**Carbon Capture, Utilization, and Storage** is a key technology for achieving net-zero greenhouse gas emissions. The Stanford Center for Carbon Storage (SCCS) uses a multidisciplinary approach to address critical questions related to flow physics, monitoring, geochemistry, geomechanics and simulation of the transport and fate of CO₂ stored in partially- to fully-depleted oil & gas fields and saline reservoirs.

**Membership Benefits include:**
- **Access** to cutting edge research conducted by Stanford faculty, post docs, and PhD students
- **Invitations** to Precourt Institute for Energy and Stanford University events
- **Annual Affiliates Meeting:** 2021 virtual meeting scheduled for November 2, 9 & 16
- **Webinars** held ~monthly during academic year

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<tr>
<th>Regional Analysis</th>
<th>Pore to Core Scale Analysis</th>
<th>Modeling &amp; Simulation</th>
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<tr>
<td>• Development of CO₂ &amp; H₂ site selection and ranking criteria</td>
<td>• Experimental studies of pore-to-core scale flow and transport of CO₂</td>
<td>• Advanced reservoir modeling, including coupled flow, geomechanics and geochemical simulation</td>
<td>• Analysis of new technologies (e.g. BECCS and DAC) and effect on CCS expansion and scaleup</td>
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<td>• Assessment of CCS opportunity in California</td>
<td>• Geochemical reactions between CO₂, rocks, fluids and organic matter</td>
<td>• Modeling of injection strategies to optimize pore space usage</td>
<td>• Capacity expansion models for integrating power generation with CCS into the electrical grid</td>
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<td>• Assessment of CO₂ storage issues in soft sediments of the US GOM</td>
<td>• Laboratory tests of controls on residual trapping</td>
<td>• Development of deep-learning modeling capabilities for CCS</td>
<td>• Lifecycle assessment of GHG emissions</td>
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<td>• Assessment of H₂ storage criteria and opportunities</td>
<td>• Pilot tests of enhanced pore space utilization, trapping, and mobility control</td>
<td>• Inverse modeling to optimize monitoring plans, identify leaks, and track CO₂ plumes</td>
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</table>
Anthony Kovscek is a Professor in the Department of Energy Resources Engineering and expert on the multiphase flow of oil, water and gas in porous media at length scales that vary from the pore to the laboratory to the reservoir.

Lou Durlofsky is a professor in the Department of Energy Resources Engineering. His research focuses on modeling, optimization, and history matching of subsurface flow processes (oil/gas production and CO₂ storage) and on the development of fast surrogate models to enable these computations.

Mark Zoback is the Benjamin M. Page Professor of Geophysics (Emeritus). He is an acclaimed expert on reservoir geomechanics and induced seismicity. He is the author/co-author of more than 300 scientific papers and author of two books.

Sarah Saltzer is the Managing Director of the Stanford Center for Carbon Storage. She has 25 years of experience at Chevron Corporation, where she held a series of scientific, managerial and executive roles.

Expanding Carbon Capture and Storage technology to a Gt-CO₂/year scale will require significantly more research to provide assurances that selected sides will be able to secure CO₂ safely and effectively.”

–SALLY M. BENSON
Office of Science and Technology Policy
(co-director of SCCS, on leave from Stanford University)

The Stanford Center for Carbon Storage is a membership-based industrial affiliates program. Membership is available to all interested companies, government agencies, and non-profits. Please contact Sarah Saltzer, Managing Director of SCCS for more information. (sarah.saltzer@stanford.edu)