




Sally Benson

Precourt Family Professor, Professor of Energy Science Engineering and Senior Fellow at the Precourt Institute for Energy and at the Woods Institute for the Environment

Energy Science & Engineering

 Curriculum Vitae available Online

CONTACT INFORMATION

• Administrative Contact

Thuy Nguyen - Sponsored Projects Administrator

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Bio

BIO

Sally M. Benson, who joined Stanford University in 2007, is the Precourt Family Professor in the Department of Energy Resources Engineering in the School of Earth, Energy & Environmental Sciences; she studies technologies and pathways to reducing greenhouse gas emissions including geologic storage of CO₂ in deep underground formations and energy systems analysis for a low-carbon future. From 2021 to 2023 she was on leave from the University to serve as the Energy Division Director and Chief Strategist for the Energy Transition at the White House Office of Science and Technology Policy. Prior to this, she served as the Co-Director of the Stanford Center for Carbon Storage and the Stanford Carbon Removal Initiative. From 2013 to 2020, she served as the Director and Co-Director of the Precourt Institute for Energy. She also served as the Director of the Global Climate and Energy Project from 2009 to 2019.

Prior to joining Stanford, Benson was Division Director for Earth Sciences, Associate Laboratory Director for Energy Sciences and Deputy Director at LBNL.

Professor Benson currently is a member of the Breakthrough Energy Innovation Council and a Board Member of the Global Carbon Capture and Storage Institute. In 2023 she was elected to the American Academy of Arts and Sciences. She has previously served on the Board of Directors for Climate Central and from 2008 to 2020 on the Board of Directors of the National Renewable Energy Laboratory. She also served on the Advisory Boards for Breakthrough Energy Ventures, Argonne National Laboratory and Pacific Northwest National Laboratory, Princeton's Carbon Mitigation Initiative, Princeton's Adlinger Center, Japan's Initiative for the Cool Earth Forum, Climate Vault, and the Lahore University of Management Science in Pakistan. Over the past several years she participated in a number of National Academy of Sciences, Secretary of Energy, and National Petroleum Council research needs assessments related to carbon management. She also is on the Editorial Board for Energy and Environmental Sciences.

ACADEMIC APPOINTMENTS

- Professor, Energy Science & Engineering
- Senior Fellow, Precourt Institute for Energy
- Senior Fellow, Stanford Woods Institute for the Environment
- Co-Director, Precourt Institute for Energy
- Director, Global Climate and Energy Project

- Affiliate, Stanford Woods Institute for the Environment

ADMINISTRATIVE APPOINTMENTS

- Division Director and Chief Strategist for the Energy Transition, White House Office of Science and Technology Policy, (2021-2023)
- Co-Director, Precourt Institute for Energy, Stanford University, (2014-2020)
- Professor, Energy Resources Engineering Department, Stanford University, (2013- present)
- Acting Director, Precourt Institute for Energy, Stanford University, (2012-2013)
- Director, Global Climate and Energy Project, Stanford University, (2009- present)
- Professor (Research), Energy Resources Engineering Department, Stanford University, (2007-2013)
- Senior Fellow by Courtesy, Woods Institute for the Environment, Stanford University, (2007-2013)
- Executive Director, Global Climate & Energy Project, Stanford University, (2007-2009)
- Deputy Director for Operations, Lawrence Berkeley National Laboratory, (2001-2004)
- Associate Laboratory Director, Energy Sciences, Lawrence Berkeley National Laboratory, (1997-2001)
- Director, Earth Sciences Division, Lawrence Berkeley National Laboratory, (1993-2001)
- Visiting Professor, Earth Sciences Department, Clemson University, (1990-1998)
- Positions of growing responsibility to Senior Staff Scientist, Earth Sciences Division, Lawrence Berkeley National Laboratory, (1977-2006)

HONORS AND AWARDS

- Elected Member, American Academy of Arts and Sciences (2023)
- Lifetime Achievement Award, Abdullah bin Hamad Al-Attiyah Foundation (2023)
- Engineers Health, Safety, and Environmental Award, Society Of Petroleum Engineers (2019)
- Arthur D. Storke Lecturer, Columbia University (2018)
- Distinguished Lecture Tour, Peter Cook Center, University of Melbourne (2017)
- Honorary Degree, Smith College, Massachusetts (2015)
- Roslyn Silver'27 Science Lectureship, Barnard College (2015)
- Greenman Award, IEA Greenhouse Gas Control Programme (2012)
- Alberta Innovates Lecturer of 2011, Alberta Innovates - Energy and Environment Solutions (AI-EES) (2011)
- Stanford Fellow, Stanford University (2009-2011)
- ARCS 2009 American Pacesetter Award, Achievement Rewards for College Scientists (2009)
- Michel T. Halbouty Distinguished Lecture Award, Geological Society of America (2009)
- Contributed to the reports of the IPCC, which was awarded the Nobel Peace Prize in 2007, Norwegian Nobel Committee (2007)
- DOE Certificate of Appreciation, Department of Education (DOE) (1996)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Breakthrough Energy Innovation Council (2023 - present)
- Advisory Board, Climate Vault (2021 - 2021)
- Scientific Advisory Board, Breakthrough Energy Ventures (2021 - 2021)
- Member, Advisory Board, Princeton University, Andlinger Center (2018 - 2021)
- Member, Advisory Board, Colorado School of Mines, Payne Institute (2018 - 2021)
- Member, Director's Scientific Advisory Board, Argonne National Laboratory (2018 - 2021)
- Co-Lead for Geological Storage Section for NPC CCS Study, National Petroleum Council (2018 - 2020)

- Design Team Member for Long Range Planning -- Sustainability, Stanford University (2018 - 2020)
- Member, NAS Study Panel on Carbon Dioxide Removal and Negative Emissions (2017 - 2018)
- Member, Secretary of Energy Advisory Board Task Force for on CO2 Utilization and Negative Emissions (2016 - 2017)
- Ambassador, Clean Energy, Education, and Empowerment Initiative (2015 - present)
- Chair, Witherspoon Mid-Career Award, American Geophysical Union (2015 - 2018)
- Advisory Board Member, Japan Initiative for the Cool Earth Forum (2014 - present)
- Member, Energy, Energy and Environment Advisory Board, Pacific Northwest National Laboratory (2014 - 2021)
- Chair, Advisory Board, Lahore University of Management Science, Pakistan (2014 - 2018)
- Chair, Energy, Climate and Infrastructure Advisory Board, Sandia National Laboratory (2014 - 2017)
- Member, Organizing Committee, 12th International Conference on Greenhouse Gas Control (2013 - 2018)
- Co-founding Editor, MRS Energy and Sustainability Journal (2013 - 2015)
- Member, Visiting Committee, Department of Environmental Engineering and Earth Sciences, Clemson University (2012 - 2020)
- Member, Energy, Climate and Infrastructure Advisory Board, Sandia National Laboratory, Albuquerque, NM (2012 - 2017)
- Member, Energy Systems Integration Technical Review Committee, National Renewable Energy Laboratory, Golden, Colorado (2012 - 2017)
- Co-organizer and teacher, Joint Stanford-SLAC-NREL Energy Summer School, Stanford University (2012 - 2012)
- Member, Gordon Conference Organizing Committee, Flow Through Porous Media (2012 - 2012)
- Sustainability Committee, Stanford University (2012 - 2012)
- Co-director, Stanford Center for Carbon Storage, Stanford University (2011 - present)
- Member, Organizing Committee, 11th International Conference on Greenhouse Gas Control Technologies, IEA Greenhouse Gas Programme (2011 - 2012)
- Co-organizer and teacher, Joint Stanford-SLAC-NREL Energy Summer School (2011 - 2011)
- Member, California Council on Science and Technology (2011 - 2011)
- Member, Committee on Emerging Workforce Trends in the U.S. Energy and Mining Industries, National Research Council (2011 - 2011)
- Member, Advisory Board, National Geographic Society, Great Energy Challenge (2010 - 2016)
- Member, BIGCCS Scientific Committee, Research Council of Norway (2010 - 2014)
- Board of Directors, Carbon Management Canada (2010 - 2013)
- Judge, Aspen Institute Energy and Environment Awards (2010 - 2010)
- Member, State of California, "Blue Ribbon" Panel on Carbon Dioxide Capture and Storage (2010 - 2010)
- Member, Advisory Board, MUSTANG Project on CCS (2009 - 2015)
- Member, Advisory Board, Lahore University of Management Science, Pakistan (2009 - 2014)
- Member and Chair, Environmental Subcommittee of the Advisory Panel on Investment Responsibility & Licensing (APIR-L) (2009 - 2013)
- Coordinating Lead Author, Global Energy Assessment (GEA), Chapter 13, Carbon Dioxide Capture and Storage (2009 - 2012)
- Member, Scientific Policy Board, SLAC National Laboratory (2009 - 2012)
- Member, World Resources International Project to Develop Guidelines for Carbon Dioxide Capture and Storage (2009 - 2011)
- Member, WRI Task Force on CCS in China (2009 - 2010)
- Member, Organizing Committee, 10th International Conference on Greenhouse Gas Control Technologies, IEA Greenhouse Gas Programme (2009 - 2010)
- Co-organizer and teacher, Joint Stanford-SLAC-NREL Energy Summer School (2009 - 2009)
- Judge, Aspen Institute Energy and Environment Awards (2009 - 2009)
- Board of Directors, National Renewable Energy Laboratory (2008 - present)
- Board of Directors, Climate Central, Princeton, NJ (2008 - present)

