

CURRICULUM VITAE

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EDUCATION

Ph.D. 1988 (Geology) University of Michigan
M.S. 1984 (Geology) University of Wisconsin-Madison
B.S. 1979 (Geology) University of Wisconsin-Madison

PROFESSIONAL EXPERIENCE

1/06-7/06 Interim Chair, Dept. Geological Sciences
1/01-6/01 Visiting Scientist, James Cook Univeristy, Townsville, Qnld., Australia
9/98- Director of Undergraduate Studies, Dept. Geological Sciences
5/97- Associate Professor, University of Kentucky
8/91-5/97 Assistant Professor, University of Kentucky.
9/89-7/91 Research Associate & Adjunct Prof. SUNY-Stony Brook (Supervisor of Electron Microprobe Analysis Lab)
9/88-8/89 National Research Council Post-Doctoral Fellow, U.S.G.S., Reston, VA.
9/83-8/88 Research and Teaching Assistant, University of Michigan.
6/82-8/82 Exploration Geologist, ARCO Exploration Co., Denver, CO.
9/81-5/83 Teaching Assistant, University of Wisconsin-Madison
9/79-9/80 Well Site Geologist, Petrograph Inc., Giddings, TX.

SUCCESSFUL RESEARCH GRANTS & AWARDS

NSF/Tectonics EAR-0635688 "Collaborative Research: Identifying the Limitations and Expanding the Utility of Detrital Mineral U-Pb Geochronology to Tectonic Studies": 01/01/07-12/31/09: \$146,297.
USGS EDMAP: "Geologic Mapping and Kinematic/Geochronologic Analysis of the Bronson Hill-Central Maine terrane Boundary (Palmer 7.5' quad), South-Central Massachusetts"; 05/01/06—04/30/07; \$11,750.
NSF/International Division, Supplement to EAR9814991: Collaborative Research in Cloncurry and Robertson River, Queensland, Australia; \$27,486
NSF/Instrumentation and Facilities EAR0001322 "Upgrade of the University of Kentucky Electron Probe Microanalyzer"; 8/01/00-7/31/02; \$95,827.
NSF/Petrology and Geochemistry EAR9814991: "Oxygen Isotope Systematics in Polymetamorphic Rocks: The Effects of Multiple Periods of Deformation and Mineral Growth"; 05/01/99 to 04/30/01; \$98,000.
NSF/Tectonics EAR9507982: "Stable Isotope Geochemistry of Pseudotachylyte: Constraints on the Conditions and Mechanism of Frictional Fusion During Brittle Faulting"; Co-PI with K.D. O'Hara; 06/01/95 to 05/31/97; \$110,000.
NSF/Tectonics EAR9316954: "Chemical Changes in Retrograde Mylonites as a Function of Metamorphic Grade and Deformation Behavior of the Major Rock-Forming Minerals"; Co-PI with K.D. O'Hara; 02/01/94 to 07/31/96; \$90,000.
NSF/Equipment and Facilities EAR9219691: "Upgrade of the University of Kentucky ARL-SEM electron microprobe": \$75,000, 3/1/93 to 8/31/95.

Unsuccessful Proposals

- NSF/Tectonics EAR0538087: "Collaborative Research: Establishing the Zircon Fertility of a Tectonically Complex Orogen: Testing for Bias in Detrital Zircon Records"; co-PI with Prof. Scott D. Samson, Syracuse University. Submitted June 1, 2005.
- NSF/Tectonics EAR0409566: "Collaborative Research: Nappes and Domes to Crystalline Thrusts to Extension: Changing Tectonic Styles in an Evolving Orogen". Submitted Dec. 1 2003.
- NSF/Tectonics EAR0310111: "Collaborative Research: A Coordinated Geochronologic and Petrologic Approach to Constraining Rates and Time Spans of Thermal Events in a Polymetamorphic Orogen; submitted 12/01/02
- NSF/Tectonics EAR9805264: "The Effects of Deformation, Reaction, and Cooling on Mineral Oxygen Isotope Exchange in Polymetamorphic and Mylonitic Rocks"; Co-PI with K.D. O'Hara, submitted 12/01/97.

