

## **Gary G. Lash**

Department of Geosciences  
State University College  
Fredonia, NY 14063  
Lash@fredonia.edu

### **EDUCATION**

- B.A. Geology, June, 1976: Kutztown State University, Kutztown, Pennsylvania.
- M.S. Geology, October, 1978: Lehigh University, Bethlehem, Pennsylvania:  
Thesis Title: The Structure and Stratigraphy of the Pen Argyl Member of the Martinsburg Formation in Lehigh and Berks Counties, Pennsylvania.
- Ph.D. Geology, October, 1980: Lehigh University, Bethlehem, Pennsylvania:  
Dissertation Title: Structural Geology and Stratigraphy of the Allochthonous and Autochthonous Rocks of the Kutztown and Hamburg 7 1/2-minute Quadrangles, Eastern Pennsylvania.

### **EXPERIENCE**

August, 1981 - Present

Professor, Department of Geosciences, State University College, Fredonia, New York;

Courses taught include:

- Drifting Continents (1 CH)
  - Catastrophic Weather and Climatic Change (1 CH)
  - Physical (General) Geology (4 CH)
  - Introduction to Oceanography (3 CH)
  - Weather and Climate (3 CH)
  - Stars and Galaxies (3 CH)
  - Structural Geology (4 CH)
  - Stratigraphy (4 CH)
  - Sedimentology (4 CH)
  - Marine Geology (3 CH)
  - Sedimentary Petrography (3 CH)
  - Geotectonics (3 CH)
  - Field Camp (3 CH)
  - Geology of North America (3 CH; team taught)
- Miscellaneous seminar courses that include:
- Sedimentation Patterns at Convergent Margins (1 CH)
  - Deep-Marine Clastic Sedimentation (1 CH)
  - Appalachian Stratigraphy (1 CH)

June, 1980 - July, 1981

Virginia Division of Mineral Resources, Charlottesville, Virginia: Field mapping in the Virginia Piedmont.

1977 - 1979

United States Geological Survey - Eastern Environmental Branch: responsible for field mapping in the Great Valley of eastern Pennsylvania. This work was part of the Tectonic History of the Central Appalachians project directed by Avery A. Drake, Jr. of the U.S. Geological Survey.

### **RESEARCH GRANTS**

SUNY Research Award, February, 1982 (one year): "Geology of the Hamburg klippe in Eastern Pennsylvania"; \$3,500.

Petroleum Research Fund (American Chemical Society), June, 1982 (two years), PRF# 140-B2: "Central Appalachian Plate Tectonics"; \$13,500.

Fredonia Research Mini-Grant, December, 1983 (one year): "X-Radiography Studies of Ancient Deep-Sea Sediments-Application of a New Technique to an Old Problem": \$350.

Petroleum Research Fund (American Chemical Society), September, 1984 (two years), PRF# 15824-B2-C: "Submarine Fan Sedimentology and Morphology of the Martinsburg Formation, Eastern Pennsylvania"; \$15,000.

Fredonia Research Mini-Grant, December, 1984 (one year): "Geochemical Characteristics of Ancient Sandstones (Martinsburg Formation)-Plate Tectonic Significance"; \$400.

Fredonia Research Mini-Grant, May, 1985 (one year): "Geochemistry of Coastal Volcanic Belt Basalts and Associated Sedimentary Rocks: Implications for Northern Appalachian Tectonic Evolution"; (with Richard A. Gilman) \$500.

Petroleum Research Fund (American Chemical Society), September, 1986 (two years), PRF# 17623-B2-C: "Documentation of Scaly Cleavage Development in an Ancient Trench-Fill Sequence, Central Appalachians"; \$20,000.

Petroleum Research Fund (American Chemical Society), September, 1989 (two years), PRF# 21188-B8: "Sedimentology, Petrography, and Possible Tectonic Significance of the Campbellton Sequence, North-Central Newfoundland"; \$20,000.

