Vanessa Nuñez-López

Professional Summary

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Academic Background

M.A. Energy and Mineral Resources, The University of Texas at Austin, December 2005
M.S. Petroleum Engineering, The University of Texas at Austin, December 2001
B.S. with Honors Petroleum Engineering, Universidad Central de Venezuela, July 1999

Professional Appointments

Program Manager, Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin (Aug. 2025 – Present).

Supporting program development to target research related to oil and gas, emerging energy resources and related environmental aspects for both the Gulf Coast Carbon Center (GCCC) and the State of Texas Advanced Resource Recovery (STARR) groups. Developing relationships that lead to fundable projects in the near term and seeking external programs that lead to development opportunities for industry and other interested parties.

Director, Division of Advanced Remediation Technologies, Office of Resource Sustainability, Office of Fossil Energy and Carbon Management, U.S. Department of Energy (Feb. 2022 – Aug. 2025). Supervisory GS-15, Step 5.

Administered DOE's FECM Upstream Oil and Gas Research program, with an active extramural portfolio of $529,408,160 DOE share ($639,783,000 total award value), and an active in-house research portfolio of $37M. In my role, I provided overall authoritative leadership and direction to advance innovation and technical solutions in technology areas related to Unconventional Oil and Gas Production and Environmental Stewardship, Management of Produced Water and Coal Wastewaters, Methane Hydrates as an alternative natural gas resource, and other upstream oil and gas areas. With my team and the support of the National Energy Technology Laboratory (NETL), I conceived, planned, executed, and managed programs/projects of outstanding scope and complexity within areas of responsibility that enable the accomplishment of vital DOE missions and goals.

Supervised a team comprised of four Program Managers (two General Engineers and two Physical Scientists), each overseeing large research sub-programs which include field, laboratory, and computer-based projects.

Proposed annual budgets with "Integrated Priority Lists" which are used in DOE's negotiations with the Office of Management and Budget for the final Congressional

Justifications in the proposed U.S. President's Budget. Implemented and executed Congressional Direction as per the language under "Advanced Remediation Technologies" in annual Base Appropriations.

Managed a broad range of complex and interrelated DOE-wide and inter-agency programs and projects to ensure effective use of taxpayer resources to safely achieve Departmental missions.

Served as an authoritative consultant to top level DOE management officials and to a broad consortium of experts outside of DOE. Served as spokesperson for and represented the DOE in high level meetings and on interagency and technical committees at the national and international levels.

Senior Science Advisor, Office of Resource Sustainability, Office of Fossil Energy and Carbon Management, U.S. Department of Energy (Sep. 2021 – Feb. 2022). Non-supervisory GS-15.

Provided consultation, advice, technical input, analyses, and recommendations to the Deputy Assistant Secretary for the Office of Resource Sustainability and to high levels of management within and outside of DOE on matters related to reducing the environmental impacts of our historical and continued dependence on coal, oil, and natural gas.

Served as consultant to top level DOE management officials and to a broad consortium of experts outside of DOE. Served as spokesperson for and representing the DOE in high level meetings and on interagency and technical committees at the national and international levels.

Research Scientist Associate V, Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin (Dec. 2010 – Sep. 2021).

Served as Principal Investigator -in charge of research, budget, and supervision of multidisciplinary teams- for several private and government funded projects:

- Lake Charles LNG Geologic Storage Identification and Assessment Project (funded by Shell IEP) – Research focused on the identification and assessment of carbon storage prospects in the vicinity of a future LNG plant in the Lake Charles area, Louisiana.
- Dastur/IOCL project (funded by USDTA) – Technical Advisor for the design and feasibility of India's first large-scale Carbon Capture, Utilization and Storage (CCUS) project.
- Minerva project (funded by Gulf Coast Sequestration, LLC) – In partnership with Geostock Sandia, LLC (GK), provided Gulf Coast Sequestration, LLC with the technical review, initial site characterization, and area of review delineation necessary for the application of a class VI CO_2 injection permit for a potential Carbon Dioxide Sequestration Complex to be located in Southwestern Louisiana.