- Climate Change Committee Member, American Association of Petroleum Geologists (2008 - 2010)
- Instructor, Stanford Continuing Education: A Practical Guide to a Sustainable Energy Future (2008 - 2008)
- Participant, Arctic Expedition for Climate Action, sponsored by National Geographic, Linblad Expeditions and the Aspen Institute (2008 - 2008)
- Member, Organizing Committee, 9th International Conference on Greenhouse Gas Control Technologies, IEA Greenhouse Gas Programme (2007 - 2008)
- Task Force Member, Council on Foreign Relations, Climate Change Task Force (2007 - 2007)
- Member, Sleipner Risk Assessment Advisory Committee, Statoil (2006)
- Chair, Scientific Advisory Board, Atmospheric Radiation Measurement User Facility (2006 - 2008)
- Member, FutureGen Technical Advisory Board (2006 - 2008)
- Section Co-Chair for Carbon Sequestration, Assessment of Basic Research Needs in Earth Sciences, Commissioned by DOE Basic Energy Sciences (2006 - 2007)
- Co-Chair, Technical Review of the CO2CRC, Australia (2006 - 2006)
- Member, Technical Advisory Board for the In Salah CO2 Storage Project (2005 - 2013)
- Coordinating Lead Author, Intergovernmental Panel on Climate Change (IPCC) Special Report on CO2 Capture and Storage: Chapter on Geologic Storage of CO2 (2003 - 2005)
- Member, Carbon Mitigation Initiative (CMI) Advisory Board, Princeton University, NJ (2002 - present)
- Member, CO2 Capture Project (CCP) Technology Advisory Board (2002 - 2007)
- Chair, School of Earth Sciences Advisory Board, Stanford University (2002 - 2004)
- Member, Society of Petroleum Engineers (2000 - present)
- Member, American Geophysical Union (2000 - present)

PROFESSIONAL EDUCATION

- Ph.D, University of California, Berkeley , Material Science & Mineral Engineering (1988)
- M.Sc., University of California, Berkeley , Material Science & Mineral Engineering (1984)
- B.A., Barnard College, Columbia University , Geology (1977)

LINKS

- Benson Lab: <http://pangea.stanford.edu/research/bensonlab/>
- Precourt Institute for Energy (PIE): <https://energy.stanford.edu>
- Stanford Woods Institute: <http://woods.stanford.edu/>
- Stanford Center for Carbon Storage: <https://scs.stanford.edu/>
- Google Scholar: Benson: <https://scholar.google.com/citations?user=t7GevjYAAAAJ&hl=en&oi=ao>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Research Activities

For the past 15 years, I have focused on reducing greenhouse gas emissions from energy production. My research activities cover two different but complementary areas: (1) energy systems analysis to help guide decision-making about the best options for providing plentiful energy supplies while reducing greenhouse gas emissions, and (2) sequestering carbon dioxide in deep underground formations.

Teaching Activities

I team two courses regularly: Sustainable Energy for 9 Billion (ENERGY104) and Carbon Dioxide Capture and Storage (ENERGY153/253). In addition, I regularly teach research seminars related to decarbonizing the grid and increasing energy access for developing countries. I am currently teaching a Carbon Removal Seminar (Fall) and the Hydrogen Seminar (Winter).

Professional Activities

Board Member, National Renewable Energy Lab and Climate Central. Member of American Geophysical Union, Society of Petroleum Engineers, and American Association for the Advancement of Science. Advisory Board Member for National Geographic's Great Energy Challenge, Sandia National Laboratory and Pacific Northwest National Laboratory.

Teaching

COURSES

2023-24

- Carbon Capture and Sequestration: ENERGY 153, ENERGY 253 (Win)
- Carbon Dioxide and Methane Removal, Utilization, and Sequestration: EARTHSYS 308, ENERGY 308, ENVRES 295, ESS 308, ME 308 (Aut)
- Energy Systems Fundamentals: ENERGY 201A (Aut)
- Hydrogen Economy: ENERGY 205 (Win)
- Sustainable Energy for 9 Billion: ENERGY 104, ENERGY 204 (Win)

2020-21

- Carbon Capture and Sequestration: ENERGY 153, ENERGY 253 (Aut)
- Carbon Dioxide and Methane Removal, Utilization, and Sequestration: EARTHSYS 308, ENERGY 308, ENVRES 295, ESS 308, ME 308 (Aut)
- Energy Policy in California and the West: CEE 263G, ENERGY 73, POLISCI 73, PUBLPOL 73 (Spr)
- Hydrogen Economy: ENERGY 205 (Win)
- Sustainable Energy Interdisciplinary Graduate Seminar: CEE 372, ENERGY 309, MS&E 495 (Aut, Win, Spr)
- Sustainable Energy for 9 Billion: ENERGY 104, ENERGY 206 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Dylan Crain, Manju Pharkavi Murugesu

Postdoctoral Faculty Sponsor

Maomao Hu, Aqsa Naeem

Doctoral Dissertation Advisor (AC)

Gege Wen, Jihan Zhuang

Doctoral Dissertation Co-Advisor (AC)

Anela Arifi

Master's Program Advisor

Alexis Bonnafont

Doctoral (Program)

Catherine Callas, Julia Frohmann, Alice Nuz, Aman Raizada

Publications

PUBLICATIONS

- **Quantification of the Impact of Acidified Brine on Fracture-Matrix Transport in a Naturally Fractured Shale Using in Situ Imaging and Modeling** *ENERGY & FUELS*
Zahasky, C., Murugesu, M., Kurotori, T., Sutton, C., Druhan, J. L., Vega, B., Benson, S. M., Kavscek, A. R.
2023
- **An integrated framework for optimal monitoring and history matching in CO₂ storage projects** *COMPUTATIONAL GEOSCIENCES*
Crain, D. M., Benson, S. M., Saltzer, S. D., Durlofsky, L. J.
2023
- **Real-time high-resolution CO₂ geological storage prediction using nested Fourier neural operators** *ENERGY & ENVIRONMENTAL SCIENCE*
Wen, G., Li, Z., Long, Q., Azizzadenesheli, K., Anandkumar, A., Benson, S. M.
2023
- **Comparative Analysis of Imaging and Measurements of Micrometer-Scale Fracture Aperture Fields Within a Heterogeneous Rock Using PET and X-ray CT** *TRANSPORT IN POROUS MEDIA*
Kurotori, T., Zahasky, C., Gran, M., Kavscek, A. R., Benson, S. M.
2023
- **Reconciling predicted and observed carbon mineralization in siliciclastic formations** *CHEMICAL GEOLOGY*
Mishra, A., Boon, M. M., Benson, S. M., Watson, M. N., Haese, R. R.
2023; 619
- **Unlocking demand response in commercial buildings: Empirical response of commercial buildings to daily cooling set point adjustments** *ENERGY AND BUILDINGS*
de Chalendar, J. A., McMahon, C., Valenzuela, L., Glynn, P. W., Benson, S. M.
2023; 278
- **Deep-Learning-Based Flow Prediction for CO₂ Storage in Shale-Sandstone Formations** *ENERGIES*
Chu, A. K., Benson, S. M., Wen, G.
2023; 16 (1)
- **Mixed imbibition controls the advance of wetting fluid in multiscale geological media** *Advances in Water Resources*
Kurotori, T., Murugesu, M. P., Zahasky, C., Vega, B., Druhan, J. L., Benson, S. M., Kavscek, A. R.
2023
- **Criteria and workflow for selecting depleted hydrocarbon reservoirs for carbon storage** *APPLIED ENERGY*
Callas, C., Saltzer, S. D., Davis, J., Hashemi, S. S., Kavscek, A. R., Okoroafor, E. R., Wen, G., Zoback, M. D., Benson, S. M.
2022; 324
- **Modelling CO₂ plume spreading in highly heterogeneous rocks with anisotropic, rate-dependent saturation functions: A field-data based numeric simulation study of Otway** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Shao, Q., Boon, M., Youssef, A., Kurtev, K., Benson, S. M., Matthai, S. K.
2022; 119
- **Distributional health impacts of electricity imports in the United States** *ENVIRONMENTAL RESEARCH LETTERS*
Hennessy, E. M., de Chalendar, J. A., Benson, S. M., Azevedo, I. L.
2022; 17 (6)
- **Overcoming barriers to solar dryer adoption and the promise of multi-seasonal use in India** *ENERGY FOR SUSTAINABLE DEVELOPMENT*
Machala, M. L., Tan, F. L., Poletayev, A., Khan, M. I., Benson, S. M.
2022; 68: 18-28
- **Three-Dimensional Permeability Inversion Using Convolutional Neural Networks and Positron Emission Tomography** *WATER RESOURCES RESEARCH*
Huang, Z., Kurotori, T., Pini, R., Benson, S. M., Zahasky, C.
2022; 58 (3)