Petroleum Research Fund (American Chemical Society), September, 1991 (two years), PRF# 24479-B8-C: "Sedimentology and Paleooceanographic Significance of Interbedded Black and Gray/Green Shale (Upper Devonian) of Western New York State"; \$20,000.

Scholarly Incentive Awards Program, December 1992: "Sedimentology and Significance of Meter-Scale Cycle of the Epler Formation, Southeastern Pennsylvania"; \$800.

Petroleum Research Fund (American Chemical Society); September, 1995 (two years), PRF# 29528-B8: "Sedimentology and Sequence Stratigraphy of the Canadaway Formation (Upper Devonian) and

Equivalent Units, Western and Central New York State"; \$25,000.

New York State/UUP Professional Development Program grant:

"Geometry and Timing of Joints in the Upper Devonian Sequence of Northern Chautauqua County"; \$750.

SUNY-Fredonia, Scholarly Incentive Award: June 2001

"Post-Devonian thermal and burial history of the northern Appalachian Basin, western New York;"  
\$1,000.

SUNY-Fredonia, Scholarly Incentive Award: June 2003

"Fluid movement in a Devonian pressure compartment, western New York Appalachian Plateau"; \$600;

New York State Energy Research and Development Authority, "Comparative Analysis of Vitrinite Reflectance of Middle and Upper Devonian Black Shale, Western New York State – Significance to Exploration and Basin Modeling Considerations; \$130,991 (one year).

### **SYMPOSIA PARTICIPANT**

1. Penrose Conference on "Deformation Styles of Accretionary Complexes"; May, 1984; presented a paper on accreted oceanic deposits in the Hamburg klippe, central Appalachian orogen.
2. Eastern Section Meeting of the American Association of Petroleum Geologists - "Trenton Stratigraphy of Eastern North America", October, 1984.
3. Northeast Regional Meeting of the Geological Society of America - "Taconian Flysch Belt of the Appalachians", March, 1985.
4. North-Central Regional Meeting of the Geological Society of America - "Paleoceanography of Midcontinental Seaways", April, 1986.
5. Basins of Eastern Canada and Worldwide Analogues; Halifax, Nova Scotia, August, 1986.
6. Annual Midyear Meeting of the Society of Economic Paleontologists and Mineralogists - "Plate Tectonics and Petrologic Suites: Clastic Sedimentation and Tectonics in Convergent Margin and Extensional Rift Basin Settings", August, 1985.
7. Seventeenth Annual Appalachian Petroleum Geology Symposium - "Appalachian Basin Architecture", March, 1985.
8. Vth International Symposium on the Ordovician System: St. John's, Newfoundland, August, 1988.
9. Symposium on Arc-Continent Collision and Orogenic Sedimentation, Eastern Taiwan and Ancient Analogues: Princeton, New Jersey, September, 1988.
10. Symposium on Clay Minerals in Sandstones; Clay Minerals Society 27th Annual Meeting, Columbia, Missouri, October, 1990.

11. Southeast Regional Meeting of the Geological Society of America - "Suspect Terrane Analysis Symposium and Subsurface Basins of Southeastern USA", March, 1992.
12. Southeast Regional Meeting of the Geological Society of America - "Suspect Terrane Analysis Symposium and Subsurface Basins of Southeastern USA," March 1992.
13. Northeast Regional Meeting of the Geological Society of America - "Allochthonous Terranes in the Northern and Central Appalachians: In Honor of E-An Zen," March, 1993.
14. *Mechanisms of Jointing in the Crust; Paul L. Hancock Memorial Meeting*, sponsored by the Geological Society of London, in Weston-super-Mare, England, August, 2001.

