

Center for Sedimentary Basin Studies 1999 Statistical Report

Center Mission

The purpose of the Center for Sedimentary Basin Studies (CSBS) is to provide a structure and program for interdisciplinary research and education in the sciences and engineering for the study of sedimentary basins. The CSBS focuses on basin analysis and modeling; petroleum system modeling; reservoir characterization, modeling and simulation studies; and the effective transfer of research findings and technology to the public and industry.

Center Objectives

- Recognition nationally and internationally as a premier interdisciplinary research and education program in the study of sedimentary basins.
- Establishment of an integrated research team of scientists and engineers who are competitive in securing external funding nationally at the \$1 million level.
- Recruitment and education of graduate students nationally and internationally who are funded through CSBS.
- Establishment of an outreach program for the Eastern Gulf Region.

Accomplishments

1. Recognition

- Researchers (Groshong, Benson, Qi) and former geology graduate student (Nolte) received awards from GCS-SEPM for outstanding research contributions.
- Researcher (Puckett) received an award from GSA for outstanding research contributions.
- Researcher (Mancini) received/will receive awards from GCAGS and AAPG for outstanding research and education contributions.
- Researcher (Mancini) was invited to be a keynote speaker/participant at a GSA Penrose Conference, AAPG International Hedberg Research Conference, and International Conference on Global Changes in the Paleogene.
- CSBS at UA is the lead university in establishing a University Consortium for Sedimentary Basin Studies in the Gulf of Mexico in cooperation with the USGS, LSU, U. Miss., and TAMU.
- CSBS is cooperating with 25 participating organizations, including other universities, federal and state agencies and industry.

2. Funding Support

- CSBS awarded 2 new federal contracts totaling \$9.371 million.
- CSBS secured continuation of 3 contracts totaling \$1.157 million.
- CSBS awarded 3 new software grants with a total value of \$1.272 million.
- Annual external support for CSBS is at \$1.1 million.

3. Faculty and Student Support

- CSBS has 17 participating faculty researchers in geology, geophysics, biology, physics, petroleum engineering, chemical engineering, computer engineering, and civil engineering.
- CSBS is providing funding support for 5 research scientists, 11 Ph.D. students, 6 M.S. students and 11 undergraduate students.

4. Productivity

- Researchers associated with CSBS have published 54 papers and abstracts, made 49 presentations and have been awarded 7 new or continuation research contracts/grants in 1999.

5. Outreach

- CSBS is the recognized leader in the Eastern Gulf Region for oil and gas technology transfer and information dissemination, conducting 14 technology workshops in 1999, publishing a quarterly newsletter, maintaining a Web Site and answering information requests.

Statistics

1. Participating Faculty (17)

- Geological Sciences/Geophysics
 - Ernest A. Mancini
 - Joe Benson
 - Carl Stock
 - Rick Groshong
 - Dennis Harry
 - Rick Major (U. Miss.)
 - Bruce Hart (McGill)
 - Wayne Ahr (TAMU)
 - Chacko John (LSU)
- Physics
 - Pieter Visscher
- Chemical Engineering
 - Philip Johnson
 - Eric Carlson
- Civil Engineering
 - Charles Haynes
- Computer Engineering
 - Hannah Chen
- Petroleum Engineering
 - Alex Vadie (MSU)
 - Tom Blasingame (TAMU)
- Biology
 - Lou Brown (MSU)

2. Participating Research Scientists (5)

- Jiafu Qi
- Mark Puckett
- Brian Panetta
- Bennett Bearden
- James Sloan

3. Participating Graduate Students (17)

- Geological Sciences
 - William Parcell (Ph.D.)
 - Marcello Badali (Ph.D.)
 - Hongwei Yin (Ph.D.)
 - Guohai Jin (Ph.D.)
 - Christopher Crow (Ph.D.)
 - Heather Fowler (M.S.)
 - John Griffin (M.S.)
 - DeeDee Cantrell (M.S.)
- Physics
 - Xuehong Feng (Ph.D.)
- Also students from U. Miss., MSU, TAMU
- Computer Engineering
 - Wen-Tai Yang (Ph.D.)
 - Hsien-Cheng Chang (Ph.D.)
 - Haiyan Li (M.S.)
 - Min Zhang (M.S.)
- Chemical Engineering
 - Vishal Vora (Ph.D.)
 - Jinquan Xu (Ph.D.)
- Mechanical Engineering
 - Ruban Mahfudh (Ph.D.)
- Biological Sciences
 - Frank Fontanella (M.S.)