Other Successful Grant Proposals

- UK Research Committee Grants, 1992, 1996, 2002, 2005
- UK Summer Research Fellowships, 1992, 1994
- NRC Post-Doctoral Research Fellowship, U.S. Geological Survey 1988-1989

PUBLICATIONS

Refereed Journal Articles (published, in press, or in review; listed reverse chronologically)

(* = graduate student; ** = undergraduate student)

31. Anderson, E.D.*, Moecher, D.P., 2007. Omphacite breakdown reactions and relation to eclogite exhumation rates. *Contributions to Mineralogy and Petrology*, accepted pending revision.
30. Moecher, D.P., Samson, S.D., 2006. Differential zircon fertility of source terranes and natural bias in the detrital zircon record: implications for sedimentary provenance analysis. *Earth and Planetary Science Letters*, v. 247, 252-266.
29. Massey*, M.A., Moecher, D.P., 2005. Metamorphic, structural, and fabric evolution of a segment of the Eastern Blue Ridge-Western Blue Ridge boundary in central Western North Carolina. *Tectonics*, v. 24, TC5010, doi: 10.1029/2004TC001643.
28. Berg*, C.A., Moecher, D.P., 2005. Apparent oxygen isotope equilibrium during progressive foliation development and porphyroblast growth in metapelites: implications for stable isotope and conventional thermometry. *Journal of Metamorphic Geology*, v. 23, 471-487.
27. Moecher, D.P., Sharp, Z.D., 2004. Stable isotope and chemical systematics of pseudotachylyte and wall rock, Homestake Shear Zone, CO, USA: Meteoric fluid or rock-buffered conditions during coseismic fusion. *Journal of Geophysical Research*, v. 109, B12, doi:10.1029/2004JB003045.
26. Moecher, D.P., Brearley, A.J., 2004. Mineralogy and petrology of a mullite-bearing pseudotachylyte: constraints on the temperature of coseismic frictional fusion. *American Mineralogist*, 89, 1485-1496.
25. Moecher, D.P., Samson, S.D., Miller, C.F., 2004. Precise time and conditions of peak Taconian granulite facies metamorphism in the southern Appalachian orogen, U.S.A., with Implications for zircon behavior during crustal melting events. *Journal of Geology*, v. 112, 289-304.
24. Haynes*, E.A., Moecher, D.P., Spicuzza, M.J., 2003. Oxygen isotope composition of carbonates, silicates, and oxides in carbonatites: Constraints on crystallization temperatures of carbonatite magmas. *Chemical Geology*, v. 193, 43-57.
23. Hower, J.C., Williams, D.A., Eble, C.F., Sakulpitakphon, T., Moecher, D.P., 2001. Brecciated and mineralized coals in Union County, Western Kentucky coal field. *Int. J. Coal Geol.* V. 47, 223-234.

