

Curriculum Vitae

Homer Montgomery, Ph.D.

Associate Professor, Department of Science Education and Mathematics
Affiliate Professor, Department of Geosciences
Co-Director, UTeach Dallas
Founders North 3.308 L
University of Texas at Dallas, FN33, Box 830688, Richardson, TX 75083

Educational History

B.S., Geology, University of Texas at Austin, 1982

Ph.D., Geology, University of Texas at Dallas, 1988; Dissertation topic: Paleozoic paleogeography of northern Mexico

Professional Experience

Associate Professor, 2007-present, University of Texas at Dallas

Assistant Professor, 2001-2007, University of Texas at Dallas

Research Scientist/Senior Lecturer in Geosciences and Senior Lecturer in Science Education, 1991-2000, University of Texas at Dallas

Adjunct Professor, 2001, Our Lady of the Lake University, San Antonio

Assistant Professor, geology, 1988-1991, University of Puerto Rico

Teaching and Research Assistant, 1983-1988, University of Texas at Dallas

Editor, 1999-2007, The Texas Science Teacher (biannual circulation approx. 5,000)

Evaluator, 2005-Present, Texas A&M Commerce Teacher Quality Mathematics Institute

Director, 2002-2007, UTD Collaborative for Excellence in Science Teaching

Director, 1995-1998, University of Texas at Dallas Eisenhower Collaborative for Excellence in Science Teaching

Director, 2004-2005, UTD/Mesquite ISD Cambridge Physics Program

Director, 2004-2005, UTD/Richardson ISD Eighth Grade Program

Director, 2003-2004, UTD/Mesquite ISD Integrated Physics and Chemistry Program

Research Interests

Ethnography about informal science

Ethnography about teachers in war zones

Paleoecology of terminal Cretaceous lakes in west Texas

Paleontology in Haiti and La Desirade

Professional Memberships

Geological Society of America

Museum of Antigua and Barbuda

Royal Yachting Association

Honors and other Recognitions

Honorary Membership, Science Teachers Association of Texas, in recognition of outstanding service

Achievements in Original Achievement, Investigation, and Research

Grants (since 2003)

2003

1. Regional Collaborative for Excellence in Science Education, PI, funded through the University of Texas at Austin, 9/1/02 through 8/31/03, \$23,920

2. Project ESTT (Enhancing Science Teaching in Texas), PI, Funded through the National Science Foundation, 1/9/03 through 11/30/03, \$28,700

3. UTD/Mesquite ISD Integrated Physics and Chemistry Program, PI, Funded through The Texas Higher Education Coordinating Board, 5/19/03 through 4/1/04, \$79,026

4. UTD/Mesquite ISD Integrated Physics and Chemistry Program, PI, funded by the Texas Education Agency, 05/04 through 09/2005, \$79,819
5. UTD/Richardson ISD 8th Grade Program, PI, funded by the Texas Education Agency, 05/2004 - 09/2005, \$79,884.

2005

1. Regional Collaborative for Excellence in Science Education, PI, funded through the University of Texas at Austin, 3/2004 through 7/2005, \$105,000
2. Teaching Environmental Science, PI, funded by the Texas Commission on Environmental Quality, 5/2004 through 9/2004, \$20,000

2006

1. Regional Collaborative for Excellence in Science Education, PI, funded through the University of Texas at Austin, 9/2005 through 9/2006, \$100,000
2. Tellabs Foundation, \$100,000 for the UTeach program

2007 National Math and Science Initiative grant. UTeach Dallas, Co-PI, \$2,400,000

2008 NSF Robert Noyce Scholarship Program for UTeach support, Co-PI, \$750,000 over five years

Books edited or co-edited (content reviews)

- Biggs, A., et al., 2002, Texas Science, Grade 7: Glencoe/McGraw Hill, 918 p.
Scotchmoor, J., Breithaupt, B., Springer, D., and Fiorillo, A., 2002, Dinosaurs, The science behind the Stories: Society of Vertebrate Paleontology, American Geological Institute, 186 p.

