

RESUME

MaryAnn Love MALINCONICO

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DOB: 4/15/51, Rockville Centre, New York USA

Education

- 1993-2002 **Columbia University, Lamont-Doherty Earth Observatory, Palisades, NY**
Graduate Student/ Faculty Fellow, Ph.D. Program
Ph. D., October 2002; M. Phil., May 1995
Dissertation title: Lacustrine organic sedimentation, organic metamorphism and thermal history of selected Early Mesozoic Newark Supergroup basins, Eastern USA
- 1983-1989 Southern Illinois University, Carbondale, IL
Unclassified Graduate Student
- 1979-1982 **Dartmouth College, Hanover, NH**
A.M. in Geology, Teaching Assistant
Thesis topic: Stratigraphy and structure of the southeastern Rumney 15 minute quadrangle, New Hampshire
- 1978-1979 Michigan Technological University, Houghton, MI
Special Graduate Student (Geology), Teaching Assistant
- 1978 Dartmouth College, Hanover, NH
Special Graduate Student (Earth Sciences)
- 1969-1973 **Smith College, Northampton, MA**
A. B. in History

Employment

Research Associate, Lafayette College, Easton, PA, April 1990-**present**.

Downhole thermal maturity in Atlantic Coastal Plain; Graptolite and vitrinite reflectance studies in northern New England; Black carbon in Central Park Lake (NYC) sediments.

U. S. Geological Survey Reston, Virginia

Mendenhall Postdoctoral Research Fellowship, October 2006-September 2008.

Research Topic: Thermal maturation and organic petrology study of ICDP-USGS deep corehole in the central crater of the Chesapeake Bay impact structure.

Contract work through ETI Professionals (October 2008-December 2008);

USGS volunteer (December 2008- present)

Downhole thermal maturity in Atlantic Coastal Plain.

Substitute teacher, Easton Area School District, Nov. 2002-present.

Independent Research, August 1985-April 1990.

Graptolite reflectance study in northern Maine; collaborative research in mineral reflectivity and finite strain techniques.

Field Geologist, Office of the State Geologist, New Hampshire, Summer 1985.

Researcher, Coal Characterization Lab, Department of Geology, Southern Illinois University, Carbondale, IL, November 1982-June 1985.

Computer programming and coal petrology.

Geologist, Noranda Exploration, Inc., Cobalt, ID, summer 1981.

Detailed mapping of geology and alteration in Proterozoic clastic sediments.

Research Assistant, Department of Geology and Geological Engineering,
Michigan Technological University, Houghton, MI, Summer 1979.
Research topic: Microprobe analysis of Fe-Ti oxides from volcanic ash.
Special Subject Assistant-Maps, Baker Library, Dartmouth College, Hanover, NH, 1977-78.
Foreign Service Officer, U.S. Department of State, Washington, D.C.
Washington, D.C., 1973-1974; U.S. Embassy at Oslo, Norway, 1974-76.

Awards and Grants

STAR (Special Thanks for Achievement) Award, U. S. Geological Survey, September 2008
Lamont-Doherty Earth Observatory Climate Center grant, July 2002: Reflected light microscopic
pilot study of Central Park Lake (NYC) particulate carbonaceous combustion products:
Test of technique for discriminating sources of aerosol black carbon relevant to climate
and pollution research (\$3400, with Steven Chillrud)
Association of Women Geoscientists Chrysalis Award, 1999
American Association of Petroleum Geologists,
Marilyn Atwater Student Research Grant Award, April 1997
Geological Society of America Research Grant, April 1994
Outstanding Student Research Grant Award; UNOCAL grant
National Science Foundation Graduate Student
Research Fellowship Honorable Mention, 1994
Sigma Xi Grant-in-Aid of Research, June 1988, June 1980

Professional Organizations

Geological Society of America, 1983-present
Northeastern Section, Management Board, member-at-large, 2006-2008
Committee on Geology and Public Policy, 1986-1988
Convener, The Urbanized Desert: A Challenge for the Geosciences,
Public Policy Forum, GSA annual meeting, Phoenix, 1987
The Society for Organic Petrology, 1990-present
Councilor, 2000-2002; Outreach Committee, 1992-2005; Outreach Chair, 1993-2005;
Distinguished Service Award, 2005.
American Association of Petroleum Geologists, 1982-present
American Geophysical Union, 1993-present
Sigma Xi, 1984-2001
Geological Society of Washington (DC), 2006-present

Community Service

Elementary and middle-school earth science speaker, 1982-present. Various schools including
U.S. Dept. of Interior Partners-in-Education program (2006-08).
Seeing Eye- 4-H Puppy Raising Project, 1991-1994
Member, Parent Advisory Committee on Gifted Education, Easton Area School District, 1992-93
Board member, First Presbyterian Nursery School, Carbondale, IL, 1986-87