22. Moecher, D.P., Sharp, Z.D., 1999. Comparison of conventional and garnet-aluminosilicate-quartz O isotope thermometry: Insights for mineral equilibration in metamorphic rocks. *American Mineralogist*, v. 84, 1287-1303.
21. Moecher, D.P., 1999. The distribution, style, and intensity of Alleghanian metamorphism in south-central New England: Petrologic evidence from the Pelham and Willimantic domes. *Journal of Geology*, v. 107, 449-471.
20. Yang, Xin-Yue, O'Hara, K.D., Moecher, D.P., 1998. Distinction between tectonic mixing and mass transfer in a ductile shear zone. *Journal of Structural Geology*, v. 20, 1089-1103.
19. Kane, J., Ng, K.-W., Moecher, D.P., 1998. Effects of lead doping on T_c and energy gap of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ by tunneling spectroscopy. *Physica C*, v. 294, 176-182.
18. Moecher, D.P., Anderson*, E.D., Cook*, C.A., and Mezger, K., 1997. Petrogenesis of metamorphosed carbonatites in the Grenville Province, Ontario. *Canadian Journal of Earth Sciences*, v. 34, 1185-1201.
17. Moecher, D.P., Cosca, M.A., Hanson, G.N., 1997. Ar isotope and petrologic constraints on the middle to late Paleozoic thermotectonic history of the southern Connecticut Valley Zone, New England Appalachians. *Geological Society of America Bulletin*, v. 109, 164-175.
16. O'Hara, K.D., Sharp, Z.D., Moecher, D.P., Jenkin, G.R.T., 1997. The effect of deformation on oxygen isotope exchange in quartz and feldspar and significance of isotopic temperatures in mylonites. *Journal of Geology* 105, 193-204.
15. Komada, N., Moecher, D.P., Westrum, E.F., Jr., Hemingway, B.S., Zolotov, M.Yu., Semenov, Y.V., Khodakovskiy, I.L., 1996. Thermodynamics properties of scapolites from temperatures of 10 to 1000 K. *Journal of Chemical Thermodynamics* 28, 941-973.
14. O'Hara, K.D., Kirschner, D.L., Moecher, D.P., 1995. Petrologic constraints on the source of fluid during mylonitization in the Blue Ridge province, North Carolina and Virginia, U.S.A. *Journal of Geodynamics*, 19, 271-287.
13. Moecher, D.P., Wintsch, R.P., 1994. Deformation induced reconstitution and resetting of mineral equilibria in polymetamorphic gneisses: tectonic and metamorphic implications. *Journal of Metamorphic Geology* 12, 523-538.
12. Moecher, D.P., Valley, J.W., Essene, E.J., 1994. The carbon isotopic composition of the deep crust: evidence from scapolite-bearing granulites and xenoliths. *Geochemica et Cosmochimica Acta* 58, 959-967.
11. Sharp, Z.D., Moecher, D.P., 1994. Oxygen isotope variations in a porphyroclastic meta-anorthosite: diffusion effects and "false" isotherms. *American Mineralogist* 79, 951-959.
10. Moecher, D.P., 1993. Scapolite phase equilibria and carbon isotopes: constraints on the nature and distribution of CO_2 in the lower continental crust. *Chemical Geology* 108, 163-174.
9. Moecher, D.P., Essene, E.J., Valley, J.W., 1992. Stable isotopic and petrologic constraints on scapolitization of the Whitestone meta-anorthosite, Grenville Province, Ontario. *Journal of Metamorphic Geology* 10, 745-762.
8. Kendziora, C., Forro, L., Mandrus, J., Hartge, P., Stephens, P., Mihaly, L., Reeder, R., Moecher, D., Rivers, M., Sutton, S., 1992. Composition, structure and elastic properties of $\text{Bi}_2\text{Sr}_2\text{Ca}_{1-y}\text{Y}_y\text{Cu}_2\text{O}_8$: a single crystal study. *Physical Review B*, 13025-13034.
7. Lamb, W.M., Moecher, D.P., 1992. CO_2 -rich fluid inclusions in the Whitestone Anorthosite: retrograde formation and subsequent modification. *Journal of Metamorphic Geology*, 10, 763-776.
6. Moecher, D.P., E.J. Essene, 1991. Calculation of CO_2 activities from scapolite equilibria, and constraints on the presence and composition of a fluid phase during high grade metamorphism. *Contributions to Mineralogy and Petrology* 108, 219-240.
5. Moecher, D.P., I-Ming Chou, 1990. Hydrothermal investigation of andradite and hedenbergite equilibria at 600-860°C and 2 kbar: resolution of previous discrepancies and new estimates of $m_f G_{298}$ for andradite and hedenbergite. *American Mineralogist* 75, 1327-1341.

4. **Moecher, D.P.**, E.J. Essene, 1990. Phase equilibria for calcic scapolite, and implications of variable Al-Si disorder for P-T, T-XCO₂, and a-X relations. *Journal of Petrology* 31, 997-1024.
3. **Moecher, D.P.**, E.J. Essene, 1990. Scapolite phase equilibria: additional constraints on the role of CO₂ in granulite genesis. (In) Vielzeuf, D., and Vidal, P. (Eds.) *Granulites and Crustal Evolution*, Kluwer Academic Publishers, 385-396.
2. **Moecher, D.P.**, E.J. Essene, L.M. Anovitz, 1988. Calculation of clinopyroxene-garnet-plagioclase-quartz geobarometers: evaluation and application to high grade metamorphic rocks. *Contributions to Mineralogy and Petrology* 100, 92-106.
1. **Moecher, D.P.**, D. Perkins III, P.J. Leier-Englehardt, L.G. Medaris, Jr., 1986. Metamorphic conditions of late Archean high-grade gneisses, Minnesota River Valley, U.S.A. *Canadian Journal of Earth Sciences* 23, 633-645.

Refereed Articles Dealing with Pedagogy

Moecher, D.P., 2004. Characterization and identification of mineral unknowns: A mineralogy term project. *Journal of Geoscience Education* 52, 5-9.

Edited Field Trip Guidebook Stop or Chapters

Moecher, D.P., Massey*, M.A., Tracy, R.J., 2005. Timing and Pattern of Metamorphism in the Western and Central Blue Ridge, TN and NC: Status and Outstanding Problems. In, Hatcher, R.D., Jr., Merschat, A.J., (eds.) *Blue Ridge Geology Geotraverse East of the Great Smoky Mountains National Park, Western North Carolina: North Carolina Geological Survey, Carolina Geological Society Field Trip Guidebook, 2005 Annual Meeting*, p. 57-66.

