

José (Pepe) F. Longoria
Professor of Geology

Narrative

Jose (Pepe) Longoria has a BS (Biology) from the University of Nuevo Leon, Mexico (1964), undergraduate and graduate studies in geology from Southern Methodist University (1968-1970). In 1972 he received the Ph.D. (Geosciences) from the University of Texas at Dallas. He did post doctoral work at the Institute of Paleobiology of the Polish Academy of Sciences. Professor Longoria has extensive professional experience, first as a petroleum geologist (micropaleontologist) and later as an exploration (water and mineral resources) geologist.

Currently Dr. Longoria is involved in research and teaching on natural disasters and environmental geology. His current academic activities include studies on the vulnerability and risk analysis of urban areas to natural disasters and human-induced environmental deterioration. He has developed a strong interest in the use of information technology in education and in the development of Asynchronous Learning Networks. Currently he teaches three online courses which attract a number of students from Mexico and Latin America.

Prof. Longoria has been actively involved in earth science research for more than 30 years, he has made important original contributions to the earth sciences; his research activities span from field geological projects, to laboratory research and applied environmental work. His fields of research include: (1) Environmental Geology and Natural Disasters; (2) Remote Sensing and Exploration Geology; (3) Sedimentary Geology and Paleobiology; and (4) Information Technology Applied to teaching/learning in asynchronous environments. His research has been supported by grants from the NSF; Jet Propulsion Laboratory, NASA; the Petroleum Research Fund; and CONACYT

He is well known for his original contributions to the geology of Mexico in the fields of stratigraphy and tectonics and micropaleontology where he has made important discoveries such as the establishment of new system of classification of Cretaceous planktonic foraminifera, and the establishment of new species of foraminifera. He has also made significant contributions to the understanding of the geological evolution of Mexico; he developed an alternative tectonic model for the Mesozoic of Mexico. His contributions to the study of natural disasters include the implementation of a holistic approach to understand the process of mitigation and recovery. Currently he is involved in applied research in earthquake engineering, volcanic hazards, and flood vulnerability. He has developed a strong interest in information technology and its application to the classroom; he has made significant contribution in the field of distance education with his model of virtual classroom and virtual campus. The last ten years he has made substantial contributions to the understanding of environmental issues and the threat of natural disasters.

Professor Longoria has an excellent record in teaching; he has taught undergraduate and graduate courses in biology and geology. The results of Prof. Longoria's investigations are reflected in more than 100 articles and book chapters in peer-reviewed national and international journals. Prof. Longoria has extensive experience in the development of science programs; including curriculum planning. He was involved in the establishment of the geosciences program, and the ecology program at the Center for Advanced Studies of the State of Sonora. His administrative experience includes: head of the Stratigraphy Branch of the Institute of Geology of the National Autonomous University (Mexico City); Chair of the Department of Geology of the University of Sonora; and chair of the Applications Committee of the AN-MSI project.

Prof. Longoria devotes time for community service including being a member of the Project Action Committee of the National Science Foundation of the Advanced Networking project for Minority Serving Institutions (AN-MSI); serving as chair of the Applications Committee of the AN-MSI project. He also is a committee member of the Coalition for Diversification of Computers. Dr. Longoria has recently been invited to participate in an interactive planning committee on the application of technology at minority serving institutions (MSIs) sponsored by the Alliance for Equity in Higher Education. He was appointed as a member of the advisory committee for the Found du Lac Tribal Technology Infrastructure Project (\$2.4M NSF funded).

EDUCATION

Biology, Universidad de Nuevo Leon, 1965, B.S.

Geology, Southern Methodist University, 1969, B.S./MS geology studies.

Geology, The University of Texas at Dallas, 1972, Ph.D.

Paleobiology, Polish Academy of Sciences, 1973, Post-Doctorate

LANGUAGES

English

Spanish

French

Polish

FIELDS OF RESEARCH INTERESTS

Environmental Geology and **Natural Disasters**: Geologic risks and hazards in urban areas. Mitigation of natural disasters and the use of GIS.

Remote Sensing/GIS and Exploration Geology: Analysis of Landsat and SIR imagery of orogenic belts and evaluation of natural disasters.

Paleobiology: Mesozoic Tethyan microfossils, planktonic foraminifera, calpionellids, and nannoconids. Paleocologic and paleoenvironmental reconstructions of Jurassic-Cretaceous successions.

Sedimentary Geology: Application of sequence stratigraphy and cyclostratigraphy to the evolution of Mesozoic basins of Mexico. Mesozoic plate-tectonic reconstructions of the southern North American Plate. Field mapping, lithostratigraphy and stratigraphic nomenclature of Mexico and the Caribbean region.

Online Education: Application and implementation of information and communication technology in teaching/learning. Development of a virtual classroom concept; and online teaching-learning methods in asynchronous learning networks. Development of the Certificate (Diplomado) Métodos de Enseñanza/Aprendizaje en línea

PROFESSIONAL AND ACADEMIC EXPERIENCE

1991- Florida International University, Department of Geology, *Professor of Earth Sciences.*

1984-1990, The University of Texas at Dallas, Programs in Geosciences, *Associate Professor.*

1981-1983, The University of Texas at Dallas, Programs in Geosciences, *Assistant Professor.*

1978-1980, Universidad de Sonora, Department of Geology, *Professor of Stratigraphy, and Department Chair.*

April 1977-July 1977, University of Bern, Switzerland, Institute of Geology and Paleontology, *Guest Professor.*

1974-1977, Geological Institute, Universidad Nacional Autonoma de Mexico: *Biostratigraphy and Chair of Stratigraphy Branch (Cretaceous and Tertiary Regional Stratigraphy)*

1973, Polish Academy of Sciences, Paleobiology Laboratory, Warszawa, Poland. *Post-Doctoral Fellowship.*

Nov.1972-Jan.1977, Shore-based Laboratory, Deep Sea Drilling Project, *Micropaleontologist (Cretaceous and Tertiary Foraminifera).*