### **AWARDS AND RECOGNITION**

1. Awarded the Thomas W. Hagan Young Scholar/Artist Award for 1988/1989.
2. Received a Fredonia Research Grant Award for the proposal entitled "Submarine Fan Sedimentology and Morphology of the Martinsburg Formation, Eastern Pennsylvania" submitted to the Petroleum Research Fund.
3. Received Release Time Award for the Spring, 1986 semester to prepare a manuscript for the "Basins of Canada and Worldwide Analogues" symposium in Halifax, Nova Scotia.
4. Presented invited lectures at:
  - University of Buffalo (May, 1982)  
"Early Paleozoic tectonic evolution of the central Appalachian orogen"
  - University of Akron (March, 1984)  
"The Hamburg klippe-Evidence for Middle Ordovician sediment offscraping and accretion in the central Appalachian orogen"
  - Pennsylvania Geological Survey (April, 1984)  
"Sedimentological and stratigraphic studies in the Hamburg klippe, eastern Pennsylvania"
  - University of Buffalo (February, 1985)  
"Early Paleozoic near-trench magmatism in the central Appalachian orogen"
  - Sigma Xi (Fredonia Chapter; April, 1985)  
"Similarities between the tectonic evolution of Indonesia and the Appalachian orogen"
  - 17th Annual Appalachian Petroleum Geology Symposium; Morgantown, West Virginia (March, 1986)  
"Influence of incomplete suturing on early Paleozoic foreland basin evolution and stratigraphic patterns, central and southern Appalachian fold and thrust belt"
  - Basins of Canada and Worldwide Analogues Symposium, Halifax, Nova Scotia (August, 1986)  
"Sedimentologic and tectonic evolution of the early Paleozoic foredeep, central Appalachian orogen"

- University of Vermont (October, 1986)  
 "Sedimentation patterns at convergent margins: An ancient example from the central Appalachian mountains"
- McMaster University (November, 1986)  
 "Anatomy of an ancient subduction complex in the central Appalachians"
- SUNY-Albany (November, 1986)  
 "Geochemistry of sedimentary and volcanic rocks in the Taconic Hamburg klippe"
- Buffalo Professional Geological Association (June, 1987)  
 "A walk through a subduction complex in the central Appalachians"
- Pittsburgh Geological Association (September, 1987)  
 "Tectonic evolution of the central Appalachian foreland basin"
- University of Buffalo (November, 1987)  
 "Paleoceanographic significance of mud turbidites of the Martinsburg Formation, central Appalachians"
- University of Delaware (April, 1990)  
 "Sedimentology and deformational fabric of an ancient subduction complex"
- University of Buffalo (April, 1993)  
 "Tectonic activation of the proto-North American continental margin in Early Paleozoic time"
- Mechanisms of Jointing in the Crust; Paul L. Hancock Memorial Meeting*, sponsored by the Geological Society of London, in Weston-super-Mare, England, August, 2001.
- Independent Oil and Gas Association of New York (November 2001)  
 "Fracturing of Devonian Black Shale, Appalachian Plateau"
- Independent Oil and Gas Association of New York (November 2003)  
 "Timing of hydrocarbon generation in, and related fracturing of, Upper Devonian black shale across the Catskill Delta Complex"

### **SUPERVISION OF GRADUATE THESES**

1. Brian McCarthy, State University College at Fredonia; M.S., 1985; Thesis Title-"Sedimentation of the Austin Glen Member of the Normanskill Formation, Southeastern New York State".
2. Joseph Talkiewicz, State University of New York at Buffalo; MS, 1986; Thesis Title-"Petrography of the Martinsburg Formation, Eastern Pennsylvania and New Jersey".
3. Walt Meyer (committee member), State University College at Fredonia; MS, 1986; Thesis Title-"Paleodepositional Environments of the Stafford Limestone (Middle Devonian) across New York State".