- Carbon Lifecycle Analysis of CO_2-EOR for Net Carbon Negative Oil Classification (funded by DOE-NETL) – Valuable project deliverables include (1) a clear, repeatable methodology for Net Carbon Negative Oil classification; (2) a novel dynamic carbon lifecycle analysis (d-LCA) method, necessary for the understanding of the carbon lifecycle evolution of CCUS systems. Project results demonstrated the significant impact of the efficiency of the enhanced oil recovery (EOR) process on the CCUS carbon balance, which had been oversimplified in all LCA studies on CO_2-EOR to date; demonstrated that the environmental performance of CO_2-EOR can be significantly improved in a stacked storage scenario that combines EOR with saline carbon storage; provided an understanding of the relationship between environmental performance and economic oil production; and validated CO_2-EOR as a greenhouse gas reduction technology.
- Petra Nova Project (funded by DOE through NRG/Carbon 360) – Largest CCUS project in a coal fired power plant. With a multidisciplinary team helped design and execute the monitoring, verification and accounting (MVA) program. Team Lead for the mass accounting task, where I developed the carbon mass accounting methodology and allowed me to report the mass of carbon stored in the subsurface thorough the process of EOR, as well as the CO_2 emissions.
- CCS Capacity Development (funded by SENER Mexico) – Designed and lectured two one-week CCS workshops in support of Mexico's CCS capacity development program.
- Development of a Geologic Carbon Sequestration Resource of References (funded by Chevron)
- Leveraging Geologic CO_2 Storage Technology for CO_2-EOR Management (funded by Chevron)
- Development of a CO_2-EOR siting methodology (funded by GCCC) – The development of this methodology helped site the first CO_2-EOR projects in the US Gulf Coast, such as Hastings, operated by Denbury Resources Inc.

Visiting Researcher, Department of Earth Science and Engineering, Imperial College London (Aug. 2019 – Dec. 2019).

Research collaboration in the Subsurface CO_2 group lead by Dr. Sam Krevor. Conducted laboratory work (using a state-of-the-art CT scan) focused on the understanding of fractional flow controls on carbon storage capacity in North Sea heterogeneous sandstone formations, as part of broader characterization efforts to estimate CO_2 storage potential in the region. Work funded by the Oil and Gas Climate Initiative (OGCI).

Senior Reservoir Engineer, Chevron Energy Technology Company, Chevron Corporation (Aug. 2007 – Nov. 2010).

Project Manager, polymer flooding appraisal and feasibility study; technical expert in CO_2 sequestration regional management assessments; Project Manager, CO_2-EOR/storage co-optimization; Chevron Representative, CCS technology research programs (joint industry projects): Gulf Coast Carbon Center, Bureau of Economic Geology, UT; Center for Petroleum and Geosystems Engineering, UT; IEAGHG Weyburn-Midale CO_2 Monitoring and Storage Project – Phase 2 (Technical Steering Committee Member and Industry Representative in the Leading Sponsors Executive Committee); support for Chevron CCS technology plan/organizational capability; member of Chevron's Carbon Dioxide Center of Excellence.

Lead Reservoir Engineer, Chevron Energy Technology Company, Chevron Corporation (October 2006 - July 2007).

Technical Lead: Chevron Carbon Capture and Sequestration (CCS) regional management assessments; leading role in CCS technology research programs (joint industry projects): Gulf Coast Carbon Center, Bureau of Economic Geology, UT; Center for Petroleum and Geosystems Engineering, UT; IEA GHG Weyburn-Midale CO_2 monitoring and storage project (Technical Steering Committee Member and Chevron Representative in the Leading Sponsors Executive Committee); support for Chevron CCS technology plan/organizational capability.

Research Scientist Associate II, Bureau of Economic Geology, The University of Texas at Austin (January 2006 - September 2006).

Gulf Coast Carbon Center staff: reservoir engineering support for the Southwest Regional Partnership for Carbon Sequestration and the Southeast Regional Carbon Sequestration Partnership; FutureGen Texas team member: reservoir characterization of proposed FutureGen sites and estimation of CO_2 EOR potential/sequestration, recommendations to the FutureGen advisory board.

Graduate Research Assistant, Bureau of Economic Geology, The University of Texas at Austin (March 2003 - January 2006).

Development of screening criteria for miscible CO_2 flooding; evaluation of CO_2 EOR/Sequestration opportunities with interest in the Gulf Coast; reservoir characterization of sandstone and carbonate oil and gas reservoirs for various projects; risk assessment of potential oil and gas resources in play-based basin studies, including P10, P50, and P90 oil and gas volumes.