Allen, J.L., O'Hara, K.D., **Moecher, D.P.**, 2002, Structural geometry and thermal history of pseudotachylyte from the Homestake Shear Zone, Sawatch Range, Colorado. *Geological Society of America Field Trip Guidebook, Annual Meeting, Denver, CO 2002*.

Abstracts of research presented at professional meetings (listed reverse chronologically)

Massey*, M.A., **Moecher, D.P.**, 2006. Heterogeneous flow of an extruded granitic dome in the Bronson Hill Terrane, Massachusetts, USA: Evidence for oblique convergence and indentation, and the Alleghanian Orogeny. *AGU Eos*, in press.

Moecher, D.P., Samson, S.D., 2006. Grenville zircon fertility, baby boom, and baby boom echo: natural bias in the detrital zircon record. *AGU Eos*, in press.

Anderson*, E.D., **Moecher, D.P.**, 2006. Reaction textures in retrograde eclogites: Mechanisms and mass balance as a function of decompression and cooling rates. *Geol. Soc. Am. Abs. Progs.* 38, no. 7, p. 112

Moecher, D.P., Samson, S.D., 2006. Grenville zircon fertility and baby boom: natural bias in the Appalachian detrital zircon record. *Geol. Soc. Am. Abs. Progs.* 38, no. 3, p. 62.

Anderson*, E.D., **Moecher, D.P.**, 2006. A comparison of retrograde eclogites along the EBR-WBR boundary, western N.C.: Plag-bearing Grt-Cpx amphibolites preserve a record of high P-tectonics in the eastern Great Smoky Mountains. *Geol. Soc. Am. Abs. Progs.* 38, no. 3, p. 74.

Clemons*, K., **Moecher, D.P.**, 2006. Kinematic and petrofabric analysis of the Greenbrier discontinuity, Great Smoky Mountains, North Carolina and Tennessee. *Geol. Soc. Am. Abs. Progs.* 38, no. 3, p. 66.

Heck**, J.N., **Moecher, D.P.**, 2006. The petrology and mineral chemistry of select lamprophyre dike intrusions in western Kentucky. *Geol. Soc. Am. Abs. Progs.* 38, no. 3, p. 34.