1971-1972, The University of Texas at Dallas, *Research Assistant.*

1968-1970, Southwest Center for Advanced Studies, *Research Assistant.*

1967-1968, Mexican Petroleum Institute (IMP), Research Laboratory, *Biostratigrapher (Cretaceous planktonic foraminifera).*

1966-1967, Petroleos Mexicanos (PEMEX), Reynosa, Tamaulipas, *Micropaleontologist (Tertiary Foraminifera).*

1965-1966, Petroleos Mexicanos (PEMEX), Central Laboratory, *Micropaleontologist (Jurassic and Cretaceous calpionellids)*

SOCIETIES

Sociedad Geológica Mexicana

Asociación Mexicana de Ingenieros de Minas, Metalurgistas y Geólogos

Polish Geological Society

American Society of Photogrammetry and Remote Sensing

Swiss Geological Society

North American Micropaleontological Section, Society of Economic Paleontologist and Mineralogists

Miami Geological Society (President, 1995-1996)

MEMBER

- Member of the International Subcommission for Stratigraphic Classification (ISSC) (1974-1981)
- Member of the International Commission on Cretaceous Stratigraphy
- Participant in International Geological Correlation Program: "Mid-Cretaceous Events Project." Mexican representative.
- Member of the International Subcommission on Jurassic Stratigraphy
- Member of the Tethyan Working Group on Cretaceous Stratigraphy
- Associate Faculty, Latin American and Caribbean Center, FIU
- Associate Faculty, International Hurricane Center, FIU
- Member, Ecotourism Feasibility Group, FIU

PUBLICATIONS IN PEER-AND EDITOR REVIEWED JOURNALS

- Longoria, J.F., 1968, Estudio en sección delgada de algunas especies del Género *Globotruncana* Cushman del Santoniano-Maestrichtiano del este de México: *Asociación Mexicana de Geólogos Petroleros Boletín XX*, p. 14-117.
- Longoria, J.F., 1970, Estudio en sección delgada de algunas especies del Género *Globotruncana* Cushman del este de México: *Instituto Mexicano del Petroleo*, Publ. No. 70 AI/057, 139 p.
- Longoria, J.F., and Pessango, E.A., Jr., 1972, Laboratory report on Mesozoic planktonic foraminifera, Leg 12, in Laughton, A.S., Berggren, W.A., et al.: *Initial Reports Deep Sea Drilling Project XII*, p. 119-120.
- Longoria, J.F., and Pessagno, E.A., Jr., 1973, Mesozoic foraminifera Leg 15, Deep Sea Drilling Project, in Egard, N.T., Saunders, J.B., et al.: *Initial Reports Deep Sea Drilling Project XV*, p. 549-552.
- Longoria, J.F., and Pessagno, E.A., Jr., 1973, Shore Laboratory Report Mesozoic Planktonic Foraminifera DSDP Leg 16, in Van Andel, T.H., Heat, G.R., et al.: *Initial Reports Deep Sea Drilling Project XVI*, p. 893.
- Longoria, J.F., and Pessagno, E.A., Jr., 1973, Shore Laboratory Report on Mesozoic Foraminifera, Leg 17, in Winterer, E.L., Ewing, J.L., et al.: *Initial Reports Deep Sea Drilling Project XVII*, p. 981-984.
- Longoria, J.F., 1973, A new species of *Globotruncana* from the Upper Cretaceous of Texas and Mexico: *Micropaleontology* 19, p. 97-100, 1 pl
- Longoria, J.F., 1973, *Pseudotricinella*, a new genus of planktonic foraminifera from the early Turonian of Texas: *Revista Española de Micropaleontología* 5, p. 417-423, 2 pls.
- Longoria, J.F., 1973, Remarks on the foraminiferal Genus *Rotalipora* Brotzen: *Acta Paleontologica Polonica* 23, p. 455-459, 2 pls.
- Longoria, J.F., 1974, On the stratigraphic distribution of the tintinnid Genus *Colomiella*: *Sociedad Geológica Mexicana Boletín* 34, p. 97-99.
- Longoria, J.F., 1974, Stratigraphic, morphologic and taxonomic studies of Aptian planktonic foraminifera: *Revista Española de Micropaleontología*, número extraordinario, 107 p., 27 pls.
- Longoria, J.F., and Gamper, M.A., 1974, Two new species of Upper Cretaceous planktonic foraminifera from the *Abathomphalus mayaroensis* Zone of Mexico: *Micropaleontology* 20, p.473-477, pl. 1.
- Longoria, J.F., 1975, Shore Laboratory Report on Mesozoic Foraminifera, Leg 32, in Larson, R.L., Moberly, R., et al.: *Initial Reports Deep Sea Drilling Project XXXII*, p. 963-971
- Longoria, J.F., and Gamper, M.A., 1975, The Classification and evolution of Cretaceous planktonic foraminifera. Part I: The Superfamily Hedbergelloidea: *Revista Española de Micropaleontología*, número especial, p. 61-96, 11 pls.
- Longoria, J.F., 1975, Acerca del Límite Aptense/Albense en México: *Sociedad Geológica Mexicana Boletín* 35, p. 34-40.
- Longoria, J.F., 1975, Estratigrafía de la Serie Comancheana del Noroeste de México: *Sociedad Geológica Mexicana Boletín* 36, p. 31-59, 4 pls.
- Tardy, M., Longoria, J.F., and six others, 1975, Observaciones generales sobre la estructura de la Sierra Madre Oriental: la aloctonía del Conjunto Cadena Alta-Altiplano Central, entre Torreón, Coahuila y San Luis Potosí, S.L.P., Mexico: *Revista del Instituto de Geología, UNAM*, p. 1-11.
- Longoria, J.F., 1977, Mid-Cretaceous (Aptian-Turonian) planktonic foraminiferal biostratigraphy of northeast Mexico. Mid-Cretaceous Events: *Museum d'Histoire Naturelle de Nice, Annales* IV, p. XXVI-1 to XXVI-7.