Teaching Assistant, Department of Petroleum and Geosystems Engineering, The University of Texas at Austin (Summer 2002 - Spring 2003).

Dr. Larry W. Lake teaching assistant: Geochemical Modeling and Chromatographic Transport, Graduate Course, Summer 2002; Elements of Reservoir Engineering, Undergraduate Course, Fall 2003; Transport Processes in petroleum Engineering, Graduate Course, Fall 2002; Introduction to Geostatistics, Undergraduate Course, Spring 2003.

Assistant Professor, Universidad Central de Venezuela (July 1999 - December 1999).

Undergraduate courses taught: Production Engineering I - productivity of oil and gas wells, well flow characteristics, well stimulation, and workover methods; Production Engineering II—surface facilities; Reservoir Engineering Laboratory.

Research Assistant, Technical Center, MI Drilling Fluids (January 1998 - July 1999).

Design and testing of environmentally safe water-based lignite/lignosulfate drilling fluids, through a triple inhibition approach—shale hydration inhibition, shale dispersion inhibition, and accretion inhibition; rheology measurement and analysis of polymeric drilling fluids at elevated pressure and temperature.

Teaching Assistant, Universidad Central de Venezuela (January 1996 - July 1999).

Undergraduate Courses: Reservoir Engineering I; Reservoir Laboratory; Drilling Fluids Laboratory; Production Engineering I.

Intern, Dowell-Schlumberger, Hydraulic Fracturing (July 1997 - September 1997).

Participated in the design and execution of several hydraulic fracturing operations in eastern Venezuelan oil fields.

Theses

- Carbon dioxide enhanced oil recovery potential and sequestration capacity in the Gulf Coast: a CO_2 sink analysis near Texas City, The University of Texas at Austin, 2005, 105 p.
- Design of environmentally safe lignosulphonate drilling fluids: rheological evaluation and range of application. Universidad Central de Venezuela, 1999, 120 p.

Awards and Recognitions

- U.S. Department of Energy, Fossil Energy and Carbon Management Annual Recognition Award, for efforts leading to the understanding of Methane Hydrates in key parts of the United States, January 2025.
- Quality Step Increase for “Significantly Exceeding Expectations.” U.S. Department of Energy, October 2024.
- Seven On-The-Spot awards granted by U.S. Department of Energy, Fossil Energy and Carbon Management for a variety of achievements.
- Named AAPG Distinguished Lecturer for 2021 in the category of Future Trends and Sustainable Development in Energy Geology.
- Tinker Family Best University of Texas’ Bureau of Economic Geology Publication Award, for Exemplary Publication of Scientific or Economic Interest, 2020.
- Second place, Technical Work Latin America SPE Contest, Puerto La Cruz, Venezuela, 1999.
- Venezuela Government Scholarship for Graduate Studies Abroad, PDVSA-CIED, 1999.

Service and Committees

Steering Committee Co-chair, DOE/JOGMEC - North Slope Alaska Methane Hydrates Project, Feb. 27, 2022 – Present.

Joint DOI/DOE Steering Committee Member, Ocean Energy Safety Institute (OESI), Feb. 27, 2022 – Present.

Panelist and Organizer, Research Trends in Petroleum Engineering Departments, SPE Workshop: Fueling the Future of Petroleum Engineering Education in a New Era, Houston, TX, August 8-9, 2024.

Technical Committee Member, SPE/AAPG/SEG Oil and Natural Gas Technology Symposium, U.S. Capitol Visitors Center, Washington DC., June 12, 2024.

Expert Workshop Organizer and Speaker, Alaska Carbon Management Workshop: designed, organized and provided to High Level State Officials and Private Stakeholders, Anchorage, AK, January 23, 2023.

Expert Workshop Organizer and Speaker, CO2-EOR/Storage in Unconventional Reservoirs Workshop: designed, organized and provided to academic and private experts, Pittsburgh, PA, October 24, 2022.

Member, PhD dissertation evaluation committee, Erik Medina, Geosciences Center, Universidad Nacional Autonoma de Mexico (UNAM), Tampico-Misantla Basin evaluation for CO_2 sequestration, 2018 - 2020.

Committee Member, SPE IOR Technical Program Committee, Improved Oil Recovery, Tulsa, Okla., March 1, 2016 – Present.

Committee Member, AAPG ACE 2019 Technical Program Committee, Energy Sustainability and the Environment, San Antonio, Tex., June 5, 2018-May 22, 2019.