- Yoksoulian*, L.E., Moecher, D.P., Rimmer, S., 2006. From the bottom to top: preliminary report of the origin and conditions of kimberlite ascent and emplacement-focus on diamond survivability (Elliott County Kimberlite, KY). *Geol. Soc. Am. Abs. Progs.* 38, no. 3, p. 73.
- Anderson*, E.D., Moecher, D.P., 2005. Assessment of re-equilibration mechanisms of plag and cpx in high-pressure amphibolites and retrograde eclogites. *Geol. Soc. Am. Abs. Progs.* 37, no. 7, p. 53.
- Massey*, M.A., Moecher, D.P., 2005. High-grade extrusion to low-grade extension as mechanisms of late Paleozoic terrane modification in the southern Bronson Hill Terrane, New England, U.S.A. *Geol. Soc. Am. Abs. Progs.* 37, no. 7, p. 20.
- Moecher, D.P., Samson, S.D., 2005. Grenville zircon fertility, baby boom, and baby boom echo: natural bias in the detrital zircon record. *Geol. Soc. Am. Abs. Progs.* 37, no. 7, p. 18.
- Moecher, D.P., 2005. Overview of Taconian tectonism in the southern Blue Ridge-still the same, after all these years. *Geol. Soc. Am. Abs. Progs.* 37, no. 1, p. 65.
- Anderson*, E.D., Massey, M.A., Moecher, D.P., 2005. Disparate pressure conditions for Ky-grade metapelites and high pressure amphibolite (NOT retrograded eclogite) near the EBR-WBR terrane boundary Dellwood, NC. *Geol. Soc. Am. Abs. Progs.* 36, no. 2, p. 40.
- Massey*, M.A., Moecher, D.P., 2005. Late Paleozoic extrusion and elongation as important mechanisms in the tectonic evolution of the southern Bronson Hill terrane. *Geol. Soc. Am. Abs. Progs.* 37, no. 1, p. 32.
- Clemons**, K.M., Moecher, D.P., 2004. Petrofabric analysis of the Great Smoky-Snowbird Gp contact, Cove Creek area, eastern Great Smoky Mtns., NC. *Geol. Soc. Am. Abs. Progs.* 36, no. 1.
- Moecher, D.P., Tracy, R.J., Miller, B.V., 2004. Taconian metamorphism alive and well in the southern Blue Ridge. *Geol. Soc. Am. Abs. Progs.* 36, no. 2, p. 135.
- Anderson*, E.D., Moecher, D.P., 2003. Late deformation fabrics near the Western and Eastern Blue Ridge boundary, eastern Great Smoky Mountains. *Geol. Soc. Am. Abs. Progs.* 35, no. 1, p. 20.
- Crevier*, J.M., Moecher, D.P., 2003. A closer look at pseudotachylyte formation: melt-generating reactions revealed by optical and electron microscopy. *Geol. Soc. Am. Abs. Progs.* 35, no. 1, 33.
- Massey*, M.A., Moecher, D.P., 2003. Metamorphic and structural evolution of the Eastern Blue Ridge-Western Blue Ridge boundary as exposed between Soco Gap and Balsam Gap, western NC. *Geol. Soc. Am. Abs. Progs.* 35, no. 1, 22.
- Moecher, D.P., Tracy, R.J., Anderson*, E.D., 2003. Taconian metamorphism in eastern Great Smoky Mountains inferred from U-Th-Pb monazite chemical ages. *Geol. Soc. Am. Abs. Progs.* v. 35, No. 1, 20.
- Berg*, C.A., Moecher, D.P., 2002. Decoupled oxygen isotope and AFM equilibria in metamorphic rocks. *Geol. Soc. Am. Abs. Progs.* 34, 501.
- Massey*, M.A., Moecher, D.P., 2002. Metamorphic and structural evolution of the Eastern Blue Ridge-Western Blue Ridge Boundary ("The Hayesville Fault") along the Blue Ridge Parkway, Western NC. *Geol. Soc. Am. Abs. Progs.* 34, 377.
- Moecher, D.P., Tracy, R.J., Massey*, M.A., 2002. Monazite chemical ages reveal more than one "Great Smoky Group" in southern Blue Ridge, Appalachian Orogen. *Geol. Soc. Am. Abs. Progs.* 34, 69.
- Moecher, D.P., Miller, C.F., 2000. Precise age for peak granulite facies metamorphism and melting in the Eastern Blue Ridge from SHRIMP U-Pb analysis of zircon. *Geol. Soc. Am. Abs. Progs.* 32, No. 2, 63.
- Moecher, D.P., Cleary, M., O'Hara, K.D., Allan, J.D., 1999. Mineralogy of a mullite-bearing pseudotachylyte. *Geol. Soc. Am. Abs. Progs.* 31, no. 7, 359.
- Haynes, E. A., Moecher, D.P., Valley, J.W. 1999. Oxygen isotope analysis of carbonate, silicates and oxides in carbonatites: constraints on crystallization temperatures and cooling rates. *Geol. Soc. Am. Abs. Progs.* 31, no. 7, 416.