4. Participating Undergraduate Students (11)

- Geological Sciences
 - Ryan Smith
 - Jonathan Hill
 - Anthony Mbachu
 - Justin Woulard
 - William Roundtree
- Chemical Engineering
 - Aaron Staub
 - K. Powe
 - P. Wood
 - J. Purse
- Advertising and Public Relations
 - Kristi Sessions
 - Jacqueline Godby

5. Participating Organizations (25)

•Universities

University of South Alabama
 Alabama A&M University
 Louisiana State University
 Texas A&M University
 University of Mississippi
 Mississippi State University
 McGill University

•Federal Agencies

U.S. Department of Energy
 U.S. Minerals Management Service
 U.S. Geological Survey

•State Agencies

Alabama Geological Survey
 Mississippi Office of Geology
 ADECA
 New Mexico Bureau of Mines

•Industry

Petroleum Technology Transfer Council
 Mobil Oil
 Chevron Oil
 Smackco Operating
 Pruet Production
 Paramount Petroleum
 Strago Petroleum
 Wayne Stafford & Associates
 Platte River
 Landmark
 Seismic Micro-Technology

6. Publications (54)

- Badali, Marcello, 1999, Depositional history and tectonic evolution of the Upper Cretaceous carbonate stratigraphic succession of the Ausoni Mountains, Volsci Chain, Central Appennines, Italy, *Geol. Soc. America Abs. with Programs (Ann. Mtg.)*, v. 31, p. A-281.
- Benson, D. Joe, and Mancini, Ernest A., 1998, Diagenesis of passive margin reservoirs—Upper Jurassic Smackover Formation of the Eastern Gulf Coastal Plain, USA, *Am. Assoc. Petroleum Geologists Bull.*, v. 82, p. 1892.
- Benson, D. Joe, and Mancini, Ernest A., 1999, Diagenetic influence on reservoir development and quality in the Jurassic Smackover Formation, Alabama, *Am. Assoc. Petroleum Geologists Bulletin*, v. 83, p. 1348.
- Benson, D. Joe, and Mancini, Ernest A., 1999, Diagenetic influence on reservoir development and quality in the Smackover updip basement ridge play, southwest Alabama, *Gulf Coast Association of Geological Societies Trans.* 49:94-101.
- Benson, D. Joe, and Mancini, Ernest A., 1999, Diagenesis of passive margin carbonate reservoirs—Upper Jurassic Smackover Formation of the Eastern Gulf Coastal Plain, *Geol. Soc. America Abs. with Programs (Ann. Mtg.)*, v. 31, no. 3, p. A-5.
- Benson, D. Joe, and Mancini, Ernest A., 1999, Influence of microscopic heterogeneity on reservoir quality in carbonate reservoirs, 1999 *Am. Assoc. Petroleum Geologists Annual Meeting Abstract Volume*, p. A12.
- Cates, L.M., and Groshong, R.H., Jr., 1999, Confirmation of regional extension in the eastern Black Warrior basin, Alabama, *in* Pashin, J.C. and Carroll, R.E., *Geology of the Cahaba coalfield: Alabama Geological Society, Guidebook for the 36th Ann. Field Trip*, p. 49-57.
- Cates, L.M., and Groshong, R.H., Jr., 1999, Regional thin-skinned extension in a foreland basin: prediction from balanced cross sections, confirmation by field mapping: *Geol. Soc. Am. 1999 Abs. with Prog.*, v. 31, no. 7, p. A-111.
- Chang, H.-C., Chen, H.-C., and Yang, W.-T., 1998, Correlating longitudinal dispersivity and field scale using fuzzy regression, 1998 Annual Conference of the American Water Resources Association, Point Clear, AL, Nov. 1998.
- Chang, H.-C., Chen, H.-C., and Kopaska-Merkel, D.C., 1998, Identification of lithofacies using ART neural networks and group decision making, Dagli, C.H., et al. (Eds). *Proceedings of the Artificial Neural Networks in Engineering Conference 98*, St. Louis, Missouri, 855-860.
- Edwards, L.E., Mancini, Ernest A., and Harris, W.B., 1999, Alloformations, synthems, and sequences, *Geol. Soc. America Abs. with Programs (Ann. Mtg.)*, v. 31, no. 7, p. A-181.