Recreational Activities

Member, Team Delaware Adult Masters Synchronized Figure Skating Team,
University of Delaware Figure Skating Club, Newark, DE, 2000-present
Member, Penguin Precision Figure Skating Team, Allentown, PA, 1991-2000

Publications

Papers

- Malinconico, M. L.**, 2010 (in press), Synrift to early postrift basin-scale groundwater history of the Newark basin based on surface and borehole vitrinite reflectance data, in Herman, G. C. and Serfes, M. E. (eds.), *Contributions to the Geology and Hydrogeology of the Newark Basin*: New Jersey Geological Survey Bulletin 77, p. C1-C38.
- Malinconico, M. L.**, Sanford, W. S., Horton, J. W., Jr., 2009, Postimpact heat conduction and compaction-driven fluid flow of the Chesapeake bay impact structure based on downhole vitrinite reflectance data, ICDP-USGS Eyreville deep core holes and Cape Charles test holes in Gohn, G. S., Koeberl, C., Miller, K. G., Reimold, W. U., eds., *The ICDP-USGS Deep Drilling Project in the Chesapeake Bay Impact Structure: Results from the Eyreville Core Holes*: Geological Society of American Special Paper 458, p. 907-932, doi: 10.1130/2009.2458(38).
- Malinconico, M. L.**, 2007, Making an "Impact": *The Society for Organic Petrology Newsletter*, v. 24, p. 10-11.
- Malinconico, M. L.**, 2003, Estimates of eroded strata using borehole vitrinite reflectance data, Triassic Taylorsville rift basin, Virginia: Implications for duration of syn-rift sedimentation and evidence of structural inversion in LeTourneau, P. M., and Olsen, P. E. (eds.), *The Great Rift Valleys of Pangea in Eastern North America* (Volume 1, Tectonics, Structure, and Volcanism): Columbia University Press, New York, p. 80-103.
- Malinconico, M. L.**, 2002, Organic carbon cycle and the petroleum system (figure): *The Society for Organic Petrology Newsletter*, v. 19, p. 9.
- Malinconico, M. L.**, 2000, Using reflectance crossplots and rotational polarization for determination of first-cycle vitrinite for maturation studies: *International Journal of Coal Geology*, v. 43, p. 105-120.
- Hower, J. C., and **Malinconico, M. L.**, 2000, Organic metamorphism in Middle Ordovician carbonates, Lebanon Valley nappe, Pennsylvania: *International Journal of Coal Geology*, v. 42, p. 221-230.
- Malinconico, M. L.**, 1998, Geology of Mt. Moosilauke and environs, in Averill, R. (ed.), *The Moosilauke Reader*, Moose Country Press, Warner, New Hampshire, p. 1-12.
- Malinconico, M. L.**, 1993, Reflectance crossplot analysis of graptolites from the anchi-metamorphic region of northern Maine, U.S.A.: *Organic Geochemistry*, v. 20, no. 2, p. 197-207.
- Malinconico, M. L.**, 1992, Graptolite reflectance in the prehnite-pumpellyite zone, northern Maine, U.S.A.: *Organic Geochemistry*, v. 18, no. 3, p. 263-271.
- Malinconico, M. L.**, 1990, Geology of Mt. Moosilauke and environs: Dartmouth Outing Club.
- Malinconico, M. L.**, (ed.), 1988, *The Urbanized Desert: A Challenge for the Geosciences*, Report of the Committee on Geology and Public Policy, Geological Society of America.
- Hughes, J. M., Drexler, J. W., Campana, C. F., **Malinconico, M. L.**, 1988, Howardevansite, (Na, K)CuFe₂(VO₄)₃, a new fumarolic sublimate from Izalco Volcano, El Salvador, Descriptive mineralogy and crystal structure: *American Mineralogist*, v. 73, p. 181-186.

- Hughes, J. M., Starkey, S., **Malinconico, M. L.**, and Malinconico, L. L., Jr., 1987, Lyonsite, $\text{Cu}_3\text{Fe}_4(\text{VO}_4)\text{O}_6$, a new fumarolic sublimate from Izalco Volcano, El Salvador, Descriptive mineralogy and crystal structure: *American Mineralogist*, v. 72, p. 1000-1005.
- Robinson, P. D., Hughes, J. M., **Malinconico, M. L.**, 1986, Blossite, $\alpha\text{-Cu}_2\text{V}_2\text{O}_7$, a new fumarolic sublimate from Izalco Volcano, El Salvador, Descriptive mineralogy and crystal structure: *American Mineralogist*, v. 72, p. 397-400.
- Rose, W. I., Jr., Hahn, G. A., Drexler, J. W., **Malinconico, M. L.**, Peterson, P.S., and Wunderman, R. L., 1980, Quaternary tephra of northern Central America in Self, S., and Sparks, R. S. J., ed., *Tephra studies as a tool in Quaternary research*: NATO Advanced Study Institute Series, Series C, Math. and Phys. Sci., v. 75, p. 193-211.