Articles in refereed journals

- Montgomery, H., 1987, Microfacies and paleogeographic significance of the Permian patch reefs at Sierra Plomosa, Chihuahua. *Gaceta Geologica, Excursion Geologica No. 2*, Geological Society of Mexico, Chihuahua Section, 1, 70-81.
- Montgomery, H., 1990, Abnormal terminal Cretaceous foraminifera of east-central Texas: *Texas Journal of Science*, v. 42, p. 37-44.
- Larue, D. K., Montgomery, H., Anderson, R. N., Robinson, E. T., Saunders, J., and others, 1990, Initial Reports on Drilling at Toa Baja, Puerto Rico: Proprietary report on petroleum potential and scientific drilling results for Commonwealth of Puerto Rico Power Authority. 54 p.
- Schellekens, J., Montgomery H., Joyce, J., Smith, A., 1990, Late Jurassic to Late Cretaceous development of island arc crust in southwestern Puerto Rico: *Transactions of the Caribbean Geological Conference*, v 12, p. 268-281.
- Montgomery, H., Robinson, E., Saunders, J., and Van den Bold, V., 1991, Paleontology of the Toa Baja Well, Puerto Rico: *Geophysical Research Letters*, v. 18, p. 509-512.
- Larue, D. K., Montgomery, H., Anderson, R. N., 1991, Drilling at Toa Baja, Puerto Rico: preliminary results of drilling into a non-volcanic island arc massif: *Scientific Drilling*. 1, p. 283-295.
- Montgomery, H., 1992, Late Jurassic radiolarian-based paleogeography of Sierra Bermeja, southwestern Puerto Rico: *Regional Stratigraphic Correlations in the Caribbean*. I.U.G.S., UNESCO Project 165.
- Montgomery, H. A., Pessagno, E. A., Jr., and Munoz, I., 1992, Jurassic (Tithonian) Radiolaria from La Desirade (Lesser Antilles): Preliminary Paleontological and Tectonic Implications: *Tectonics*, v. 11(6) p. 1426-1432.
- Montgomery, H., Pessagno, Jr., E. A., Soegaard, K., Smith, C., Munoz, I., and Pessagno, J., 1992, Misconceptions concerning the Cretaceous/Tertiary boundary at the Brazos River, Falls County, Texas: *Earth and Planetary Science Letters*, v. 109, p. 593-600.
- Montgomery, H., Pessagno, E. A., Jr., and Lewis, J. A., Schellekens, J. H., 1994, Paleogeography of the Jurassic fragments in the Caribbean: *Tectonics*, v. 13, p. 725-732.
- Montgomery, H., Pessagno, E. A., Jr., and Pindell, J. L., 1994, A 195 Ma terrane in a 165 Ma ocean: Pacific origin of the Caribbean Plate: *GSA Today*, v. 4, p. 1-6.
- Montgomery, H., 1998, Paleogene stratigraphy and sedimentology of the North Coast, Puerto Rico: in Lidiak, E., and Larue, D. K., eds., *Tectonics of the Northeastern Caribbean*, Special Publication of the Geological Society of America Special Paper 322, p. 177-192.
- Pessagno, E., Cantu-Chapa, A., Hull, D., Kelldorf, M., Longoria, J., Martin, C., Meng, X., Montgomery, H., Fucugauchi, J., Ogg, J., 1999, Stratigraphic evidence for northwest to southeast tectonic transport of