- Groshong, R.H., Jr., 1998, Structural geology and map interpretation, by R. Weijermars (Book Review): *Tectonophysics*, v. 292, p. 169.
- Groshong, R.H., Jr., 1999, 3-D structural geology: Springer-Verlag, Heidelberg, 324 p.
- Groshong, R.H., Jr., 1999, Displacement-transfer zones in the Gilbertown graben system and the need for 3-D interpretation: *Geol. Soc. Am. 1999 Abs. with Prog.*, v. 31, no. 7, p. A-244.
- Hawkins, W.B., Jr, Groshong, R.H., Jr., and Pashin, J.C. 1999, Normal faults along the southwestern margin of the Alabama promontory: multiple episodes of Paleozoic activity: *Geol. Soc. Am. 1999 Abs. with Prog.*, v. 31, no. 7, p. A-111.
- Jin, G., Groshong, R.H., Jr., and Pashin, J.C., 1999, Relationship between drag fold geometry and fracture production in the Selma Chalk, Gilbertown Oil Field, southwest Alabama: *Transactions of Gulf Coast Association of Geological Societies*, v. 49, p. 17-18.
- Kopaska-Merkel, D.C., Chang, H.-C., and Chen, H.-C., 1998, ART2 neural network approach to reservoir analysis, Alabama Academy of Sciences 75th Annual Meeting, University of South Alabama, Mobile, AL, March 1998.
- Li, Haiyan, Chen, Hue-Chuan, and Mancini, Ernest A., 1999, Classification of porosity and permeability category with regression trees, *Gulf Coast Association of Geological Societies Trans.* 49:20-22.
- Li, Haiyan, Chen, Hue-Chuan, and Mancini, Ernest A., 1999, Classification of porosity and permeability category with regression trees, *Am. Assoc. Petroleum Geologists Bulletin*, v. 83, p. 1357.
- Mancini, Ernest A., 1998, Relationship between organic facies and depositional sequences and system tracts of Mesozoic and Cenozoic strata of the northeastern Gulf of Mexico, *Geol. Soc. America Abs. with Programs (Ann. Mtg.)*, v. 30, no. 7, p. A-397.
- Mancini, Ernest A., 1999, Chronostratigraphic significance of physical surfaces associated with unconformity-bounded stratigraphic units, *Geol. Soc. America Abs. with Programs (Ann. Mtg.)*, v. 31, no. 7, p. A-182.
- Mancini, Ernest A., and Benson, D. Joe, 1998, Sequence stratigraphic controls on carbonate shoal and reef reservoir architecture and heterogeneity: Upper Jurassic Smackover Formation, northeastern Gulf of Mexico, *Am. Assoc. Petroleum Geologists Bull.*, v. 82, p. 1938.
- Mancini, Ernest A., and Benson, D. Joe, 1999, Integration of 3-D seismic reflection data with 3-D geologic visualization modeling for petroleum reservoir and trap delineation, eastern Gulf Coastal Plain, USA: *Am. Assoc. Petroleum Geologists Bull.*, v. 83, p. 1327.
- Mancini, Ernest A., Benson, D. Joe, Hart, Bruce S., Chen, Hannah, Balch, Robert S., Parcell, William C., Yang, Wen-Tai, and Panetta, Brian J., 1999, Integrated geological, geophysical and computer modeling approach for predicting reef lithofacies and reservoirs: Upper Jurassic Smackover Formation, Appleton Field, Alabama, *Advanced Reservoir Characterization for the Twenty-First Century*, Proceedings of the 19th Annual Research Conference, Gulf Coast Section, SEPM Foundation, p. 235-247.
- Mancini, Ernest A., Benson, D. Joe, Parcell, W.C., Chen, H., and Yang, W.T., 1998, Geologic and computer modeling of Upper Jurassic Smackover reef and carbonate shoal lithofacies, Eastern Gulf Coastal Plain, *Am. Assoc. Petroleum Geologists Bull.*, v. 82, p. 1786-1787.
- Mancini, Ernest A., Benson, D.J., Parcell, W.C., and Puckett, T.M., 1999, Upper Jurassic Smackover carbonate exploration strategies in the Eastern Gulf Coastal Plain, 1999 *Am. Assoc. Petroleum Geologists Annual Meeting Abstract Volume*, p. A87.
- Mancini, Ernest A., Benson, D. Joe, Parcell, William C., Chen, Hannah, and Yang, Wen-Tai, 1998, Geologic and computer modeling of Upper Jurassic Smackover reef and carbonate shoal lithofacies, Eastern Gulf Coastal Plain, *Gulf Coast Association of Geological Societies Trans.* 48:225-234.
- Mancini, Ernest A., Parcell, W.C., and Puckett, T.M., 1999, Modeling of the burial and thermal histories of strata in the Mississippi Interior Salt Basin, *Gulf Coast Association of Geological Societies Trans.* 49:332-341.
- Mancini, Ernest A., Parcell, William C., and Puckett, T. Markham, 1999, Analysis of rift basins for optimum development: Mississippi Interior Salt Basin, *Proceedings of the U.S. Department of Energy 1999 Oil & Gas Conference*, 23 p.
- Mancini, Ernest A., Parcell, William C., and Puckett, T. Markham, 1999, Analysis of rift basins for optimum development: Mississippi Interior Salt Basin, *U.S. Department of Energy 1999 Oil and Gas Conference Abstracts*, 2 p.