Abstracts

- Malinconico, M. L.**, 2010, Patterns of organic sedimentation and kerogen type in ancient rift lakes, Early Mesozoic Newark and Richmond Basins, Eastern United States (abs.): American Association of Petroleum Geologists Annual Meeting Program, New Orleans, Louisiana, April 11-14, 2010.
- Malinconico, M. L.**, and Weems, R. W., 2010, Thermal maturity of the U. S. Atlantic Coastal Plain based on legacy exploration and stratigraphic test wells, including Hatteras Light Esso #1 (abs.): American Association of Petroleum Geologists Annual Meeting Program, New Orleans, Louisiana, April 11-14, 2010.
- Horton, J. W., Jr., Daniels, D. L., **Malinconico, M. L.**, Gibson, R. L., Townsend, G. E., 2010, Basement terranes of the Chesapeake Bay region – evidence from borehole samples and geophysical surveys (abs): Geol. Soc. America Abstracts with Programs, v. 41, no. 1.
- Malinconico, M. L.**, Sanford, W. E., and Horton, J. W., Jr., 2009, Post-impact thermal history and thermal maturity in the Chesapeake Bay impact structure, Virginia, based on downhole vitrinite reflectance (abs.): American Association of Petroleum Geologists Annual Meeting Program, Denver, Colorado, June 7-10, 2009, p. 135.
- Malinconico, M. L.**, Sanford, W. E., and Horton, J. W., Jr., 2008, Post-impact heat conduction and compaction-driven fluid flow in the Chesapeake Bay impact structure, based on downhole vitrinite reflectance (abs): Geol. Soc. America Abstracts with Programs, v. 40, no. 6, p. 408.
- Suárez-Ruiz, I., Valentim, B., Bouzinos, A., Flores, D., Gómez Borrego, A., Kalaitzidis, S., **Malinconico, M. L.**, Marques, M., Misz-Kennan, M., Montes, J. R., Predeanu, G., Siavalas, G., Wagner, N., 2008, Towards an ICCP classification of fly ash components: Program and Abstracts, International Committee for Coal and Organic Petrology and The Society of Organic Petrologists, Oviedo, September 2008, p. 130-131.
- Malinconico, M. L.**, Sanford, W. S., Horton, J. W., Jr. 2008, Post-impact thermal history of the Chesapeake bay impact structure, based on downhole vitrinite reflectance data, ICDP-USGS Eyreville deep core holes and other cores (abs.): Large Meteorite Impacts and Planetary Evolution IV, abstract 3068, 2p. <http://www.lpi.usra.edu/meetings/lmi2008/pdf/3068.pdf>
- Malinconico, M. L.**, Horton, J. W., Jr., Sanford, W. E., and Kunk, M. J., 2007, Thermal maturity in the Chesapeake Bay impact structure: data from the Eyreville deep cores, Virginia, USA (abs): Geol. Soc. America Abstracts with Programs, v. 39, no. 6, p. 316.