UT-Energy Week Organizer and Panelist Speaker: Clean, Green or In-Between: Competing Visions of a Decarbonized Economy, Vital technologies for the energy transition; opportunities and challenges associated with rapidly scaling up new emerging technologies such as battery storage, small modular reactors and carbon capture and storage, Etter-Harbin Alumni Center, The University of Texas at Austin, February 5, 2019.

Internship Supervisor, Tania Huerta, Master student in CCUS Program at Universidad Nacional Autonoma de Mexico (UNAM), Internship performed at Gulf Coast Carbon Center (Bureau of Economic Geology, UT Austin), August 20-December 20, 2018.

Session Co-Chair, Technical Session 8B: Strategies for Monitoring Optimization, 14th International Conference on Greenhouse Gas Control Technologies (GHGT-14), Melbourne, Australia, October 24, 2018.

Session Chair, CO_2-EOR II, 2018 SPE Improved Oil Recovery Conference, Tulsa, Okla., April 17-20, 2018.

Panelist Speaker, First Annual CO_2 Capture, Utilization and Storage (CCUS) Technical Session Dinner. Moderator: George Koperna, VP, Advanced Resources International. Other Panelists: Concetto Fischetti, Engineering Director Oil and Gas Climate Initiative; Charles D. McConnell, Executive Director Rice University Energy & Environment Initiative, SPE Annual Technical Conference and Exhibition (ATCE) 2017, CCUS role to sustain carbon-based fuel demand during the energy transition, San Antonio, Tex., October 9, 2017.

Panelist, 1C- CO_2 Enhanced Oil Recovery: Show Me the Money panel discussion, COAL-GEN, Economic offtake of CO_2 from power generation facilities, Louisville, Ky., August 16, 2012.

Interim Technical Steering Committee Chair, IEAGHG Weyburn-Midale CO_2 Monitoring and Storage Project – Phase 2, an international collaborative scientific study to assess the technical feasibility of CO_2 storage in geological formations with a focus on oil reservoirs. Position given to me as the Chevron representative of the JIP, 2009-2010.

Member of the Leading Sponsors Executive Committee (LSEC), IEAGHG Weyburn-Midale CO_2 Monitoring and Storage Project – Phase 2, an international collaborative scientific study to assess the technical feasibility of CO_2 storage in geological formations with a focus on oil reservoirs, Chevron representative, 2008-2010.

Published Interviews

Novo Perez, Cristina., Smart Water Magazine, "Treated Produced Water can be a plentiful source of alternative water in regions with limited water resources," pp. 52 - 55, Issue Apr-May 2023.

Bubenik, T., and Nuñez-López, V., 2019, "Carbon neutral oil" is promising, but far from guaranteed: NPR - Houston Public Media,

https://www.houstonpublicmedia.org/articles/news/in-depth/2019/06/20/337158/carbon-neutral-oil-is-promising-but-far-from-guaranteed/. Interview recorded at KUT Austin studios and aired on NPR in several cities, including Austin and Houston.

Teaching and Advising

University Seminars and Courses Taught

Potential of CO_2 enhanced oil recovery for near-term decarbonization: presented to Hutton Club Seminar, presented at School of Geosciences, University of Edinburgh, Edinburgh, Scotland, October 4, 2019.

The Carbon Balance Evolution of CO_2-EOR: An Opportunity for Net Carbon Negative Oil: presented at Bureau of Economic Geology Spring Seminar Series, The University of Texas at Austin, February 23, 2018.

Carbon Balance of CO_2-EOR for Net Carbon Negative Oil Classification: presented at Bureau of Economic Geology Spring Seminar Series, The University of Texas at Austin, April 1, 2016.

Gulf Coast Carbon Center Experience with CCS Projects: presented to graduate students and researchers, presented at 2nd CSLF Course Advanced Topics in Carbon Capture and Storage, Pontificia Universidade Catolica do Rio Grande do Sul, Porto Alegre, Brazil, April 7-10, 2014.

CO_2 Monitoring in EOR Projects: presented to graduate students and researchers, presented at 1st Course Advanced Topics in Carbon Capture and Storage, Pontificia Universidade Catolica do Rio Grande do Sul, Porto Alegre, Brazil, April 1-4, 2013.