- **Mass transfer between fluids as a mechanism for seismic wave attenuation: Experimental evidence from water-CO₂ saturated sandstones** *GEOPHYSICAL JOURNAL INTERNATIONAL*
Chapman, S., Borgomano, J. M., Quintal, B., Benson, S. M., Fortin, J.
2022
- **Anisotropic rate-dependent saturation functions for compositional simulation of sandstone composites** *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING*
Boon, M., Matthai, S. K., Shao, Q., Youssef, A. A., Mishra, A., Benson, S. M.
2022; 209
- **Preferential Solute Transport in Low Permeability Zones During Spontaneous Imbibition in Heterogeneous Porous Media** *WATER RESOURCES RESEARCH*
Zahasky, C., Benson, S. M.
2022; 58 (1)
- **U-FNO—An enhanced Fourier neural operator-based deep-learning model for multiphase flow** *Advances in Water Resources*
Wen, G., Li, Z., Azzizadenesheli, K., Anandkumar, A., Benson, S. M.
2022; 163
- **California's approach to decarbonizing the electricity sector and the role of dispatchable, low-carbon technologies** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Baik, E., Siala, K., Hamacher, T., Benson, S. M.
2022; 113
- **A physics-informed data reconciliation framework for real-time electricity and emissions tracking** *APPLIED ENERGY*
de Chalendar, J. A., Benson, S. M.
2021; 304
- **Long-Term Redistribution of Residual Gas Due to Non-convective Transport in the Aqueous Phase** *TRANSPORT IN POROUS MEDIA*
Li, Y., Orr, F. M., Benson, S. M.
2021
- **Quantifying CO₂ capillary heterogeneity trapping through macroscopic percolation simulation** *ADVANCES IN WATER RESOURCES*
Ni, H., Moyner, O., Kurtev, K. D., Benson, S. M.
2021; 155
- **Opportunities for large-scale CO₂ disposal in coastal marine volcanic basins based on the geology of northeast Hawaii** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
DePaolo, D. J., Thomas, D. M., Christensen, J. N., Zhang, S., Orr, F. M., Maher, K., Benson, S. M., Lautze, N., Xue, Z., Mito, S.
2021; 110
- **CCSNet: A deep learning modeling suite for CO₂ storage** *ADVANCES IN WATER RESOURCES*
Wen, G., Hay, C., Benson, S. M.
2021; 155
- **A physics-based model to predict the impact of horizontal lamination on CO₂ plume migration** *ADVANCES IN WATER RESOURCES*
Boon, M., Benson, S. M.
2021; 150
- **Seismic Wave Attenuation and Dispersion Due to Partial Fluid Saturation: Direct Measurements and Numerical Simulations Based on X-Ray CT** *JOURNAL OF GEOPHYSICAL RESEARCH-SOLID EARTH*
Chapman, S., Borgomano, J. M., Quintal, B., Benson, S. M., Fortin, J.
2021; 126 (4)
- **Extreme capillary heterogeneities and in situ fluid compartmentalization due to clusters of deformation bands in sandstones** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Romano, C. R., Garing, C., Minto, J. M., Benson, S. M., Shipton, Z. K., Lunn, R. J.
2021; 106
- **Reliability of Relative Permeability Measurements for Heterogeneous Rocks Using Horizontal Core Flood Experiments** *SUSTAINABILITY*
Kuo, C., Benson, S. M.

2021; 13 (5)

- **An improved procedure for sub-core property characterization using data from multiple coreflooding experiments** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Anto-Darkwah, E., Benson, S. M., Rabinovich, A.
2021; 105
- **Towards a predictor for CO₂ plume migration using deep neural networks** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Wen, G., Tang, M., Benson, S. M.
2021; 105
- **Description of Chemical Transport in Laboratory Rock Cores Using the Continuous Random Walk Formalism** *WATER RESOURCES RESEARCH*
Kurotori, T., Zahasky, C., Benson, S. M., Pini, R.
2020; 56 (9)
- **Using Unsupervised Machine Learning to Characterize Capillary Flow and Residual Trapping** *WATER RESOURCES RESEARCH*
Ni, H., Benson, S. M.
2020; 56 (8)
- **A continuum-scale representation of Ostwald ripening in heterogeneous porous media** *JOURNAL OF FLUID MECHANICS*
Li, Y., Garing, C., Benson, S. M.
2020; 889
- **Subcore Scale Fluid Flow Behavior in a Sandstone With Cataclastic Deformation Bands** *WATER RESOURCES RESEARCH*
Romano, C. R., Zahasky, C., Garing, C., Minto, J. M., Benson, S. M., Shipton, Z. K., Lunn, R. J.
2020; 56 (4)
- **Tracking emissions in the US electricity system.** *Proceedings of the National Academy of Sciences of the United States of America*
de Chalendar, J. A., Taggart, J., Benson, S. M.
2019
- **An Overview of the Status and Challenges of CO₂ Storage in Minerals and Geological Formations** *FRONTIERS IN CLIMATE*
Kelemen, P., Benson, S. M., Pilorge, H., Psarras, P., Wilcox, J.
2019; 1
- **Spatial and Temporal Quantification of Spontaneous Imbibition** *GEOPHYSICAL RESEARCH LETTERS*
Zahasky, C., Benson, S. M.
2019
- **Macro-Energy Systems: Toward a New Discipline** *JOULE*
Levi, P. J., Kurland, S., Carbajales-Dale, M., Weyant, J. P., Brandt, A. R., Benson, S. M.
2019; 3 (10): 2282–86
- **CO₂ plume migration and dissolution in layered reservoirs** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Wen, G., Benson, S. M.
2019; 87: 66–79
- **Predicting CO₂ residual trapping ability based on experimental petrophysical properties for different sandstone types** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Ni, H., Boon, M., Garing, C., Benson, S. M.
2019; 86: 158–76
- **Why 100% Renewable Energy Is Not Enough** *JOULE*
de Chalendar, J. A., Benson, S. M.
2019; 3 (6): 1389–93
- **The energetic implications of introducing lithium-ion batteries into distributed photovoltaic systems** *SUSTAINABLE ENERGY & FUELS*
Kurland, S., Benson, S.
2019; 3 (5): 1182–90
- **Positron emission tomography in water resources and subsurface energy resources engineering research** *ADVANCES IN WATER RESOURCES*

- Zahasky, C., Kurotori, T., Pini, R., Benson, S. M.
2019; 127: 39–52
- **City-scale decarbonization experiments with integrated energy systems** *ENERGY & ENVIRONMENTAL SCIENCE*
de Chalendar, J. A., Glynn, P. W., Benson, S. M.
2019; 12 (5): 1695–1707
 - **Measuring, imaging and modelling solute transport in a microporous limestone** *CHEMICAL ENGINEERING SCIENCE*
Kurotori, T., Zahasky, C., Hejazi, S., Shah, S. M., Benson, S. M., Pini, R.
2019; 196: 366–83
 - **CO₂ Wettability of Sandstones: Addressing Conflicting Capillary Behaviors** *GEOPHYSICAL RESEARCH LETTERS*
Garing, C., Benson, S. M.
2019; 46 (2): 776–82
 - **Carbon Mineralization of CO₂** *NEGATIVE EMISSIONS TECHNOLOGIES AND RELIABLE SEQUESTRATION: A RESEARCH AGENDA*
Pacala, S., Al-Kaisi, M., Barteau, M. A., Belmont, E., Benson, S. M., Birdsey, R., Boysen, D., Duren, R., Hopkinson, C., Jones, C., Kelemen, P., Levasseur, A., Paustian, et al
2019: 247–318
 - **Experimental Investigation of a Capacity-Based Demand Response Mechanism for District-Scale Applications**
de Chalendar, J. A., Glynn, P. W., Benson, S. M., Bui, T. X.
HICSS.2019: 3709-3718
 - **Coreflooding data on nine sandstone cores to measure CO₂ residual trapping.** *Data in brief*
Ni, H. n., Boon, M. n., Garing, C. n., Benson, S. M.
2019; 25: 104249
 - **Synthesis** *NEGATIVE EMISSIONS TECHNOLOGIES AND RELIABLE SEQUESTRATION: A RESEARCH AGENDA*
Pacala, S., Al-Kaisi, M., Barteau, M. A., Belmont, E., Benson, S. M., Birdsey, R., Boysen, D., Duren, R., Hopkinson, C., Jones, C., Kelemen, P., Levasseur, A., Paustian, et al
2019: 351–401
 - **Bioenergy with Carbon Capture and Sequestration** *NEGATIVE EMISSIONS TECHNOLOGIES AND RELIABLE SEQUESTRATION: A RESEARCH AGENDA*
Pacala, S., Al-Kaisi, M., Barteau, M. A., Belmont, E., Benson, S. M., Birdsey, R., Boysen, D., Duren, R., Hopkinson, C., Jones, C., Kelemen, P., Levasseur, A., Paustian, et al
2019: 137–88
 - **Terrestrial Carbon Removal and Sequestration** *NEGATIVE EMISSIONS TECHNOLOGIES AND RELIABLE SEQUESTRATION: A RESEARCH AGENDA*
Pacala, S., Al-Kaisi, M., Barteau, M. A., Belmont, E., Benson, S. M., Birdsey, R., Boysen, D., Duren, R., Hopkinson, C., Jones, C., Kelemen, P., Levasseur, A., Paustian, et al
2019: 87–135
 - **Direct Air Capture** *NEGATIVE EMISSIONS TECHNOLOGIES AND RELIABLE SEQUESTRATION: A RESEARCH AGENDA*
Pacala, S., Al-Kaisi, M., Barteau, M. A., Belmont, E., Benson, S. M., Birdsey, R., Boysen, D., Duren, R., Hopkinson, C., Jones, C., Kelemen, P., Levasseur, A., Paustian, et al
2019: 189–246
 - **Negative Emissions Technologies and Reliable Sequestration A Research Agenda Introduction** *NEGATIVE EMISSIONS TECHNOLOGIES AND RELIABLE SEQUESTRATION: A RESEARCH AGENDA*
Pacala, S., Al-Kaisi, M., Barteau, M. A., Belmont, E., Benson, S. M., Birdsey, R., Boysen, D., Duren, R., Hopkinson, C., Jones, C., Kelemen, P., Levasseur, A., Paustian, et al
2019: 23–44
 - **Sequestration of Supercritical CO₂ in Deep Sedimentary Geological Formations** *NEGATIVE EMISSIONS TECHNOLOGIES AND RELIABLE SEQUESTRATION: A RESEARCH AGENDA*
Pacala, S., Al-Kaisi, M., Barteau, M. A., Belmont, E., Benson, S. M., Birdsey, R., Boysen, D., Duren, R., Hopkinson, C., Jones, C., Kelemen, P., Levasseur, A., Paustian, et al
2019: 319–49
 - **YCoastal Blue Carbon** *NEGATIVE EMISSIONS TECHNOLOGIES AND RELIABLE SEQUESTRATION: A RESEARCH AGENDA*