- Moecher, D.P.**, 1999. Kyanite-sillimanite-melt relationships at Winding Stair Gap, NC: Constraints on the Taconian granulite facies P-T path of the southern Blue Ridge. *Geol. Soc. Am. Abs. Progs.* 31, no. 3, p. A-31.
- Moecher, D.P.**, 1998. Potential effects of deformation partitioning and sequential porphyroblast growth on oxygen isotope systematics in polymetamorphic rocks. *Geol. Soc. Am. Abs. Progs.* 30, no. 7, p. A-229..
- Haynes, D.P., **Moecher, D.P.**, 1998. Petrogenesis of metamorphosed Grenville carbonatites, Ontario. *Geol. Soc. Am. Abs. Progs.* 30, no. 7, p. A-25.
- Wunsch, D.J., **Moecher, D.P.**, Wunsch, D.R., 1998. Source of barium and fluoride in groundwater derived from the Breathitt Formation, eastern Kentucky. *Geol. Soc. Am. Abs. Progs.* 30, no. 7, p. A-86.
- Moecher, D.P.**, 1998. Kyanite-sillimanite-melt relationships in migmatitic gneisses at Winding Stair Gap, NC: Re-evaluation of an alternative view. *Geol. Soc. Am. Abs. Progs.*, v. 30, No. 4, p. 52.
- Dietsch, C., Lanzirotti, A., **Moecher, D.P.**, 1998. New U-Pb, stable isotope, and petrologic constraints on the thermotectonic history of the gneiss dome belt (western Connecticut), southwestern New England Appalachians. *Geol. Soc. Am. Abs. Progs.*, v. 30, No. 1, p. 14.
- Krukoski, J.C., **Moecher, D.P.**, 1998. Depth of ductile deformation along the Chunky Gal Fault, NC: Evidence from sillimanite-rich tectonic schists. *Geol. Soc. Am. Abs. Progs.*, v. 30, No. 4, p. 22-23.
- O'Hara, K.D., **Moecher, D.P.**, Sharp, Z.D., 1998. Oxygen isotopic composition of artificial and natural pseudotachylytes from the Appalachians and elsewhere. *Geol. Soc. Am. Abs. Progs.*, v. 30, No. 4, p. 53.
- Moecher, D.P.**, 1997, Comparison of conventional and oxygen isotope thermometry in mono- and polymetamorphic pelitic rocks. *Geol. Soc. Am. Abs. Progs.*, v. 29, p. 337.
- Moecher, D.P.**, Anderson, E.D., Cook, C.A., and Mezger, K., 1997. Petrogenesis of carbonatites in the Grenville Province, Ontario. *Geol. Assoc. Canada Prog. Abs.*, v. 22, p. 104.
- Moecher, D.P.**, 1997, Kyanite-Sillimanite relationships in high grade gneisses at Winding Stair Gap, N.C.: an alternative view. *Geol. Soc. Amer. Abs. Progs.* 29, p. 59-60.
- Haynes, E., **Moecher, D.P.**, 1997, A calcite-biotite-serpentine-perovskite xenolith from the Elliott County, KY, kimberlite: a sample of primary kimberlite melt? *Geol. Soc. Amer. Abs. Progs.* 29, p. 22-23.
- Hyatt, J.A., **Moecher, D.P.**, O'Hara, K.D., 1997, Conversion of granulite facies meta-gabbro to amphibolite by ductile shearing: Mineralogic evidence. *Geol. Soc. Amer. Abs. Progs.* 29, p. 25.
- Mueller, Achim, **Moecher, D.P.**, 1997, Garnet and sillimanite growth during retrograde shearing along the Chunky Gal Fault, NC: Implications for interpretation of peak metamorphic mineral assemblages in the southern Blue Ridge. *Geol. Soc. Amer. Abs. Progs.* 29, p. 60.
- Thomas, I., Yang, X.-Y., **Moecher, D.P.**, O'Hara, K.D., 1997, Mass transfer attending tectonic mixing in a high grade ductile shear zone: Geochemical evidence. *Geol. Soc. Amer. Abs. Progs.* 29, p. 74.
- Moecher, D.P.**, 1996, The importance of deformation in driving metamorphic reconstitution and re-equilibration: Examples from the Appalachian orogen, New England, U.S.A. In, *What Drives Metamorphism?* *Geol. Soc. London Meta. Studies Group, Abstracts with Prog.* pp. 54-55.
- Moecher, D.P.**, O'Hara, K.D., Sharp, Z.D., Allen, J.L., 1996, O isotope systematics of pseudotachylite and gneissic wall rock from the Homestake shear zone, Central Colorado. *Geol. Soc. Amer. Abs. Progs.* 28, A-382.
- O'Hara, K., Sharp, Z.D., **Moecher, D.P.**, Jenkin, G.R.T., 1996, The effect of deformation on oxygen isotope exchange in quartz and feldspar and significance of isotopic temperatures in mylonites. *Geol. Soc. Amer. Abs. Progs.* 28, A-189.
- Yang, X-Y., O'Hara, K.D., **Moecher, D.P.**, 1996, Tectonic mixing and mass transfer processes in an upper amphibolite facies shear zone. *Geol. Soc. Amer. Abs. Progs.* 28, A-244.

