

LYNN S. FICHTER

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Department of Geology
James Madison University
Harrisonburg, Virginia 22807
(703) 568-6531 (FICHTELS@JMU.EDU)

1381 South Dogwood Drive
Harrisonburg, Virginia 22801
(703) 434-3781

EDUCATION

- ◇ Ph.D. 1972, University of Michigan, Ann Arbor
- ◇ M.S. 1967, University of Michigan, Ann Arbor
- ◇ B.S. 1965, Juniata College, Huntingdon, Pennsylvania

PROFESSIONAL AND TEACHING EXPERIENCE

- ◇ 1974 - Present: Professor of Geology (since 1989), James Madison University, Harrisonburg, Virginia. Courses include: ❖ Physical Geology, ❖ Historical Geology, ❖ Stratigraphy and Basin Analysis, ❖ Geological Evolution of North America, ❖ Invertebrate Paleontology, ❖ Vertebrate Paleontology, ❖ Evolution of the Brain and Intelligence, ❖ Geological Literature Research.
- ◇ 1973 - 1974: Greensboro Day School, Greensboro, North Carolina. Taught Earth Science and Biology.
- ◇ 1971 - 1972: Assistant Professor of Geology, Michigan State University, East Lansing, Michigan. One year terminal appointment to teach Physical and Historical Geology.
- ◇ 1965 - 1971: Teaching Fellow and Research Assistant, Department of Geology and Museum of Paleontology, University of Michigan, Ann Arbor.
- ◇ 1967 - 1968: Paleontologist with the Omo Research Expedition, Ethiopia and Kenya, Africa. A multidisciplinary expedition under the direction of Dr. F. C. Howell (currently Department of Anthropology, University of California, Berkeley).

PUBLICATIONS

- ◇ Fichter, Lynn S., 1996, Tectonic Rock Cycles: Journal of Geoscience Education, Vol. 44, pp 134-148.
- ◇ Fichter, Lynn S., and Richard J. Diecchio, 1993, Evidence for the Progressive Closure Of the Proto-Atlantic Ocean in the Valley and Ridge Province Of Northern Virginia and Eastern West Virginia: Field Trip Guide, National Association of Geology Teachers - Eastern Section Meeting, James Madison University.
- ◇ Fichter, Lynn S., and David Poche, 1993, Ancient Environments and the Interpretation of Geologic History: 2nd Edition, Macmillan Publishing Company (3rd edition in progress).
- ◇ Fichter, Lynn S., G.T. Farmer, and J.S. Clay, 1991, Earth Materials and Earth Processes: 3rd Edition, Macmillan Publishing Company, 301 p.
- ◇ Fichter, Lynn S. , 1988, Process-Response Models and the Nature of Science: Journal of Geological Education, v. 36, p. 72-78
- ◇ _____, 1988, Teaching Science to the Liberal Studies Student: Journal of College Science Teaching, v. 17(4), p. 289-294.
- ◇ _____, 1987, Teaching the Deep Structure: Journal of College Science Teaching, v. 17(1), p. 11, 87-88.
- ◇ _____, 1987, The Design and Use of the Stratigraphic Strip Log: Journal of Geological Education, v. 35. p 71-80.

- ◇ Sherrod, Brian, and Fichter, L.S., 1986, Sedimentology and paleoenvironments in the upper Martinsburg and "Cub" sandstone at Catherine's Furnace: [abs.] Virginia Academy of Sciences, James Madison University.
- ◇ Fichter, Lynn S., and Diecchio, Richard J., 1986, The Taconic sequence in the northern Shenandoah Valley, Virginia: Geological Society of American Centennial Field Guide - Southeastern Section, p.73-78.
- ◇ Fichter, Lynn S., 1986, The Catskill clastic wedge (Acadian Orogeny) in eastern West Virginia and western Virginia: Geological Society of American Centennial Field Guide - Southeastern Section, p. 91-96.
- ◇ Fichter, Lynn S., and Diecchio, Richard J., 1986, Stratigraphic model for the timing of the opening of the Proto-Atlantic Ocean in northern Virginia: *Geology*, v. 14, p. 307-309.
- ◇ Fichter, Lynn S., and Sander, John E., 1985, On 'Scientific Creationism': article in the Daily News Record, Harrisonburg, Virginia, Tuesday, January 29, 1985.
- ◇ Fichter, Lynn S., and Diecchio, Richard J., 1984, A model for the opening of the Proto-Atlantic in northern Virginia (abs.): Joint NE-SE meeting Geological Society of America, Lexington, Kentucky.
- ◇ Fichter, Lynn S., and Poche', David, 1979, Sedimentary paleoenvironments and the Paleozoic evolution of the Appalachian geosyncline in the northern Shenandoah valley: National Association of Geology Teachers - Eastern Section, [in Exline, Joseph D., ed., Guidebook for Field Trips: Division of Sciences and Elementary Administration, Department of Education, Commonwealth of Virginia, Richmond, Virginia 23216].
- ◇ Fichter, Lynn S., 1972, The North American beavers of the genus *Castor*, post-incisor dentition - a multivariate study: Unpublished Ph.D. dissertation, University of Michigan, Ann Arbor.
- ◇ _____, 1969, Geographical Distribution and Osteological variation in fossil and recent specimens of *Kinosternon* (Chelonia): *Journal of Herpetology*, v. 3(3-4), p. 113-119.
- ◇ Howell, F.C., Fichter, L.S., and Wolff, R., 1969, Fossil camels in the Omo Beds, southern Ethiopia: *Nature*, v. 223, p.150-152.
- ◇ Howell, F.C., Fichter, L.S., and Eck, G., 1969, Vertebrate Assemblages from the Usno Formation, White Sands and Brown Sands localities, lower Omo Basin, Ethiopia: *Quaternaria* 11:65-88.