Fundamentals of CO_2 Enhanced Oil Recovery: presented to graduate students and researchers, presented at 1st Course Advanced Topics in Carbon Capture and Storage, Pontificia Universidade Catolica do Rio Grande do Sul, Porto Alegre, Brazil, April 1-4, 2013.

Risk Assessment for Carbon Capture and Storage: presented to graduate students and researchers, presented at 1st Course Advanced Topics in Carbon Capture and Storage, Pontificia Universidade Catolica do Rio Grande do Sul, Porto Alegre, Brazil, April 1-4, 2013.

Carbon storage monitoring in a commercial EOR setting: an MVA plan for Hastings field: presented at BEG fall seminar series, Austin, Texas, October 28, 2011.

Production Engineering I: presented to undergraduate class, Fall 1999. Topics covered: productivity of oil and gas wells, well flow behavior, well stimulation, workover methods, Department of Petroleum Engineering, Universidad Central de Venezuela.

Production Engineering II: presented to undergraduate class, Fall 1999. Topics covered: surface facilities, oil and gas separation processes, flow station design, Department of Petroleum Engineering, Universidad Central de Venezuela.

Continuing Education Courses Taught

Carbon Storage in Saline Aquifers and Depleted Oil Fields: 5-day workshop designed, organized and provided to CFE, UNAM, IMP, Conagua, SENER; Mexico City, April 24-28, 2017.

Monitoring, Measurement, and Verification (MMV) applied to CO_2 enhanced oil recovery projects: 5-day workshop designed, organized and provided to PEMEX, SENER; Villahermosa, Mexico, October 17-21, 2016.

Presentations

Invited Presentations

U.S Department of Energy Research Funding Trends, presented at SPE Workshop Fueling the Future of Petroleum Engineering Education in a New Era, Houston, TX, August 9, 2024.

Advanced Remediation Technologies Overview, NETL-Resource Sustainability Annual Project Review Meeting, Keynote Plenary talk, Pittsburgh, PA, April 2-4, 2024.

DOE's Water Management Technologies Program Overview, Texas Produced Water Society's Annual Conference, Austin, TX, August 29, 2023.

Welcome and Opening Remarks, Alaska Carbon Management Workshop, provided to High Level State Officials and Private Stakeholders, Anchorage, AK, January 23, 2023.

Advanced Remediation Technologies Overview, NETL-Resource Sustainability Annual Project Review Meeting, Keynote Plenary talk, Pittsburgh, PA, October 25-28, 2022.

Welcome and Opening Remarks, CO2-EOR/Storage in Unconventional Reservoirs Workshop: to academic and private experts, Pittsburgh, PA, October 24, 2022.

CCUS and the Energy Transition, Keynote Plenary talk, XVI Venezuelan Congress of Geophysics, via Zoom, Caracas, Venezuela, Feb 25, 2021.

Use of CO_2 for EOR: Experience and Lifecycle, CO2@UTAustin Conference, Austin, TX, Feb 3, 2021.

Monitoring injected carbon for geologic permanence using an Assessment of Low Probability Material Impact (ALPMI): presented to CO_2 Storage Group, presented at Imperial College London, London, UK, October 21, 2019.

CO_2 Enhanced Oil Recovery: An Opportunity for Producing Reduced Carbon Oil: presented to Austin Women in Oil and Gas (AWOG), presented at Austin, Tex., Luncheon Talk at Vaqueros Cafe & Cantina, April 15, 2019.

Carbon Life Cycle Analysis of CO_2-EOR for Net Carbon Negative Oil (NCNO) Classification--Final Presentation: presented to Department of Energy (DOE), via Webex, January 29, 2019.

Advances in CO_2 Storage and EOR: presented at 5th North American Energy Ministers Trilateral Meeting, Mexico City, Mexico, September 19-21, 2018.

Carbon LCA of CO_2-EOR for NCNO: presented at 5th North American Energy Ministers Trilateral Meeting, Mexico City, Mexico, September 19-21, 2018.

CO_2-EOR: An Alternative to Greenhouse Gas Reduction: presented at DOE Summit on Realizing the Circular Carbon Economy, Golden, Colo., July 24-25, 2018.

Carbon Life Cycle Analysis of CO_2-EOR for Net Carbon Negative Oil (NCNO) Classification: presented to DOE-NETL, presented at NETL Internal Meeting, via Webex, March 29, 2018.