- Longoria, J.F., 1977, On the taxonomic status of some tubulospinose *Globotruncana* from the Campanian of Mexico: *Micropaleontology* 33, p. 365-367.
- Longoria, J.F., and Gamper, M.A., 1977, Albian planktonic foraminifera from the Sabinas Basin of northern Mexico: *Journal Foraminiferal Research* 7, p. 196-215, pls. 1-6.
- Longoria, J.F., and Gamper, M.A., 1977, Albian planktonic foraminifera from the Sabinas Basin of northern Mexico: *Colloque Africain de Micropaleontologie Actes*, p. 531-563, 8 pls.
- Longoria, J.F., 1977, Biostratigrafía del Cretácico Superior basada en foraminíferos planctónicos: *Universidad Nacional Autónoma de México Revista* 1, p. 10-22 .
- Longoria, J.F., 1977, El límite Cretácico Inferior/Cretácico Superior en México basado en los foraminíferos planctónicos: *Universidad Nacional Autónoma de México Revista* 1, p. 5-9.
- Longoria, J.F., 1977, Biostratigrafía del Cretácico Inferior basada en microfósiles planctónicos: *Sociedad Geológica Mexicana Boletín* 38 (1), p. 2-17.
- Longoria, J.F., and Morales de la Garza, J., 1978, Bioestratigrafía de la Formación Tempoal (Eoceno Medio) de la Cuenca Tampico-Mizantla, basada en los foraminíferos planctónicos: *Departamento de Geología, Universidad de Sonora Boletín* 1, p. 27-51.
- Longoria, J.F., González, M.A., Mendoza, J.J., and Pérez.Z. V, 1978, Consideraciones estructurales en el Cuadrángulo Pitiquito-La Primavera, NW de Sonora: *Departamento de Geología, Universidad de Sonora Boletín* 1, p. 1-17.
- Longoria, J.G., and Gamper, M.A., 1978, Sobre la ocurrencia de estromatolitos en la secuencia precámbrica del Cuadrángulo Pitiquito-La Primavera, NW de Sonora: *Departamento de Geología, Universidad de Sonora Boletín* 1, p. 95-104.
- Longoria, J.F., 1978, Bosquejo Geológico de los Cerros Chino y Rajon, Cuadrángulo Pitiquito-La-Primavera (NW de Sonora): *Departamento de Geología, Universidad de Sonora Boletín* 1, p. 119-144.
- Longoria, J.F., and Davila, V.M., 1979, Geología y Estratigrafía del Cerro de la Silla, SE de Monterrey, N.L.: *Departamento de Geología, Universidad de Sonora Boletín* 2, p. 65-96.
- Longoria, J.F., and González, M.A., 1979, Estudios estratigráfico-estructurales en el Precámbrico de Sonora: Geología de los Cerros Gamuza y El Arpa: *Departamento de Geología, Universidad de Sonora Boletín* 2 (2), p. 106-149.
- Longoria, J.F., 1983, Rejection of a neotype for *Globotruncana rosetta insignis* Gandolfi: *Journal of Foraminiferal Research* 13, p. 154.
- Longoria, J.F., and Pessagno, E.A., Jr., 1984, Further criticism on the designation of a neotype for *Globotruncana rosetta insignis* Gandolfi: *Journal of Foraminiferal Research* 14, p. 142-145.
- Longoria, J.F., 1984, Cretaceous biochronology from the Gulf of Mexico Region based on planktonic microfossils: *Micropaleontology* 30, p. 225-242.
- Longoria, J.F., 1984, Mesozoic tectostratigraphic domains in east-central Mexico, in Jurassic-Cretaceous Biochronology and Paleogeography of North America (G.E.G. Westermann, ed.), *Geological Association of Canada Special Paper* 27, p. 65-76.
- Longoria, J.F., and Gamper, M.A. , 1984, The Subfamily Helvetiellinae, n. subfam., A New Group of Late Cretaceous (Maestrichtian) Planktonic Foraminifera: *Micropaleontology* 30, p. 171-179, pls. 1-2.
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- Pessagno, Jr., E.A.; Blome, C.D.; and Longoria, J.F., 1984, .A Revised Radiolarian Zonation for the Upper Jurassic of Western North America: *American Paleontology Bulletin* 87, 5 pls.
- Longoria, J.F., and Jiménez, O.H., 1984, Spaceborne Radar Imagery in Regional Geologic Mapping of the Sierra Madre Oriental, northeastern Mexico: The use of morphostratigraphic units in mapping of remote sensing: *Fourth Thematic Conference Remote Sensing for Exploration Geology, San Francisco, California, Remote Sensing for Exploration Geology* 2, p.437-446.
- Longoria, J.F., 1985, Tectonic Transpression in the Sierra Madre Oriental, northeastern Mexico: An Alternative Model: *Geology*, p. 453-456.
- Longoria, J.F., 1986, Tectonic transpression in the Sierra Madre Oriental, northeast Mexico: An alternative model. Reply: *Geology*, p.809-810.
- Longoria, J.F., 1987, Oblique subduction and kinematics of the American Plate: Evidence from the stratigraphic record of Mexico, in T.W.C. Hilde, and R.L. Carlson, conveners, Geodynamics Symposium: *Texas A & M University, College Station*, 2 p.