- Jurassic terranes in Central Mexico and the Caribbean (western Cuba): in Mann, P., ed., *Caribbean Basins. Sedimentary Basins of the World*, 4, Elsevier Science, Amsterdam, p. 123-150.
- Fiorillo, A, Main, D., Bhattacharya, J., and Montgomery, H., 2000, Paleocological analysis of a Juvenile Titanosaurid locality with the Javelina Formation of Big Bend National Park: *National Park Service Research*: v. 4.
- Montgomery, H., 2001, How fast did dinosaurs run?: *The Texas Science Teacher*, v. 30(1), p. 16-19.
- Montgomery, H., 2002, Analysis of a science education field trip to the Rocky Mountains, what have we learned?: *The Texas Science Teacher*, v. 31(2), p. 28-31.
- Montgomery, H., 2002, Weird science - voodoo in the Caribbean: *The Texas Science Teacher*, v. 31(2), p. 10-11.
- Montgomery, H., 2003, The evolution of an undergraduate service course – How to Cope with Success of an Age of Dinosaurs Course: *Journal of Geological Education*. V. 51(3), p. 299-303.
- Montgomery, H., 2004, Effective geological fieldwork as part of a graduate program for practicing science teachers: *The Texas Science Teacher*, v. 33(1), p. 16-23.
- Montgomery, H., 2004, Deposition and emplacement of Permian reefs in Sierra Plomosa, Chihuahua, Mexico. *Revista Mexicana de Ciencias Geologicas*, v. 21(2), p. 236-246.
- Montgomery, H., 2005, Constructivist Pedagogical Preferences of Undergraduate Students in Geoscience Service Courses at the University of Texas at Dallas. *The Texas Science Teacher*, v. 34(1), p. 25-30.
- Montgomery, H., 2005, When Humans Interact with a Volcano - Tragedy of Historic Proportions. *The Texas Science Teacher*, v. 34(2), p. 30-37.
- Montgomery, H., 2006, Arguing Evolution as a Defense: An Advanced Classroom Activity of Passion: *The Texas Science Teacher*, v. 35(1), p. 30-35.
- Montgomery, H., and Palmer, J., 2006, Improving Understanding and Exam Scores Five Minutes at a Time: Manipulative Activities in Class: *The Texas Science Teacher*, v. 35(2), p. 19-25.
- Montgomery, H., and Skoog, G., 2006, Memetics Predicts the Future of the Intelligent Design Debate: *Science, Religion and Progress, Oxford Forum on Public Policy*, v. 2(4), p. 855-866.
- Mattinson, J., Pessagno, E., Montgomery, H, and Hopson, C., 2008, Late Jurassic age of oceanic basement at La Désirade Island, Lesser Antilles arc: in *Ophiolites, Arcs, and Batholiths: A Tribute to Cliff Hopson*, Wright, J. and Shervais, J., eds., Geological Society of America Special Paper 438, p. 175-190.
- Montgomery, H., and Kerr, A., 2009, Rethinking the origins of the red chert at La Desirade, French West Indies, 2009, *in The Origin and Evolution of the Caribbean Plate*. Geological Society, London, Special Publications, 328, p. 455–465.
- Montgomery, H., and Manley, J., 2010, Gulf Coast Studies: Paleotempestology: *The Texas Science Teacher*, v. 39(1), p. 9-18.
- Montgomery, H., and Barnes, K., 2012, Paleolimnology of uppermost Cretaceous lacustrine deposits in West Texas. *Palaios*. in press. 31 ms pp.

Editorials in peer-reviewed journals since 2000

- Montgomery, H., 2000, Condemnation of 1277: *The Texas Science Teacher*, v. 29(1), p. 4.
- Montgomery, H., 2000, Checking the Polls: *The Texas Science Teacher*, v. 29(2), p. 5-6.
- Montgomery, H., 2001, Scientists through the eyes of children: *The Texas Science Teacher*, v. 30(1), p. 5-9.
- Montgomery, H., 2001, Who needs a geological education, anyway?: *The Texas Science Teacher*, v. 30(2), p. 7-8.
- Montgomery, H., 2002, Evolution's dark side: *The Texas Science Teacher*, v. 31(1), p. 5-6.
- Montgomery, H., 2002, Sex, natural selection, and evolutionary implications: *The Texas Science Teacher*, v. 31(2), p. 5-6.
- Montgomery, H., 2003, Primitive medical science: *The Texas Science Teacher*, v. 32(1), p. 5-9.
- Montgomery, H., 2004, Education gone awry: *The Texas Science Teacher*, v. 33(1), p. 5-6.
- Montgomery, H., 2004, Evolution and the inevitable social quicksand of sexual selection: *The Texas Science Teacher*, v. 33(2), p. 5-7.
- Montgomery, H., 2005, What I Have Learned While Teaching Science to Undergraduates: *The Texas Science Teacher*, v. 34(1), p. 5-7.
- Montgomery, H., 2005, What Does a Field Scientist Do?: *The Texas Science Teacher*, v. 34(2), p. 5-6.
- Montgomery, H., 2006, Memes and your mind: *The Texas Science Teacher*, v. 35(1), p. 5-7.
- Montgomery, H., 2006, A Maize of Confusion: *The Texas Science Teacher*, v. 35(2), p. 5-7.
- Montgomery, H., 2007, Glimpsing God in Human Evolution: *The Texas Science Teacher*, v. 36(1), p. 5-8.