4. Janusz Wasowski (outside reader), State University of New York at Buffalo; Ph.D., 1986; Dissertation Title-"Geology and Plate Tectonic Significance of Rock Units in the New Bay-Bay of Exploits Area; North-Central Newfoundland".
5. Bruce Bennett (committee member), State University College at Fredonia; MS, 1987; Thesis Title-"Structural Traps in the Lower and Middle Devonian Sediments of Erie County, Pennsylvania: A General Survey and Tectonic Synthesis".
6. Julie Ranger (committee member), State University of New York at Buffalo, MS, 1987; Thesis Title-"Petrographic Analysis of Sandstones of the Dunnage Formation, Newfoundland".
7. Jack Botsford (external examiner), Memorial University of Newfoundland; Ph.D., 1988; Dissertation Title-"Depositional History of Middle Cambrian to Lower Ordovician Deep Water Sediments, Bay of Islands, Western Newfoundland".
8. Bryan Koehler (committee member), Western Virginia University; MS, 1989; Thesis Title-"Petrography and Paleoenvironments of the Lower Pickaway Member, Greenbrier Group, in East-Central West Virginia".
9. Stephen M. Mayer (committee member), State University College at Fredonia; MS, 1989; Thesis Title-"Stratigraphy and Paleontology of the Jaycox Shale Member, Hamilton Group of the Finger Lakes Region of New York State".
10. David Calabrese, State University College at Fredonia; M.S., 1994; Thesis Title-"Sedimentary Petrography and Significance of the Riding Island Sandstone, North-Central Newfoundland".

### **MISCELLANEOUS**

1. Served as Field Trip Leader for the 49th Annual Field Conference of Pennsylvania Geologists in the Great Valley of eastern Pennsylvania (October, 1984).
2. Membership in Professional Organizations:
  - a. Society of Economic Paleontologists and Mineralogists
  - b. Geological Society of America (Fellow)
  - c. American Geophysical Union
3. Manuscript referee for:
  - a. Geological Society of America Bulletin
  - b. American Association of Petroleum Geologists Bulletin
  - c. Sedimentology
  - d. Geology
  - e. Journal of Geology
  - f. Canadian Journal of Earth Sciences
4. Grant Proposal referee for:
  - a. Petroleum Research Fund (American Chemical Society)
  - b. National Science Foundation

5. Co-Chair: Sedimentology-Stratigraphy sessions of:
  - a. 1983 Northeast Regional Meeting of the Geological Society of America
  - b. 1986 Northeast Regional Meeting of the Geological Society of America
6. Editor, Guidebook of Field Trips of the 62<sup>nd</sup> Annual Meeting of the New York State Geological Association, Fredonia, New York, September, 1990.
7. Editor, Guidebook of Field Trips of the 71<sup>st</sup> Annual Meeting of the New York State Geological Association, Fredonia, New York, October, 1999.

## **PUBLICATIONS**

### **Monographs, Guidebooks, Maps**

- Lash, G.G., 1978, The structure and stratigraphy of the Pen Argyl Member of the Martinsburg Formation in Lehigh and Berks Counties, Pennsylvania: U.S. Geological Survey Open File Rpt. No. 78-391, 225 p.
- Lash, G.G., 1982, The geology of the Kutztown and Hamburg 7 1/2-minute Quadrangles, eastern Pennsylvania: U.S. Geological Survey Open File Rpt. No. 82-0493, 251 p.
- Lash, G.G., and Drake, A.A., Jr., 1984, The Richmond and Greenwich slices of the Hamburg klippe in eastern Pennsylvania-Stratigraphy, sedimentology, structure and plate tectonic implications: U.S. Geological Survey Professional Paper 1312, 40 p.
- Lash, G.G., Lyttle, P.T., and Epstein, J.B., 1984, Geology of an accreted terrane, the eastern Hamburg klippe and surrounding rocks, eastern Pennsylvania: 49th Annual Field Conference of Pennsylvania Geologists, guidebook, 151 p.
- Lash, G.G., 1985, Geologic map and sections of the Kutztown 7 1/2-minute Quadrangle, Pennsylvania: U.S. Geological Survey Geologic Quadrangle Map GQ-1577.
- Lyttle, P.T., Lash, G.G., and Epstein, J.B., 1987, Geologic map and sections of the Slatedale 7 1/2-minute Quadrangle, Pennsylvania: U.S. Geological Survey Geologic Quadrangle Map GQ-1598.
- Lash, G.G., 1987, Geologic map and sections of the Hamburg 7 1/2-minute quadrangle, Schuylkill and Berks Counties, Pennsylvania: U.S. Geological Survey Quadrangle Map GQ-1637.