- Malinconico, M. L.**, 2007, Contrasting thermal evolution of the Newark and Taylorsville basins: inherited Alleghanian heat flow and climate-influenced hydrostratigraphy (abs): *Geol. Soc. America Abstracts with Programs*, v. 39, no. 1, p. 81.
- Malinconico, M. L.**, 2004, Early advective heat flow history of the Newark basin (invited abstract): *Hydrogeology of the Newark basin regional workshop*, Rutgers University, New Brunswick, NJ, November 2004.
- Malinconico, M. L.**, 2004, Contrasting climate-related stratigraphic architecture and its influence on basin-scale syn-rift advective fluid flow, Newark and Taylorsville basins (abs): *Geol. Soc. America Abstracts with Programs*, v. 36, no. 2, p. 67.
- Malinconico, M. L.**, 2003, Thermal histories of the Newark and Taylorsville basins: Why thick Triassic source rocks are overmature (abs): *Geol. Soc. America Abstracts with Programs*, v. 35, no. 3, p.15-16.
- Malinconico, M. L.**, 2001, Organic petrographic studies of the Early Mesozoic Newark Rift Basin (1) thermal history using borehole and surface vitrinite reflectance and (2) organic sedimentation patterns in orbitally forced under-filled lake cycles (abs.): *Abstracts with Program, The Society of Organic Petrologists*, Houston, September 2001, v. 18, p. 73-77.
- Malinconico, M. L.**, 2000, Patterns of organic sedimentation in lake cycles and sequences of the Mesozoic Newark and Richmond basins (abs.), *Geol. Soc. America Abstracts with Programs*, v. 32, no. 1, A-32-33.
- Malinconico, M. L.**, 1999, Thermal history of the early Mesozoic Newark (NJ/PA) and Taylorsville (VA) basins using borehole vitrinite reflectance: conductive and advective effects (abs): *Geol. Soc. America Abstracts with Programs*, v. 31, no. 2, p. A-31.
- Malinconico, M. L.**, 1998, Using rotational polarization and reflectance crossplots for determining first-cycle vitrinite for maturation studies (abs.): *Abstracts with Program, The Society of Organic Petrologists*, Halifax, July 1998, v. 15, p. 85-88.
- Malinconico, M. L.**, 1998, Organic facies in rift basin cyclic deep lake strata, Triassic-Jurassic Newark Supergroup, eastern United States (abs.): *Abstracts with Program, The Society of Organic Petrologists*, Halifax, July 1998, v. 15, p. 63-65.
- Malinconico, M. L.**, 1997, Contrasting thermal histories of the Early Mesozoic Newark and Taylorsville basins based on borehole and surface vitrinite reflectance: basin-wide conductive vs. advective effects (abs.), *American Association of Petroleum Geologists Bulletin*, v. 81, n. 10, p. 1778.
- Malinconico, M. L.**, 1996, Paleo-maximum thermal structure of the Triassic Taylorsville (Virginia) Basin: Evidence for border fault convection and implications for duration of syn-rift sedimentation and long-term elevated heat flow in LeTourneau, P.M., and Olsen, P.E., eds., *Aspects of Triassic-Jurassic Rift Basin Geoscience (Abstracts)*, State Geological and Natural History Survey of Connecticut, Misc. Reports 1, p. 25.
- Tseng, H-Y, Gao, G., Onstott, T.C., Person, M., Swenson, J., Balkwill, D., Boone, D., Colwell, F., Lehman, R., Griffin, T., Kieft, T., McKinley, J.P., Stevens, T., Nierzwicki-Bauer, S., Olsen, P., **Malinconico, M.**, Phelps, T.J., Ringelberg, D., and White, D.C., 1995. Subsurface bacteria in a Triassic basin: Fluid-flow model constraints, *EOS abstract*, 76: S151.
- Malinconico, M. L.**, 1995, Duration of rifting and thermal modeling of the Triassic Taylorsville Basin, Virginia, based on vitrinite reflectance: *Abstracts and Program, Annual Meeting of the Society for Organic Petrology*, v. 12, p. 9-11.

- Malinconico, M. L.** and D.C. Roy, 1993, Tectonometamorphic history of northern Maine based on graptolite reflectance and other low-grade metamorphic indicators: Geol. Soc. America Abstracts with Programs, v. 25, no. 6, p. A-31.
- Malinconico, M. L.**, 1991, Reflectance crossplot analysis of graptolites from the anchi-metamorphic region of northern Maine, U.S.A.: Abstracts with Program, The Society of Organic Petrologists, Lexington, October 1991, v. 8.
- Malinconico, M. L.**, 1990, Graptolite reflectance in the prehnite-pumpellyite and chlorite zones in northern Maine, U.S.A.: Abstracts with Program, The Society of Organic Petrologists, Calgary, September 1990, v. 7.
- Malinconico, M. L.**, 1990, Graptolite reflectance in Maine, north of the biotite isograd: Geol. Soc. America Abstracts with Programs, v. 22, no. 2, p. 53.
- Malinconico, M. L.**, 1989, Graptolite reflectance study of the Ordovician Winterville Formation, north central Aroostook County, Maine: Geol. Soc. America Abstracts with Programs, v. 21, no. 6, p. 327.
- Zimmerman, J., and **Malinconico, M. L.**, 1986, Finite strain in the Missouri Mountain Formation (Silurian), south-central Benton Uplift, Arkansas: Geol. Soc. America Abstracts with Programs, v. 18, no. 3, p. 273.
- Malinconico, M. L.**, and Lyons, J. B., 1983, Stratigraphy and depositional environment of the southeastern Rumney 15' quadrangle, Merrimack Synclinorium, New Hampshire: Geol. Soc. America Abstracts with Programs, v. 15, no. 3, p. 191.
- Love, M. A.**, Wunderman, R. L., and Rose, W. I., Jr., 1980, Fe-Ti oxides of large silicic tephra eruptions, northern Central America (abstract); EOS, vol. 61, no. 6, p. 66-67.

Photo Credits

- Hughes, J. M., and Finger, L. W., 1983, The crystal chemistry of shcherbinaite, naturally occurring V_2O_5 : American Mineralogist, v. 68, p. 1220-1222. (Figure 2, SEM micrograph of a twinned crystal of shcherbinaite)