- Mancini, Ernest A., Parcell, William C., and Puckett, T. Markham, 1999, Multidimensional burial and thermal history modeling of Mesozoic and Cenozoic strata in the Mississippi Interior Salt Basin, northeastern Gulf of Mexico, *in* American Association of Petroleum Geologists Hedberg Research Conference, Multi-Dimensional Basin Modeling, Colorado Springs, Colorado, 3 p.
- Mancini, Ernest A., and Puckett, T. Markham, 1998, Sequence stratigraphy and biostratigraphy of Upper Cretaceous strata of the Alabama Coastal Plain, Field Trip Guidebook for the 1998 Annual Alabama Geological Society Field Trip, 135 p.
- Mancini, Ernest A., and Puckett, T. Markham, 1999, Paleoenvironmental and stratigraphic changes in Paleocene and lower Eocene strata, eastern Gulf Coastal Plain, USA, *in* Early Paleogene Warm Climates and Biosphere Dynamics International Meeting Proceedings: International Commission on Paleogene Stratigraphy, 1 p.
- Mancini, Ernest A., Puckett, T.M., and Parcell, W.C., 1999, Mesozoic and Cenozoic sedimentation rates in the Mississippi Interior Salt Basin, Eastern Gulf Coastal Plain, Geol. Soc. America Abs. with Programs (Ann. Mtg.), v. 31, no. 3, p. A-28.
- Mancini, Ernest A., Puckett, T. Markham, and Parcell, William C., 1999, Modeling of the burial and thermal histories of strata in the Mississippi Interior Salt Basin, Am. Assoc. Petroleum Geologists Bulletin, v. 83, p. 1358.
- Mancini, Ernest A., Puckett, T. Markham, Parcell, W.C., Crow, C.J., and Smith, C.C., 1998, Sequence stratigraphy and biostratigraphy of Upper Cretaceous strata of the Alabama Coastal Plain (with field trip stops, in Field Trip Guidebook for the 1998 Annual Alabama Geological Society Field Trip, p. 1-41.
- Nestor, H., and Stock, C.W., 1999, Recovery of stromatoporoid fauna from the end-Ordovician mass extinction, 8th International Symposium on Fossil Cnidaria and Porifera, Sendai, Japan, Abstracts, p. 75.
- Parcell, W.C., 1999, Stratigraphic architecture of Upper Jurassic (Oxfordian) reefs in the northeastern Gulf Coast, U.S., and the eastern Paris Basin, France, Gulf Coast Association of Geological Societies Trans. 49, 411-416.
- Parcell, W.C., 1999, Stratigraphic distribution of Upper Jurassic (Oxfordian) reef and carbonate facies from the northern margin of the Tethys Sea, Geol. Soc. America Abs. with Programs (Ann. Mtg.), v. 31, no. 7, p. A-183.
- Parcell, W.C., Mancini, Ernest A., Benson, D.J., Chen, H., and Yang, W., 1998, Geologic and computer modeling of 2-D and 3-D carbonate lithofacies trends in Upper Jurassic (Oxfordian) Smackover Formation, northeastern Gulf Coast, Geol. Soc. America Abs. with Programs (Ann. Mtg.), v. 30, no. 7, p. A-338.
- Pashin, J.C., and Groshong, R.H., Jr., 1998, Structural control of coalbed methane in Alabama: Internat. Jour. Coal Geol., v. 38, p. 89-113.
- Pashin, J.C., Groshong, R.H., Jr., and Jin, G., 1998, Structural modeling of a fractured chalk reservoir: toward revitalizing Gilbertown field, Choctaw County, Alabama: Transactions of Gulf Coast Association of Geological Societies, v. 48, p. 335-347.
- Pashin, J.C., and Groshong, R.H., Jr., 1999, Hanging-wall fracture systems in chalk—underdeveloped reservoirs in the peripheral fault trend of the eastern Gulf Coast basin: Am. Assoc. Petrol. Geol. Ann. Conv. Prog., v. 8, p. A104-A105.
- Puckett, T. Markham, and Mancini, Ernest A., 1999, Stratigraphic framework of the Mesozoic sediments of the Mississippi Interior Salt Basin, Gulf Coast Association of Geological Societies Trans. 49:25.
- Puckett, T. Markham, and Mancini, Ernest A., 1999, Stratigraphic framework of the Mesozoic sediments of the Mississippi Interior Salt Basin, Am. Assoc. Petroleum Geologists Bulletin, v. 83, p. 1362.
- Stearn, C.W., Webby, B.D., Nestor, H., and Stock, C.W., 1999, Revision and terminology of Palaeozoic stromatoporoids, Acta Palaeontologica Polonica, 44, p. 1-70.
- Stock, C.W., 1999, What is the age of the so-called Sequatchie Formation in Jefferson and Blount Counties, Alabama? Geological Society of America Abstracts with Programs, 31, no. 3, p. A-69.
- Stock, C.W., and Burry-Stock, J.A., 1998, Differentiating between two closely related species of stromatoporoids: a canonical discriminant analysis, Geological Society of America Abstracts with Programs, 30, no. 7, p. A-264.