### **Abstracts**

- Lash, G.G., 1980, The Hamburg klippe-Evidence for a continental-microcontinental collision in the central Appalachians: Geological Society of America, Abstracts with Programs, v. 12, p. 68.
- Lash, G.G., 1980, The Eckville Fault-A major Alleghanian upthrust in the central Appalachian Great Valley: Proceedings of the Pennsylvania Academy of Science, v. 54, p. 106.
- Lash, G.G., 1980, Significance of slip-line determinations from tectonic and non-tectonic folds in the Richmond slice, eastern terminus of the Hamburg klippe, Pennsylvania: Proceedings of the Pennsylvania Academy of Science, v. 54, p. 106.
- Kodama, K.P., and Lash, G.G., 1980, Preliminary paleomagnetic results from late Early Ordovician red shale units

- in Taconic allochthons, eastern Pennsylvania: EOS, v. 61, p. 220.
- Lash, G.G., 1982, The Greenwich slice of the Hamburg klippe-Remnant of a lower Paleozoic accretionary wedge: Geological Society of America, Abstracts with Programs, v. 14, p. 33.
- Lash, G.G., 1982, Reoriented folds in the Epler Formation, Great Valley, eastern Pennsylvania: Geological Society of America, Abstracts with Programs, v. 14, p. 33.
- Lash, G.G., 1982, Dispersal of early Middle Ordovician flysch in the central Appalachians-An ancient analogue of the Himalayan-Bengal Fan: Abstracts Volume of the Eleventh International Congress on Sedimentology, Hamilton, Ontario, p. 38.
- Lash, G.G., 1982, Could Middle Ordovician carbonate shelf depositional patterns in the Appalachian orogen indicate collision along an irregular margin?; American Association of Petroleum Geologists Bulletin, v. 66, p. 1171.
- Lash, G.G., 1982, Sedimentation on a passive continental margin (Late Cambrian-Early Ordovician), central Appalachians: American Association of Petroleum Geologists Bulletin, v. 66, p. 1171.
- Lash, G.G., 1983, Silt turbidites of the Martinsburg Formation-Sedimentology and possible significance: Geological Society of America, Abstracts with Programs, v. 15, p. 127.
- Bembia, P.J., and Lash, G.G., 1983, Late Cambrian rift-related clastic rocks in the Hamburg klippe, central Appalachians: Geological Society of America, Abstracts with Programs, v. 15, p. 201.
- Lash, G.G., 1983, Deformation of unconsolidated sediment in an ancient accretionary complex, central Appalachians: Geological Society of America, Abstracts with Programs, v. 16, p. 623.
- Lash, G.G., 1984, The Jonestown volcanic rocks, eastern Pennsylvania: Near-trench volcanism in the central Appalachians: Geological Society of America, Abstracts with Programs, v. 16, p. 46.
- Lash, G.G., and Bembia, P.B., 1984, Quartzofeldspathic sediment of the central Appalachians-Possible evidence for structural control of early Paleozoic intrashelf basins: Geological Society of America, Abstracts with Programs, v. 16, p. 46.
- Bennett, B.A., and Lash, G.G., 1984, Subsurface mapping of meandering fluvial deposits in the Grimsby Member (Medina Formation) of northeast Pennsylvania: Geological Society of America, Abstracts with Programs, v. 16, p. 3.
- Miller, M.A., and Lash, G.G., 1984, Turbidite cycles in the Upper Devonian Northeast Shale, western New York-Evidence for smoothing of depositional topography: Geological Society of America, Abstracts with Programs, v. 16, p. 51.
- Filock, J., and Lash, G.G., 1983, The Onyx Cave Member (Upper Cambrian)-Deposition of near-shore sands at the base of the early Paleozoic continental shelf: Geological Society of America, Abstracts with Programs, v. 16, p. 16.
- Lash, G.G., 1984, Middle Ordovician (Chazy-Trenton) tectonic activation of the lower Paleozoic carbonate platform, central Appalachian orogen: American Association of Petroleum Geologists Bulletin, v. 69, p. 1922.