- Moecher, D.P.**, 1996, "Regional" Alleghanian metamorphism along a deep crustal decollement, south central New England. *Geol. Soc. Amer. Abs. Progs.* 28, No. 3, 83.
- Moecher, D.P.**, 1996, Disparate mid- to late Paleozoic cooling histories in the southern Connecticut Valley Zone: Differential uplift or thermal disturbance? *Geol. Soc. Amer. Abs. Progs.* 28, No. 3, 83.
- Ramirez, B.R., **Moecher, D.P.**, Dietsch, C., 1996. Textural and chemical zoning constraints on interpretation of Acadian P-T conditions, southern Connecticut Valley zone, New England. *Geol. Soc. Amer. Abs. Progs.* 28, No. 3, 92.
- Anderson, A.E., C.A. Cook, **Moecher, D.P.**, 1995. Geochemical constraints on the origin of carbonatite-like rocks in the central metasedimentary belt, Grenville Province, southern Ontario. *Geol. Soc. Amer. Abs. Progs.* 27, No. 6, A-119.
- Moecher, D.P.**, 1995. Failure to equilibrate-limitations on determining P-T histories in multiply-deformed rocks: examples from the Willimantic and Pelham dome area, New England Appalachian. *Geol. Soc. of Am. Abs. with Progs.*, 27, No. 6, A-316.
- Moecher, D.P.**, 1995. Middle to late Paleozoic tectonometamorphic events in south-central New England: Insights from P-T-t studies in the Willimantic, Pelham, and Waterbury dome areas. *Geol. Soc. of Am. Abs. with Progs.*, 27, p. 77.
- Moecher, D.P.**, 1994. The extent and conditions of late Paleozoic metamorphic reconstitution in south-central New England: Evidence from sheared rocks around the Willimantic and Pelham domes. *Geol. Soc. of Am. Abs. with Progs.*, 26, A-479.
- Moecher D.P.**, Prater, D.S., 1994. Mineralogy of a garnet-spinel websterite xenolith from the Elliott Co. (KY) kimberlite: implications for the lower crust below the Appalachian Basin. *Geol. Soc. of Am. Abs. with Progs.*, 26, A-45.
- Moecher D.P.** 1993. Scapolite phase equilibria and carbon isotopes: Constraints on fluid composition and source in the lower continental crust [invited]. European Union of Geosciences, *Terra Abstracts* 1993, 8.
- Moecher D.P.**, Sharp, Z.D. (1993) Sub-grain-scale oxygen isotope variations in a porphyroclastic meta-anorthosite [invited]. European Union of Geosciences, *Terra Abstracts* 1993, 376.
- Moecher, D.P.**, Cosca, M.A., 1992. $^{40}\text{Ar}/^{39}\text{Ar}$ evidence for delayed post-Acadian cooling in the southernmost Connecticut Valley Synclinorium. *Geol. Soc. of Am. Abs. with Progs.* 24, A-187.
- Moecher, D.P.**, Wintsch, R.P., 1991. Petrologic and thermobarometric evidence for Alleghanian metamorphism and deformation around the Willimantic Dome, eastern Connecticut. *Geol. Soc. of Am. Abs. with Progs.* 23, 446.
- Moecher, D.P.**, Essene, E.J., 1990. Calculation of a-X relations for carbonate scapolite based on natural scapolite-plagioclase-calcite assemblages. *Geol. Soc. of Am. Abs. with Prog.* 22, 70. [invited]
- Moecher, D.P.**, Essene, E.J., 1990. Calculation of CO_2 activities using scapolite equilibria: constraints on fluid composition during high-grade metamorphism. *Geol. Soc. of Am. Abs. with Progs.* 22, 211.
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University, Department, and Professional Service

- 2004-2005: A&S Educational Policy Committee; Area subcommittee Chair.
- 2003-2004: Arts & Sciences College Council Rules Revision Committee
- 2003-2005: Arts & Sciences College Council
- 2003: Faculty Senate Ad-Hoc Committee on Program Termination
- 2002-2003: Arts & Sciences Undergraduate Majors Committee
- 1999-present: Editorial Review Board, Journal of Metamorphic Geology
- 1998-2003: Associate Editor, Geological Society of America Bulletin
- 1998-present: Director of Undergraduate Studies, Dept. Geological Sciences
- 1998-2000: Southeast Section Geological Society of America Student Research Grant Review Panel Chair
- 2001-2002: Chair, Isotope Geochemistry Faculty Search Committee
- 1998: Ad hoc UK Research Committee Grant Review Panel
- 1997: UK Psychology Department 5 Year Review Panel
- 1997: Chair, Geochemistry Faculty Search Committee
- 1991-present: Director, UK Dept. Geological Sciences Electron Probe Microanalyzer Laboratory
- Numerous other Department committees and responsibilities (see below)

UK Graduate Student Advisees

- Kate Adank, M.S. candidate
- Suvankar Chakraborty, Ph.D. candidate
- Julie Floyd, M.S. candidate

Kit Clemons, M.S., 2006
Lois Yoksoulian, M.S., 2006
Eric D. Anderson, Ph.D. candidate
Matthew A. Massey, M.S., 2003; Ph.D. candidate
Christopher A. Berg, M.S., 2001
Elizabeth A. Haynes, M.S., 2000
Eric D. Anderson, M.S., 1996; Ph.D. candidate
Claudia A. Cook, M.S. candidate 1995-1997
Bryant Ramirez, M.S. candidate 1992-1993

