



Monday 30 May, 2005

SALA BARBARA  
5° Palazzo Uffici - Eni Divisione E&P  
Via Emilia , 1  
SAN DONATO MILANESE

11:00 – 12:00 AM

## DISTINGUISHED LECTURE

### LOW COST METHODS FOR IMPROVED OIL AND GAS RECOVERY

by *ZAKI BASSIOUNI*  
(*Louisiana State University*)

#### ➤ ABSTRACT

It is usually assumed that improvement of oil and gas recovery is a costly proposition. However, several relatively low cost improved oil and gas recovery processes have been studied and tested in the field. These methods do not enjoy a widespread use most likely due to ineffective and/or untimely dissemination of field test results.

This lecture will present three such improved oil and gas processes. The lecturer has participated in the conceptual and practical studies of these processes. They are:

1 - The Double Displacement and the Second Contact Water Displacement Processes that aim to improve oil recovery through gas injection in low-pressure light oil reservoirs. Nitrogen, carbon dioxide, and air injection were successfully tested in the field.

2 - Co-production, the simultaneous production of gas and water, is used to control water influx into water-drive gas reservoirs. The process involves the conversion of down-dip wells to water producers as they water out delaying the watering out of up-dip wells and reducing the reservoir pressure so more gas can expand and be produced.

3 - Water flooding of low-pressure gas reservoirs presents a viable alternative to compression. Water flooding reserves may in certain cases exceed that of compression. It has the added operational advantage of maintaining reservoir pressure. Managing this option as a water disposal facility provides a major additional economic incentive.

#### ➤ BIOGRAPHY

*Dr. Zaki Bassiouni joined the faculty of Louisiana State University in 1977. He was a professor and chair of the Craft and Hawkins Department of Petroleum Engineering from July 1983 to June 2004 before assuming the position of Dean of the College of Engineering.*

*Dr. Bassiouni received a B.S. in Petroleum Engineering from Cairo University, a diploma in Geophysics from the Ecole Nationale Supérieure de Petrole et des Moteurs of Paris, France, and an M.S. (DEA) and Ph.D. (Docteur En Sciences) from the University of Lille, France.*

*In addition to his academic contributions and publications, Dr. Bassiouni has provided technical expertise to the international oil and gas industries. He has conducted training in more than thirty countries worldwide. He is the author of the Society of Petroleum Engineers Textbook Series Vol. 4 "Theory, Measurement, and Interpretation of Well Logs."*

*Dr. Bassiouni is a member of the national honorary society Pi Epsilon Tau, the Society of Petroleum Engineers of (SPE) and the Society of Professional Well Log Analysts (SPWLA). He currently serves on the Education and Accreditation Commission (EAC) of the Accreditation Board of Engineering and Technology (ABET).*

*Dr. Bassiouni is the recipient of SPE Distinguished Achievement Award for Petroleum Engineering Faculty for 1995. The award was established to recognize superiority in classroom teaching, excellence in research, and significant contributions to the petroleum engineering profession. He is also the recipient of the Louisiana Engineering Foundation Faculty Professionalism Award for 2000. He is an SPE Distinguished lecturer for the 2004-2005 season.*