Articles appearing as chapters in edited volumes

Montgomery, H., and Pessagno, E. A., Jr., 1999, Cretaceous microfaunas of the Blue Mountains, Jamaica, and of the Northern and Central Basement Complexes of Hispaniola: Caribbean Basins, Mann, P., ed., *Sedimentary Basins of the World*, 4, Chapter 10, Elsevier Science, Amsterdam, p. 237-246.

Other published writings

Montgomery, H., 2002, Fingerprinting archaeological lithics: Historical and Archaeological Society, Museum of Antigua & Barbuda. no. 77, p. 6-9.

Montgomery, H., 2010, A Soft Power Approach to Teaching Evolution at the University Level: in *The Fossil Record*, D. Main, ed., The Dallas Paleontological Society, v. 26(3), p. 6-7.

Research reports for institutions

Montgomery, H., and Openshaw, M., 2008, *A Study of Immediacy in Kenya, Ghana, and Rwanda*, Report of classroom environment research to Dean J. Songsore and Professor Gordon of the University of Ghana and to Professor Kandasamy of the Kigali (Rwanda) Institute of Science and Technology (2008) 11 pp.

Montgomery, H., and Stone, M., 2008, *Ethnographic perspective of teacher education in a civil war*, Evaluation of science education program in Garowe, Somalia, report to Save the Children UK (2008) 29 pp.

Invited or refereed talks/presentations to professional meetings

Montgomery, H., 1984, Morphological variation of planktonic foraminifera at the Cretaceous/Tertiary boundary in central Texas: The Geological Society of America, South-Central Section, 18th annual meeting, Abstracts with Programs - Geological Society of America, v.16(2), p. 109.

Montgomery, H., 1985, Tectonostratigraphic evidence for late Paleozoic Pacific Plate collision and post-Upper Jurassic transpression in northeastern Chihuahua, Mexico: The Geological Society of America, 98th annual meeting, Abstracts with Programs - Geological Society of America, v. 17(7), p. 667.

Montgomery, H., 1987, Late Paleozoic paleogeographic development of northern Mexico, *El Cretacico de Mexico y America Central; resúmenes*. The Cretaceous of Mexico and Central America; abstracts, Barbarin C., Juan M.; Gursky, Hans-Juergen; Meiburg, P., *Actas de la Facultad de Ciencias de la Tierra de la Universidad Autonoma de Nuevo Leon Linares*, v. 2, p. 9-14.

Montgomery, H., Longoria, J., 1987, Allochthonous carbonates of the Permian volcanic arc at Las Delicias, Coahuila, Mexico: Geological Society of America, 1987 annual meeting and exposition, Abstracts with Programs - Geological Society of America, v. 19(7), p. 776.

Montgomery, H., Gonzalez, L., McCann, W., Smith, A., Seiglie, G., Clement, J., Lithgow-Bertelloni, C., 1989, Planktonic foraminiferal borings in shallow water limestones, conflicting geotectonics, river gravels and the opening of the Whiting Basin, offshore, southeastern Puerto Rico. Geological Society of America, 1989 annual meeting. Abstracts with Programs - Geological Society of America, v. 21(6), p. 341.

