The impact of fractures and in-situ stresses on upstream operations has become more apparent with the advancement of technology and the shifting of frontiers to deeper and tighter reservoirs, in increasingly high temperature-high pressure environments. In addition the diminishing oil columns in maturing fields have highlighted “unexpected” fracture-related challenges to reservoirs previously considered conventional (non-fractured). This has led to the emergence of a new concept to reservoir characterization: geomechanical characterization. This accounts for the stress-sensitivity of reservoirs manifested as changes in reservoir petrophysics (including both fractures and matrix properties), operational risks (borehole stability, sand production, premature water breakthrough, fluid losses while drilling etc), seal integrity. The fracture and geomechanical characterization relies on the capability to detect, measure and predict rock fabric (fractures and the matrix) and the stress regime in-situ on rock mass bases (reservoir/field scale). Although borehole-scale fracture detection has improved tremendously there are a lot of challenging issues that need to be addressed.

Operating companies are invited to present how they are currently dealing with the above issues, and their vision of future development. Field/Prospects case studies are particularly encouraged as focus for discussions. Service companies and research groups are encouraged to share and discuss new tools/prototype ideas dealing with each of the above topics.

The risk assessment in evaluating reserves in stress-sensitive and fractured reservoirs can be addressed by operating companies, service companies as well as governmental organization.

Break-out sessions would be designed to outline critical aspects of each of the above items, discuss and rank their importance, and outline/recommend ways to deal with them. Action items will focus on potential collaboration and follow-up meetings/workshops to address the recommendations.

The workshop will focus on challenges in all types of reservoirs; clastic, carbonate, basement, HPHT and tight gas, and will include the following sessions:

For regular updates, please visit: http://middleeast.aapg.org
DAY ONE — 28 June 2010
Morning Session

Session 1: Challenges to Reservoir Scale Observations and Predictions:

Cores are the closest resemblance to direct observation of reservoir and cap rocks. All other tools are mainly indirect geophysical tools measuring properties that reflect a multitude of factors (solid rock grains, pore space, fractures and other discontinuities, fluids etc). Therefore these methods (borehole special logs including image logs, VSP, 3D seismic etc) are challenged due to the high noise to signal ratio and the hostile environment in which the data are acquired. These observation uncertainties are further compounded due to the limitations in the static and dynamic simulation. This session will discuss such challenges. The session will cover:

- Fracture Observations and Imaging on Reservoir Scale
- Fracture Prediction on Reservoir Scale (Static and Dynamic Modeling)
- Geomechanical Observations and Prediction on Reservoir Scale:
- Current Day Stress Magnitude and Direction
- Mechanical Earth Modeling (MEM)

DAY ONE — 28 June 2010
Afternoon Session

Session 2: Fractures and Geomechanics Imaging in Real Time:

Real time fracture and geomechanical imaging is still within the realm of research. The state of the art including LWD image logging and passive seismic monitoring are limited by the lack of immediate interactive full-memory data availability for the interpreters. This session will cover:

- Fracture & Geomechanical Imaging in Real Time
- Geomechanical Applications to Geosteering

For regular updates, please visit: http://middleeast.aapg.org
DAY TWO — 29 June 2010
Morning Session

Session 3: Geomechanics in Well Design, Drilling, Completion and Reservoir Development and Management:

Stress sensitivity of fractured and non-fractured reservoir properties impact reservoir performance and operational risks. In addition geomechanical risks (borehole stability, sand production, subsidence) affect operations at drilling, completion and production for both exploration and development wells. The session will cover the Geomechanical Challenges in:

- **Drilling and Completion** (e.g. borehole stability, fluid losses, high pressure zones, mobile salt zones e.g. Hormuz Salt, depleted zones, fracture stimulation in tight reservoirs, HTHP reservoirs)
- **Development and Production** (e.g. Sanding Prediction, Management, subsidence, phase behavior).
- **Gas/CO2 Storage and Gas Injection in Sensitive Stress Reservoirs** (Natural Cavities, Depleted and None Depleted Aquifers, Fractured Reservoirs, etc).

DAY TWO — 29 June 2010
Afternoon City Tour And Dinner

The tour will be a panoramic tour of the city visiting the main monuments and the main squares of Rome. The itinerary will include the Republic Square with the Fountain of the nymphs, a work of Mario Rutelli - Via Veneto - Spanish Steps, the most famous square in Rome with its 138 steps and the fountain of the Barcaccia (work of Bernini) (Visit) - Trevi Fountain a work of Nicola Salvi (Visit) - The Pantheon, a real architectonical wonder of the Ancient Rome, also admired and studied by Michelangelo, today it’s the burial place of Raffaello and of some Italian Kings (Visit) - Navona Square, a typical baroque square, was a stadium built by Caesar Domiziano in 92 A.C. Today it is known as the square of the artists and the “Four Rivers Fountain” (work of Bernini in 17th century) that dominates the square hosts on the top an original Egyptian obelisk (Visit). Tour ends at the beautiful St. Peter’s Square.