- Stock, C.W., and Burry-Stock, J.A., 1999, A multivariate analysis of two contemporaneous species of the stromatoporoid *Habrostroma* from the Lower Devonian of New York, USA, 8th International Symposium on Fossil Cnidaria and Porifera, Sendai, Japan, Abstracts, p. 60.
- Stock, C.W., and Nestor, H., 1999, Distribution of stromatoporoid genera in the Mid-Lower Silurian (Middle Llandovery: Aeronian) of the central United States, Geological Society of America Abstracts with Programs, 31, no. 5, p. A-74.
- Visser, P.B., and Günel, Y., 1998, Self-assembly in model magnetic inks, IEEE Transactions on Magnetics 34, 1687.
- Yang, W.-T., Chen, Hue-Chuan, and Mancini, Ernest A., 1999, Prediction of porosity and permeability using a data mining approach: Appleton Field, Alabama, Gulf Coast Association of Geological Societies Trans. 49:520-530.
- Yang, Wen-Tai, Chen, Hue-Chuan, and Mancini, Ernest A., 1999, Prediction of porosity and permeability using a data mining approach, Am. Assoc. Petroleum Geologists Bulletin, v. 83, p. 1365.
- Yin, H., and Groshong, R.H., Jr., 1999, Salt-piercement structures, 3-D kinematic modeling and balanced cross sections: preliminary results: Geol. Soc. Am. 1999 Abs. with Prog., v. 31, no. 7, p. A-126.