MAJOR WEB SITES

- ◇ The Geological Evolution of Virginia and the Mid-Atlantic Region
<http://geollab.jmu.edu/vageol/vahist/index.html>
- ◇ The Wilson Cycle: The Opening and Closing of an Ocean Basin
<http://geollab.jmu.edu/Fichter/Wilson/Wilson.html>
- ◇ A Plate Tectonic Rock Cycle
<http://geollab.jmu.edu/Fichter/Wilson/PTRC.html>
- ◇ Igneous Rocks
<http://geollab.jmu.edu/Fichter/IgnRx/IgHome.html>

SELECTED SUPERVISED UNDERGRADUATE RESEARCH

- ◇ Sneiderman, Josh, 1989, *Armandisaurus explorator* and its ability to resolve theories of character transformation at the base of the monophyletic family Iguanidae. (Chair: JMU Honors thesis)
- ◇ Bauman, Brent, 1989, The Feasibility of a Testable Gaia Hypothesis. (Chair: JMU Honors thesis)

- ◇ McMahon, Aaron, 1988, Changes in fluvial accommodation at the base of the Hampshire formation in western Virginia and eastern West Virginia.
- ◇ Holt, Stephen, 1997, A Pre-Paradigm of Consciousness: The Beginnings of a Science of the Mind: JMU Honors Thesis (Co-Chair).
- ◇ McGinnis, Shannon Kathleen, 1997, A Study of Chromatin Diminution in Four Species of Harpacticoid Copepods (Arthropods: Crustacea), MS Thesis, Department of Biology, James Madison University; (outside advisor and reviewer).
- ◇ Blais, Jennifer Leah, 1997, Caudal Vertebral Development and Morphology in Three Species of Salamanders, MS Thesis, Department of Biology, James Madison University (Thesis Committee Member).
- ◇ Rusk, Brian, 1995, The Oswego Interval in Massanutten Mountain (MS in preparation).
- ◇ Talarovich, Sandra, 1995, 'Devonian Sedimentary Stratigraphy of the Briery Gap Sandstone (Greenland Gap Formation) in East-central West Virginia and Adjacent Virginia, JMU Honors Thesis.
- ◇ Gibson, Stacy, Paleoecology of the Reedsville Formation at Judy Gap, Pendleton Co, West Virginia.
- ◇ Miller, Tanya, 1993, Upper Ordovician Lithology Below the Oswego at Brocks Gap (Virginia) is the Reedsville Formation: Senior Research Project
- ◇ Norman, Jannette, 1992, Depositional Environment of Late Stage Juniata Formation in West Virginia.
- ◇ Miller, Daniel, 1990, Depositional Systems in the Oswego Formation (Ordovician) at Brocks Gap, Pendleton Co., West Virginia. Senior Honors Research Project
- ◇ Drummond, Carl, 1988, Sedimentology and depositional systems of the Oswego Formation (Ordovician) at Brocks Gap, Rockingham Co., Virginia. Senior Honors Research Project
- ◇ Chadwick, David, 1986-1987, Thermal Flux on an Earth-Size Planet: The Geology of Venus.
- ◇ Sherrod, Brian, 1985-1986, A paleoenvironmental analysis of the depositional systems in the 'Cub' sandstone of Massanutten Mountain and its paleogeographic significance.
- ◇ Marshall, Bobby, 1980-1981, Brecciated karst (?) zones in the Ordovician Beekmantown Formation west of Bridgewater, Virginia.
- ◇ Cordi, Margaret, 1979-1980, Paleoenvironmental analysis of the Cambrian Conococheague Formation near Strasburg, Virginia.
- ◇ Kirkpatrick, Donald, 1979-1980, A description of a problematic specimen of Eusthenopteron (Crossopterygii: Rhipidistia) from the Upper Devonian Escuminac Formation of Escuminac Bay, Canada: Senior Honors Research Project, James Madison University (supervised in conjunction with vertebrate paleontology staff at the United States National Museum, Washington, D.C.). Senior Honors Research Project
- ◇ Morton, Diana, 1978-1979, Distribution of lithofacies and depositional environments in Middle Ordovician carbonates (New Market, Lincolnshire, Edinburg Formations), Tumbling Run Sections, Strasburg, Virginia: Senior Honors Research Project, James Madison University (supervised in conjunction with Dr. David J. Poche).

ADDITIONAL ACTIVITIES AND INTERESTS

- Chaos and Complexity Theory: I view myself as a geologist/paleontologist/evolutionary biologist with a primary interest in understanding evolutionary systems of all kinds, including the tectonic evolution of the earth, the evolution of rock systems, biological systems, and even social evolution. My approach is through chaos and complexity theory, and trying to understand information flow in open systems. I teach these concepts in several of my classes from both a biological and geological perspective. Steve Baedke and I have recently developed a course on "Artificial Life, Chaos and Complexity" for the GenEd program where these ideas are more fully developed. In addition, we are exploring both a course and a book on Environmental Systems that begins with the theory of complex systems, and integrates it with all aspects of the earth.

CURRENT RESEARCH INTERESTS

- ❑ I am working on a manuscript relating flow regime interpretations of hummocky sequences with storm cycle wave processes occurring on a shallowing shelf.

- ❑ My research interests are in several areas (and include undergraduates in conducting parts of the research):
 - ◇ Interpreting the depositional processes in the Juniata Formation and relating them to the cyclicity described in this formation by Diecchio.
 - ◇ Reconstructing Ordovician regional paleogeography in western Virginia and eastern West Virginia.
 - ◇ Discovering the effects of a sudden drop in sea level on the distribution of depo-systems in the Foreknobs Formation in the Catskill clastic wedge of Virginia and West Virginia.