrology*, **59**, 2353-2384. doi: 10.1093/petrology/egy099
- Morse, S.A., and **Brady, J.B.**, and \*Banks, D.C. (2018) 87 million years of recorded history in Labrador: birth, life, and sleep of the Kiglapait intrusion. *Canadian Mineralogist*, **58**, 461-475.
- Brady, J.B.** (2019) *Igneous and Metamorphic Petrology, Interactive diagrams, investigative tools, images, and information for students and teachers of petrology*. <https://www.science.smith.edu/~jbrady/petrology/index.php> (username: jbrady-guest, password: ReadMyT3xt)

**Published Abstracts**  
(student co-authors marked with \*)

- Stout, J.H., **Brady, J.B.**, and Callender, J. (1972) Quaternary movement on the Denali fault in the Delta River Area, Alaska (abs.): *Geological Society of America Abstracts with Programs* **4**, 243.
- Brady, J.B.** (1976) Models for intergranular diffusion in metamorphic rocks (abs.): *EOS Transactions, American Geophysical Union* **57**, 388.
- Brady, J.B.** (1977) Experimental reaction zones between quartz and periclase and intergranular diffusion of silica (abs.): *EOS Transactions, American Geophysical Union* **58**, 520.
- Brady, J.B.** and Stout, J.H. (1978) Gram-atom units for convenience and insight (abs.): *EOS Transactions, American Geophysical Union* **59**, 394.
- McCallister, R.H. and **Brady, J.B.** (1979) Self-diffusion of calcium in diopside (abs.): *Geological Society of America Abstracts with Programs* **11**, 474.

- Brady, J.B.** and McCallister, R.H. (1980) Diffusion kinetics of homogenization and coarsening of pigeonite lamellae in subcalcic diopsides (abs.): *Geological Society of America Abstracts with Programs* **12**, 391.
- Brady, J.B.** and Yund, R.H. (1981) Interdiffusion of K and Na in alkali feldspars (abs.): *Geological Society of America Abstracts with Programs* **13**, 415.
- Brady, J.B.** (1982) Thermal models of regional metamorphism (abs.): *Geological Society of America Abstracts with Programs* **14**, 450.
- Brady, J.B.** (1984) Coming in the back door: extraction of chemical diffusion coefficients from coarsening data (abs.): *Geological Society of America Abstracts with Programs* **16**, 453.
- Brady, J.B.** and Stakes, D.S. (1985) Petrologic consequences of the emplacement of the Blue Ridge allochthons (abs.): *EOS Transactions, American Geophysical Union* **66**, 354.
- Brady, J.B.** and Cheney, J.T. (1991) Talc deposits of the Ruby Range, southwestern Montana: in Woodard, H.H., ed., *Fourth Keck Research Symposium in Geology (Abstracts Volume)*, Keck Geology Consortium, 212-217.
- Brady, J.B.**, Cheney, J.T., \*Duvall, M.L., \*Green, C., \*Kaufman, L., \*Kogut, A.I., \*Larson, A.C., and \*Vasquez, A. (1991) Metasomatic talc deposits in southwestern Montana: geochemical evidence for deep circulation of water-rich fluids: *Geological Society of America Abstracts with Programs* **23**, A263.
- Brady, J.B.** and Kozak, S.J. (1992) Oxygen diffusion, viscous magmatic flow, garnet synthesis, and other adventures in experimental petrology: in Wilson, M.A., ed., *Fifth Keck Research Symposium in Geology (Abstracts Volume)*, Keck Geology Consortium, 99-101.
- Kozak, S.J., **Brady, J.B.**, \*Blazek, J.M., \*Cooper, R.A., \*Fain, S.J., \*Smith, E.S., and \*Swarmer, T.A. (1992) Redox-monitored diffusion of oxygen in diopside-anorthite melts: *Geological Society of America Abstracts with Programs* **24**.
- Brady, J.B.**, and Newton, R.M. (1993) Rediscovering x-ray diffraction in the undergraduate curriculum: *EOS Transactions, American Geophysical Union* **74**, 59.
- Brady, J.B.**, and Boardman, S.J. (1993) Optical diffraction experiments as a hands-on aid in teaching x-ray diffraction by minerals: *Geological Society of America Abstracts with Programs* **25**, A-347.
- Burger, H.R., **Brady, J.B.**, and Cheney, J.T. (1994) Archean rocks of the Tobacco Root Mountains, Montana: in Wilson, M.A., ed., *Seventh Keck Research Symposium in Geology (Abstracts Volume)*, Keck Geology Consortium, 54-59.
- Brady, J.B.** and Newton, R.M. (1994) X-ray diffraction as a tool (not a topic) for geology students and teachers: *Geological Society of America Abstracts with Programs* **26**, A-168- A-169.
