Geology and Geophysics department at the Sciences College would like to invite you on the morning of Monday 4th of April at 10:00 AM to the public lecture "Biosteering the Khuff reservoirs in Saudi Arabia" by the visiting professor Dr. Abdullah Al-Dhubaib.

Biography : Abdullah Al-Dhubaib is a micropaleontologist in Saudi Aramco. He received his MSc in micropaleontology of Arab-D reservoir from KFUPM and PhD in micropaleontology of Tuwaiq Mountain reservoirs from University College London (UCL). His work experience involved in integrated biostratigraphy and sedimentology to develop depositional and paleoenvironmental compartments of carbonate reservoirs. Experienced in the applications of the micropaleontological biofacies in biostratigraphy and sequence stratigraphy of Permian to Cretaceous carbonate reservoirs. He shared the knowledge of developing Saudi Arabian Jurassic biostratigraphy through lecturing at University College London, London Natural History Museum, KFUPM and Majma'a universities at undergraduate and graduate levels. He also involved in various in-house training courses and sessions relating to biostratigraphy, biosteering, paleoenvironment interpretation and application of biofacies in current operations. He also has taken over as lead micropaleontologist for various field trips for the Saudi Aramco participants as well as for visiting groups of students from various in-Kingdom universities.

Abstract: Biosteering to assist coiled-tube underbalance drilling has been successfully applied, and is now a routine practice, to improve gas and condensate recovery from development wells at depths in excess of 12,000 ft in the Late Permian Khuff C carbonate reservoir of Saudi Arabia. Multilaterals are drilled by re-entry of the motherbore with the objective to maintain multilateral drilling within selected porous layers over distances in excess of 4000 ft. Stratigraphic position is achieved by reference to a local biozonation based on closely-spaced comprehensive micropalaeontology of core samples from the motherbore or a nearby offset well. Although of shallow marine origin, the Khuff C depositional environments are highly variable laterally over short distances so that it is necessary to establish reference biofacies-based biozonation schemes to support each well to be biosteered. The Late Permian biofacies include a variety of benthonic foraminifera together with fragments of associated microfossils that include brachiopods, calcareous algae, bivalves, gastropods and bryozoa. By comparing the micropalaeontology of cuttings samples with those recorded in a cored offset well, stratigraphic position can be determined within 2 ft vertical thickness. Caving is minimal due to the sliding and non-rotational drilling methodology. This information enables the drill trajectory can be monitored as it approaches the planned reservoir layer and real-time adjustment instructions provided to the directional driller whenever deviation from the plan is detected. As the "eyes" of the drill, this technique has resulted in excess of a sevenfold increase in gas production for each well and a significant increase in gas and condensate production.

Location and inquires: The lecture will be held in the Geology and Geophysics department seminar room (Building 4 ,Room 2B147).Mr. Saad AlHumidan will wellcome your inqures on his mobile (+96650100055) or you may email him at : salhumidan@ksu.edu.sa