- Lash, G.G., and Filock, J., 1984, Paleozoic carbonate deep-sea fan sedimentation-Evidence for Late Cambrian regression: American Association of Petroleum Geologists Bulletin, v. 68, p. 1922.
- Miller, M.A., Bennett, B.A., and Lash, G.G., 1984, Consideration of possible productive zones within the Gatesburg and Potsdam Formations, northwest Pennsylvania: American Association Petroleum Geologists Bulletin, v. 68, p. 1924-1925.
- Lash, G.G., 1985, Turbidite sedimentology of ancient trench deposits, Windsor Township Formation (Greenwich slice), Hamburg klippe: Geological Society of America, Abstracts with Programs, v. 17, p. 30.
- Lash, G.G., 1985, Dispersal of Middle Ordovician flysch deposits of eastern Pennsylvania: Geological Society of America, Abstracts with Programs, v. 17, p. 30.
- Woodbury, R.J., and Lash, G.G., 1985, Evidence of ice marginal fluctuation in an near a relict meltwater channel in Chautauqua County, New York: Geological Society of America, Abstracts with Programs, v. 17, p. 70.
- McCarthy, B., and Lash, G.G., 1985, Turbidite sedimentology of the Austin Glen Graywacke (Middle Ordovician) of eastern New York: Geological Society of America, Abstracts with Programs, v. 17, p. 53.
- Lash, G.G., 1985, Possible influence of pore fluid on style of deformation of accreted sediments-Example from an ancient accretionary complex: Society of Economic Paleontologists and Mineralogists Midyear Meeting, Abstracts Volume 2, p. 53.
- Lash, G.G., 1985, Sedimentologic evolution of an ancient (Early-Middle Ordovician) accretionary complex, central Appalachians: Society of Economic Paleontologists and Mineralogists Midyear Meeting, Abstracts Volume 2, p. 53-54.
- Talkiewicz, J.M., and Lash, G.G., 1985, Petrographic trend-surface analysis of Martinsburg sandstones of eastern Pennsylvania and New Jersey: Significance and implications: American Association of Petroleum Geologists Bulletin, v. 69, p. 1449.
- Lash, G.G., 1986, Recognition of trench-fill in orogenic flysch belts: Examples from the Appalachian orogen: Geological Society of America, Abstracts with Programs, v. 18, p. 29.
- Lash, G.G., 1986, Sedimentologic and geochemical evidence for Early Ordovician fluctuations in bottom-current intensity, northwestern Iapetus Ocean: Geological Society of America, Abstracts with Programs, v. 18, p. 314.
- Lash, G.G., 1986, Influence of incomplete suturing on early Paleozoic foreland basin evolution and stratigraphic patterns, central and southern Appalachian fold and thrust belt: 17th Annual Appalachian Petroleum Geology Symposium, Abstracts Volume, p. 32-33.
- Lash, G.G., 1986, Sedimentologic and tectonic evolution of the early Paleozoic foredeep basin, central Appalachian orogen: Basins of Eastern Canada and Worldwide Analogues, Abstract Volume, p. 64.
- Lash, G.G., 1986, Paleoclimatic significance of early Paleozoic deep-sea mudstones, central Appalachians: Society of Economic Paleontologists and Mineralogists Annual Midyear Meeting, Abstracts Volume 3, p. 64.
- Lash, G.G., 1987, Sedimentologic and paleoceanographic significance of mudstone turbidites and associated deposits of the Martinsburg Formation (Pen Argyl Member): Geological Society of America, Abstracts with Programs, v. 19, p. 25.

