

Damayanti Amy. Banerji

Professional Summary

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Business address: Bureau of Economic Geology
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Professional Preparation

Academic Background

Ph.D. in Geology, University of Houston, May 2010

M.Sc. in Applied Geology, Indian Institute of Technology Bombay, Mumbai, India, June 2003

B.Sc. in Geology, Presidency College (now Presidency University), Kolkata, India, June 2001

Professional Appointments

Research Scientist Associate III, Bureau of Economic Geology, The University of Texas at Austin (January 2016-Present)

Mapping stratigraphy and analyzing fresh/brackish water resources to characterize aquifers for groundwater resource estimation and CO₂ sequestration.

Geologist II, Noble Energy, Inc. (2009-2015)

Various roles in exploration, appraisal, and development of oil and gas in diverse geologic basins (Levant Basin, eastern Mediterranean; Bohai Bay, China; western/southern Caribbean Basin; deepwater Gulf of Mexico). Functions included conducting field studies, well-log correlations, reservoir characterization, geologic mapping, seismic stratigraphy and attribute mapping, depositional setting analyses, risking, resource volume calculations, development planning, geohazard assessments, operations geology, and geosteering.

Teaching/Research Assistant, University of Houston (2005-2009)

Instructor, Historical Geology Lab: Introduced undergraduate students to tectonics, fossils, rocks, geological mapping, and various other geologic topics. Prepared and graded exams. Tutored undergraduate students at the Geoscience Learning Center. Led campus field trips.

Conducted research at the Center for Applied Geosciences and Energy and in the Remote Sensing and GIS Lab.

Summer Intern/Geologist, Hess Corporation (May-August 2008)

Studied depositional environments in a carbonate field in the Williston Basin (North Dakota) using cores, petrography, and well logs, and defined optimal facies for best production. Created cross sections, and structure and isopach maps.

Summer Intern/Geologist, Noble Energy, Inc. (May-August 2007)

Modeled a basin in offshore Suriname to understand maturation of a potential source rock with sensitivities to time/depth conversion, source rock age, thickness, and distribution. Prepared and analyzed maps for multiple projects on ArcGIS.

Visiting Student, Lunar and Planetary Institute, USRA (January-May 2007)

Conducted dielectric measurements on carbonate rocks in a laboratory environment to aid in ground-penetrating radar studies.

Teaching/Research Assistant, University of Florida (2003-2004)

Professional Registrations and Certificates

Licensed Professional Geoscientist in Texas No. 12850

Theses

Study of granitoids around Kondagaon, Bastar District, Chhattisgarh, India., Indian Institute of Technology Bombay, Mumbai, India, M.Sc. thesis, 2003.

Dissertations

Late Albian rudist buildups of the Edwards Formation in Central Texas: a reservoir analog study, University of Houston, Ph.D. dissertation, 2010, 144 p.

Areas of Expertise

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Stratigraphy, aquifer / reservoir characterization, water / energy resource evaluation, petroleum geology

Awards

Awards and Honorary Societies

Chevron Scholarship for Academic Excellence, University of Houston, 2008

Society of Independent Professional Earth Scientists (SIPES) Foundation Scholarship, 2008

ExxonMobil Scholarship for Academic Excellence, University of Houston, 2007

Student Travel Grant, Geological Society of America, 2007

Graduate Assistant Tuition Fellowship, University of Houston, 2005-2007

Hess Foundation Scholarship for Academic Excellence, University of Houston, 2006

Student Research Grant, Gulf Coast Association of Geological Societies, 2006

Grinter Fellowship, University of Florida, 2003-2004

Presentations

Presentations

Geologic Characterization of the Delaware Mountain Group in the Delaware Basin for Regional Assessment of Saltwater Disposal Capacity and Induced Seismicity: presented at Geological Society of America Annual Meeting, virtual, October 28, 2020.

Stratigraphic and Facies Architecture of the Delaware Mountain Group, Delaware Basin: Implications for Disposal of Hydraulic Fracturing Wastewater: presented at American Association of Petroleum Geologists Annual Convention & Exhibition, San Antonio, Tex., May 2019.

Activities of a Professional Nature

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Reviewer for Sedimentary Geology, an Elsevier publication (August 2016-Present)

Reviewer for International Journal of Applied Earth Observation and Geoinformation, an Elsevier publication. (April 2016-Present)

Publications

Peer Reviewed Journal Articles

Lemons, C. R., McDaid, G., Smye, K. G., Acevedo, J. P., Hennings, P. H., Banerji, D. A., and Scanlon, B. R., 2019, Spatiotemporal and stratigraphic trends in salt-water disposal practices of

the Permian Basin, Texas and New Mexico, United States: *Environmental Geosciences*, v. 26, no. 4, p. 107-124, <http://doi.org/10.1306/eg.06201919002>.