Graduate Student Thesis Committee Member or Service

Mohan Bharara, Ph.D., UK Chemistry Dept. 2006 (Outside Examiner)
Olaf Jaime-Riveron, Ph.D. candidate, UK Dept. Anthropology
John Hickman, Ph.D. candidate, UK Dept. Geological Sciences
Matthew Surlis, Ph.D. candidate, UK Dept. Geological Sciences
Linda Martin, Ph.D., UK Geography Dept., 2006 (Outside Examiner)
Thomas Becker, Ph.D. 2005, UK Dept. Geological Sciences
William Andrews, Ph.D. 2004, UK Dept. Geological Sciences
Clay Wilcox, M.S. 2005, UK Dept. Geological Sciences
Christopher Gunn, Ph.D. candidate., UK Dept. Anthropology
Christopher Gunn, M.S. 2002, UK Dept. Anthropology
Timothy Keizer, Ph.D., UK Dept. Chemistry, 2002 (Outside Examiner)
Jeffery Kane, Ph.D., UK Dept. Physics and Astronomy 1998
Carrie Graff, M.S., Univ. Cincinnati Geology Dept. 1998
E.K. Esawi, Ph.D., UK Dept. Geological Sciences 1997
Christopher Toles, Ph.D., UK Dept. Geological Sciences 1996
James Coble, Ph.D., UK Dept. Geological Science 1996
Bryant Ramirez, M.S., Univ. Cincinnati Geology Dept. 1995
Michelle Bell, M.S., UK Dept. Geological Sciences 1993

Courses Taught '03-'06

GLY 420G Spring '03 (Structural Geology; 4 cr; for K.D. O'Hara on sabbatical)
GLY 323 Summer '03, '05 (Geology Field Camp; 6 cr.)
GLY 461 Fall '03, Fall '04, Fall '05, Fall '06
GLY 360 Spring '04, Spring '05, Spring '06 (Mineralogy; 4 cr.)
GLY 480/782 S04 (New England Field Trip; 2 cr.)
UK 101 Fall '04, '05 (Introduction to UK for freshmen)
GLY 295 Spring '06 (Orientation to the Geosciences)

Miscellaneous Department Service

Committee Memberships

Applied Geophysics faculty search committee '06-'07

Geological Sciences Alumni Advisory Board 2004-present

Undergraduate Studies 1998-Present: Revise B.A. program; create new orientation course (GLY 295); SACS reviews; advise all junior-senior majors; undergraduate awards; maintain communication with majors regarding curriculum information and career development

Technology: oversee upgrades and maintenance of college networked PCs; liaison for student computer lab; arrange acquisition of new hardware and software.

Cultural and Social Activities: Earth Science Week/A&S Week Dept. Open House; arrange for gifts, condolences; organize Dept. fall picnic, etc.

Field Camp Committee: organize and teach field camp and field trip courses

Resources and Safety: maintain and arrange for servicing of rock preparation equipment and teaching microscopes; space assessment and allocation.

Seminar Committee (Co-Chair '04-'06; Chair '06-'07): arrange speakers, schedule visits including travel and lodging, serve as host for majority of speakers.

Personnel and Budget Committee: ('05-'06, '06-'07)

Director and Supervisor of Electron Probe Microanalysis Lab

Maintain and service the instrument

Secure funding for instrument maintenance and expendable supplies

Instruct internal (faculty and grad students from UK Geol. Sci., Anthropology, Physics) and external workers (EKU, WKU, U of L, Univ. Cincinnati, Miami Univ.) in use of the instrument

Invited Lectures in '03-'06

Ohio University, Department of Geological Sciences, Oct. 3, 2003: "*Resolving the "controversy" on timing of mountain building in the southern Appalachians.*"

Eastern Kentucky University, Department of Geology and Geography, Sept. 29, 2004: "*Resolving the "controversy" on timing of mountain building in the southern Appalachians.*"

Syracuse University, Department of Earth Sciences, Nov. 16, 2006: "*Melting of wall rocks by frictional heating during earthquake-generating fault rupture: How hot, and how wet?*"

University of Tennessee, Department of Earth and Planetary Sciences, Jan. 11, 2007: "*Melting of wall rocks by frictional heating during earthquake-generating fault rupture: How hot, and how wet?*"

University of Dayton, Department of Geology, Jan. 26, 2007: "*Melting of wall rocks by frictional heating during earthquake-generating fault rupture: How hot, and how wet?*", and "*Grenville Zircon Fertility, Baby Boom, and Baby Boom Echo: Implications for Appalachian Provenance Studies.*"

Personal

Married (Amy E. Luchsinger), two sons: Patrick J. (18), Thomas D. (15).