

Carbon Capture Utilization and Storage (CCUS)

4 - 8 July 2022, Department of Geosciences and Engineering, Delft, The Netherlands

This school covers the basics of carbon capture, utilization and storage in subsurface formations, including aquifers and depleted hydrocarbon fields. The underlying trapping mechanisms will be discussed from pore-level to large-scale application.

Topics Covered:

- CCS in aquifers and depleted oil and gas fields
- CO₂ Trapping mechanisms
- Rock-fluid interaction and geochemistry involved in CCS
- CO₂-EOR to CCUS
- Numerical modeling of CO₂ storage at various scales
- Surveillance and monitoring
- Challenges of CO₂ storage in low-pressure reservoirs
- Novel CO₂ utilization concepts
- Foam assisted CO₂ storage

Organizing committee

Dr. Rouhi Farajzadeh
Dr. Denis Voskov

Stevinweg 1
2628CN, Delft
The Netherlands

Registration

For registration, please send an email to delftsummerschool-citg@tudelft.nl

Registration fee

- \$2500 attendees from industry
- \$1000 academic staff and Post doc researchers
- \$600 PhD students

We can admit limited number of participants. People who register earlier will have priority. Registration deadline is 30 April 2022.

For more information, visit <https://www.tudelft.nl/citg/delft-summer-school>

Sponsored by:



Larry W. Lake is a professor in the Department of Petroleum and Geosystems Engineering at The University of Texas at Austin where he holds the Shahid and Sharon Ullah Chair. He holds BSE and PhD degrees in Chemical Engineering from Arizona State University and Rice University, respectively. He is the author or co-author of more than 100 technical papers, four textbooks and the editor of three bound volumes. Dr. Lake has served on the Board of Directors for the Society of Petroleum Engineers (SPE), won the 1996 Anthony F. Lucas Gold Medal of the AIME, the Degoyor Distinguished Service Award in 2002, and has been a member of the US National Academy of Engineers since 1997. He won the SPE/DOE IOR Pioneer Award in 2000.

Eric H. Oelkers was a co-founder of CarbFix and served as its co-director from 2006 to 2020. He has been professor at University College London, Research Director at the CNRS and adjunct professor at the University of Iceland. Eric's research focuses on developing the fundamental geochemical basis for sustainable growth and managing the Earth, including developing the technology for the mineral storage of CO₂. Eric received his undergraduate degrees in Chemistry and in Earth and Planetary sciences from the Massachusetts Institute of Technology, and his doctorate from the University of California. He is co-editor of Geochemical Perspective Letters and has served as President of the European Association for Geochemistry, director of the Geochemical Society, co-editor of Chemical Geology, associate editor of Geochimica et Cosmochimica Acta, and guest editor of Elements.



William R. Rossen is Professor Emeritus of Reservoir Engineering in the Department of Geoscience and Engineering, Delft University of Technology. He has more than 120 journal publications and has delivered invited lectures and taught courses worldwide. Prof. Rossen's current research focuses on the use of foams for diverting fluid flow in porous media and sweep improvement in CCUS and EOR. Prof. Rossen was named Best Instructor at Delft University of Technology in 2011. In 2012 he was named an IOR Pioneer at the SPE/DOE Symposium on Improved Oil Recovery, Tulsa, OK, USA. He is a Distinguished Member of SPE.

Owain Tucker is the Manager for CCS capability, assurance and project support, and the Principal Technical Expert in Carbon Storage in Shell. Owain represents Shell in global taskforces which focus on the development of CCS. He is a member of the UK Exploration Taskforce, co-chairs the SPE group developing a Storage Resource Maturation System, and the Oil & Gas Climate Initiative Storage Working Group. He is on the executive committee of the IEA GHG R&D programme, the board of the UKCCSRC, and is a member of the ZEP taskforce technology. He is also an Honorary Associate Professor at Heriot-Watt University where he lectures in CO₂ storage. Owain read Physics and Geophysics at the University of the Witwatersrand in Johannesburg, South Africa; and holds a D.Phil in Experimental Solid State Physics from the University of Oxford.



Raul Valdez is a development manager for Kinder Morgan CO₂ Houston, Texas since 2016 and 23 years before that at Shell/Altura/Oxy as the Principal Technical Expert (PTE) in gas injection and sequestration. He is currently maturing multiple projects in Yates Field including CO₂ Expansion, Transition Zone expansion, surfactant, engineered waterflood, and foam. His career began in 1991 working on the largest CO₂ injection field in the world, the Wason Denver Unit. Thereafter he spent several years working various, large CO₂ projects for Altura/Oxy. Rejoining Shell, he then worked on a global studies team on various problems around the globe including assignments in the Netherlands and Oman. He has lectured internally gas injection courses and surveillance. He has numerous patents pending in gas injection related topics and has authored numerous papers. He received his BS in nuclear engineering (fusion focus) and minor in mechanical engineering from the Massachusetts Institute of Technology.

Denis Voskov is an Associate Professor at the Department of Geoscience and Engineering, TU Delft, and Adjunct Professor at the Department of Energy Resources Engineering, Stanford University. He is leading a research group on the development of advanced simulation capability for energy production and storage processes related to deep subsurface. Before joining TU Delft, Denis was a Senior Researcher at the Department of Energy Resources Engineering, Stanford University, Chief Technology Officer of Rock Flow Dynamics Company (developer of t.Navigator), Chief Engineer at YUKOS EP company, and a leading specialist at the Institute for Problems in Mechanics, Russian Academy of Sciences.