7. Invited Presentations (49)

- Badali, M., 1999, Depositional history and tectonic evolution of the Upper Cretaceous carbonate stratigraphic succession of the Ausoni Mountains, Volsci Chain, Central Appennines, Italy, GSA Meeting, Denver, Colorado, October 25-28.
- Bearden, B.L., 1999, Petroleum trends in the Mississippi Interior Salt Basin, Basin Analysis Technology Workshop, Jackson, Mississippi, July 21.
- Benson, D.J., 1999, Diagenesis of passive margin carbonate reservoirs—Upper Jurassic Smackover Formation of the Eastern Gulf Coastal Plain, SE GSA Meeting, Athens, Georgia, March 25-26.
- Benson, D.J., 1999, Diagenetic influence on reservoir development and quality in the Jurassic Smackover Formation, Alabama, GCAGS Meeting, Lafayette, Louisiana, September 15-17.
- Benson, D.J., 1999, Influence of microscopic heterogeneity on reservoir quality in carbonate reservoirs, AAPG Meeting, San Antonio, Texas, April 11-14.
- Carlson, E.S. 1999, A simple method for handling irregular grids in reservoir simulation, Presented as a poster at the 1999 Society of Petroleum Engineers Reservoir Simulation Symposium, February 15.
- Carlson, E.S., 1999, A simple method for handling irregular grids in reservoir simulation, Presented at Chevron Research Center, La Habra, California, June 23.
- Carlson, E.S., 1999, A simple method for handling irregular grids in reservoir simulation, Presented at Mobil Research Center, Dallas, Texas, July 19.
- Carlson, E.S. 1999, Multidimensional finite differencing for the solution of partial differential equations, Presented at The University of Kentucky Brown Bag Seminar, Lexington, Kentucky, October 19.
- Carlson, E.S., 1999, Multidimensional finite differencing for the solution of partial differential equations, Presented at Los Alamos National Laboratory, July 20.
- Carlson, E.S., 1999, Multidimensional finite differencing for the solution of partial differential equations, Presented at Lawrence Livermore National Laboratory, July 22.
- Carlson, E.S., 1999, Multidimensional finite differencing for the solution of partial differential equations, Presented at Argonne National Laboratory, July 12.
- Cates, L.M., and Groshong, R.H., Jr., 1999, Regional thin-skinned extension in a foreland basin: prediction from balanced cross sections, confirmation by field mapping, 1999 Geol. Soc. Am. Meeting.
- Groshong, R.H., Jr., 1998, Contraction and extension structures in the Black Warrior Foreland Basin, southern Appalachians, presentation at Oklahoma State University.
- Groshong, R.H., Jr., 1998, Contraction and extension structures in the Black Warrior Foreland Basin, southern Appalachians, presentation at Texas A&M University.
- Groshong, R.H., Jr., 1998, 3-D Computer realization of the Gilbertown graben: Eastern Gulf Region PTTC Workshop on Revitalizing Gilbertown Oil Field.
- Groshong, R.H., Jr., 1999, Displacement-transfer zones in the Gilbertown graben system and the need for 3-D interpretation, 1999 Geol. Soc. Am. Meeting.

- Hawkins, W.B., Jr, Groshong, R.H., Jr., and Pashin, J.C. 1999, Normal faults along the southwestern margin of the Alabama promontory: multiple episodes of Paleozoic activity, 1999 Geol. Soc. Am. Meeting.
- Jin, G., Groshong, R.H., Jr. and Pashin, J.C., 1999, Relationship between drag fold geometry and fracture production in the Selma Chalk, Gilbertown Oil Field, southwest Alabama, 1999 Gulf Coast Association of Geological Societies Meeting.
- Li, H., 1999, Classification of porosity and permeability category with regression trees, GCAGS Meeting, Lafayette, Louisiana, September 15-17.
- Mancini, E.A., 1998, Diagenesis of passive margin reservoirs—Upper Jurassic Smackover Formation of the Eastern Gulf Coastal Plain, USA, AAPG International Meeting, Rio de Janeiro, Brazil, November 8-11.
- Mancini, Ernest A., 1998, Geologic and computer modeling of Upper Jurassic Smackover reef and carbonate shoal lithofacies, Eastern Gulf Coastal Plain, GCAGS Meeting, Corpus Christi, Texas, October 21-23.
- Mancini, E.A., 1998, Relationship between organic facies and depositional sequences and systems tracts of Mesozoic and Cenozoic strata of the northeastern Gulf of Mexico, GSA Meeting, Toronto, Canada, October 25-29.
- Mancini, Ernest A., 1998, Sequence stratigraphic controls on carbonate shoal and reef reservoir architecture and heterogeneity: Upper Jurassic Smackover Formation, northeastern Gulf of Mexico, AAPG International Meeting, Rio de Janeiro, Brazil, November 8-11.
- Mancini, E.A., 1999, Analysis of rift basins for optimum development: Mississippi Interior Salt Basin, DOE 1999 Oil and Gas Conference, Dallas, Texas, June 28-30.
- Mancini, E.A., 1999, Burial and thermal history modeling of the Mississippi Interior Salt Basin, Eastern Gulf Region, Basin Analysis Technology Workshop, Jackson, Mississippi, July 21, 1999.
- Mancini, E.A., 1999, Characteristics of the Jurassic Norphlet Formation, Eastern Gulf Region, Eolian Reservoir Characterization and Modeling Technology Workshop, Jackson, Mississippi, May 26.
- Mancini, E.A., 1999, Chronostratigraphic significance of physical surfaces associated with unconformity-bounded stratigraphic units, GSA Meeting, Denver, Colorado, October 25-28.
- Mancini, E.A., 1999, Gulf Coast stratigraphy, GSA Penrose Conference, Olympia, Washington, August 16-22.
- Mancini, E.A., 1999, Integrated geological, geophysical and computer modeling approach for predicting reef lithofacies and reservoirs: Upper Jurassic Smackover Formation, Appleton Field, Alabama, GCS-SEPM Research Conference, Houston, Texas, December 5-8.
- Mancini, E.A., 1999, Integration of 3-D seismic reflection data with 3-D geologic visualization of petroleum reservoir and trap delineation, Eastern Gulf Coastal Plain, USA: AAPG International Meeting, Birmingham, England, September 12-15.
- Mancini, E.A., 1999, Mesozoic and Cenozoic sedimentation rates in the Mississippi Interior Salt Basin, Eastern Gulf Coastal Plain, SE GSA Meeting, Athens, Georgia, March 25-26.
- Mancini, E.A., 1999, Modeling of the burial and thermal histories of strata in the Mississippi Interior Salt Basin, GCAGS Meeting, Lafayette, Louisiana, September 15-17.
- Mancini, E.A., 1999, Upper Jurassic Smackover carbonate exploration strategies in the Eastern Gulf Coastal Plain, AAPG Meeting, San Antonio, Texas, April 11-14.
- Mancini, Ernest A., and Puckett, T. Markham, 1999, Paleoenvironmental and stratigraphic changes in Paleocene and lower Eocene strata, Eastern Gulf Coastal Plain, USA, Early Paleogene Warm Climates and Biosphere Dynamics International Meeting: Goteborg, Sweden, June 9-13.
- Parcell, W.C., 1998, Geologic and computer modeling of 2-D and 3-D carbonate lithofacies trends in Upper Jurassic (Oxfordian) Smackover Formation, northeastern Gulf Coast, GSA Meeting, Toronto, Canada, October 25-29.
- Parcell, W.C., 1999, Multidimensional burial and thermal history modeling of Mesozoic and Cenozoic strata in the Mississippi Interior Salt Basin, northeastern Gulf of Mexico, AAPG Hedberg Research Conference, Colorado Springs, Colorado, May 9-13.
- Parcell, W.C., 1999, Stratigraphic architecture of Upper Jurassic (Oxfordian) reefs in the northeastern Gulf Coast, U.S., and the eastern Paris Basin, France, GCAGS Meeting, Lafayette, Louisiana, September 15-17.