- Lash, G.G., 1988, Ordovician deep-sea clastic sequences in the central Appalachian orogen: Vth International Symposium on the Ordovician System, Abstracts Volume, p. 51.
- Lash, G.G., 1988, The Campbellton sequence of north-central Newfoundland: Possible Late Cambrian-Early Ordovician collisional basin in the Maritime Appalachians: Symposium on Arc-Continent Collision and Orogenic Sedimentation, Eastern Taiwan and Ancient Analogues, Abstracts Volume, p. 36.
- Lash, G.G., 1990, Carbonization: An alternative mechanism of scaly foliation development in deformed mudstone (abstract): Clay Minerals Society 27th Annual Mtg., Columbia, Missouri, Program and Abstracts, p. 77.
- Lash, G.G., 1992, The Greenwich Slice: An Early Paleozoic subduction complex in the central Appalachian orogen: Geological Society of America, Abstracts with Programs, v. 24, p. 42.
- Lash, G.G., 1993, The Hamburg klippe: Record of the destruction of the proto-North American continental margin: Geological Society of America, Abstracts with Programs, v. 25, p. 33.
- Lash, G.G., 2001, Joint development in Upper Devonian black shale of the Appalachian Plateau, western New York State, US: Mechanisms of Jointing in the Crust, Paul L. Hancock Memorial Meeting, August 2001, programme and abstracts, p. 15-20 (extended abstract).
- Lash, G.G., 2002, Preferential jointing of Upper Devonian black shale, Appalachian Plateau: evidence for an ancient pressure compartment and seal system: Geological Society of America, Abstracts with Programs, v. 34, no. 2, p. A46.
- Blood, D.R., and Lash, G.G., 2004, Framboid size distribution in black shale of the Upper Devonian Hanover shale, western New York: evidence for fluctuations in the redox boundary: accepted for presentation at the Northeastern/Southeastern Regional Meeting, Geological Society of America Abstracts with Programs, vol. 36, p. 89.
- Lash, G.G., Engelder, T., and Loewy, S., 2004, Multiphase generation of hydrocarbons in the Devonian Catskill Delta Complex, western New York Appalachian basin: Geological Society of America Abstracts with Programs, vol. 36, p. 118-119.
- Engelder, T., Lash, G.G., and Loewy, S., 2004, The Catskill Delta Complex: An ancient hydrocarbon system with black shale acting as source, reservoir, and seal during multiple phases of pressure generation: presented at the Annual Meeting, American Association of Petroleum Geologists Annual Meeting, April 2004, Dallas, Texas: <http://aapg.confex.com/aapg/da2004/techprogram/A86146.htm>
- Lash, G.G., and Engelder, T., 2004, The role of depositional and early compaction history in primary migration: example from the Upper Devonian Catskill Delta Complex, New York State: Eastern Section, AAPG Meeting, September 2004, abstracts volume, p. 96-97.
- Lash, G.G., 2005, Microfabric characteristics of top seal deposits in the Upper Devonian shale-dominated Catskill Delta Sequence, western New York State: National Meeting, American Association of Petroleum Geologists, Calgary, Alberta, June 2005, abstracts volume, p. A79.
- Lash, G.G., 2005, The Upper Devonian Dunkirk shale – an ancient hydraulic seal in the Catskill Delta Complex: microfabric and porosimetry evidence: Northeastern Regional Meeting, Geological Society of America Abstracts with Programs, vol. 37, p. 4.