The Carbon Balance Evolution of CO_2-EOR: An Opportunity for Net Carbon Negative Oil: presented to Session 6 Enhanced Oil Recovery, presented at 10th Carbon Dioxide Utilization Summit, Tampa, Fla., February 29-March 2, 2018.

Carbon LCA of CO_2-EOR for NCNO: presented at Workshop on Decarbonizing Oil: The Role of CO_2 Enhanced Oil Recovery (CO_2-EOR), Paris, France, January 31-February 2, 2018.

Carbon Life Cycle Analysis of CO_2-EOR for Net Carbon Negative Oil (NCNO) Classification: presented at Bilateral U.S.-Norway Collaboration on CCS/CCUS, Norway. Presented via Skype, August 30-31, 2017.

GCCC Overview: Carbon Capture Utilization and Storage: presented to Mexican visitors from SENER (Research Applications for Mexico Upstream), Bureau of Economic Geology, The University of Texas at Austin, August 23, 2017.

Carbon Life Cycle Analysis of CO_2-EOR for Net Carbon Negative Oil (NCNO) Classification: presented at DOE-NETL Project Review Meeting, Pittsburgh, Pa., August 3, 2017.

Bureau of Economic Geology Studies on Louisiana CO_2-EOR Potential and Oil Reservoir Screening: presented to SSEB, presented at Industrial CCUS Forum, New Orleans, La., November 2-3, 2016.

Carbon Life Cycle Analysis of CO_2-EOR for Net Carbon Negative Oil (NCNO) Classification: presented at DOE-NETL Project Review Meeting, Pittsburgh, Pa., August 15-18, 2016.

SECARB Early Test Retrospective: presented at Plenary Session of NETL Project Review Meeting, Pittsburgh, Pa., August 15-18, 2016.

CCUS and Net Carbon Negative Oil: presented at Research Experience in Carbon Sequestration (RECS), Birmingham, Ala., June 12-20, 2016.

CCUS and Net Carbon Negative Oil: presented at Research Experience in Carbon Sequestration (RECS), Birmingham, Ala., June 12-20, 2016.

Fundamentals of CO_2-Enhanced Oil Recovery: presented at Research Experience in Carbon Sequestration (RECS), Birminham, Ala., June 12-20, 2016.

Carbon life cycle analysis of CO_2- EOR for net carbon negative oil (NCNO) classification: project overview: presented to delegates from DOE, USGS, US EPA, DOJ, and BOEM, presented at Federal Interagency CCS meeting, via Webex to meeting in Washington, DC, December 14, 2015.

Carbon life cycle analysis of CO_2-EOR for net carbon negative oil (NCNO) classification: project overview: presented to DOE's Strategic Energy Analysis and Planning division, presented at DOE's internal meeting, via Webex to meeting in Pittsburgh, PA, November 9, 2015.

CCS critical parameters: practical demonstrations: presented at Research Experience in Carbon Sequestration (RECS), Birmingham, AL, June 7-16, 2015.

Fundamentals of CO_2-enhanced oil recovery: presented at Research Experience in Carbon Sequestration (RECS), Birmingham, AL, June 7-16, 2015.

CO_2-EOR case studies: presented at Asia Pacific Economic Cooperation Expert Workshop, Meridian, Mississippi, February 2-3, 2015.

Monitoring, verification and accounting (MVA) approaches: presented at Asia Pacific Economic Cooperation Expert Workshop, Meridian, Mississippi, February 2-3, 2015.

USA large-scale onshore projects: presented to 20th United Nations Conference of Parties (COP20), presented at UNFCCC Side Event, Lima, Peru, December 9, 2014.

Lessons Learned in CO_2 Enhanced Oil Recovery Projects in the U.S.: presented to Clean Technologies Group, Instituto Colombiano del Petroleo, Ecopetrol, presented at CCUS Workshop for GCCC-ICP Collaboration, Club Campestre, ICP, Bucaramanga, Colombia, July 31-August 1, 2014.

Modeling and Monitoring Experience Specific to CO_2 Injection into Geologic Formations: presented to Clean Technologies Group, Instituto Colombiano del Petroleo (ICP), Ecopetrol, presented at CCUS Workshop for GCCC-ICP Collaboration, Club Campestre, ICP, Bucaramanga, Colombia, July 31-August 1, 2014.