- Parcell, W.C., 1999, Stratigraphic distribution of Upper Jurassic (Oxfordian) reef and carbonate facies from the northern margin of the Tethys Sea, GSA Meeting, Denver, Colorado, October 25-28.
- Pashin, J.C. and Groshong, R.H., Jr., 1999, Hanging-wall fracture systems in chalk—underdeveloped reservoirs in the peripheral fault trend of the eastern Gulf Coast basin, 1999 Am. Assoc. Petrol. Geol. Meeting.
- Pashin, J.C. and Groshong, R.H., Jr. and Jin, G., 1998, Structural modeling of a fractured chalk reservoir: Toward revitalizing Gilbertown field, Choctaw County, Alabama, 1998 Gulf Coast Association of Geological Societies Meeting.
- Puckett, T.M., 1999, Stratigraphic framework of the Mesozoic sediments of the Mississippi Interior Salt Basin, GCAGS Meeting, Lafayette, Louisiana, September 15-17.
- Puckett, T.M., 1999, Tectonic and depositional setting of the Mississippi Interior Salt Basin, Basin Analysis Technology Workshop, Jackson, Mississippi, July 21.
- Stock, C.W., 1998, Differentiating between two closely related species of stromatoporoids: a canonical discriminant analysis, Geological Society of America Annual Meeting, Toronto, Ontario, October 25-29.
- Stock, C.W., 1999, A multivariate analysis of two contemporaneous species of the stromatoporoid *Habrostroma* from the Lower Devonian of New York, USA, 8th International Symposium on Fossil Cnidaria and Porifera, Sendai, Japan, September 13-16.
- Stock, C.W., 1999, Distribution of stromatoporoid genera in the Mid-Lower Silurian (Middle Llandovery: Aeronian) of the central United States, Geological Society of America North-Central Section Meeting, Champaign, Illinois, April 22-23.
- Stock, C.W., 1999, What is the age of the so-called Sequatchie Formation in Jefferson and Blount Counties, Alabama? Geological Society of America Southeastern Section Meeting, Athens, Georgia, March 25-26.
- Yang, W.T., 1999, Prediction of porosity and permeability using a data mining approach, GCAGS Meeting, Lafayette, Louisiana, September 15-17.
- Yin, H. and Groshong, R.H., Jr., 1999, Salt-piercement structures, 3-D kinematic modeling and balanced cross sections: preliminary results, 1999 Geol. Soc. Am. Meeting.

