Enhanced Oil Recovery from Heavy Oil and Fractured Reservoirs

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Overview

Heavy oil and naturally fractured reservoirs are challenging type of the oil reservoir, which needs special attention and treatment. Oil recovery and production mechanisms in these type of reservoirs could be more challenging compared to conventional reservoirs.

This course is organized in two modules that should be taken together. The topics in Module A will expose the participants to the entire overview of Naturally Fractured Reservoirs (NFR) like capillary-gravity forces, waterflood or gas cap expansion and gas injection in fractured reservoirs. Different recovery mechanisms includes co-current and counter-current imbibition in water injection and gravity drainage, re-pressurization and diffusion effect in gas injection in fractured reservoirs will be discussed in detail. Weight will be given to design of laboratory experiments and a novel setup for gas injection using a live oil will be discussed in detail. The topics in the module include review of numerical simulation of fractured reservoirs and how dual porosity reservoirs are modeled with modern numerical simulators using dual porosity dual permeability models. Participants will also learn about the fundamentals and well testing in fractured reservoirs. In Module B, participants will be exposed to the challenges in heavy-oil reservoirs. Fundamentals of heat transfer to heavy oil reservoirs to reduce oil viscosity, steam engineering, thermal recovery processes - Cyclic Steam Stimulation (CSS), Steam Flood and Steam Assisted Gravity Drainage (SAGD) will be discussed.

Course participants will learn these topics through lectures. Also case studies and assignments will be shared to stimulate research motivation of participants.

Dates for the Course	**11th September to 17 September, 2016**
Host Institute	**IIT Madras**
No. of Credits	**1**
Maximum No. of Participants	**60**
You Should Attend If…	▪ You are a petroleum engineer or research scientist interested in designing and planning of production from heavy oil and fractured reservoirs. ▪ You are a student or faculty member from academic institution interested in learning how to design laboratory experiment on fractured reservoir. ▪ You are working in an upstream industry and interested in all aspects of heavy oil production
Course Registration Fees	The participation fees for taking the course is as follows: **Student Participants:** Rs. 1000 **Faculty Participants:** Rs. 8000 **Government Research Organization Participants**: Rs. 8000 **Industry Participants:** Rs.10000 The above fee is towards participation in the course, the course material, computer use for tutorials and assignments, and laboratory equipment usage charges. **Mode of payment: Demand draft in favour of "Registrar, IIT Madras" payable at Chennai** The demand draft is to be sent to the Course Coordinator at the address given below.
Accommodation	The participants may be provided with hostel accommodation, depending on the availability, on payment basis. Request for hostel accommodation may be submitted through the link: http://hosteldine.iitm.ac.in/iitmhostel

Course Faculty

Dr. Hassan Karimaie has more than 25 years of experience in upstream oil and gas industry. After graduation in PE in 1991, he worked as Reservoir Engineering with National Iranian Oil Company (NIOC) and studied a number of fractured reservoirs in southern Iran. In 2002, he joined Norwegian University of Science and Technology (NTNU). He has carried out numerous reservoir studies on various reservoirs in Middle East, Europe and Africa. He is an expert with vast industrial exposure on SCAL model building using laboratory data, reservoir simulation, and enhanced oil recovery studies. He also worked with Sintef Petroleum, Weatherford, Statoil and AkerSolutions before moving to current organization. His research interest include Special core Analysis (SCAL), CO2 EOR and storage, recovery mechanism in heavy oil and fractured reservoirs.

Dr. Jitendra S. Sangwai is currently working as an Associate Professor in the Petroleum Engineering Program, at Indian Institute of Technology (IITM) Madras, Chennai, India. He holds a M. Tech. and Ph. D. in Chemical Engineering from IIT Kharagpur and IIT Kanpur, respectively. He worked with Schlumberger for a brief period before moving to academics. His research interest lies mainly in the field of gas hydrates, enhanced oil recovery, rheology of complex fluids, and nanotechnology for oil and gas engineering.

- Last date of registration for this course using below website URL link: 20th August 2016.
- Only 60 seats are available.
- Only selected candidates will be intimated through e-mail by course coordinator.
- Intimation of selection to the course will be done regularly on first-come-first serve basis.
- Last date for the intimation of selection will be 25 August 2016.
- Any request to register after deadline can be considered if the vacancy is available. For this, please contact on below email id.
- Certificate will be provided to all the participants.
- Send the demand draft on below address as soon as possible to confirm your registration

Course Coordinator

Name: Dr. Jitendra S Sangwai
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URL:
http://www.gian.iitkgp.ac.in/GREGN/index

Course ID: 161003C03

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