- Pacala, S., Al-Kaisi, M., Barteau, M. A., Belmont, E., Benson, S. M., Birdsey, R., Boysen, D., Duren, R., Hopkinson, C., Jones, C., Kelemen, P., Levasseur, A., Paustian, et al
2019: 45–86
- **Negative Emissions Technologies and Reliable Sequestration A Research Agenda Preface** *NEGATIVE EMISSIONS TECHNOLOGIES AND RELIABLE SEQUESTRATION: A RESEARCH AGENDA*
Pacala, S., Al-Kaisi, M., Barteau, M. A., Belmont, E., Benson, S. M., Birdsey, R., Boysen, D., Duren, R., Hopkinson, C., Jones, C., Kelemen, P., Levasseur, A., Paustian, et al
2019: XI+
 - **Multimodal imaging and stochastic percolation simulation for improved quantification of effective porosity and surface area in vesicular basalt** *ADVANCES IN WATER RESOURCES*
Zahasky, C., Thomas, D., Matter, J., Maher, K., Benson, S. M.
2018; 121: 235–44
 - **Calculating Trajectories Associated With Solute Transport in a Heterogeneous Medium** *WATER RESOURCES RESEARCH*
Vasco, D. W., Pride, S. R., Zahasky, C., Benson, S. M.
2018; 54 (9): 6890–6908
 - **Residual trapping of carbon dioxide during geological storage-Insight gained through a pore-network modeling approach** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Rasmusson, K., Rasmusson, M., Tsang, Y., Benson, S., Hingerl, F., Fagedund, F., Niemi, A.
2018; 74: 62–78
 - **Net-zero emissions energy systems** *SCIENCE*
Davis, S. J., Lewis, N. S., Shaner, M., Aggarwal, S., Arent, D., Azevedo, I. L., Benson, S. M., Bradley, T., Brouwer, J., Chiang, Y., Clack, C. M., Cohen, A., Doig, et al
2018; 360 (6396): 1419+
 - **Micro-positron emission tomography for measuring sub-core scale single and multiphase transport parameters in porous media** *ADVANCES IN WATER RESOURCES*
Zahasky, C., Benson, S. M.
2018; 115: 1–16
 - **The global overlap of bioenergy and carbon sequestration potential** *CLIMATIC CHANGE*
Turner, P. A., Mach, K. J., Lobell, D. B., Benson, S. M., Baik, E., Sanchez, D. L., Field, C. B.
2018; 148 (1-2): 1–10
 - **Pore-scale modelling of Ostwald ripening** *JOURNAL OF FLUID MECHANICS*
de Chalendar, J. A., Garing, C., Benson, S. M.
2018; 835: 363–92
 - **Geospatial analysis of near-term potential for carbon-negative bioenergy in the United States.** *Proceedings of the National Academy of Sciences of the United States of America*
Baik, E. n., Sanchez, D. L., Turner, P. A., Mach, K. J., Field, C. B., Benson, S. M.
2018; 115 (13): 3290–95
 - **In situ carbon mineralization in ultramafic rocks: Natural processes and possible engineered methods**
Kelemen, P. B., Aines, R., Bennett, E., Benson, S. M., Carter, E., Coggon, J. A., de Obeso, J. C., Evans, O., Gadikota, G., Dipple, G. M., Godard, M., Harris, M., Higgins, et al
ELSEVIER SCIENCE BV.2018: 92–102
 - **Commemorating Dr. Gudmundur "Bo" Bodvarsson (1951-2006), a Leader of the Deep Unsaturated Flow and Transport Investigations** *WATER*
Tsang, C., Lippmann, M., Dobson, P., Tsang, Y., Faybishenko, B., Benson, S., Birkholzer, J., Finsterle, S., Hawkes, D., Hubbard, S., Kneafsey, T., Liu, H., Oldenburg, et al
2018; 10 (1)
 - **Capillary pressure heterogeneity and hysteresis for the supercritical CO₂/water system in a sandstone** *ADVANCES IN WATER RESOURCES*
Pini, R., Benson, S. M.
2017; 108: 277–92

- **Advancing clean energy** *ISSUES IN SCIENCE AND TECHNOLOGY*
Benson, S. M., Majumdar, A.
2017; 33 (3): 11–12
- **Pore-scale capillary pressure analysis using multi-scale X-ray micromotography** *Advances in Water Resources*
Garing, C., de Chalendar, J. A., Voltolini, M., Ajo-Franklin, J. B., Benson, S. M.
2017; 104: 223-241
- **X-ray CT and multiphase flow characterization of a ‘bio-grouted’ sandstone core: The effect of dissolution on seal longevity** *International Journal of Greenhouse Gas Control*
Minto, J. M., Hingerl, F. F., Benson, S. M., Lunn, R. J.
2017; 64: 152-162
- **Pore-scale multiphase flow modeling and imaging of CO₂ exsolution in Sandstone** *Journal of Petroleum Science and Engineering*
Zuo, L., Ajo-Franklin, J. B., Voltolini, M., Geller, J. T., Benson, S. M.
2017; 155: 63-77
- **Evaluating co-benefits of battery and fuel cell vehicles in a community in California** *ENERGY*
Felgenhauer, M. F., Pellow, M. A., Benson, S. M., Hamacher, T.
2016; 114: 360-368
- **Translating risk assessment to contingency planning for CO₂ geologic storage: A methodological framework** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Farhat, K., Benson, S. M.
2016; 52: 410-431
- **Use of above-zone pressure data to locate and quantify leaks during carbon storage operations** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Cameron, D. A., Durlifsky, L. J., Benson, S. M.
2016; 52: 32-43
- **Experimental Investigation of Stress-Dependency of Relative Permeability in Rock Fractures** *TRANSPORT IN POROUS MEDIA*
Huo, D., Benson, S. M.
2016; 113 (3): 567-590
- **Quantifying solute spreading and mixing in reservoir rocks using 3-D PET imaging** *JOURNAL OF FLUID MECHANICS*
Pini, R., Vandehey, N. T., Druhan, J., O’Neil, J. P., Benson, S. M.
2016; 796
- **Heletz experimental site overview, characterization and data analysis for CO₂ injection and geological storage** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Niemi, A., Bensabat, J., Shtivelman, V., Edlmann, K., Gouze, P., Luquot, L., Hingerl, F., Benson, S. M., Pezard, P. A., Rasmusson, K., Liang, T., Fagerlund, F., Gendler, et al
2016; 48: 3-23
- **Characterization of heterogeneity in the Heletz sandstone from core to pore scale and quantification of its impact on multi-phase flow** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Hingerl, F. F., Yang, F., Pini, R., Xiao, X., Toney, M. F., Liu, Y., Benson, S. M.
2016; 48: 69-83
- **Evaluation of hydraulic controls for leakage intervention in carbon storage reservoirs** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Zahasky, C., Benson, S. M.
2016; 47: 86-100
- **A calibration-free approach for measuring fracture aperture distributions using X-ray computed tomography** *GEOSPHERE*
Huo, D., Pini, R., Benson, S. M.
2016; 12 (2): 558-571
- **Simulating stress-dependent fluid flow in a fractured core sample using real-time X-ray CT data** *SOLID EARTH*
Kling, T., Huo, D., Schwarz, J., Enzmann, F., Benson, S., Blum, P.

2016; 7 (4): 1109-1124

- **Economic and environmental prospects of battery and fuel cell vehicles for the energy transition in German communities.** *10TH INTERNATIONAL RENEWABLE ENERGY STORAGE CONFERENCE, IRES 2016*
Felgenhauer, M. F., Pellow, M. A., Benson, S. M., Hamacher, T.
2016; 99: 380-391
- **Accurate determination of characteristic relative permeability curves** *ADVANCES IN WATER RESOURCES*
Krause, M. H., Benson, S. M.
2015; 83: 376-388
- **Capillary trapping for geologic carbon dioxide storage - From pore scale physics to field scale implications** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Krevor, S., Blunt, M. J., Benson, S. M., Pentland, C. H., Reynolds, C., Al-Menhali, A., Niu, B.
2015; 40: 221-237
- **Influence of small-scale heterogeneity on upward CO₂ plume migration in storage aquifers** *ADVANCES IN WATER RESOURCES*
Li, B., Benson, S. M.
2015; 83: 389-404
- **Extraction of pore-morphology and capillary pressure curves of porous media from synchrotron-based tomography data** *SCIENTIFIC REPORTS*
Yang, F., Hingerl, F. F., Xiao, X., Liu, Y., Wu, Z., Benson, S. M., Toney, M. F.
2015; 5
- **Numerical and analytical study of effects of small scale heterogeneity on CO₂/brine multiphase flow system in horizontal corefloods** *ADVANCES IN WATER RESOURCES*
Kuo, C., Benson, S. M.
2015; 79: 1-17
- **Sustainability assessment of catalysis for energy storage in hydrogen: Comparative net energy analysis of fuel cell and electrolyzer technologies**
Pellow, M., Sridhar, S., Emmott, C., Benson, S.
AMER CHEMICAL SOC.2015
- **Registration of the rotation axis in X-ray tomography** *Journal of synchrotron radiation*
Yang, Y., Hingerl, F., Xiao, F., Liu, Y., Wu, Z., Benson, S., Pianetta, P.
2015; 22 (2): 452-457
- **An Experimental Investigation of Stress-Dependent Permeability and Permeability Hysteresis Behavior in Rock Fractures** *DYNAMICS OF FLUIDS AND TRANSPORT IN COMPLEX FRACTURED-POROUS SYSTEMS*
Huo, D., Benson, S. M., Faybishenko, B., Benson, S. M., Gale, J. E.
2015; 210: 99-114
- **A Complex Systems Approach to Describing Flow and Transport in Fractured-Porous Media** *DYNAMICS OF FLUIDS AND TRANSPORT IN COMPLEX FRACTURED-POROUS SYSTEMS*
Faybishenko, B., Benson, S. M., Gale, J. E., Molz, F., Faybishenko, B., Benson, S. M., Gale, J. E.
2015; 210: 5-17
- **Dynamics of Fluids and Transport in Complex Fractured-Porous Systems PREFACE** *DYNAMICS OF FLUIDS AND TRANSPORT IN COMPLEX FRACTURED-POROUS SYSTEMS*
Faybishenko, B., Benson, S., Gale, J., Faybishenko, B., Benson, S. M., Gale, J. E.
2015; 210: IX-X
- **Hydrogen or batteries for grid storage? A net energy analysis** *ENERGY & ENVIRONMENTAL SCIENCE*
Pellow, M. A., Emmott, C. J., Barnhart, C. J., Benson, S. M.
2015; 8 (7): 1938-1952
- **Sustainability assessment of regenerative hydrogen fuel cells for energy storage**
Pellow, M. A., Emmott, C. M., Benson, S. M.
AMER CHEMICAL SOC.2014
- **Hysteretic trapping and relative permeability of CO₂ in sandstone at reservoir conditions** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*