Monitoring of Variables in CO_2 Injection Projects for Enhanced Oil Recovery: presented to Clean Technologies Group, Instituto Colombiano del Petroleo, Ecopetrol, presented at CCUS Workshop for GCCC-ICP Collaboration, Club Campestre, ICP, Bucaramanga, Colombia, July 31-August 1, 2014.

Carbon Storage for Commercial Enhanced Oil Recovery: presented to Petroleum Engineers Club of Dallas, presented at end-of-year luncheon meeting, keynote talk, Dallas, Tex., December 2, 2011.

Non-invited Presentations

Rethinking Carbon Storage Capacity, 15th International Virtual Conference on Greenhouse Gas Control Technologies (GHGT-15), Abu Dhabi, UAE, March 15-18, 2021.

A Comparative Study of CO_2-Flood Displacement Efficiency for Different CO_2 Injection Strategies: Permian Basin vs. U.S. Gulf Coast: presented at 14th International Conference on Greenhouse Gas Control Technologies, Melbourne, Australia, October 21-25, 2018.

EOR and GCS Co-optimization with Carbon Life-Cycle Analysis Considerations: presented at 14th International Conference on Greenhouse Gas Control Technologies, Melbourne, Australia, October 21-25, 2018.

The U.S. Gas Flooding Experience: CO_2 Injection Strategies and Impact on Ultimate Recovery: presented at 38th IEA-EOR Workshop & Symposium, Yucatan, Mexico, September 26-29, 2017.

CO_2-EOR: An Option for Carbon Neutral Oil?: presented at Bureau of Economic Geology Symposium, The University of Texas at Austin, September 15, 2017.

Validating CO_2-EOR as a CCUS technology: presented to the CCUS Policy/Legislation/Regulations for Furthering R&D and Deployment section, presented at Carbon Management Technology Conference, CMTC 2015, Sugar Land, TX, November 16-19, 2015.

Carbon life cycle analysis of CO_2-EOR for net carbon negative oil (NCNO) classification: presented at NETL Project Review Meeting, Pittsburgh, PA, August 18-20, 2015.

Unconventional EOR: CO_2-EOR carbon balance: presented to GCCC Industrial Associates, presented at GCCC Sponsors Meeting, Houston, TX, July 14, 2015.

Fundamentals of enhanced oil recovery and applicability to Mexico: presented at Latin American Forum on Energy and Environment, Mexico City, Mexico, April 15-16, 2015.

CO_2-EOR carbon balance: new DOE study: presented to GCCC Industrial Associates, presented at GCCC Sponsors Meeting, Austin, TX, January 21, 2015.

Fundamentals of monitoring CO_2 injected underground: presented at Global CCS Institute, November 7, 2013.

CO_2-EOR potential in the Gulf Coast: presented at Coal-Gen, Session 1-C–CO_2 Enhanced Oil Recovery–Show me the Money–Panel Discussion, Louisville, Kentucky, August 16, 2012.

CCS risk analysis: presented at 1st Basic Course, “Understanding Carbon Capture and Storage,” organized by the Center of Excellence in Research and Innovation in Petroleum, Mineral Resources and Carbon Storage (CEPAC), and the Carbon Sequestration Leadership Forum (CSLF), Porto Alegre, Brazil, August 3, 2012.

CO_2 monitoring, measuring, and verification: presented at 1st Basic Course, “Understanding Carbon Capture and Storage,” organized by the Center of Excellence in Research and Innovation in Petroleum, Mineral Resources and Carbon Storage (CEPAC), and the Carbon Sequestration Leadership Forum (CSLF), Porto Alegre, Brazil, August 2, 2012.

CO_2 enhanced oil recovery: presented at 1st Basic Course, “Understanding Carbon Capture and Storage,” organized by the Center of Excellence in Research and Innovation in Petroleum, Mineral Resources and Carbon Storage (CEPAC), and the Carbon Sequestration Leadership Forum (CSLF), Porto Alegre, Brazil, July 31, 2012.

Commercial EOR monitoring at the Hastings field: presented at the STORE-Chevron hands-on workshop for Norwegian Petroleum Engineering students, Houston, Texas, January 19, 2012.

Carbon storage for commercial EOR: invited luncheon talk, presented at Petroleum Engineers Club of Dallas, Dallas, Texas, December 2, 2011.