8. Grants Awarded (7)

- Mancini, Ernest A., Basin Analysis of the Mississippi Interior Salt Basin and Petroleum System Modeling of the Jurassic Smackover Formation, Eastern Gulf Coastal Plain, U.S. Department of Energy, \$1,400,000, 1996-2001.
- Mancini, Ernest A., Jurassic-Cretaceous Hydrocarbon Play Characterization and Jurassic Petroleum System Modeling, Eastern Gulf of Mexico, Minerals Management Service and Industry, \$450,000, 1997-2002.
- Mancini, Ernest A. and Parcell, William C., BasinMod Software-Platte River Academic Software Loan Agreement, Platte River Associates, \$84,500, 1998-1999.
- Mancini, Ernest A. and Bearden, Bennett L., University Grant Software Partnership Program, Landmark Graphics Cooperation, \$1,138,910, 1998-2001.
- Mancini, Ernest A. and Bearden, Bennett L., Seismic Micro-Technology Software Loan Agreement, Seismic Micro-Technology, \$38,000, 1999-2000.
- Mancini, Ernest A., Information and Technology Transfer, Eastern Gulf Region, Petroleum Technology Transfer Council and U.S. Department of Energy, \$1,254,000, 1999-2004.
- Mancini, Ernest A., Improved Oil Recovery from Upper Jurassic Smackover Carbonates through the Application of Advanced Technologies at Womack Hill Field, Choctaw and Clarke Counties, Alabama, Eastern Gulf Coastal Plain (Class II Reservoir), U.S. Department of Energy, \$8,117,000, 2000-2006.

Outreach

1. Technology Workshops (14)

<u>Type of Workshop</u>	<u>No. of Attendees</u>
Sequence Stratigraphy	44
Coalbed Reservoir Analysis	17
Microbial EOR	25
Modeling Petroleum Systems	9
Surface Hydrocarbon Detection	58
3-D Reservoir Modeling	16
Eolian Reservoirs	46
Geographix Mapping	5
Basin Analysis	38
Lower Cretaceous Reservoirs	51
2d/3d PAK Seismic	13
Digitizing Wireline Logs	10
Miocene Reservoirs	41
Reservoir Analysis	31
	404

2. Newsletter—circulation of 600 quarterly.
3. Web Site—average 8,104 hits per month
4. Information Requests—average 36 requests per month.

Awards

1. Jiafu Qi and Rick Groshong received Best Paper Award from GCS-SEPM.
2. Ralph Nolte and Joe Benson received Best Paper Award from GCS-SEPM.
3. Mark Puckett received the GSA W. Storrs Cole Award.
4. Ernest A. Mancini received Outstanding Educator Award from GCAGS.
5. Ernest A. Mancini will receive Distinguished Educator Award from AAPG.

Other Activities

1. CSBS at UA is the lead university in the establishment of a University Consortium for Sedimentary Basin Studies for the Gulf of Mexico in cooperation with the USGS, LSU, U. Miss. and TAMU.
2. Director is Chair of North American Commission of Stratigraphic Nomenclature.
3. Director is Chair of Mineral and Energy Resource Section, Board on Natural Resources, National Association of State Universities and Land-Grant Colleges.
4. Director is Organizer of AAPG-EAGE International Research Conference on Carbonate Reservoir Characterization and Modeling for Enhanced Hydrocarbon Discovery and Recovery.
5. Director is Organizer of International AAPG Hedberg Research Conference on Sequence Stratigraphy and Allostratigraphy.

6. Director is Organizer of GSA Topical Session on Carbonate Allostratigraphy and Sequence Stratigraphy.
7. Director is Organizer of AAPG Technical Session on Controls on Trap, Reservoir and Charge in Carbonate Systems.
8. Director was Organizer of GSA Topical Session on Alloformations, Synthems and Sequences.
9. Director was an Invited Participant to International AAPG Hedberg Research Conference on Multidimensional Basin Modeling.
10. Director was an Invited Participant to International Conference on Global Changes in the Paleogene.
11. Director was a Keynote Speaker at GSA Penrose Conference on the Eocene-Oligocene Transition.
12. Director was an Invited Speaker to DOE 1999 Oil and Gas Research Conference.