- Ruprecht, C., Pini, R., Falta, R., Benson, S., Murdoch, L.
2014; 27: 15-27
- **Negative-emissions insurance.** *Science (New York, N.Y.)*
Benson, S. M.
2014; 344 (6191): 1431
 - **Can we afford storage ? A dynamic net energy analysis of renewable electricity generation supported by energy storage** *ENERGY & ENVIRONMENTAL SCIENCE*
Carbajales-Dale, M., Barnhart, C. J., Benson, S. M.
2014; 7 (5): 1538-1544
 - **Process-dependent residual trapping of CO₂ in sandstone** *GEOPHYSICAL RESEARCH LETTERS*
Zuo, L., Benson, S. M.
2014; 41 (8): 2820-2826
 - **In search of clean, affordable energy** *Oilfield Review*
Bao, Z., Benson, S. M., Cui, Y., Dionne, J. A., Maher, K., Maher, W., Halpin, C., Nelson, R., Nichols, D., Ralph, J., Ramakrishnan, T. S.
2014; 26 (1): 4-15
 - **Small-scale Heterogeneities and Buoyancy-driven CO₂ Migration in Geological Storage**
Li, B., Benson, S. M., Dixon, T., Herzog, H., Twinning, S.
ELSEVIER SCIENCE BV.2014: 3608-15
 - **Rapid surface detection of CO₂ leaks from geologic sequestration sites**
Moriarty, D., Dobeck, L., Benson, S., Dixon, T., Herzog, H., Twinning, S.
ELSEVIER SCIENCE BV.2014: 3975-83
 - **Development and Testing of a New Fiber Optic System for Monitoring CO₂ Solubility in Aqueous High-Pressure Geological Systems**
Hingerl, F. F., Marpu, S., Guzman, N., Benson, S. M., Delgado-Alonso, J., Dixon, T., Herzog, H., Twinning, S.
ELSEVIER SCIENCE BV.2014: 4134-44
 - **CO₂ Plume Tracking and History Matching Using Multilevel Pressure Monitoring at the Illinois Basin - Decatur Project**
Strandli, C. W., Mehnert, E., Benson, S. M., Dixon, T., Herzog, H., Twinning, S.
ELSEVIER SCIENCE BV.2014: 4473-84
 - **Evaluation of the Effectiveness of Injection Termination and Hydraulic Controls for Leakage Containment** *Energy Procedia*
Zahasky, C., Benson, S. M.
2014; 63: 4666-4676
 - **A reactive transport model for geochemical mitigation of CO₂ leaking into a confined aquifer**
Druhan, J. L., Vialle, S., Maher, K., Benson, S., Dixon, T., Herzog, H., Twinning, S.
ELSEVIER SCIENCE BV.2014: 4620-29
 - **A Simple Approximate Semi-analytical Solution for Estimating Leakage of Carbon Dioxide Through Faults** *Energy Procedia*
Zahasky, C., Benson, S. M.
2014; 63: 4861-4874
 - **CO₂ Exsolution - Challenges and Opportunities in Subsurface Flow Management**
Zuo, L., Benson, S. M., Dixon, T., Herzog, H., Twinning, S.
ELSEVIER SCIENCE BV.2014: 5664-70
 - **Carbon Dioxide Capture and Storage: Issues and Prospects** *ANNUAL REVIEW OF ENVIRONMENT AND RESOURCES, VOL 39*
de Coninck, H., Benson, S. M.
2014; 39: 243-270
 - **Investigating Aperture-Based Stress-Dependent Permeability and Capillary Pressure in Rock Fractures** *SPE Annual Technical Conference and Exhibition*
Huo, D., Li, B., Benson, S.
2014

- **Carbon Capture, Utilization, and Storage** *Spring Issue of The Bridge on Emerging Issues in Earth Resources Engineering*
Benson, S., Friedmann, S.
2014; 44 (1)
- **A better currency for investing in a sustainable future** *Nature Climate Change*
Carbajales-Dale, M., Barnhart, C. J., Brandt, A. R., Benson, S. M.
2014; 4 (7): 524-527
- **Ensuring benefits from North American shale gas development: Towards a research agenda** *Journal of Unconventional Oil and Gas Resources*
Bazilian, M., Brandt, A. R., Billman, L., Heath, G., Logan, J., Mann, M., Melaina, M., Statwick, P., Arent, D., Benson, S. M.
2014; 7: 71-74
- **Negative-emissions insurance** *Science*
Benson, S. M.
2014; 344 (6191): 1431
- **Migration of exsolved CO₂ following depressurization of saturated brines** *GREENHOUSE GASES-SCIENCE AND TECHNOLOGY*
Falta, R. W., Zuo, L., Benson, S. M.
2013; 3 (6): 503-515
- **Influence of capillary-pressure models on CO₂ solubility trapping** *ADVANCES IN WATER RESOURCES*
Li, B., Tchelepi, H. A., Benson, S. M.
2013; 62: 488-498
- **The energetic implications of curtailing versus storing solar- and wind-generated electricity** *ENERGY & ENVIRONMENTAL SCIENCE*
Barnhart, C. J., Dale, M., Brandt, A. R., Benson, S. M.
2013; 6 (10): 2804-2810
- **Characterization and scaling of mesoscale heterogeneities in sandstones** *GEOPHYSICAL RESEARCH LETTERS*
Pini, R., Benson, S. M.
2013; 40 (15): 3903-3908
- **Analytical Study of Effects of Flow Rate, Capillarity, and Gravity on CO₂/Brine Multiphase-Flow System in Horizontal Corefloods** *SPE Western North American Regional Meeting*
Kuo, C., Benson, S. M.
SOC PETROLEUM ENG.2013: 708-20
- **A technical assessment of CO₂ Interim Storage in deep saline aquifers** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Farhat, K., Benson, S. M.
2013; 15: 200-212
- **A Procedure for the Accurate Determination of Sub-Core Scale Permeability Distributions with Error Quantification** *TRANSPORT IN POROUS MEDIA*
Krause, M., Krevor, S., Benson, S. M.
2013; 98 (3): 565-588
- **Simultaneous determination of capillary pressure and relative permeability curves from core-flooding experiments with various fluid pairs** *WATER RESOURCES RESEARCH*
Pini, R., Benson, S. M.
2013; 49 (6): 3516-3530
- **Identifying diagnostics for reservoir structure and CO₂ plume migration from multilevel pressure measurements** *WATER RESOURCES RESEARCH*
Strandli, C. W., Benson, S. M.
2013; 49 (6): 3462-3475
- **Worker safety in a mature carbon capture and storage industry in the United States based upon analog industry experience** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Jordan, P. D., Benson, S. M.
2013; 14: 291-303
- **Energy Balance of the Global Photovoltaic (PV) Industry - Is the PV Industry a Net Electricity Producer?** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*