- Cheney, J.T., **Brady, J.B.**, Burger, H.R., \*Fisher, R., \*Jacob, L., \*King, J.T., \*Tierney, K.A., \*Peck, W.H., \*Poulsen, C.J., \*Cady, P., \*Lowell, J., \*Sincocock, M.J., and \*Archuleta, L.L. (1994) Metamorphic evolution of Archean rocks in the Tobacco Root Mountains of S.W. Montana: *Geological Society of America Abstracts with Programs* **26**, A-226.
- Brady, J.B.**, Burger, H.R., Cheney, J.T., \*King, J.T., \*Tierney, K.A., \*Peck, W.H., \*Poulsen, C.J., \*Cady, P., \*Lowell, J., \*Sincocock, M.J., \*Archuleta, L.L., \*Fisher, R., and \*Jacob, L. (1994) Geochemical and <sup>40</sup>Ar/<sup>39</sup>Ar evidence for terrain assembly in the Archean of southwestern Montana: *Geological Society of America Abstracts with Programs* **26**, A-232 - A-233.
- Brady, J.B.** (1994) Mineralogy is my favorite course!: *Geological Society of America Abstracts with Programs* **26**, A-367.
- \*Kerry, K.E., **Brady, J.B.**, and Cheney, J.T. (1995) Experimental partial melting of a pelitic schist: *Geological Society of America Abstracts with Programs* **27**, 1, 60.
- Kozak, S.J. and **Brady, J.B.** (1995) Continuing adventures in experimental petrology; diffusion kinetics, basalt crystallization, and melting of pelitic schists: in Mankiewicz, C. and Mendelson, C.A., eds., *Eighth Keck Research Symposium in Geology (Abstracts Volume)*, Keck Geology Consortium, 180-183.
- \*Degraaff, K.A., \*Tierney, K.A., Cheney, J.T., **Brady, J.B.** (1996) Petrology of amphibolites from the Archean Spuhler Peak metamorphic suite (SPMS) of the Tobacco Root Mountains, Montana: *Geological Society of America Abstracts with Programs* **28**, 3, 48.
- Burger, H.R., **Brady, J.B.**, Cheney, J.T., Harms, T.A., Johnson, K.E. (1996) Geochemistry, petrology, and structure of Archean rocks, Tobacco Root Mountains, southwestern Montana: *Ninth Keck Research Symposium in Geology (Abstracts Volume)*, Keck Geology Consortium, 69-77.
- Burger, H.R., **Brady, J.B.**, Cheney, J.T., Harms, T.A., Johnson, K.E., \*Degraaff, K., \*Mohlman, H., \*Owen, D. (1996) Geochemical evidence for a major reinterpretation of Archean Rock Protoliths, Tobacco Root Mountains, Southwestern Montana: *Geological Society of America Abstracts with Programs* **28**, A-492.
- Cheney, J.T., **Brady, J.B.**, Burger, H.R., Harms, T.A., Johnson, K.E., \*Degraaff, K.A., \*King, J.F., \*Mohlman, H.K., \*Tuit, C.B., \*Hirst, J., \*Wegmann, K.W., and \*Thomas, R.B. (1996) Tectonometamorphic evolution of Archean amphibolites from the Tobacco Root Mountains of Montana: *Geological Society of America Abstracts with Programs* **28**, A-45.

- Harms, T.A., Burger, H.R., **Brady, J.B.**, Cheney, J.T., Johnson, K.E., \*Owen, D.R., \*King, J.T., \*Kranenburg, S., \*Sincok, M.J., and \*Lowell, J. (1996) Structural setting of Archean rock suites in the Tobacco Root Mountains, southwestern Montana: *Geological Society of America Abstracts with Programs* **28**, A-245.
- Johnson, K.E., Burger, H.R., **Brady, J.B.**, Cheney, J.T., Harms, T.A., \*Thomas, R.B., \*MacFarlane, W.A. (1996) Archean meta-ultramafics in the Tobacco Root Mountains, S. W. Montana: An evaluation of the Metamorphic history and protolith: *Geological Society of America Abstracts with Programs* **28**, A-493.
- \*Kovacic, D.N., **Brady, J.B.**, Cheney, J.T., Grove, M., \*Jacob, L.J., \*King, J.T. (1996)  $^{40}\text{Ar}/^{39}\text{Ar}$  evidence for reheating events affecting basement rocks in the Tobacco Root, Ruby, and Highland Mountains, SW Montana: *Geological Society of America Abstracts with Programs* **28**, A-493.