Mukherjee, D., Khan, S.D., and Sullivan, C.E., 2012, Upper Albian rudist buildups of the Edwards Formation in central Texas: A GPR-assisted reservoir analog study: *Sedimentary Geology*, v. 247-248, p. 71-81, <http://doi.org/10.1016/j.sedgeo.2011.12.015>.

Mukherjee, D., Heggy, E., and Khan, S. D., 2010, Geoelectrical constraints on radar probing of shallow water-saturated zones within karstified carbonates in semi-arid environments: *Journal of Applied Geophysics*, v. 70, no. 3, p. 181-191, <http://doi.org/10.1016/j.jappgeo.2009.11.005>.

Contract Reports

Paine, J. G., Banerji, D., Averett, A. R., and Ortuno, J., 2019, Surface casing estimator site, 2018-2019: Bureau of Economic Geology, The University of Texas at Austin, Final Report prepared for Railroad Commission of Texas, under contract no. RRC IAC No. 455-19-8435, 7 p.

Hamlin, H. S., Scanlon, B. R., Reedy, R. C., Banerji, D., Young, S. C., Jigmond, M., and Harding, J. H., 2017, Fresh, Brackish, and Saline Groundwater Resources in the Carrizo-Wilcox, Queen City and Sparta Aquifers in Groundwater Management Area 13--Location, Quantification, Producibility, and Impacts: Bureau of Economic Geology, Contract Report prepared for Texas Water Development Board, 388 p.

Laughlin, K., Fleischhauer, L., Wise, M., Hamlin, H. S., Banerji, D., and Beach, J., 2017, Identification of potential brackish groundwater production areas--Nacatoch Aquifer: Final Report prepared for Texas Water Development Board, under contract no. 1600011952, 165 p.

Hosseini, S. A., Nicot, J.-P., Darvari, R., Costley, R., Lu, J., Sava, D., Goudarzi, A., Mickler, P., Banerji, D., Uhlman, K., Walden, S., Hentz, T. F., Hamlin, H. S., Ganjdanesh, R., Sun, A. Y., Hovorka, S. D., and Scanlon, B. R., 2016, Pressure management and plume control strategies through a brine extraction storage test at the Devine Test Site in Texas, Phase I: Bureau of Economic Geology, The University of Texas at Austin, Topical Report prepared for DOE NETL, under contract no. DE-FE0026137, 157 p.

Young, S. C., Jigmond, M., Deeds, N., Blainey, J., Ewing, T., and Banerji, D., 2016, Identification of potential brackish groundwater production areas - Gulf Coast Aquifer System: Final Report prepared for Texas Water Development Board, under contract no. 1600011947.

Published Abstracts

Ge, J., Hosseini, S. A., Smye, K. G., Banerji, D., Nicot, J.-P., and Hennings, P., 2019, Hydrogeological modeling and pore pressure characterization of Delaware Mountain Group in the Delaware Basin, Texas and New Mexico (abs.): Abstract H51L-1640, presented at AGU 2019 Fall Meeting, San Francisco, Calif., December 9-13.

Smye, K. G., Banerji, D., Hamlin, H. S., Eastwood, R. L., Lemons, C., McDaid, G., and Hennings, P., 2019, Stratigraphic and facies architecture of the Delaware Mountain Group, Delaware Basin: implications for disposal of hydraulic fracturing wastewater (abs.): AAPG Annual Convention & Exhibition, San Antonio, Tex., 19-22 May.

Banerji, D. A., Scanlon, B. R., Rushforth, R., and Fulton, J., 2018, Comparison of the water footprints of California and Texas (abs.): Fall Meeting, AGU, Washington, D.C., 10-14 December.

Le Gall, A., Clifford, S. M., Heggy, E., Ciarletti, V., and Mukherjee, D., 2007, Electromagnetic investigations of a deep water table in the West Egyptian desert: lithologic and geothermal vapor effects on crustal resistivity and GPR performance, with potential implications for Mars (abs.): *Lunar and Planetary Science Conference*, v. 38, no. 1338, p. 2101.

Mukherjee, D., Heggy, E., Khan, S. D., and Sullivan, C. E., 2007, Ground-penetrating radar and dielectric characterization of shallow reservoir analogs in Central Texas carbonates (abs.): *Geological Society of America Bulletin*, v. 39, no. 6, p. 47.