



DECEMBER 18th, 2002

**CONFERENCE ROOM
5th Office Building ENI/Agip
Via Emilia 1
S. DONATO MILANESE**

11: 00 a.m.

**RESERVOIR MODELING UNDER TIGHT GEOLOGICAL
CONTROL:
DATA INTEGRATION AND MP GEOSTATISTICS**

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➤ **ABSTRACT**

Patterns from a prior conceptual geological training images are captured, appropriately transformed, and anchored to actual subsurface data (wells, seismic, and production). The results are stochastic numerical models that honor these data and remain consistent with the prior geological model.

Multiple-point geostatistics is similar to image analysis and image reconstruction, hence it allows to capture complex shapes and curvilinear structures. It proceeds pixel-wise, hence is more amenable to conditioning by various types of data than object-based (Boolean) simulation. It remains stochastic, hence uncertainty in the data is accounted for and transferred into alternative numerical reservoir models.

An example of simulation of a channel fan deposit constrained by wells and seismic data is presented.

➤ **BIOGRAPHY**

Andre Journel received an engineering degree from Ecole Nationale Superieure des Mines in 1967, he later completed a Doctorat d'Etat in Applied Mathematics from University of Nancy, France. He started the Centre de Geostatistique of Fontainebleau, France, in 1969 with the late Professor Matheron. He joined the Stanford University faculty in 1978 where he is presently the Donald M.Steel Professor of Earth Sciences with joint appointment in the departments of Geology and Petroleum Engineering. He is the Director of the Stanford Center for Reservoir Forecasting (SCRF).

Andre Journel wrote several books, most notably Mining Geostatistics in 1978, and the GSLIB software library and User's guide in 1992 with Clayton Deutsch.

Professor Journel received the SPE Lucas Gold medal in 1998; that same year he was elected to the US National Academy of Engineering.