Following the tour, the GTW dinner will be hosted at L’Archeologia Restaurant which is located on the ancient Appian Way.

DAY THREE — 30 June 2010:
Morning Session

Session 4: Challenges to Reserves Assessment:

Reserves assessment in newly discovered fields in which fractures, geomechanics, multiphase fluids and hostile environment (e.g. HTHP) have tested the limits of the state of the art tools and methods and therefore require a paradigm shift in the industry. This session will cover challenges in assessing reserves in:

- Fractured Reservoirs
- Stress-Sensitive Reservoirs

For regular updates, please visit: http://middleeast.aapg.org
FORMAT
The workshop will be 2.5 days, consisting of presentations and breakout sessions where participants can discuss and investigate a specific theme that is of mutual interest. There will also be an evening of icebreaker reception on Monday, 28 June and a half day tour of Rome and a dinner on Tuesday, 29 June.

ATTENDANCE
Registrations are invited from all relevant disciplines with relevant experience and/or knowledge of the subject areas being addressed in GTW. Registrations will be accepted on a first-come, first-serve basis.

DOCUMENTATION
Participants will be provided with electronic access to documentation from the break-out sessions after the workshop.

REGISTRATION FEES
Registration fees will be USD $1,250 for AAPG members and USD $1,350 for non-members. Fees are inclusive of onsite documentation, coffee breaks, luncheons and any social events taking place during the workshop.

REGISTRATION DEADLINE
1 June 2010

WORKSHOP LOCATION
In the heart of Rome's business center, the Sheraton Roma Hotel & Conference Center is a great choice when visiting the capital city. Surrounded by lush greenery of the EUR district, the hotel is located between the historical city center and Fiumicino/Leonardo Da Vinci Airport. Rooms have been blocked for the AAPG Group at the discounted rate of EUR 210 (inclusive of breakfast and VAT).

Sheraton Roma Hotel & Conference Center
Viale Del Pattinaggio
100 Rome 0144, Italy
Telephone: +390654531

CANCELLATION POLICY
AAPG will refund the tuition, less a $100 processing fee, if request is received no later than 30 days prior to the workshop. Cancellation must be made in writing. The registrar will accept cancellation notices by telephone, but all such notices must be followed up by fax or e-mail. No refund will be made for cancellations received less than 30 days prior to a workshop being given. Nonpayment of tuition does not constitute automatic cancellation.

If no cancellation notice is received by 30 days prior to a workshop, participant is liable for full tuition. AAPG reserves the right to cancel a workshop if enrollment is insufficient to ensure proper effectiveness. Substitutions for individuals can be made at any time. A paid enrollment may be transferred one time to a future workshop if the request is received prior to the 30 day cut-off date.

You are invited to prepare a poster display for presentation. If you are interested in participating, please complete the form and return it to the AAPG address indicated below by 1 June 2010. (Please print in black ink)

Date:

Please provide the topic with a short abstract of the proposed poster.

Topic:

Abstract:
Complete this form and fax to:
AAPG Middle East
Karin Bourgoin
Tel: +973 17553043
Fax: +973 17553029
E-mail: kbourgoin@aapg.org

Registration Deadline: 1 June 2010

The Role of Fracture & Geomechanical Characterization in the Hydrocarbon Industry: Middle Eastern Perspective  |  28–30 JUNE 2010 • ROME, ITALY

REGISTRATION FORM

Last Name

First Name

Nickname for Name Tag

☐ Male  ☐ Female

Company

AAPG Member?  ☐ Yes  ☐ No  Member No.

Business Address

Business Telephone

City

State/Province

Post Code

Country

Telephone

Fax

E-mail (required)

I’m also a member of:  ☐ EAGE  ☐ SEG  ☐ SPE  ☐ Other

Credit Card:  ☐ MasterCard  ☐ VISA  ☐ American Express  ☐ Discover  ☐ Diners Club

Account Number

Expiration Date

Card Holder Name

Authorized Signature

All credit card charges will be processed in US dollars.

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Registration Policy: Invoices must be paid within 10 days of receipt. Should your application be received six weeks prior to the commencement of the GTW, please note that we will only accept credit card payment.

Cancellation Policy: AAPG will refund the tuition, less a $100 processing fee, if request is received no later than 30 days prior to the workshop. Cancellation must be made in writing. The registrar will accept cancellation notices by telephone, but all such notices must be followed up by fax or e-mail. No refund will be made for cancellations received less than 30 days prior to a workshop being given. Nonpayment of tuition does not constitute automatic cancellation. If no cancellation notice is received by 30 days prior to a workshop, participant is liable for full tuition. AAPG reserves the right to cancel a workshop if enrollment is insufficient to ensure proper effectiveness. Substitutions for individuals can be made at any time. A paid enrollment may be transferred one time to a future workshop if the request is received prior to the 30 day cut-off date.

AAPG Non-endorsement Policy: The American Association of Petroleum Geologists (AAPG) does not endorse or recommend any products and services that may be cited, used or discussed in AAPG publications or in presentations at events associated with AAPG.