Schellekens, J.H., Montgomery, H., Joyce, J., Smith, A., Renne, P., 1989, Petrology and paleontology of the Bermeja Complex, Puerto Rico; questions about the origin of the basal terranes of the northern Caribbean: Geological Society of America, South-central Section, 23rd annual meeting, Abstracts with Programs - Geological Society of America, v. 21(1), p.40.

Montgomery, H., Longoria, J., 1990, Permian paleogeographic reconstruction of the west-central (Mexico) margin of Pangea: Geological Society of America, Cordilleran Section, 86th annual meeting, Abstracts with Programs - Geological Society of America, v. 22(3), p. 69.

Schellekens, J. H., Montgomery, H., Joyce, J., and Smith, A. L., 1990, Late Jurassic to Late Cretaceous development of island arc crust in southwestern Puerto Rico: 12th Caribbean Geological Conference, Transactions, p. 153.

Pessagno, E. A., Jr., Longoria, J., Montgomery, H., Smith, C., 1990, Misconceptions concerning the Cretaceous-Tertiary boundary, Brazos River, Falls County, Texas: Geological Society of America, 1990 annual meeting, Abstracts with Programs - Geological Society of America, v. 22(7), p. 277.

Montgomery, H., Pessagno, Jr., E. A., and Munoz, I. M., 1992, Upper Jurassic Radiolaria from the Caribbean (La Desirade and Puerto Rico): Implications for the origin of the Caribbean plate. Geological Society of America South-Central Meeting, Abstracts with Programs, v. 24(1), p. 39.

Wiltshire, M., Montgomery, H., and Holloway, J., 1992, Mutant planktonic foraminifera from the Brazos River, Texas Cretaceous/Tertiary boundary section: A pre-catastrophe catastrophe: Geological Society of America South-central Meeting, Abstracts with Programs, v. 24(1), p.51.

Montgomery, H., 1995, Paleogeographic history of the Great Caribbean Arc: Geological Society of America Annual Meeting, New Orleans, Abstract with Programs, v. 27(6), p. 153-154.

Montgomery, H., 1999, Digging into the Past in the Caribbean: Texas Tech University. Annual Meeting of the Science Teachers Association of Texas. November., Lubbock, Tx.