- \*Sessions, A.L., **Brady, J.B.**, Chamberlain, C.P. (1996) Experimental calibration of an oxygen isotope fractionation factor for zircon: *Geological Society of America Abstracts with Programs* **28**, A-213.
- Brady, J.B.**, Dyar, M.D., and Johnson, K. (1997) Tourmaline in southwestern Maine: in Mendelson, C.A. and Mankiewicz, C., eds., *Tenth Keck Research Symposium in Geology Proceedings*, Keck Geology Consortium, 175-178.
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- Brady, J.B.** (2018) Teaching igneous petrology: Online tools for working with geochemical data and diagrams. *Goldschmidt Abstracts*, 2018, 262.
- Morse, S.A., **Brady, J.B.**, and \*Mcintosh, D.C.B. (2018) 86 Million years of recorded history in Labrador: Birth, life and sleep of the Kiglapait intrusion. *Goldschmidt Abstracts*, 2018, 1818.
- Brady, J.B.** (2020) An online textbook with interactive tools designed to help undergraduate students learn igneous and metamorphic petrology. *Geological Society of America Abstracts with Programs*, 52, 6, doi: 10.1130/abs/2020AM-355219
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### Honors and Special Studies Projects Supervised

- María A. Terrés (1976) Metasomatic Zoning in Calc-Silicates from an Amphibolite Unit in Friendship, Maine
- Kathe M. Abruzzi (1978) Coronites from the Adirondak Mountains, New York
- Claire Sullivan (1978) A Computer Model of Heat Flow in Metamorphic Rock
- Jan L. van der Voort (1978) Inclusion Patterns in Garnets from the Puzzle Mountain Area, Maine: Their Relationship to Crystal Growth and Structure
- Lynda M. Boop (1980) Analysis of the Hoosac/Rowe Contact in Northwestern Massachusetts
- Karen E. Blount (1981) A Geochemical Comparison Between the Hatfield Pluton and the Belchertown Intrusive Complex, West-Central Massachusetts
- Katherine Walton (1981) A Study of the Treasure Chest Talc Mine and other Talc Deposits in Southwestern Montana
- Claire Peachy (1983) Geochemistry of Tholeiitic Basalt Dikes in the Basement Rocks Adjacent to the Connecticut Valley
- Amy Wilkerson (1984) A Petrographic and Chemical Analysis of the Williamsburg Granodiorite, Western Massachusetts
- Donna Whitney (1985) The Relation (or Lack Thereof) Between the Serpentinites and Emery in Chester, Massachusetts
- Barbara Zavon (1986) Three-dimensional Mineral Symmetry Program (Hampshire College - Division III)
- Neena Bashir (1989) Kinetics of Crystal Size Variation in Regionally Metamorphosed Rocks from Brockways Mills, Vermont (Amherst College)
- Mary Horvath (1990) Structural Study of a Biotite Schist
- Lisa Oxboel (1990) Petrographic Study of the Biotite Schist-Rich Migmatite Quetico Belt, Superior Province, Ontario, Canada
- Ann Farrell (1990) Spectrophotometric Determination of Oxygen Diffusion in Diopside-Albite Melts
- Chuma Mbalu (1990) Contact Metamorphism of the Hurwal Formation by the Wallowa Batholith in the Wallowa Mountains, N.E. Oregon
- Erica Smith (1990) Oxygen Diffusion in Anorthite-Diopside Melts
- Amy Larson (1991) Talc Formation in the Regal-Keystone Mine of the Ruby Range, Southwestern Montana
- Nicole Fraser (1991) Pressure Dependence of Melt Viscosities on the Anorthite-Diopside Join
- Dina Venezky (1992) The Synthesis and Characterization of Mg-Fe-Mn Garnets
- Rober Cooper (1992) The Effect of Variation of Iron Content on Redox Monitored Oxygen Diffusion Experiments in a Silicate Melt (Amherst College)
- Jennifer Pallon (1993) A Petrological and Geochemical Reconstruction of the Cascade Range in the Region of the Mt. Lakes Wilderness Area, Winema National Forest, Klamath County, Oregon
- Robert Cooper (1993) Gold, Crystals, and Bombs: Misadventures in Potassium Diffusion Studies (Amherst College)
- Heather Clark (1993) A Barite Vein in Hatfield Massachusetts
- Diana Lauderbach (1994) Abandoned Lead Mines of Western Massachusetts

- Robin Fisher (1994) Comparative Metamorphic Histories of Three High-Grade Gneiss Terrains in the Tobacco Root Mountains of Southwest Montana