-
- Dale, M., Benson, S. M.
2013; 47 (7): 3482-3489
- **On the importance of reducing the energetic and material demands of electrical energy storage** *ENERGY & ENVIRONMENTAL SCIENCE*
Barnhart, C. J., Benson, S. M.
2013; 6 (4): 1083-1092
 - **Micromodel investigations of CO₂ exsolution from carbonated water in sedimentary rocks** *ADVANCES IN WATER RESOURCES*
Zuo, L., Zhang, C., Falta, R. W., Benson, S. M.
2013; 53: 188-197
 - **Exsolution Enhanced Oil Recovery with Concurrent CO₂ Sequestration** *International Conference on Greenhouse Gas Technologies (GHGT)*
Zuo, L., Benson, S. M.
ELSEVIER SCIENCE BV.2013: 6957–6963
 - **CO₂ Storage Contingencies Initiative: Detection, Intervention and Remediation of Unexpected CO₂ Migration** *International Conference on Greenhouse Gas Technologies (GHGT)*
Imbus, S. W., Dodds, K., Otto, C. J., Trautz, R. C., Christopher, C. A., Agarwal, A., Benson, S. M.
ELSEVIER SCIENCE BV.2013: 7802–7814
 - **Evaluation and development of options for remediation of CO₂ leakage into groundwater aquifers from geologic carbon storage** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Esposito, A., Benson, S. M.
2012; 7: 62-73
 - **Capillary pressure and heterogeneity for the CO₂/water system in sandstone rocks at reservoir conditions** *ADVANCES IN WATER RESOURCES*
Pini, R., Krevor, S. C., Benson, S. M.
2012; 38: 48-59
 - **Relative permeability and trapping of CO₂ and water in sandstone rocks at reservoir conditions** *WATER RESOURCES RESEARCH*
Krevor, S. C., Pini, R., Zuo, L., Benson, S. M.
2012; 48
 - **An Experimental Study of CO₂ Exsolution and Relative Permeability Measurements During CO₂ Saturated Water Depressurization** *TRANSPORT IN POROUS MEDIA*
Zuo, L., Krevor, S., Falta, R. W., Benson, S. M.
2012; 91 (2): 459-478
 - **Global Energy Assessment, Technical Summary**
Johansson, T., Nakicenovic, N., Patwardhan, A., Gomez-Echeverri, L., Banerjee, R., Benson, S., Bouille, D., Brew-Hammond, A., Cherp, A., Coelho, S., Emberson, L., Figueroa, M., Grubler, et al
2012
 - **Global Energy Assessment, Summary for Policy Makers**
Johansson, T., Nakicenovic, N., Patwardhan, A., Gomez-Echeverri, L., Banerjee, R., Benson, S., Bouille, D., Brew-Hammond, A., Cherp, A., Coelho, S., Emberson, L., Figueroa, M., Grubler, et al
2012
 - **Carbon Dioxide Capture and Storage** *Global Energy Assessment: Toward a Sustainable Future*
Benson, S., Bennaceur, K., Cook, P., Davison, J., de Connick, H., Farhat, K., Ramirez, A., Simbeck, D., Surlis, T., Verma, P., Wright, I.
edited by Gomez-Echeverri, L., Johansson, T., Nakicenovic, N., Patwardhan, A.
IIASA and Cambridge University Press.2012
 - **Algal Technologies for Biological Capture and Utilization of CO₂ Require Breakthroughs in Basic Research** *Symposium on Perspectives on Biofuels: Potential Benefits and Possible Pitfalls / 239th National Meeting of the American-Chemical-Society*
Milne, J. L., Cameron, J. C., Page, L. E., Benson, S. M., Pakrasi, H. B.
AMER CHEMICAL SOC.2012: 107–141
 - **Modeling Permeability Distributions in a Sandstone Core for History Matching Coreflood Experiments** *SPE JOURNAL*
Krause, M., Perrin, J., Benson, S. M.
2011; 16 (4): 768-777
-

- **Capillary heterogeneity trapping of CO₂ in a sandstone rock at reservoir conditions** *GEOPHYSICAL RESEARCH LETTERS*
Krevor, S. C., Pini, R., Li, B., Benson, S. M.
2011; 38
- **Real-Time Tracking of CO₂ Injected into a Subsurface Coal Fire through High-Frequency Measurements of the (CO₂)-C-13 Signature** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Krevor, S. C., Ide, T., Benson, S. M., Orr, F. M.
2011; 45 (9): 4179-4186
- **Microtomography and Pore-Scale Modeling of Two-Phase Fluid Distribution** *TRANSPORT IN POROUS MEDIA*
Silin, D., Tomutsa, L., Benson, S. M., Patzek, T. W.
2011; 86 (2): 525-545
- **Laboratory experiments on core-scale behavior of CO₂ exolved from CO₂-saturated brine** *10th International Conference on Greenhouse Gas Control Technologies*
Perrin, J., Falta, R. W., Krevor, S., Zuo, L., Ellison, K., Benson, S. M.
ELSEVIER SCIENCE BV.2011: 3210-3215
- **Sustainability and Energy Conversions** *Energy and Environmental Sustainability*
Orr, F. M., Benson, S. M.
2011
- **Sustainability and energy conversions** *Fundamentals of Materials for Energy and Environmental Sustainability*
Orr, F. M., Benson, S. M., Cahen, D.
edited by Ginley, D. S.
2011: 36-47
- **Remediation of possible leakage from geologic CO₂ storage reservoirs into groundwater aquifers** *10th International Conference on Greenhouse Gas Control Technologies*
Esposito, A., Benson, S. M.
ELSEVIER SCIENCE BV.2011: 3216-3223
- **CO₂ Interim Storage: Technical Characteristics and Potential Role in CO₂ Market Development** *10th International Conference on Greenhouse Gas Control Technologies*
Farhat, K., Brandt, A., Benson, S. M.
ELSEVIER SCIENCE BV.2011: 2628-2636
- **Rapid detection and characterization of surface CO₂ leakage through the real-time measurement of delta(13) C signatures in CO₂ flux from the ground** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Krevor, S., Perrin, J., Esposito, A., Rella, C., Benson, S.
2010; 4 (5): 811-815
- **A shallow subsurface controlled release facility in Bozeman, Montana, USA, for testing near surface CO₂ detection techniques and transport models** *ENVIRONMENTAL EARTH SCIENCES*
Spangler, L. H., Dobeck, L. M., Repasky, K. S., Nehrir, A. R., Humphries, S. D., Barr, J. L., Keith, C. J., Shaw, J. A., Rouse, J. H., Cunningham, A. B., Benson, S. M., Oldenburg, C. M., Lewicki, et al
2010; 60 (2): 227-239
- **An Experimental Study on the Influence of Sub-Core Scale Heterogeneities on CO₂ Distribution in Reservoir Rocks** *TRANSPORT IN POROUS MEDIA*
Perrin, J., Benson, S.
2010; 82 (1): 93-109
- **Synchrotron X-ray Micro-Tomography and Geological CO₂ Sequestration** *Advances in Computed Tomography for Geomaterials: GeoX*
Nico, P., Ajo-Franklin, J., Benson, S., McDowell, A., Silin, D., Tomutsa, L., Wu, Y.
2010: 374-380
- **A one-dimensional model of vertical gas plume migration through a heterogeneous porous medium** *INTERNATIONAL JOURNAL OF GREENHOUSE GAS CONTROL*
Silin, D., Patzek, T. W., Benson, S. M.
2009; 3 (3): 300-310

- **Well blowout rates and consequences in California Oil and Gas District 4 from 1991 to 2005: implications for geological storage of carbon dioxide** *ENVIRONMENTAL GEOLOGY*
Jordan, P. D., Benson, S. M.
2009; 57 (5): 1103-1123
- **A Model of Buoyancy-Driven Two-Phase Countercurrent Fluid Flow** *TRANSPORT IN POROUS MEDIA*
Silin, D., Patzek, T., Benson, S. M.
2009; 76 (3): 449-469
- **A controlled field pilot for testing near surface CO2 detection techniques and transport models** *9th International Conference on Greenhouse Gas Control Technologies*
Spangler, L. H., Dobeck, L. M., Repasky, K., Nehrir, A., Humphries, S., Barr, J., Keith, C., Shaw, J., Rouse, J., Cunningham, A., Benson, S., Oldenburg, C. M., Lewicki, et al
ELSEVIER SCIENCE BV.2009: 2143-50
- **Characterization of CO2 storage properties using core analysis techniques and thin section data** *9th International Conference on Greenhouse Gas Control Technologies*
Krause, M., Perrin, J., Kuo, C., Benson, S. M.
ELSEVIER SCIENCE BV.2009: 2969-74
- **Brine Displacement and Leakage Detection Using Pressure Measurements in Aquifers Overlying CO2 Storage Reservoirs** *9th International Conference on Greenhouse Gas Control Technologies*
Chabora, E. R., Benson, S. M.
ELSEVIER SCIENCE BV.2009: 2405-12
- **The role of optimality in characterizing CO2 seepage from geologic carbon sequestration sites** *4th Trondheim Conference on CO2 Capture, Transport and Storage*
Cortis, A., Oldenburg, C. M., Benson, S. M.
ELSEVIER SCI LTD.2008: 640-52
- **CO2 Sequestration in Deep Sedimentary Formations** *ELEMENTS*
Benson, S. M., Cole, D. R.
2008; 4 (5): 325-331
- **Education for the global energy challenge** *PHYSICS TODAY*
Snieder, R., Benson, S. M.
2008; 61 (7): 48-49
- **Sustainability and energy conversions** *MRS BULLETIN*
Benson, S. M., Orr, F. M.
2008; 33 (4): 297-302
- **Carbon dioxide capture and storage** *MRS BULLETIN*
Benson, S. M., Orr, F. M.
2008; 33 (4): 303-305
- **Help make a difference with education and outreach for the global energy challenge!** *The Leading Edge*
Snieder, R., Benson, S. M.
2008; 27: 1364-1370
- **Multi-phase Flow and trapping in Saline Aquifers, SPE Paper Number OTC 19244**
Benson, S. M.
2008
- **Continuous active-source seismic monitoring of CO2 injection in a brine aquifer** *GEOPHYSICS*
Daley, T. M., Solbau, R. D., Ajo-Franklin, J. B., Benson, S. M.
2007; 72 (5): A57-A61
- **Dynamic coupling of volcanic CO2 flow and wind at the Horseshoe Lake tree kill, Mammoth Mountain, California** *GEOPHYSICAL RESEARCH LETTERS*
Lewicki, J. L., Hilley, G. E., Tosha, T., Aoyagi, R., Yamamoto, K., Benson, S. M.