- Carter, J. Montgomery, H., Biasatti, D., 1999, The UTD Alamosaurus sanjuanensis Gilmore find in Big Bend, Texas, Geological Society of America, South-Central Section, 33rd annual meeting, Abstracts with Programs - Geological Society of America, v. 31(1), p. 4.
- Main, D., Montgomery, H. Biasatti, D and Bennett, G., 1999, The titanosaurid Alamosaurus sanjuanensis (Sauropoda: Dinosauria) from the Javelina formation of Big Bend, Texas: Geological Society of America, South-central Section, 33rd Annual Meeting, Abstracts with Programs - Geological Society of America, v. 31(1), p. 12, February, Lubbock, TX
- Main, D. and Montgomery, H., 2000, Paleoecology of a titanosaurid sauropod dinosaur locality within the Javelina Formation of Big Bend National Park. Texas: Geological Society of America, South-central Section, 34th annual meeting, Abstracts with Programs - Geological Society of America, Meeting: April, Fayetteville, AK, v. 32, p. 34.
- Montgomery, H. and Fiorillo, A, 2001, Depositional setting and paleoecological significance of a new sauropod bonebed in the Javelina Formation (Cretaceous) of Big Bend National Park, Texas: Geological Society of America, 35th annual meeting, Abstracts with Programs, v. 33(6), p. 196, October, Boston, MA.
- Fiorillo, A. and Montgomery, H., 2001, Depositional setting and paleoecological significance of a new sauropod bonebed in the Javelina Formation (Cretaceous) of Big Bend National Park, Texas: Society of Vertebrate Paleontology, 61st annual meeting, Abstracts with Papers, v. 21(3), p. 49A, October, Bozeman, Montana.
- Montgomery, H., 2002, Texas science teachers and earth science issues in the Big Bend Region: Geological Society of America, South-Central Section Meeting, Abstracts with Programs, April, Sul Ross University, Alpine, Texas, v. 34(3), p. 10.
- Draper, G., Lewis, J.F., Montgomery, H., Hernaiz, P. and Martines M., 2002, The Peralvillo Formation, Central Hispaniola: stratigraphy, structure, and tectonic evolution: Caribbean Geological Conference, Barbados, June 16-23, Report of the IGCP Project 433, Caribbean Plate Tectonics.
- Montgomery, H., 2002, A constructivist approach to field geology for science teachers: Geological Society of America, 36th annual meeting, Abstracts with Programs. October, Denver, CO.
- Main, D., Fiorillo, A., Montgomery, H., 2002, New methods in paleontology; GPR mapping and excavation of a titanosaurid (Dinosauria, Sauropoda) bonebed in Big Bend National Park: Geological Society of America, South-Central Section, 36th annual Meeting. Abstracts with Programs, v. 34(3), p. 10.
- Montgomery, H. and Palmer, J., 2005, Five-Minute Manipulatives Improve Student Performance in Undergraduate Geoscience Course. NARST Annual Meeting, Dallas, TX.
- Montgomery, H., Pessagno, E. and Kariminia, M., 2005, Cretaceous (Campanian and Aptian) Radiolarians of the Washikemba Formation, Bonaire, Netherlands Antilles. Caribbean Geological Conference, San Juan, Puerto Rico.
- Montgomery, H., and Hopson, Cliff, 2006, Radiolarians, Red Cherts, and Ridges: Rethinking the Origin of La Desirade. International Research Conference, Geology of the area between North And South America, with focus on the origin of the Caribbean Plate. May 28-Jun 2, Siguenza, Spain.
- Montgomery, H., 2006, Memetics Predicts the Future of the Intelligent Design Debate. Oxford Round Table, Jul 23-27. Oxford University.
- Montgomery, H., 2007, Education in the midst of a civil war; teaching teacher mentors in Somalia. Science Teachers Association of Texas Annual Meeting, Austin, TX, featured speaker.
- Montgomery, H., 2009, *Homo sapiens'* success a product of cooperative communities and mystical brains: Southwest Commission on Religious Studies, AAR: Comparative and Asian Studies in Religion. 2009 Meeting, p. 27.
- Montgomery, H., 2009, Paleolimnology of two dinosaur watering holes in west Texas: Geological Society of America Abstracts with Programs, 41(2), p. 34
- Montgomery, H., 2010, Religion and human evolution, positive influence and no voice: Southwest Commission on Religious Studies, AAR: Comparative and Asian Studies in Religion. 2010 Meeting, p. 23.
- Montgomery, H., 2012, A new microvertebrate local fauna in the Aguja Formation, Texas. Geological Society of America Abstracts with Programs, in press.
- Montgomery, H., 2012, Mysteries of giant *Platyceramus* of the Boquillas Formation sea floor. Geological Society of America Abstracts with Programs, in press.

Professional and University Citizenship

Professional activities and committees

Professional organizations

- Board member, 1999-2007, Science Teacher Association of Texas
- Vice President, 2000-2001, National Association of Geoscience Teachers, Texas
- President, 2002-2003, National Association of Geoscience Teachers, Texas

Consultancies

1998-2004, FOSS (Full Option Science System) Lawrence Hall of Science, University of California, Berkeley

Departmental activities and committees

Various search committees

School activities and committees

MSET building committee

Courses and other curricula developed

- *Age of Dinosaurs* (NATS 2332)
- *Basis of Evolution* (NATS 3330)
- *Basis of Evolution* (SCI 5322)
- *Marine Science* (SCI 5330)
- *Critical Issues* (SCE 5301)

University activities and committees

- CV Honors professor (2008-present)
- Faculty Senate (2004-2008)
- QEP (2007)
- Distance Learning Committee member (2008)
- Distance Learning Committee chair (2009 to present)
- GEMS committee member (2008-present)