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- Montgomery, H., and Longoria, J.F., 1987, Paleozoic tectonics of Chihuahua -A paleogeographic perspective: *Universidad Autónoma de Chihuahua, Gaceta Geológica*, p. 54-69
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- Longoria, J.F., 1987, Paleogeographic development of Mexico during the Cretaceous: *Universidad Autónoma de Nuevo León, Facultad de Ciencias de la Tierra Actas 2*, p. 177-190.
- Longoria, J.F., 1987, Regional unconformities in the Cretaceous succession of Mexico: *Universidad Autónoma de Nuevo León, Facultad de Ciencias de la Tierra Actas 2*, p. 217-220
- Longoria, J.F., 1988, Tectonic evolution of the western margin of Mexico: *in R, McCabe, W. Sager, and B. Clement, conveners, Paleomagnetic constraints on crustal movements, Geodynamics Symposium: Texas A & M University*, p.34-37.
- Longoria, J.F., 1988, Late Triassic-Jurassic paleogeography and origin of Gulf of Mexico Basin: Discussion: *American Association of Petroleum Geologists Bulletin* 72, p. 1411-1418.
- Longoria, J.F., 1990, Structural traverse across the Sierra Madre Oriental fold-thrust belt in east-central Mexico. Alternative interpretation and reply: *The Geological Society of America Bulletin*, 102, p. 261-264.
- Longoria, J.F., and VonFeldt, A.E., 1991, Taxonomy, phylogenetics, and biochronology of single-keeled globotruncanids (Genus *Globotruncanita* Reiss): *Micropaleontology* 3, p. 197-243.
- Longoria, J.F., and Monreal, R., 1991, Lithostratigraphy, microfacies analysis, and depositional environments of the Mesozoic succession of Sierra de La Nieve, Coahuila, northeast Mexico: *Sociedad Geológica de España Revista* 4, p 7-31.
- Longoria, J.F., and Gamper, M.A., 1992, Planktonic foraminiferal biochronology across the K/T boundary from the Gulf Coastal Plain of Mexico: Implications for timing the extraterrestrial bolide impact in Yucatan: *Asociación Mexicana de Geólogos Petroleros Boletín* 47, p. 19-40.
- Pessagno, E.A, Longoria, J.F., and four others, 1993, Tectonostratigraphic significance of the San Pedro del Gallo Area, Durango, western Mexico, *In Dunn, G. and McDougall, K., eds., Mesozoic Paleogeography of western United States-II: Pacific Section of the Society of Economic Paleontologists and Mineralogists* 71, p. 411-456.
- Longoria, J.F., Silva, L.E., and Hinojosa, J.J., 1993. Lithostratigraphic synopsis of units used across the K/T boundary in northeastern Mexico.- *Revista de la Sociedad Mexicana de Paleontología*, v.6, pp. 25-30.
- Longoria, J.F., and Gamper, M.A., 1993, The Cretaceous/Tertiary Boundary: An account based on physical stratigraphy, chronostratigraphy, and planktonic foraminiferal biochronology: *Sociedad Mexicana de Paleontología Revista* 6 (2), p. 3-14.
- Longoria, J.F., and Gamper, M.A., 1993, Paleogeographic development of Mexico during the latest Cretaceous-early Tertiary: *Sociedad Mexicana de Paleontología Revista* 6 (2), p. 29-36
- Longoria, J.F., 1993, La terrenoestratigrafía: Un ensayo de metodología para el análisis de terrenos con un ejemplo en México: *Asociación Mexicana de Geólogos Petroleros Boletín* 43 (2), p. 30-48.
- Longoria, J.F., 1994, Recognition and characteristics of a strike-slip fault system in Mexico and its Mesozoic transpressional regime: Implications in plate tectonics and Paleogeographic reconstruction: *Departamento de Geología, Universidad de Sonora Boletín* 11 (1), p. 77-104.
- Longoria, J.F., and Gamper, M.A., 1994, La sucesión de foraminíferos y la estructura Chicxulub: Una prueba a la teoría de Alvarez sobre el impacto extraterrestre en el límite Cretácico-Terciario: *Asociación Mexicana de Geólogos Petroleros Gaceta* 2, p. 1-3.
- Longoria, J.F., and Ganper, M.A., 1995, Planktonic foraminiferal faunas across the K/T succession of Mexico: Implications for the K/T boundary problem: *Geology*, v. 23, 1995, p.329-332, 3 figs.
- Longoria, J.F., Flores, E., and Hinojosa, J.J., 1996, Estudios estratigraficos en el Cañon de La Boca del Anticlinal Sierra de San Juan Bautista, Santiago, Nuevo Leon, Mexico: *Boletín del Departamento de Geología de la Universidad de Sonora*, v. 13, p.15-74, 12 láms.
- Monreal, R., and Longoria, J.F., 1996, Los terrenos en Sonora: Una revision objetiva: *Boletín del Departamento de Geología de la Universidad de Sonora*, v.12, n.2, p.81-92.
- Monreal, R., and Longoria, J.F., 1996, Transpressional deformation patens related to basement faults in the Mesozoic of northeastern Chihuahua: *Boletín del Departamento de Geología de la Universidad de Sonora*, v.12, n.2, p. 17-34.

- Longoria, J.F., and Zhiu, L., 1996, Milankovitch cyclicity in the Agua Nueva Formation (Cretaceous) of northeast Mexico: A review of methodology, procedures and practices in cyclostratigraphy: *Boletín del Departamento de Geología de la Universidad de Sonora*, v. 13, p.35-96.
- Longoria, J.F., 1998, The Mesozoic of the Mexican Cordillera in Nuevo Leon, NE Mexico. In: Longoria, J.F., Krutak, P.R., and Gamper, M.A., eds., *Geologic Studies in Nuevo Leon, Mexico: Sociedad Mexicana de Paleontología, A.C. Special Publication*, July 5, 1998, p. 1-44
- Longoria, J.F., and Gamper, M.A., 1998, Significance of the K/T Succession of Mexico in Establishing the Asteroid Impact Hypothesis. In: Longoria, J.F., Krutak, P.R., and Gamper, M.A., eds., *The K/T Boundary Outcrops in Tamaulipas, NE Mexico: Sociedad Mexicana de Paleontología, A.C. Special Publication*, July 5, 1998, p. 1-5.
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- Longoria, J.F., 1998, *Geologic Excursion to the K/T Boundary Outcrops in Tamaulipas, NE Mexico*. In: Longoria, J.F., Krutak, P.R., and Gamper, M.A., eds., *The K/T Boundary Outcrops in Tamaulipas, NE Mexico: Sociedad Mexicana de Paleontología, A.C. Special Publication*, July 5, 1998, p.35-66.
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- Longoria, J.F., 2003, Natural Disasters: Threat and Challenge to Sustainable Development: International Seminar, Energía, Medio Ambiente y Desarrollo Sustentable para el Siglo XXI, 2-7 Junio9, 2003, Ciudad del Carmen, Campeche, México