2007; 34 (3)

- **Monitoring Geological Storage of Carbon Dioxide, Carbon Capture and Geologic Sequestration: Integrating technology, monitoring, and regulation**
Benson, S. M.
Blackwell Scientific Publishing.2007
- **Carbon dioxide capture and storage: An overview with emphasis on capture and storage in deep geological formations** *PROCEEDINGS OF THE IEEE*
Benson, S. M., Surles, T.
2006; 94 (10): 1795-1805
- **Measuring permanence of CO₂ storage in saline formations: the Frio experiment** *Environmental Geosciences*
Hovorka, S. D., Benson, S. M., Doughty, C., Freifeld, B. M., Sakurai, S., Daley, T. M., Kharaka, Y. K., Holtz, Mark H., Trautz, R. C., Nance, H. S., Myer, L. R., Knauss, K. G.
2006; 13: 105-121
- **Monitoring Carbon Dioxide Sequestration in Deep Geological Formations for Inventory Verification and Carbon Credits, SPE 102833** *Proceedings of the 2006 Annual Technology Conference and Exhibition*
Benson, S. M.
2006
- **Exact Solutions in a Model of Vertical Gas Migration, SPE 103145**
Silin, D. B., Patzek, T. W., Benson, S. M.
Society of Petroleum Engineers.2006
- **Geologic storage of carbon dioxide as a climate change mitigation strategy: performance requirements and the implications of surface seepage** *ENVIRONMENTAL GEOLOGY*
Hepple, R. P., Benson, S. M.
2005; 47 (4): 576-585
- **Summary for Policy Makers** *IPCC Special Report: Carbon Dioxide Capture and Storage*
Abanades, J. C., Akai, M., Benson, S. M., Caldeira, K., deConinck, H., Cook, P., Davidson, O., Doctor, R., Dooley, J., Freund, P., Gale, J., Heidug, W., Herzog, et al
Cambridge University Press.2005
- **Prospects for Early Detection and Options for Remediation of Leakage from CO₂ Sequestration Projects** *Carbon Dioxide Capture for Storage in Deep Geologic Formations—Results from the CO₂ Capture Project*
Benson, S. M., Hepple, R.
Elsevier Publishing.2005: 1189–1203
- **Overview of Geologic Storage of CO₂** *Overview of Geologic Storage of CO₂,* *Carbon Dioxide Capture for Storage in Deep Geologic Formations—Results from the CO₂ Capture Project*
Benson, S. M.
Elsevier Publishing.2005: 665–672
- **Lessons Learned from Natural and Industrial Analogues** *Carbon Dioxide Capture for Storage in Deep Geologic Formations—Results from the CO₂ Capture Project*
Benson, S. M.
Elsevier Publishing.2005: 1133–1141
- **Technical Summary** *IPCC Special Report: Carbon Dioxide Capture and Storage*
Rubin, E., Meyer, L., deConinck, H., Abanades, J. C., Akai, M., Benson, S. M., Caldeira, K., Cook, P., Davidson, O., Doctor, R., Dooley, J., Freund, P., Gale, et al
Cambridge University Press.2005
- **Carbon Dioxide Capture for Storage in Deep Geologic Formations - Results from the CO₂ Capture Project: Vol 1 - Capture and Separation of Carbon Dioxide from Combustion Sources**
edited by Thomas, D., Benson, S. M.
Elsevier Publishing.2005
- **Underground Geological Storage** *IPCC Special Report on Carbon Dioxide Capture and Storage*
Benson, S. M., Cook, P., Anderson, H., Bachu, S., Nimir, H. B., Basu, B., Gale, J., von Goerne, G., Heidug, W., Holloway, S., Kamal, R., Keith, D., Lloyd, et al
Cambridge University Press.2005

- **Carbon Dioxide Capture for Storage in Deep Geologic Formations—Results from the CO₂ Capture Project, Vol. 2: Geologic Storage of Carbon Dioxide with Monitoring and Verification**
edited by Thomas, D., Benson, S. M.
Elsevier Publishing.2005
- **Vadose zone remediation of carbon dioxide leakage from geologic carbon dioxide sequestration sites** *TOUGH Symposium 2003*
Zhang, Y. Q., Oldenburg, C. M., Benson, S. M.
SOIL SCI SOC AMER.2004: 858–66
- **Economic feasibility of carbon sequestration with enhanced gas recovery (CSEGR)** *6th International Conference on Greenhouse Gas Control Technologies*
Oldenburg, C. M., Stevens, S. H., Benson, S. M.
PERGAMON-ELSEVIER SCIENCE LTD.2004: 1413–22
- **Overview of Monitoring Techniques and Protocols for Geologic Storage Projects** *IEA Greenhouse Gas R&D Programme Report*
Benson, S., Gasperikova, E., Hoversten, G.
2004
- **Separation and capture of CO₂ from large stationary sources and sequestration in geological formations.** *Journal of the Air & Waste Management Association*
Chow, J. C., Watson, J. G., Herzog, A., Benson, S. M., Hidy, G. M., Gunter, W. D., Penkala, S. J., White, C. M.
2003; 53 (10): 1172-1182
- **Selenium speciation, solubility, and mobility in land-disposed dredged sediments** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Zawislanski, P. T., Benson, S. M., Terberg, R., Borglin, S. E.
2003; 37 (11): 2415-2420
- **On vertical diffusion of gases in a horizontal reservoir** *TRANSPORT IN POROUS MEDIA*
Patzek, T. W., Silin, D. B., Benson, S. M., Barenblatt, G. I.
2003; 51 (2): 141-156
- **The GEO-SEQ Project: A status report** *6th International Conference on Greenhouse Gas Control Technologies*
Myer, L. R., Benson, S. M., Byrer, C., Cole, D., Doughty, C. A., Gunter, W., Hoversten, G. M., Hovorka, S., Johnson, J. W., Knauss, K. G., Kavscek, A., Law, D., Lippmann, et al
ELSEVIER SCIENCE BV.2003: 1625–1628
- **Economic feasibility of carbon sequestration with enhanced gas recovery (CSEGR)** *6th International Conference on Greenhouse Gas Control Technologies*
Oldenburg, C. M., Stevens, S. H., Benson, S. M.
ELSEVIER SCIENCE BV.2003: 691–696
- **Health, safety and environmental risk assessment for geologic storage of carbon dioxide: Lessons learned from industrial and natural analogues** *6th International Conference on Greenhouse Gas Control Technologies*
Benson, S. M., Apps, J., HEPPLER, R., Lippmann, M., Tsang, C. F., Lewis, C.
ELSEVIER SCIENCE BV.2003: 243–248
- **Implications of surface seepage on the effectiveness of geologic storage of carbon dioxide as a climate change mitigation strategy** *6th International Conference on Greenhouse Gas Control Technologies*
Hepple, R. P., Benson, S. M.
ELSEVIER SCIENCE BV.2003: 261–266
- **Capacity investigation of brine-bearing sands for geologic sequestration of CO₂** *6th International Conference on Greenhouse Gas Control Technologies*
Doughty, C., Benson, S. M., Pruess, K.
ELSEVIER SCIENCE BV.2003: 1645–1648
- **Scientific considerations related to regulation development for CO₂ sequestration in brine formations** *ENVIRONMENTAL GEOLOGY*
Tsang, C. F., Benson, S. M., Kobelski, B., Smith, R. E.
2002; 42 (2-3): 275-281
- **New evidence for the combined influence of vapor condensation and thermal convection on groundwater monitoring wells** *ENVIRONMENTAL GEOLOGY*
Solodov, I. N., Malkovsky, V. I., Pek, A. A., Benson, S. M.
2002; 42 (2-3): 145-150

- **Monitoring to Ensure Safe and Effective Geologic Storage of Carbon Dioxide** *Intergovernmental Panel on Climate Change (IPCC) Workshop on Carbon Sequestration* Intergovernmental Panel on Climate Change (IPCC) Workshop on Carbon Sequestration, Regina, Saskatchewan, Canada, November 18-22, 2002
Benson, S. M., Myer, L.
2002
- **Ecological Risk Assessment Example: Waterfowl and Shorebirds Feeding in Ephemeral Pools at Kesterson Reservoir, California** *Handbook of Ecotoxicology*
Byron, E. R., Ohlendorf, H. M., Santolo, G. M., Benson, S. M., Zawislanski, P. T., Tokunaga, T. K.
2002: 977–1006
- **Process modeling of CO₂ injection into natural gas reservoirs for carbon sequestration and enhanced gas recovery** *ACS Division of Fuel Chemistry Symposium on CO₂ Capture, Utilization, and Sequestration at the National Meeting of the American-Chemical-Society*
Oldenburg, C. M., Pruess, K., Benson, S. M.
AMER CHEMICAL SOC.2001: 293–98
- **The GEO-SEQ Project** *5th International Conference on Greenhouse Gas Control Technologies*
Benson, S. M., Myer, L.
C S I R O.2001: 337–341
- **CO₂ Injection for Enhanced Gas Production and Carbon Sequestration, paper SPE-74367** *Proceedings of Society of Petroleum Engineers, Inc. SPE International Petroleum Conference and Exhibition, February 10-12, 2002, Villahermosa, Mexico*
Oldenburg, C. M., Benson, S. M.
2000
- **Dynamics of Fluids in Fractured Rock** *Geophysical Monograph Series*
edited by Faybishenko, B., Witherspoon, P. A., Benson, S. M.
American Geophysical Union.2000
- **Carbon Dioxide Reuse and Sequestration: The State of the Art Today** *Energy 2000: State of the Art*
Benson, S. M., Dorchak, T., Jacobs, G., Ekman, J., Bishop, J., Grahame, T.
2000: 205–226
- **Assessment of basic research needs for greenhouse gas control technologies** *4th International Conference on Greenhouse Gas Control Technologies (GHGT-4)*
Benson, S. M., Chandler, W., Edmonds, J., Houghton, J., Levine, M., Bates, L., Chum, H., Dooley, J., Grether, D., Logan, J., Wiltsee, G., Wright, L.
ELSEVIER SCIENCE BV.1999: 457–462
- **In situ microbial volatilization of selenium in soils: A case history** *5th International In Situ and On-Site Bioremediation Symposium*
Zawislanski, P. T., Benson, S. M., JAYAWEERA, G. R., Wu, L., Frankenberger, W. T.
BATTELLE PRESS.1999: 141–146
- **Influence of Nitrate on the Mobility and Reduction Kinetics of Selenium in Groundwater Systems** *Environmental Chemistry of Selenium*
Benson, S. M.
edited by Frankenberger, W. T., Engberg, R. A.
Marcel Dekker, Inc..1997: 437–457
- **Field Evaluation of the Effectiveness of Microbial Volatilization in Selenium Remediation from Soils** *Proceedings of the I&EC Special Symposium of the American Chemical Society*
Zawislanski, P., Benson, S., Jayaweera, G., Frankenberger, W., Wu, L.
1997
- **The SELECT environmental remedy selection tool: A platform for T2VOC multiphase transport modeling** *AIChE Symposium on Heat Transfer, at the 30th National Heat Transfer Conference*
Oldenburg, C., Benson, S., Pruess, K., DAISEY, J., Brown, N., Gold, L., MacFarlane, J.
AMER INST CHEMICAL ENGINEERS.1995: 38–43
- **HYDROLOGIC CHARACTERIZATION OF HETEROGENEOUS GEOLOGIC MEDIA WITH AN INVERSE METHOD BASED ON ITERATED FUNCTION SYSTEMS** *WATER RESOURCES RESEARCH*
Doughty, C., Long, J. C., Hestir, K., Benson, S. M.
1994; 30 (6): 1721-1745

