Join us in Aarhus for a course on microbiologically enhanced oil recovery

DANISH TECHNOLOGICAL INSTITUTE

As a leading provider of targeted specialist courses, DTI Oil & Gas has a long track record within the oil and gas industry. We have a unique, interdisciplinary staff of dedicated scientists with years of experience of working in the interface between advanced high-end technical solutions and the day-to-day operation of oil field assets. Our course program covers a wide range of topics related to oil and gas production, such as production chemistry, water management, reservoir biogeochemistry, microbial corrosion, Enhanced Oil Recovery, etc.

Course Proposition

Microbially enhanced oil recovery (MEOR) is a biologically based technology in which function and/or structure of the microbial environment existing in oil reservoirs is manipulated to improve the recovery of oil entrapped in porous media while increasing economic profits.

The course is an exciting mixture of expert presentations, practical demonstrations and case history discussions, and further provides the opportunity to meet with DTI experts to discuss specific cases.

The course is directed towards oilfield Microbiologists, Petroleum Biotechnologist, Geology and Reservoir engineers, specialists, managers and technical staff interested in Core Flood studies for simulation of reservoir conditions and test of MEOR technologies. A knowledge of industrial microbiology is an advantage for the course.

Gain understanding and knowledge on fundamental aspects of MEOR

Understanding of oil field microbiology and biogeochemistry, including the different microorganisms both troublesome and beneficial present in oil reservoirs and oil recovery systems.

Get an overview of MEOR strategies

Understand the different approaches for MEOR, and benefits/pitfalls associated with them.

Create setups designs for core flood testing

Understand and evaluate the many variables when setting up a coreflood experiment with the additional dimension of adding microorganisms to these complex experiments.

Course Topics

Oil field microbiology	General introduction to microorganisms and microbiological processes relevant to the oil and gas industry including: ▪ Growth: Planktonic vs. biofilm ▪ Sulphate reducing bacteria and archaea ▪ Methanogens ▪ Acid producers ▪ Nitrate reducers
Impact of microorganisms on oil and gas production	Issues in the oil and gas industry caused by microorganism, including: ▪ Microbially influenced corrosion ▪ Souring ▪ Plugging and fouling ▪ Drilling mud ▪ Impact of MEOR on the above issues ▪ Microbial risk analysis in relation to MEOR
Fundamental aspects of MEOR	The fundamental idea behind MEOR including: ▪ The theory behind different MEOR approaches ▪ History of MEOR
From the field to the laboratory	Growing field microorganisms in the laboratory ▪ Cultivation methods ▪ Growth media composition ▪ Planktonic vs. biofilm ▪ Equipment needs ▪ Molecular support methods
Monitoring the MEOR process	Evaluation of different monitoring methods for chemical and microbiological changes during MEOR laboratory or field test, including; ▪ Classical and modern techniques for quantifying microorganisms ▪ Physiochemical analyses
Assessing MEOR potential	Laboratory testing as a way of assessing MEOR potential before field trial, including; ▪ Coreflood setup ▪ Sampling during experiment ▪ Pressure and temperature
Practical sessions	Practical sessions, discussions, desktop exercises including; ▪ Setup design ▪ Core flood ▪ Cases

Key lecturers

Mr. Troels Bach Nielsen
Technical Expert, M.Sc.
e-mail trbn@dti.dk
Phone +45 7220 2833

Mr. Troels Bach Nielsen has a background in chemical engineering, where his engineering degree has given him a practical and solution-oriented mindset combined with his scientific focus on physical and colloidal chemistry. In addition to his academic achievements, he has extensive experience with technologically challenging field work and development and implementation of high-value solutions for oil field operators. Mr. Nielsen has teaching experience from several courses and workshops catered to both single companies and larger audiences.

Key qualifications

- Tracer studies
- Enhanced oil recovery
- Field implementation

Dr. Henrik Gøbel Füchtbauer
Senior Specialist, M.Sc., Ph.D.
e-mail hgfr@dti.dk
Phone +45 7220 1704

Dr. Henrik Gøbel Füchtbauer has a background in materials science, where his PhD degree in nano science has given him an interdisciplinary technical background, with focus on physics and chemistry. Dr. Füchtbauer is a leading expert on the implementation of advanced technologies for reservoir characterization and understanding, and he has teaching experience from leading universities as well as from numerous courses for oil and gas companies.

Key qualifications

- Design and operation of technical equipment
- Materials science and nanotechnology
- Coreflood set-ups
- Technology testing and -validation

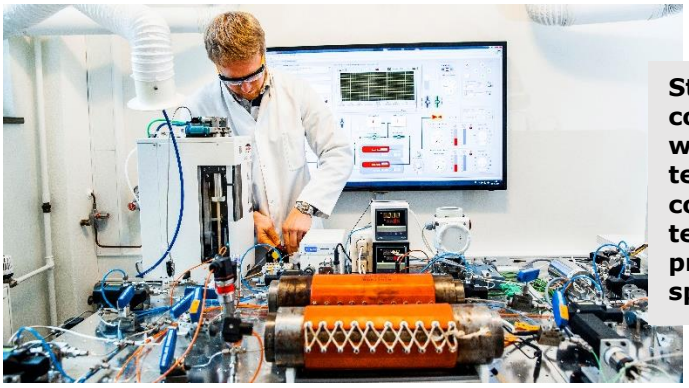
Dr. Lone Tang
Senior Specialist, M.Sc., Ph.D.
e-mail ltg@dti.dk
Phone +45 7220 2703

Dr. Lone Tang has a PhD in biology and has more than 10 years of experience with microbial biofilms, microbial management and the beneficial implementation of microbial tools in the oil and gas industry. Dr. Tang is considered a leading expert regarding the biogeochemical processes in oil reservoirs, as well as the design and operation of advanced laboratory setups for microbiological simulations. She has extensive teaching experience, both from leading universities and from numerous courses taught to oil and gas companies.

Key qualifications

- Oil-field microbiology
- Control of reservoir microbiology
- Designing and operating bioreactor setups

Facilities



State of the art coreflood equipment with possibility of testing ambient conditions or high temperature and pressure to simulate specific reservoirs.

Modeling and visualization tools and programs for survailance of coreflood experiments.

Fully equiped certified microbial and chemical laboratory facilities with more than a decade of experience in samples from the oil and gas industry.

Premises in Aarhus, Denmark with facilities for tailored workshops for individual companies as well as general courses.

Practical information

Course: Microbial enhanced oil recovery

Date (tentative): April 24 to May 6, 2020

Location: Kongsvang Allé 26, Aarhus, Denmark

The course fee is 7,600 Euro excl. VAT per person. The course fee includes sessions/workshops, practical demonstrations, course material, and diploma. Furthermore, all meals during the course day (morning tea & coffee, lunch buffet and afternoon refreshments) are included.

The invoice will be sent subsequent to participation in the course, unless you ask to receive the invoice immediately. The invoice will be sent independently of the confirmation. Payment can also be done by VISA card during the course.

Sign up for the course by email,

Ketil Sørensen

kes@dti.dk.

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Cancelation policy

Should circumstances mean that you have to cancel your place on the course and the course cannot be postponed to another date within 3 months, the following charges apply:

- More than four weeks prior to the course start date – no charge
- Two to four weeks prior to the course start date – 30% of the course fee
- Less than two weeks prior to the course start date – full fee

Cancellation must be made in writing.

Accommodation

Aarhus offers a wide array of accommodation options of various standards. Upon booking the course DTI will be helpful with further information should you require assistance.