TALKS GIVEN AT PROFESSIONAL MEETINGS AND ABSTRACTS

- "Bioestratigrafía y facies sedimentarias del Cretácico Inferior de Sonora". *V Convención Geológica Nacional Libro de Resúmenes*, 1980.
- "Exploración geológica regional en el Cuadrángulo Pitiquito-La Primavera, Estado de Sonora": *V Convención Geológica Nacional Libro de Resúmenes*, 1980.
- "Foraminíferos del Grupo Bisbee". *International meeting, The Geological Society of America Cordilleran Section (Hermosillo, Sonora)*, March, 1981

- "Estratigrafía y microfacies de las rocas Paleozoicas del Este-Central de Sonora, México". *International Meeting, The Geological Society of America Cordilleran Section (Hermosillo, Sonora)*, March, 1981.
- "Anatomy of the Huayacocotla Segment of the Sierra Madre Oriental: Its stratigraphic, paleogeographic, and tectonic implications on the origin of the Gulf of Mexico." *Geol. Soc. of America. Abstracts with Program 15, 1982.*
- "Jurassic microfacies analysis of the Cerro de la Silla, NE Mexico: Its paleogeographic and tectonic implications". *Gulf Coast Section, Society of Economic Paleontologists and Mineralogists, Third Research Conference, Baton Rouge, La., November, 1982.*
- "Foraminiferal biochronology at the Cretaceous/Tertiary boundary. *Geological Society of America, South-Central Section, 18th annual meeting, Richardson, Texas, 1984, Abstracts with programs 16, p.84, 1984, with M.A. Gamper.*
- "Mesozoic tectonostratigraphic domains in east-central Mexico". *Geological Society of America, South-Central Section, 18th annual meeting, Richardson, Texas, 1984.*
- "A wrench faulting system in northeast Mexico and the development of the Galeana-Salttillo transpressional orogenic belt." *Geological Society of America, South-Central Section, 18th annual meeting, Richardson, Texas, 1984.*
- "Tectonic transpression in northeastern Mexico: its relation to sea floor spreading in the Gulf of Mexico". *Gulf Coast Association of Geological Societies Transactions 35, p. 199, 1985.*
- "Transpressional tectonic history of northeastern Mexico": *Proc. Sixth International Conference on Basement Tectonics. M.J. Aldrich, Jr., and A.W. Laughing, eds., Santa Fe, 1985*
- "Mesozoic Plate tectonic reconstruction of Mexico: Evidence from the stratigraphic record: *Geodynamics Symposium, Mesozoic and Cenozoic plate tectonic reconstructions, Texas A & M University, W. Sager and Chris Scotese, Conveners, 1986.*
- "Tectónica transpresiva en México: Una alternativa conciliatoria". *Sociedad Geológica Mexicana, VIII National Meeting, August, 1986.*
- "Evolución tectoestratigráfica de las rocas carbonatadas del Cretácico de la región de Cordoba-Orizaba". *Sociedad Geológica Mexicana, VIII National meeting, Mexico City, August, 1986*
- "SIR-A and LANDSAT Imagery in regional geologic mapping of the Sierra Madre Oriental, northeast Mexico: the recognition of tectonostratigraphic terranes by remote sensing". *International Symposium on Remote Sensing of Environment. Fifth Thematic Conference "Remote Sensing for Exploration Geology, Reno, Nevada, Sept. 29-Oct. 2, 1986.*
- "SIR-A and Landsat imagery in morphotectonic analysis of the Mexican Cordillera". *International Symposium on Remote Sensing of Environment, Sixth Thematic Conference: Remote Sensing for Exploration Geology, p. 13, 1988.*
- "Litho-and biostratigraphic correlations between the Mesozoic of Mexico and Cuba: Tectonostratigraphic implications". *The Geological Society of America, south-central Section, Abstracts with Programs, p. 33, 1989.*
- "The Jurassic succession of the Malone Mountains, West Texas: Tectonic and paleogeographic implications". *The Geological Society of America, south-central Section, Abstracts with Programs, p. 33, 1989.*
- "Mesozoic evolution of the Mexican Cordillera". *The Geological Society of America, Cordilleran Section, Abstracts with Programs, 86th Annual Meeting, p. 30, 1990.*
- "Permian paleogeographic reconstruction of the west central (Mexico) margin of Pangea". *The Geological Society of America, Cordilleran Section, Abstracts with Programs, 86th Annual Meeting, p. 69, 1990.*
- "Tectonic transpression in the Mexican Cordillera". *Penrose Conference on Tectonic evolution of transpressional margins, Bellingham. Washington. August 25-30, 1990.*
- "Paleogeographic evolution of Mexico during the Mesozoic". *in Rubinovich Kogan, R., and Carreño, A.L., Convención sobre la Evolución Geológica de México: Instituto de Geología, Universidad Nacional Autónoma de México, p. 84-85, 1991.*
- "Planktonic foraminiferal biochronology from the K/T boundary succession of the Circum-Gulf of Mexico." *Geological Society of America, Abstracts with Programs 24(7), p.A322, Cincinnati, Ohio, 1992.*
- "A new Cretaceous-Tertiary boundary section, Chiapas, Mexico". *Geological Society of America, Abstracts with Programs 24, A 332, 1992, with R. Mitterer, and J.L. Carter.*
- "Mesozoic tectonostratigraphic evolution of Mexico". *VI International Circum-Pacific Terrane Conference, Santiago, Chile, 6 p., 1992.*
- "The extraterrestrial impact hypothesis and the K/T boundary: Is there evidence of it in the stratigraphic record? ". *Union Geofísica Mexicana, Reunion Anual, Geos 13 (5), p. 8-9, 1993, with M.A. Gamper.*