- Dana Kovaric (1996)  $^{40}\text{Ar}/^{39}\text{Ar}$  Dating and Archean to Cretaceous Thermal History of the Tobacco Root Mountains, Southwestern Montana
- Sarah Carmichael (1996) The Chemical Differences in Tourmaline Between Simple and Complex Pegmatites in Southwestern Maine
- Katherine McCloskey (1996) Geothermobarometric Examination of the Wet Mountains, Fremont and Custer Counties, South-Central Colorado
- Katheryn Jermann (1997) Petrology of the 6.0 ka Pyroclastic Eruption as Preserved in the Layer D Pumice at Mount Rainier, Washington
- Sara M. Rosenzweig (1997) Pressure-Temperature Conditions of Metamorphism of Proterozoic Rocks in the Southern Front Range, Central Colorado
- Sarah Carmichael (1998) Geothermometry of Metamorphosed Mafic Dikes and Sills in the Tobacco Root Mountains, Southwestern Montana
- Miriam B. Attenoukon (1999) The Petrology of the Sept Ilse Layered Mafic Intrusion, Quebec, Canada
- Erica DiFilippo (2000) Metamorphic Evolution of High-Pressure, Low-Temperature Mafic Rocks near Kini on the Island of Syros, Greece
- Jennifer Lenz (2000) Geochemistry of the Acid-Sulfate Alteration of the Porphyry Peak Rhyolites, Bonanza Caldera, Central Colorado
- Christen Rowe (2000) Petrology of Blueschist-Facies Metamorphic Rocks from Marin and Sonoma Counties, California
- Amanda Trotter (2000) Petrology and Geochemistry of Syenitic composite dikes at Cat Cove, Salem, Massachusetts
- Michelle Arsenault (2001) Calc-Silicate Marbles of Syros, Greece
- Lynne Elkins (2001) Geochemistry of Komatiite Rocks of the Archean Woodburn Lake Group, Pipedream Lake, Northwest Territories (Nunavut)
- Rebecca -Ellen Farrell (2003) Mechanical Properties of Garnet in Relation to Microfracture
- Laura Frye-Levine (2004) Graphitic Schists of Syros, Greece
- Elizabeth Thomas (2005) Using Geochemical Evidence to Determine Provenance in a High Arctic Glacier-Fed Lake, Linne' Valley, Svalbard, Norway
- Vanessa A. O'Connor (2005) Comparative Crystal Chemistry of Hydrous Iron Sulfates from Different Terrestrial Environments
- Sarah Hale (2005) Experimental Study of Syenite: Liquidus Determinations for the Fayalite-Orthoclase Binary
- Stephanie Moore (2005) Geochemistry of Metamorphosed Proterozoic(?) Mafic Dikes and Sills, Highland Mountains,
- Alyssa Doody (2006) Petrology of Banded Iron Formation and Phyllite in the Standard Creek Contact Aureole, Southern Gravelly Mountains, Montana
- Deanna Gerwin (2006) A Regional Study of Pressures, Temperatures, and Ages of Metamorphosed Pelitic Rocks in Southwestern Montana
- Sarah Vorhies (2006) Provenance and Tectonic Setting of the Paleoproterozoic Denham Formation in East-Central Minnesota
- Sarah Hale (2007) Garnet of the South Mountain Batholith, Nova Scotia
- Stephanie Moore (2007) Metamorphic Petrology and Structure of Metapelites in the Eastern Axial Zone of the Montagne Noire Gneiss Dome, Montagne Noire, France
- Roxanne Renedo (2009) Metamorphism of Graphitic Schists from Syros, Greece
- Kristen Rahilly (2010) The Forsterite-Anorthite-Albite System at 5 kb Pressure
- Jennifer Axler (2011) The Formation of Large Garnets at Gore Mountain, New York: Experimental partial melting of amphibolite and meta-gabbro
- Kate Durkin (2012) Experimental Calibration of Fe and Mg Partitioning between Garnet and Biotite at 0.8 GPa
- Samantha Blanchett (2012) Nucleation Kinetics
- Lauren Magliozzi (2013) Reaction Zones in Garnet-bearing Amphibolite Facies Rocks of the Catalina Schist
- Wanda Feng (2013) Characterizing Minerals using Optical Refractometry
- Clémentine Hamelin (2013) Pseudomorphs after Lawsonite in the Schists of Syros, Greece
- Michelle Cortrite (2013) Burton Rock Classroom Brochure
- Wanda Feng (2014) High Resolution Measurement of Mineral Refractive Indices on Small Crystals Using a Laser
- Clémentine Hamelin (2015) Petrography, Geothermobarometry and Metamorphic History of Metapelites from the Central Ruby Range, Southwest Montana
- Nathaly Reyna Alvarez (2017) Geologic Field Trip of Mt. Tom (video)
- Joan Kahindi (2018) Developing a Server-side Database to Monitor Textbook Reading Progress