Moving Permian Basin technology to the Gulf Coast: the geologic distribution of CO_2-EOR potential in Gulf Coast reservoirs: presented at West Texas Geological Society Symposium, Midland, Texas, October 27, 2006.

Quick-look assessments to identify optimal CO_2-EOR strategies: presented at CO2SC Symposium, Lawrence Berkeley National Laboratory, Berkeley, California, March 20–22, 2006.

Quick-Look Assessments to Identify Optimal CO_2-EOR Storage Sites: presented at International Symposium on Site Characterization for CO_2 Geological Storage (CO2SC), Berkeley, Calif., March 13-15, 2006.

Reserve growth potential from CO_2 enhanced oil recovery along the Gulf Coast: presented to PTTC, Houston, Texas, December 13, 2005.

Moving Permian Basin Technology to the Gulf Coast: The Geologic Distribution of CO_2-EOR Potential in Gulf Coast Reservoirs: presented at West Texas Geological Society (WTGS) Fall Symposium, October 26-28, 2005.

CCS in the U.S.A: The Gulf Coast Carbon Center experience, 2nd Course of Advanced Topics in Carbon Capture and Storage, CSLF (Carbon Sequestration Leadership Forum) & CEPAC (Center of Excellence in CCS Research and Innovation), Porto Alegre, Brazil, April 2014

CO_2 monitoring in EOR Projects: 1st Course of Advanced Topics in Carbon Capture and Storage, CSLF (Carbon Sequestration Leadership Forum) & CEPAC (Center of Excellence in CCS Research and Innovation, Porto Alegre, Brazil, April 2014

The Global Status of Carbon Capture & Storage & CO_2-EOR, Global CCS Institute webinar presentation,

http://www.globalccsinstitute.com/get-involved/webinars/2013/12/19/global-status-carbon-capture-storage-co2-eor, December 2013

CO_2 Storage, Monitoring, Verification, and Accounting, presented at a collaborative symposium on CO_2-EOR between universities in Texas and Norway, the oil industry in Texas and Norway, and other stakeholders, Houston, Texas, November 2013

Fundamentals of modeling CO_2 movement underground, Global CCS Institute webinar presentation,

http://www.globalccsinstitute.com/get-involved/webinars/2013/10/02/fundamentals-modelling-co2-movement-underground, October 2013

Methodologies and guidelines for selection of storage sites in saline aquifers, Global CCS Institute Webinar,

http://www.globalccsinstitute.com/get-involved/webinars/2013/08/28/methodologies-and-guidelines-selection-storage-sites-saline, August 2013

Activities of a Professional Nature

Professional Societies

American Association of Petroleum Geologists

Society of Petroleum Engineers

Editing

Guest Editor, CO_2 special section of the January 2020 issue of The Leading Edge, a publication of the Society of Exploration Geophysicists (SEG) (July 2019-January 2020)

Funding

U.S. Department of Energy

Annual participation in DOE's negotiations with the Office of Management and Budget for the final Congressional Justifications that support the proposed U.S. President's Budget.

Currently managing, and responsible for, an active extramural portfolio valued at $529,408,160 DOE share ($639,783,000 total award value), and an active in-house research portfolio of $37M.

The University of Texas' Bureau of Economic Geology

Research Support

Principal Investigator: Lake Charles LNG Geologic Storage Identification and Assessment Project (January 1, 2020 – March 2021; $270,000)

Principal Investigator: Carbon Life Cycle Analysis of CO_2-EOR for Net Carbon Negative Oil (NCNO) Classification, DOE-NETL (January 1, 2015-December 31, 2018; $1,217,000).

Principal Investigator: SENER Mexico - CCS Capacity Development (September 19, 2016-May 31, 2017; $70,849).

Co-Principal Investigator: Demonstration of de-facto CO_2 storage at a CO_2-EOR site, Cranfield, MS, Carbon Capture Project 4 (CCP4) (November 1, 2015-October 31, 2016; $120,374).

Recruiter: Ecopetrol membership to GCCC (IA), Ecopetrol (September 1, 2014-Present; $50,000/yr).

Principal Investigator: Interim Support between Phases I and II of NRG CCPI-3, Petra Nova Parish Holdings LLC (July 1, 2013-December 31, 2014; $74,188).

Principal Investigator: Development of a Geologic Carbon Sequestration Resource of References, Chevron (October 1, 2013-January 31, 2014; $30,254).

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