- **TEMPORAL AND SPATIAL MONITORING OF SOIL SELENIUM AT KESTERSON RESERVOIR, CALIFORNIA** *WATER AIR AND SOIL POLLUTION*
Wahl, C., Benson, S., SANTOLO, G.
1994; 74 (3-4): 345-361
- **Field Investigations of Selenium Speciation, Transformation, and Transport in Soils from Kesterson Reservoir and Lahontan Valley** *Selenium in the Environmen*
Tokunaga, T. K., Zawislanski, P. T., Johannis, P. W., Benson, S. M.
Marcel Dekker, Inc..1994
- **Selenium in the Environment**
edited by Frankenberger, Jr., W. T., Benson, S. M.
Marcel Dekker.1994
- **Textural Factors Affecting Permeability at the MWD Well Field, Savannah River Site, Aiken, South Carolina** *Southeastern Geology*
Kegley, W. P., Fallaw, W. C., Snipes, D. S., Benson, S. M., P. Jr., V.
1994; 34 (3): 139-161
- **KESTERSON CRISIS** *NATIONAL CONF ON IRRIGATION AND DRAINAGE*
Benson, S. M., DELAMORE, M., Hoffman, S.
ASCE-AMER SOC CIVIL ENGINEERS.1993: 471-83
- **BARE SOIL EVAPORATION AND SOLUTE MOVEMENT IN SELENIUM-CONTAMINATED SOILS OF KESTERSON RESERVOIR** *JOURNAL OF ENVIRONMENTAL QUALITY*
Zawislanski, P. T., TOKUNAGA, T. K., Benson, S. M., OLDFATHER, J. M., Narasimhan, T. N.
1992; 21 (3): 447-457
- **SELENIUM IN KESTERSON RESERVOIR EPHEMERAL POOLS FORMED BY GROUNDWATER RISE .1. A FIELD-STUDY** *JOURNAL OF ENVIRONMENTAL QUALITY*
TOKUNAGA, T. K., Benson, S. M.
1992; 21 (2): 246-251
- **SOIL SELENIUM FRACTIONATION, DEPTH PROFILES AND TIME TRENDS IN A VEGETATED SITE AT KESTERSON RESERVOIR** *INTERNATIONAL CONF ON METALS IN SOILS, WATERS, PLANTS AND ANIMALS*
TOKUNAGA, T. K., Lipton, D. S., Benson, S. M., YEE, A. W., OLDFATHER, J. M., DUCKART, E. C., JOHANNIS, P. W., Halvorsen, K. E.
SPRINGER.1991: 31-41
- **GROUNDWATER CONTAMINATION AT THE KESTERSON RESERVOIR, CALIFORNIA .1. HYDROGEOLOGIC SETTING AND CONSERVATIVE SOLUTE TRANSPORT** *WATER RESOURCES RESEARCH*
Benson, S. M., White, A. F., HALFMAN, S., FLEXSER, S., Alavi, M.
1991; 27 (6): 1071-1084
- **GROUNDWATER CONTAMINATION AT THE KESTERSON RESERVOIR, CALIFORNIA .2. GEOCHEMICAL PARAMETERS INFLUENCING SELENIUM MOBILITY** *WATER RESOURCES RESEARCH*
White, A. F., Benson, S. M., YEE, A. W., WOLLENBERG, H. A., FLEXSER, S.
1991; 27 (6): 1085-1098
- **APPLICATION OF AN EXPERT SYSTEM FOR ANALYSIS OF GEOTHERMAL WELL TESTS** *EXPERT SYSTEMS WITH APPLICATIONS*
Mensch, A., Benson, S. M.
1991; 3 (2): 298-298
- **A Laboratory Investigation of Foam Flow in Sandstone at Elevated Pressure** *SPE Reservoir Engineering*
Persoff, P., Radke, C. J., Pruess, K., Benson, S. M., Witherspoon, P. A.
1991: 365-372
- **SELENIUM IMMOBILIZATION IN A POND SEDIMENT AT KESTERSON RESERVOIR** *JOURNAL OF ENVIRONMENTAL QUALITY*
LONG, R. H., Benson, S. M., TOKUNAGA, T. K., Yee, A.
1990; 19 (2): 302-311
- **Saline Groundwater Plume Mapping with Electromagnetics** *Geotechnical and Environmental Geophysics*
Goldstein, N. E., Benson, S. M., Alumbaugh, D.

Society of Exploration Geophysics.1990: 17–25

- **AQUEOUS FOAMS FOR CONTROL OF GAS MIGRATION AND WATER CONING IN AQUIFER GAS-STORAGE** *ENERGY SOURCES*
Persoff, P., Pruess, K., Benson, S. M., Wu, Y. S., RADKE, C. J., Witherspoon, P. A., SHIKARI, Y. A.
1990; 12 (4): 479-497
- **Permeability Enhancement due to Cold Water Injection: A Case Study at the Los Azufres Geothermal Field, Mexico** *Proceedings of the 1989 Final CFE/US Geothermal Symposium*
Benson, S., Daggett, J., Ortiz, J., Iglesias, E.
1989
- **TRANSPORT OF A CONSERVATIVE SOLUTE THROUGH A SHALLOW POND BOTTOM** *8TH ANNUAL MEETING OF THE FRONT RANGE BRANCH OF THE AMERICAN GEOPHYSICAL UNION : HYDROLOGY DAYS*
LONG, R. H., Benson, S., Alavi, M., Narasimhan, T. N.
HYDROLOGY DAYS PUBLICATIONS.1988: 13–31
- **Nonisothermal Effects During Injection and Falloff Tests** *SPE Formation Evaluation*
Benson, S. M., Bodvarsson, G. S.
1986; 1 (1): 53-63
- **THE KRAFLA GEOTHERMAL-FIELD, ICELAND .1. ANALYSIS OF WELL TEST DATA** *WATER RESOURCES RESEARCH*
Bodvarsson, G. S., Benson, S. M., Sigurdsson, O., Stefansson, V., Eliasson, E. T.
1984; 20 (11): 1515-1530
- **Analysis of Interference Data in a Highly Heterogeneous Naturally Fractured Geothermal Reservoir** *Proceedings of the 59th Annual Technical Conference and Exhibition of the Society of Engineers of AIME*
Benson, S. M., Lai, C. H.
1984: 236–48
- **A Pressure Transient Method for Front Tracking** *Proceedings of the 58th Annual Technical Conference and Exhibition of the Society of Petroleum Engineers*
Benson, S. M., Godvarsson, G. S.
1983
- **THEORY OF THE DEVELOPMENT OF GEOTHERMAL SYSTEMS CHARGED BY VERTICAL FAULTS** *JOURNAL OF GEOPHYSICAL RESEARCH*
Bodvarsson, G. S., Benson, S. M., Witherspoon, P. A.
1982; 87 (NB11): 9317-9328
- **WELLBORE EFFECTS IN THE ANALYSIS OF 2-PHASE GEOTHERMAL WELL TESTS** *SOCIETY OF PETROLEUM ENGINEERS JOURNAL*
Miller, C. W., Benson, S. M., OSULLIVAN, M. J., Pruess, K.
1982; 22 (3): 309-320
- **Well Interference Tests at the Cerro Prieto Geothermal Field** *Geothermics*
Shroeder, R. C., Goranson, C. B., Benson, S. M., Lippmann, M. J.
1980; 9: 179-187
- **Well Interference Tests at the Cerro Prieto Geothermal Field** *Geothermics*
Schroeder, R., Goranson, C., Benson, S., Lippmann, M.
1980; 9: 179-187
- **Well Interference Tests at the Cerro Prieto Geothermal Field** *Geothermics*
Schroeder, R. C., Goranson, C. B., Benson, S. M., Lippmann, M. J.
1980; 9: 179-187