

## INTERNATIONAL EXPLORATIONIST GROUP EVENING MEETING—OCTOBER 17, 1984

### JOHANN-CHRISTIAN PRATSCH— Biographical Sketch



Johann-Christian ("Chris") Pratsch is a geological consultant with Sohio Petroleum Company in Houston working since 1983 in frontier exploration worldwide developing new plays. In 1954 he received both his M.S. and Ph.D. in geology and geophysics from Goettingen University in Germany. After graduation he began a diverse 29-year career with Mobil Oil Corporation in oil and gas exploration including assignments in Germany,

Venezuela, Colombia, Libya, and the USA. For 15 years he was in field operations involving well site work and field development. This was followed by 14 years in a series of assignments in regional frontier exploration including quantitative and qualitative basin analysis for hydrocarbon potential and play definition in both mature and new basins worldwide, especially Africa, South American, and Europe. In 1972 he became staff geologist in Mobil's New York headquarters. This was followed in 1973 by a transfer to the position of exploration manager for Mobil Oil in Germany. In 1976 he came to Mobil Exploration and Production Services in Dallas and served as manager of the regional exploration department and then exploration advisor from 1978-1983.

Chris has published papers in the *Journal of Petroleum Geology*, *AAPG Bulletin*, *AAPG Memoir 34*, and the *Oil Gas-European Magazine* as well as *Geologisches Jahrbuch Beihefte*, *Geologische Rundschau*, and *Erdoel und Kohle-Erdgas-Petrochemie* among others. He has written papers and articles on the regional geological history of South Portugal, plate tectonics and hydrocarbon exploration, oil and gas migration, present and new plays in Colombia, Germany, Italy, Hungary, and Austria, oil and gas fields in overthrust belts, the age of the oceanic crust, and the regional distribution of oil and gas in the Powder River Basin.

In addition to Houston Geological Society, Mr. Pratsch is a member of American Association of Petroleum Geologists, American Geophysical Union, the Geological Association of Germany, the German Geological Society, and the Association of German Petroleum Geologists and Engineers.

### OIL AND GAS ACCUMULATIONS IN OVERTHRUST BELTS

Overthrust belts are zones of high crustal mobility leading to major vertical and lateral movements of rock units. They developed throughout the geologic history of the globe. Their preferred habitat is the active continental margin but intra-oceanic and intra-continental occurrences are common too, indicating that interactions of crustal blocks are a more general setting. Oil and gas fields exist only in small portions of the known overthrust belts. Their distribution is closely related to

the present existence of generative depocenters. Preservation of hydrocarbon fields formed prior to or during thrusting is rare at best. Most oil and gas fields in overthrust belts have been formed after the major thrust deformation.

Definition of present effective depocenters and prediction of preferred lateral and vertical hydrocarbon migration are the main parameters in any basin evaluation of play definition, in overthrust belts as well as in normal basins. A comparison of successful and unsuccessful exploration campaigns in different overthrust belts shows that such present effective depocenters exist in portions of thick overthrust sections as well as in overthrust foreland areas. Mainly because of destruction of older accumulations, Neogene times of hydrocarbon generation, migration and entrapments are most important. Examples from the American Cordilleras, the Alpine-Carpathian belt, the Pindus trend, North- and West-Africa, Papua New Guinea all follow comparable geologic principles.