- Blood, D.R., and Lash, G.G., 2005, Early origin of shale fabric by gravitational compaction of flocculated clay: Northeastern Regional Meeting, Geological Society of America Abstracts with Programs, vol. 37, p. 67.
- Lash, G.G., 2005, Gas Capillary Sealing as a Mechanism of Seal Development in the Upper Devonian Dunkirk Shale, Western New York State: Eastern Section, AAPG Meeting, September 2005, abstracts volume, p. 25.
- Blood, D.R., and Lash, G.G., 2005, The Upper Devonian Dunkirk Shale – A Late Hydrocarbon Generator: the Eastern Section, AAPG Meeting, September 2005, abstracts volume, p. 17.
- Blood, D.R., and Lash, G.G., 2006, Calculation of the fluid retention burial depth for the Upper Devonian Rhinestreet shale, western New York State: Geological Society of America Abstracts with Programs, vol. 38, p. 64.
- Lash, G.G., 2006, The Upper Devonian Rhinestreet black shale in the subsurface of western New York and northwestern Pennsylvania – a potential continuous reservoir: Geological Society of America Abstracts with Programs, vol. 38, p. 85.
- Lash, G.G., 2006, The Upper Devonian Rhinestreet shale, western New York State: from seal to fractured reservoir: accepted for presentation at the National Meeting, American Association of Petroleum Geologists, Houston, TX, abstracts volume, p. 61.
- Lash, G.G., 2006, The Upper Devonian Rhinestreet shale: an unconventional fractured reservoir in western New York State: accepted for presentation at the National Meeting, American Association of Petroleum Geologists, Houston, TX, abstracts volume, p. 61.
- Blood, D.R., and Lash, G.G., 2006, The Upper Devonian Dunkirk shale, western New York State – results of hydrous pyrolysis experiments: accepted for presentation at the National Meeting, American Association of Petroleum Geologists, Houston, TX, abstracts volume, p. 11.
- Lash, G.G., 2006, Vitrinite suppression in Devonian black shale, western New York state: preliminary results: Eastern Section, American Association of Petroleum Geologists Meeting, abstracts volume, p. 24-25.
- Lash, G.G., and Engelder, T., 2006, A switch in joint driving mechanism as evidence for passage of a Morrowan peripheral bulge at the onset of the Alleghanian orogeny: Eastern Section, AAPG Meeting, abstracts volume, p. 24.
- Blood, D.R., and Lash, G.G., 2006, Early burial history of the Upper Devonian Rhinestreet shale, western New York state – from early diagenesis to fluid retention: accepted for presentation at the eastern section: Eastern Section, AAPG Meeting, abstracts volume, p. 15-16.
- Lash, G.G., and Engelder, T., 2006, Jointing within the outer arc of a peripheral bulge at the onset of the Alleghanian orogeny: Annual meeting, Geological Society of America, v. 38, no. 7, p. 544.
- Lash, G.G., 2007, Influence of basin dynamics on Upper Devonian black shale deposition, western New York state and northwest Pennsylvania: accepted for presentation at the AAPG national meeting, Long Beach, CA, April 2007, abstracts volume, p. 80.
- Lash, G.G., and Blood, D.R., 2007, Origin of early overpressure in the Upper Devonian Catskill Delta Complex, western New York State: accepted for presentation at the AAPG national meeting, Long Beach, CA, April 2007, abstracts volume, p. 80.

- Leonard, J.E., Clark, D., Coskey, R.J., Hunter, N.B., James, C.P., Lash, G.G., Leonard, C.V., and Matt, V.J., 2007, The application of hydrocarbon system and play fairway analysis for unconventional resource plays: the case for shale gas reserves in New York's Ordovician Utica Shale: accepted for presentation at the AAPG national meeting, Long Beach, CA, April 2007, abstracts volume, p. 82.
- Engelder, T., and Lash, G.G., 2007, Jointing in the outer arc of a forebulge: a mechanism for additional reservoir complexity at the subseismic scale: accepted for presentation at the AAPG national meeting, Long Beach, CA, April 2007, abstracts volume, p. 43.
- Lash, G.G., 2007, Late Middle Devonian tectonic activation of the Appalachian Basin, western New York and northwestern Pennsylvania: Eastern Section, AAPG Meeting, abstracts volume, p. 41.
- Lash, G.G., and Engelder, T., 2007, Crosscutting vs. abutting joints: a reflection of overburden-induced joint-normal stress in Devonian black shale, western New York: Eastern Section, AAPG Meeting, abstracts volume, p. 41-42.
- Paktinat, J., Pinkhouse, J.A., Fontaine, J., Lash, G.G., and Penny, G.S., 2007, Investigation of methods to improve Utica shale hydraulic fracturing in the Appalachian Basin: Society of Petroleum Engineers, Paper 111063, 8 pp.
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