

DHRTC Summer School, Week 32 – Technical University of Denmark, Lyngby

Preliminary Programme

	Sunday 05/08 Accommodation at Hotel Postgarden	Monday 06/08 DTU (101, room S09) Mature Fields	Tuesday 07/08 DTU (101, room S09) Corrosion and scale	Wednesday 08/08 Field trip, Stevns Klint Geology	Thursday 09/08 DTU (101, room S09) Chemistry in mature fields	Friday 10/08 DTU (101, room S01) Characterization of petroleum mixtures and EOR	Saturday 11/08 DTU (101, room S09) Geophysics	Sunday 12/08 Departure for Esbjerg
08.00								
08.45		Welcome						
09.00- 11.00		Challenges, development, Management <i>Total</i>	Chemical thermodynamics and salt solutions - background <i>Karen Feilberg</i>		Chemistry in Mature Fields Wettability, interfacial tension and surface tension at the molecular level <i>Theis Sølling</i>	Petroleum mixtures: - Where are the fluids of interest stored? - Sampling the fluids - How does the reservoir fluid behave under pressure, temperature - Categories of the fluids <i>Alexander Shapiro</i>	Introduction to Geophysics and Geostatistics <i>Klaus Mosegaard Thomas Hansen</i>	
11.00- 12.30		Challenges, development, Management <i>Total</i>	- Corrosion mechanisms - Occurrence and types of corrosion in the mature fields in DUC area, monitoring of corrosion - Mitigation methods <i>Rajan Ambat</i>	Field trip to Stevns Klint <i>Peter Frykman</i>	Instrumentation and methods for studies of surface chemistry <i>Theis Sølling</i>	Petroleum mixtures: - Phase behavior of the fluids Production schemes - Production problems - Black oil approach - Compositional approach Discussion: - What do we need to know? <i>Alexander Shapiro</i>	Geophysical modeling. Theory and exercises. <i>Klaus Mosegaard Thomas Hansen</i>	
12.30- 13.30		Lunch (Cantina in 101)	Lunch (Cantina in 101)		Lunch (Cantina in 101)	Lunch (Cantina in 101)	Lunch (Cantina in 101)	
13.30- 15.00		Challenges, development, Management <i>Total</i>	Scale types and occurrence in north sea wells, monitoring <i>Karen Feilberg</i>		Chemical traces and tracer tests. General mechanisms of production chemicals in mature fields <i>Theis Sølling</i>	Enhanced Oil Recovery: - Why do we need EOR - What methods for EOR exists - EOR problems Discussion: - What do we need to know? <i>Alexander Shapiro</i>	Geostatistics. Theory and exercises. <i>Klaus Mosegaard Thomas Hansen</i>	
15.00- 16.30		Challenges, development, Management <i>Total</i>	- Chemistry of barium and strontium scales - Calcium carbonate and iron carbonate scales - Modelling and mitigation, chemistry of scale prevention <i>Kaj Thomsen Philip Fosbøl</i>		Digital rock physics: Applications of CT scanning <i>Theis Sølling</i>	EOR: Exercises/discussion Exercises with the thermodynamic software <i>Alexander Shapiro</i>	Putting it all together: Creating a reservoir model from geophysics and geostatistics. <i>Klaus Mosegaard Thomas Hansen</i>	

DHRTC Summer School, Week 33 – Aalborg University - Esbjerg

Preliminary Programme

	Sunday 12/08	Monday 13/08	Tuesday 14/08	Wednesday 15/08	Thursday 16/08	Friday 17/08	Saturday 18/08	Sunday 19/08
	Arrival and accommodation at Danhostel Esbjerg	Aalborg University (Esbjerg) C1 – room 117	Aalborg University (Esbjerg) C1 – room 117 Monitoring and Automation in offshore Oil & Gas exploitation and production	Excursion Esbjerg Port	Aalborg University (Esbjerg) C1 – room 117 Seismic acquisition, processing and interpretation. Petrophysical welllogs	Aalborg University (Esbjerg) C1 – room 117 Assignment in groups	Aalborg University (Esbjerg) C1 – room 117 Assignment – Results and discussions	Departure and transport to CPH from Esbjerg
08.30								
08.45		Welcome	Topside process systems (facilities and operations)					
09.00-10.45		1. General info of Oil and Gas EDU and R&D activities at AAU 2. Introduction on topside operations <i>Jens Bo Holm-Nielsen</i> <i>Jens Muff</i>	Process monitoring and control (topside separation, slugging flows in pipelines and risers, gas-lift production wells, injection water treatment, produced water treatment) <i>Zhen Yu</i>		Reflection seismics: Theory , usability and pitfalls Reflectionseismics: How to do? <i>Ole Rønø Clausen</i> <i>NN</i>	Group work on assignment	Group work on assignment	
11.00-12.30		- Overview of Topside Gas/Oil/Water Separation Units - Process Design of Separation Train - Issues on Oil/Water Separation <i>Marco Maschietti</i>	Emerging & advanced real-time monitoring and control techniques (Oil-in-Water, TSS, dissolved-oxygen, microscopy tech, fluorescence tech, tomography tech, MIMO control, MPC control, robust control) <i>Zhen Yu</i>	Day at Port of Esbjerg: Oil and Gas companies and activities.	Geological interpretation and use of Petrophysical well logs <i>Ole Rønø Clausen</i> <i>NN</i>	Group work on assignment	Group work on assignment	
12.30-13.30		Lunch (Cantina, building A, room 150)	Lunch (Cantina, building A, room 150)		Lunch (Cantina, building A, room 150)	Lunch (Cantina, building A, room 150)	Lunch (Cantina, building A, room 150)	
13.30-15.00		Potential Applications of Membrane Technologies within Oil & Gas Production Units <i>Jens Muff</i>	Robotics for offshore OG applications (inline robot, ROVs and drones) <i>Petar Løhndorf</i>	<i>Jens Bo Holm-Nielsen et al., Rambøll, SEMCO and Total</i>	Chalkfields in the North Sea – examples <i>Ole Rønø Clausen)</i> <i>NN</i>	Group work on assignment	Presentation and discussions of results	
15.00-16.30		Production Chemistry – an overview of applications and challenges <i>Rudi Nielsen</i>	Lab testing pilot plants, advanced instruments and equipment <i>Simon Pedersen</i> <i>Stefan Jespersen</i>		Start up of case study assignment: Identify a chalk reservoir, and suggest well locations <i>Ole Rønø Clausen</i> <i>NN</i>	Group work on assignment	Presentation and discussions of results	