- A palinspastic reconstruction of Mexico: The role of the western margin in the geodynamic evolution through the Mesozoic. *Segunda Reunion sobre la Evolución Geológica del Occidente de México, Universidad Autónoma de Guadalajara*, 1993.
- "The extraterrestrial impact hypothesis and the Cretaceous/Tertiary boundary: Is there evidence of it in the stratigraphic record?". *Union Geofísica Mexicana Reunion Anual, Puerto Vallarta, Mexico, 1993, With M.A. Gamper*
- "The Cretaceous/Tertiary boundary: An account based on physical stratigraphy, chronostratigraphy and planktonic foraminiferal biochronology". The Cretaceous/Tertiary Event in Mexico. Simpósio de eventos de extinción en la historia geológica, IV Congreso Nacional de Paleontología; Sociedad Mexicana de Paleontología, A.C., 1993.
- "The K/T boundary succession of Mexico". *New Developments Regarding the K/T Event and other Catastrophes in Earth History, Houston, Texas, February 9-12, 1993. Abstract and poster. Lunar and Planetary Institute, NASA.*
- "The planktonic foraminiferal event in the K/T boundary succession of Mexico". Lunar and Planetary Institute, NASA, *New Developments Regarding the K/T event and other catastrophes in Earth history.* Houston, Tx., p. 5, 1994.
- "Geología-Paleobiología y Biodiversidad". *Primer encuentro con Geociencias. Centro de Estudios Superiores del Estado de Sonora, Hermosillo, Sonora, Libro de resúmenes, p. 31, 1994.*
- "Extinciones o transformaciones zoológicas: Causas y Efectos". *XII Congreso Nacional de Zoología, Universidad Autónoma de Nuevo León, Facultad de Ciencias Biológicas. Monterrey, N.L., 1994.*
- "The Chicxulub asteroid impact and the K/T transformation of planktics": *Union Geofísica Mexicana, Reunion Anual, Simpósio sobre el Cráter de Chicxulub, 1994, Puerto Vallarta, México.*
- "The Rio Salado K/T boundary section: The foraminiferal succession and its bearing on the Chicxulub impact". *The Geological Society of America, Abstracts with Programs 26 (7), p. A-334, 1994. Seattle, Washington.*
- "Extinction or biological transformation of planktic foraminifera? Implications on the K/T boundary problem". *1994 International Conference on Foraminifera, Paleobios 16 (2), p. 11, 1994, with M.A. Gamper (Abstract).*
- "Stratigraphic, structural and paleogeographic significance of the Aptian-Albian sequence in east-central Sonora, Mexico". *The Geological Society of America, Abstracts with Programs 26 (7), p. A-334, 1994. Seattle, Washington, with R. Monreal and V. Valencia.*
- "The Chicxulub asteroid impact and the K/T transformation of planktics". *Unión Geofísica Mexicana, Geos 14, p. 44, 1994, with M.A. Gamper*
- "Test morphometry applied to the taxonomy of small globigerinas across the K/T boundary". *1994 International Conference on Foraminifera, Paleobios 16 (2), p. 32, 1994, with M.A. Gamper.*
- "Milankovitch orbital modulation of cyclic Cretaceous (Upper Albian) pelagic sediments of northern Mexico". *Society for Sedimentary Geology: The First Congress of Sedimentary Geology, St. Pete Beach, Florida. Congress Program and Abstracts, v. 1, p.132, 1995, with L. Zhou.*
- "Marine stratigraphic events in the Mesozoic of Mexico". *The Geological Society of America: Annual Meeting, Abstracts with Programs, v. 27, nr. 6, p A-74, 1995.*
- "The asteroid impact in the Yucatan Peninsula and its environmental and biological effects": *Hispanic Heritage Seminar, Miami-Dade Community College, South Campus, October, 1995.*
- "Periodicity in evolutionary trends of planktic foraminifera: facts and cause". *Sixth North American Paleontological Convention, Washington, D.C, June, 1996.*
- "Anatomy of the Saltillo-Monterrey-Linares-Galeana fold-thrust belt: Chasing blind thrusts blindly" : *Second Joint AAPG/AMG Research Symposium on Oil and Gas Exploration and Production in Fold and Thrust Belts, American Association Petroleum Geologists, Veracruz, February, 1996.*
- "Basin-to-platform multiple criteria biochronology from the Aptian-Albian (Lower Cretaceous) of Mexico": *The Geological Society of America: Annual Meeting, Abstracts with Programs, v. 31, nr. 7, p A62, 1999.*
- "Environmental Geology and Natural Disasters on the Web": Presented at: *Writing Across the Disciplines Conference, Writing and Teaching: Freedom and Authority. Making Connections VII, '99. Graham Center, FIU, February 12, 1999*
- "A Virtual Classroom: Assynchronous Teaching/Learning at FIU": Teaching & Learning with Technology Faculty Showcase, FIU, The Academy of the Art of Teaching, October 8, 1999, Graham Center.
- "Aptian-Albian paleogeographic development of Mexico: Cuarta Reunion sobre la Geología del Noroeste de Mexico y Areas Adyacentes, Libro de Resúmenes, T. Calmus, and Perez-Segura, E. (eds.), Marzo 6-8, 2000, p.51-53.

“Estratigrafía del Cretácico Inferior del área de Lampazos, este-central de Sonora”: Cuarta Reunión sobre la Geología del Noroeste de México y Áreas Adyacentes, Libro de Resúmenes, T. Calmus, and Pérez-Segura, E. (eds.), Marzo 6-8, 2000, p. 62.

