

REGISTRATION, FEE and GENERAL INFORMATION:

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Petroleum Engineering Summer School

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PETROLEUM ENGINEERING SUMMER SCHOOL

**INTER-UNIVERSITY CENTRE
DUBROVNIK, CROATIA**



Interactive Seminar – Workshop 45



MAKING PETROLEUM INDUSTRY GREENER Workshop 45 (WS45) - CO₂ EOR & CCS

JUNE, 4th – 8th, 2018



MONDAY, June 4th, 2018

(IUC, Conference Room, Ground Floor)

10.00-11.00 OPENING CEREMONY

Welcome Addresses

DSc. Daria Karasalihović Sedlar, PESS Executive Director

DSc. Lidia Hrnčević, Vice Dean of the Faculty of Mining, Geology & Petroleum Engineering, Croatia

Nada Bruer Ljubišić, IUC Representative

Tvrtko Perković, INA Plc. Operative Director E&P

Marijan Krpan, Head of Croatian Hydrocarbon Agency

Darcy Spady, SPE International 2018 President DSc.

DSc. Domagoj Vulin, University of Zagreb, Croatia-*ESCOM project*

DSc. Dubravko Novosel, Croatian Association of Petroleum Engineers and Geologists

Darcy Spady - *Community Consensus, Sustainability and Your Future with SPE*

11.00-11.30 Coffee Break (IUC Atrium)

Lectures - CO₂ EOR (IUC, Conference Room, Ground Floor)

Chairmens: **Scott Wehner, Steve Melzer & DSc. Thomas Davis**

11.30-13.00 Scott Wehner (Wehner CO2nsulting, LLC, USA), Steve Melzer (Melzer Consulting, USA) -

Introduction to EOR, Some Key Terms, and the History and Current Status of Advanced Recovery and CO₂ Flooding

Scott Wehner, Steve Melzer - *CO₂ Sources, Natural and Anthropogenic (Man-Made), and the Properties of CO₂*

13.00-14.00 Welcome Cocktail (IUC Atrium)

14.00-15.30 Scott Wehner, Steve Melzer - Transportation and Injection Pipelines, Trucking, Metering

Steve Melzer - *Reservoir Production Practices- Miscible, Immiscible, Gravity Stable, Processing Rates, Examples*

Scott Wehner - *Wellbore Management, Downhole and Well Site Equipment Needs*

15.30-16.00 Coffee Break (IUC Atrium)

16.00-17.30 Steve Melzer - CO₂ Recycling, Plants & Processing- Dehydration, Sulphur/NGL Separation, Compression

Steve Melzer - *Reservoir Continuity and Other Key Elements of Reservoir Geology*

DSc. Thomas Davis (Colorado School of Mines, USA)

Steve Melzer - *Surveillance and Monitoring*

18.30 Welcome Dinner (Orhan Restaurant)

TUESDAY, June 5th, 2018

Lectures - CO₂ EOR (IUC, Conference Room, Ground Floor)

Chairmens: **Scott Wehner, Steve Melzer & DSc. Thomas Davis**

9.00-10.00 SPE Croatia – Section Meeting

10.00-11.30 DSc. Thomas Davis *The Role of Geophysics*

11.30-12.00 Coffee Break (IUC Atrium)

12.00-13.30 Scott Wehner - *WAG Operations*

Scott Wehner, Steve Melzer - *Flood failures*

13.30-14.00 Coffee Break (IUC Atrium)

14.00-15.30 Scott Wehner - *Processing the Reservoir: Critical Velocity Presentation*

WEDNESDAY June 6th, 2018

Lectures - CO₂ EOR (IUC, Conference Room, Ground Floor)

Chairmens: **Scott Wehner, Steve Melzer & DSc. Thomas Davis**

9.00-11.00 Scott Wehner - *Best Practices & Pertinent Reservoir Management*

11.00-11.30 Coffee Break (IUC Atrium)

11.30-13.00 Steve Melzer - *Business Issues, New Concepts including Residual Oil Zones*

14.00-23.00 EXCURSION– Pelješac peninsula

THURSDAY June 7th, 2018

Decreasing CO₂ emissions in Petroleum Industry - ESCOM project workshop (IUC, Conference Room, Ground Floor)

Chairmen: **DSc. Vladislav Brkić**

ESCOM₂

9.00-9.45 INA CO₂ EOR Case Study

9.45-10.30 DSc. Bruno Saftić (University of Zagreb, Croatia) - *Geology and Reduction of Carbon Footprint*



Organizes reserve the right to make changes to the Program.

10.30-11.00 Coffee Break (IUC Atrium)

11.00-13.00 Lucija Jukić (University of Zagreb, Croatia) - *CO₂ emissions produced by flaring on a mature oil field* **Amalia Lekić (University of Zagreb, Croatia)** - *Optimization of Organic Rankine Cycle for Utilization of Heat Energy from Production Wells* **Maja Arnaut (University of Zagreb, Croatia)** - *Heat and Mass Transfer in Wells During Multiphase Fluid Production and Injection* **Marija Macenić (University of Zagreb, Croatia)** - *CO₂ reduction by using dry wells and abandoned oil and gas wells for geothermal heat energy exploitation by means of closed circulation*

13.00-13.30 Coffee Break (IUC Atrium)

13.30-14.30 DSc. Domagoj Vulin (University of Zagreb, Croatia) - *Numerical Case Studies for Efficient CO₂ Usage Combined by CO₂ Storage; Evaluation System for CO₂ Mitigation*

14.30-15.30 DSc. Maša Prodanović (University of Texas, USA) - *Wettability and its influence on oil/gas trapping in porous media; Ultradry CO₂ foams and their potential for fracturing, EOR and CCS applications*

17.00 Guided Walking Tour - Dubrovnik City

FRIDAY June 8th, 2018

Carbon Capture and Storage – ENER network /ENOS
Chairmen: **DSc. Domagoj Vulin**



9.00-10.00 DSc. Vit Hladik (CGS, ENER President, Czech Republic) - *Rationale and principles of CCS*

10.00-11.00 DSc. Bruno Saftić (University of Zagreb, Croatia) - *CO₂ geological storage options*

11.00-11.30 Coffee Break (IUC Atrium)

11.30-12.30 DSc. Serge van Gessel (TNO - Geological Survey of the Netherlands) - *Energy Storage: opportunities and challenges from a subsurface perspective*

12.30-13.00 CLOSING CEREMONY

13.00-14.00 Farewell Cocktail (IUC Atrium)