

Dear Colleague,

We invite you to submit an abstract for Session # 171 “**The Gulf of Mexico as a Geologic Laboratory: Making New Links in Depositional Systems from the Coastal Plain to Deep Water**”, at the 2008 Geological Society of America Joint Annual Meeting to be held in Houston, Oct 5-9.

We are seeking presentations from Gulf of Mexico researchers examining the continuity of depositional systems on the coastal plain with deep-water slope and basin systems. Contributions covering framework basin analysis, sequence stratigraphy, salt tectonics, and reservoir characterization are welcomed. (Session summary is attached).

If you consider presenting, the final date for abstract submittal is June 3<sup>rd</sup>. You can find the abstract submission information for **Session # 171** under ‘GSA Technical Sessions’ at: <https://www.acsmeeetings.org/programs/technical/>

Please forward this email to colleagues and students who might be interested to share their research and present in our session.

Sincerely,

Angela McDonnell and Russ Dubiel (session co-chairs)

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## **GSA Technical Session # 171**

### **The Gulf of Mexico as a geologic laboratory: Making new links in depositional systems from the coastal plain to deep water**

Session Sponsored by the Sedimentary Geology Division of GSA and by the GCAGS

The Gulf of Mexico onshore and offshore region of the United States and Mexico is host to large hydrocarbon resources. Advances in drilling technology and seismic imaging have opened up new potential for ultra-deep drilling beneath the coastal plain, State waters and shallow Federal waters, and ultra-deep-water drilling in the abyssal Gulf plain where wells have been drilled in water depths approaching 10 000 ft. Exciting new opportunities are emerging, and with this deep-drilling comes advances in our understanding and knowledge of the Gulf of Mexico depositional history. Yet considering the significance of these deepwater exploration targets connections to equivalent-aged onshore fluvial, deltaic, and shallow-marine reservoirs are poorly documented. The intervening deep-shelf drilling targets are also poorly constrained.

The Gulf of Mexico petroleum system contains several key ingredients required to host significant hydrocarbon resources: a thick mobile Louann Salt substrate that enabled formation of structures and traps; organic-rich Jurassic, Cretaceous and Tertiary source rocks to generate hydrocarbons following burial by subsequent deposystems; numerous sandstone reservoirs as part of a long-lived clastic deposystem that deeply buried underlying source rocks to provide thermal maturity; and extensive marine shales deposited during sea-level highstands that serve as regional seals.

Widespread uplift and erosion during the Laramide Orogeny led to development of paleo-drainage systems that emanated from the Rocky Mountains and supplied clastic sediment to the coastal plain and into deep-water settings. Thick sections of clastic material were deposited in fluvial and deltaic systems at the continental margin, and in corresponding deep-water settings on the slope and as basin-floor fan systems. Clastic systems developed sporadically in the Upper Cretaceous, but especially in the Tertiary, with thick clastic coastal plain, shelf-margin wedges, and basinal systems deposited in the Paleogene and Neogene section.

This session invites contributions from researchers involved in framework basin analysis, sequence stratigraphy, salt tectonics, and reservoir characterization to highlight new interpretations and models of structural deformation and clastic deposition that reconcile the continuity of depositional systems on the coastal plain with deep-water slope and basin systems. These new models provide insights into a new era of Gulf of Mexico hydrocarbon opportunities linking Cenozoic depositional systems from shelf to slope to basin floor.