The Lower Cretaceous rocks of the Sierra Los Chinos, east-central Sonora, Mexico: Cuarta Reunión sobre la Geología del Noroeste de México y Áreas Adyacentes, Libro de Resúmenes, T. Calmus, and Pérez-Segura, E. (eds.), Marzo 6-8, 2000, p. 63.

STUDENTS THAT RECEIVED DEGREES UNDER MY DIRECTION

Bachelors Degree (Senior Research Thesis)

Chris Roberts: Stratigraphic studies in Dallas County

Morgan Davis: Structural cross-section of the San Juan Bautista anticline, northeast Mexico

Francisco Javier Sancen. Thesis: Hydrogeology in the NW part of the Serranía del Burro, Coahuila

Julio Morales Garza. Thesis: Stratigraphy and Micropaleontology of the Tempoal Formation (Eocene).

Alfredo Aguilar. Thesis: Geology of the Molango Area, Hidalgo State.

José Esparza. Thesis: Geology of the Meztitlan Area, Hidalgo State.

Victor A. Pérez. Thesis: Geology of the Cerros Chinos and Rajon, NW Sonora.

Jesús J. Mendoza. Thesis: Geology of the Cerros Pitiquito, Northwest Sonora.

Marco A. González. Thesis: Geology of the Cerros Gamuza and El Arpa, Northwest Sonora.

Master of Science

Oscar H. Jiménez. M.S. Thesis: Application of the Shuttle imaging Radar-A (SIR-A) imagery to stratigraphic and tectonic studies in the Sierra Madre Oriental, northeast Mexico.

Martin R. Selznick. M.S. Thesis: Campanian foraminiferal paleoecology of northeast Texas.

Ann Young. M.S. Thesis: The taxonomic and phylogenetic affinities of the species of *Globotruncanita* Reiss

David Dah-Wei Yin. M.S. Thesis: Microfacies analysis and depositional system of Potrero Chico (Northeast Mexico)

Bruce Tickner. M.S. Thesis: Lithostratigraphy and microfacies analysis of the Jurassic succession of the Malone Mountains, west Texas.

Ross Peebles. M.S. Thesis: Stratigraphy and microfacies of the Cuchillo Parado area, Chihuahua, Mexico.

David Clowes. M.S. Thesis: Stratigraphy and microfacies of the Mesozoic succession along La Casita Canyon, Sierra de Parras, Coahuila, Mexico.

Leifeng Zhou. M.S. Thesis: Cyclostratigraphy of Cretaceous sediments in northeast Mexico: An assessment of Milankovitch orbital modulation.

Jacqueline B. Powell. M.S. Thesis: A microfacies analysis of Lower Cretaceous (Aptian-Albian) deposits in the Sierra del Caloso, Sonora, Mexico

Alberto Villa. Geohazards assessment in the Hermosillo area, Universidad de Sonora, Mexico

Manuel Valenzuela. Geomorphological analysis: A tool in Mitigation of Natural Disasters, Universidad de Sonora, Mexico

Doctoral (Ph.D.) Degree

Homer A. Montgomery, Jr. Ph.D. Dissertation: Paleozoic paleogeography of northeastern Mexico

Teodore Carlsen. Ph.D. Dissertation: Regional geologic studies in a wrench tectonic regime: Iturbide Quadrangle, eastern front Sierra Madre Oriental, Mexico.

Rogelio Monreal. Ph.D. Dissertation: Regional stratigraphic studies of the Lower Cretaceous in northern Mexico and the southern United States.

Monica Farek. Ph.D. Dissertation: Regional geologic studies in La Chona Quadrangle, east front of the Sierra Madre Oriental, Nuevo Leon, Mexico.

STUDENTS CURRENTLY RECEIVING DEGREES UNDER MY DIRECTION

Master of Science

Saul Pena. Geohazards assessment in the Guaymas region, Universidad de Sonora, Mexico.

Doctoral (Ph.D.) Degree

Daniel Spector. Ph.D. Research Topic: Phylogenetics in planktonic foraminifera. FIU

TEACHING

Graduate Courses

Paleobiology of Foraminifera
Paleobiology of Protista
Seminar in Paleobiology
Evolutionary Theory
Microfacies Analysis
Regional Stratigraphy of North America
Basin Analysis
Regional Mesozoic Stratigraphy
Stratigraphic Paleontology
Field Stratigraphy
Tectonostratigraphy
Advanced Field Excursion

Undergraduate Courses

Earth Sciences
Paleobiology
Field Methods
Field Geology Camp
Stratigraphy
Geology Field Trip
Environmental Geology
Natural Disasters

OTHER PROFESSIONAL ACTIVITIES

Short Courses in Exploration Geology

1981-1987, Mexican Petroleum Institute, Instructor of Short Courses in Exploration Geology for Pemex geologists.

Courses taught:

Mesozoic microfossils
Cretaceous planktonic foraminifera
Basin analysis
Petroleum evaluation of sedimentary basins
Mesozoic Microfacies
Tectonostratigraphy
Tectonics and sedimentation

Oil Exploration Projects

1984, Petroleos Mexicanos, Supervisor: Petroleum evaluation and exploration geology of Bethania region, Oaxaca State, south Mexico.
1985, Petroleos Mexicanos, Supervisor: Petroleum exploration and regional geology of Tepozanes area, Nuevo Leon State, northeast Mexico
1986, Petroleos Mexicanos, Supervisor: Petroleum potential and regional geology of Cuevas region, Chiapas State, south Mexico

Hydrogeology

1976, Independent study: Hydrogeology and water resources of the Serrania del Burro area, Coahuila State.

Mineral Exploration

1978-1979, Consejo Nacional de Recursos Minerales and Department of Geology, Universidad de Sonora: Iron exploration in the Precambrian of Sonora, Mexico.

Environmental Geology

1979-1980, Private funds (Constructora del Noroeste, Hermosillo, Sonora): Environmental geology, and geologic hazards of the Cerros del Bachoco, Hermosillo, Sonora.

1987 Evaluation of geologic hazards and risk in the Monterrey metropolitan area, Nuevo Leon, Mexico, after hurricane Gilbert.

1995-present, Environmental damage and geologic risks in the southern Gulf of Mexico, State of Campeche, Mexico, caused by Hurricanes Opal and Roxanne.

Editorial Experience

1974-1977 Editor of the Bulletin of the Institute of Geology, Universidad Nacional Autónoma de México

1975-1977 Editor of the Mexican Geological Society.

1974-1978 Associate Editor, Journal of Foraminiferal Research.

1974-1981 Correspondent of Micropaleontology.

1978-1980 Editor of the Bulletin of the Department of Geology, Universidad de Sonora.

1976 Translator, International Stratigraphic Guide.

Geological Field Trips:

"Geology of the Agua Prieta Region". *in* Mesozoic through early Tertiary sedimentational and tectonic patterns of northern Sonora and southeast Arizona: *Field Trip no. 21. Guidebook. Geological Society of America Cordilleran Section*, March, 1981.

Regional geology of northwestern Sonora". *Field Trip no. 4, Guidebook. Geological Society of America Cordilleran Section*, March, 1981.

"The Cretaceous/Tertiary Boundary Event in Mexico. Field trip guide to selected K/T boundary localities in Tamaulipas and Nuevo Leon, Northeast Mexico". *Revista de la Sociedad Mexicana de Paleontología* 6, p. 73-85, October, 1993. with J.M. Grajales-Nishimura.

"Geologic Excursion to the Mesozoic of the Nuevoleones Cordillera" In: Longoria, J.F., Krutak, P.R, and Gamper, M.A., eds., Geologic Studies in Nuevo Leon, Mexico. Sociedad Mexicana de Paleontología, A.C. Special Publication, July, 5, 1998, p.45-116.

"Geologic Excursion to the K/T boundary outcrops in Tamaulipas, NE Mexico" In: Longoria, J.F., Krutak, P.R, and Gamper, M.A., eds., The K/T boundary outcrops in Tamaulipas, NE Mexico. Sociedad Mexicana de Paleontología, A.C. Special Publication, July, 5, 1998, p. 36-66

Symposia-Theme Sessions

1993, Chairman, Simposio de eventos de extinción en la historia geológica: IV Congreso Nacional de Paleontología, Mexico, D.F., Mexico.

1994, Member of the Program Committee at the conference on New Developments Regarding the KT Event and other Catastrophes in Earth History.- Houston, Texas. Lunar and Planetary Institute, NASA

1995, President, Theme Session Advances in the Geology of Mexico: The Geological Society of America, Annual Meeting, New Orleans, La.

1996, Chairman, Symposium Evolutionary Trends in Calcareous Microfossils: Sixth North American Paleontological Convention, Washington, DC

1996, President, Theme Session The Rockies Across the Southern Border: The Geological Society of American, Annual Meeting, Denver, Colorado.

1996, Judge, Poster Session Petroleum Geology of Thrust Belts: II American Association of Petroleum Geologists/Sociedad Venezolana de Geología, International Congress, Caracas Venezuela.

1996, Science Panelist, Egyptology Society, Miami Museum of Science.

1997, President, Theme Session on Advances in the Geology of Mexico held at the National Meeting of the Geological Society of America; Salt Lake City, Oct.

1998, Organizer and chair: Theme Session on Advances in the Geology of Mexico held at the 1998 National Meeting of the Geological Society of America; Montreal, Canada

1999, Invited Panelist, Debate on Teaching and Technology; Town Meeting of the Writing Across the Disciplines Conference, Writing and Teaching: Freedom and Authority. Making Connections VII, '99. Graham Center, FIU, February 12, 1999.

Community Service: TV, Broadcast, and Radio Appearances

1994, November-December: 60 minutes, TELEVISA, Nation-wide broadcast. The Cretaceous/Tertiary boundary

1994, October 15: Radio MAMBI, Miami:- Earthquake in San Francisco causes and effects.

1997-present: Representing the Mexican Geological Society in USA.

1994-1998: Organizer of the International Symposium on Foraminifera (FORAMS'98).

1997, March, Speaker, seminar on Natural Disaster Management organized by the International Hurricane Center, FIU.

1997, Oct., Speaker, Workshop for Hurricane Researchers, International Hurricane Center, FIU.

1997, Nov., Participant as an FIU member at the Gulf of Mexico Governors' meeting on education.

Invited speaker to Hispanic Heritage Seminar, Miami-Dade Community College. I gave a seminar on the Chicxulub Asteroid Impact in Yucatan, Mexico (More than 500 students attended the seminar)

TeleMundo, TV. Invited speaker at El Salvador earthquake disaster, special broadcasting. January, 2000.

CURRENT RESEARCH ACTIVITIES

I centered my research efforts on five lines of research:

Environmental Geology (remote sensing, GIS, evaluation of geologic risks of natural disasters).

Sedimentary Geology (integrative stratigraphy, regional geology).

Paleobiology: Evolutionary trend in Cretaceous planktonic foraminifera

Applications of Geographic Information Systems (GIS) to urban developments.

The use of information and communication technology in teaching/learning.

RESEARCH PROJECTS IN PROGRESS:

Mesozoic regional stratigraphy of northeast Mexico

Aptian-Albian paleogeographic reconstruction of north Mexico.

The K/T boundary succession of Mexico.

Geohazards and geologic risk of the Monterrey metroplex: Vulnerability maps

Phylogenetic studies of Cretaceous planktonic foraminifera.

The use of information and communication technology in teaching/learning: A virtual classroom. Helping schoolteachers to teach 9th grade Earth Sciences.