



28–29 May 2025 | Cartagena, Colombia

PROGRAM BOOK

#CCUSLatam2025 | [CCUSevent.org/latinamerica](https://ccusevent.org/latinamerica)

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SCHEDULE AT A GLANCE

Tuesday

08:30–17:30	Short Course: The Role of Geoscientists and Petroleum Engineers in Energy Transition: Global Best Practices and Strategic CCUS Approaches
14:00–18:00	Event Registration
14:00–18:00	Speaker Service Center Open
16:00–18:00	Stand Setup
18:00–20:00	Networking Reception

Wednesday

07:30–18:30	Speaker Service Center Open
07:30–08:00	Poster Setup
07:30–18:30	Event Registration
08:00–09:30	Opening Session: The State of CCUS in Latin America and Colombia
08:00–18:00	Exhibition Open
08:30–18:00	Poster Sessions: (CO ₂ Injections Considerations, EOR and Utilization; CCUS Case Studies and Life Cycle Analysis)
09:30–10:45	Panel I: Decarbonization Strategies for Energy and Difficult to Abate Sectors
10:45–11:15	Coffee Break, Poster and Exhibit Visits
11:15–12:30	Panel II: Investment, Public Policies, and Regulation: Key Enablers for CCUS Scalability in Latin America and the Caribbean
12:30–13:45	Topical Luncheon: CCUS in the Market: Commercialization Strategies and Investment Opportunities
12:30–14:00	Lunch Break
14:00–15:15	Panel III: CCUS Initiatives in Latin America and the Caribbean: Infrastructure, Incentives, and Implementation
14:00–15:15	Oral Sessions: (Site Screening Methodologies; Machine Learning and Data Integration)
15:15–16:15	Coffee Break, Poster and Exhibit Visits
16:15–18:00	Oral Sessions: (Recent Advances of CCUS in Colombia; CO ₂ Injection Assessment and Processes; Dynamic Simulation and Processes)
18:00–20:00	Networking Reception

Thursday

07:30–18:30	Speaker Service Center Open
07:30–08:00	Poster Setup
07:30–18:30	Event Registration
08:00–18:00	Exhibition Open
08:30–10:15	Oral Sessions: (Nanotechnology and Materials Applications; Geomechanics and Seal Analysis; Decarbonizing the Energy Industry: Innovations and Case Studies)
08:30–18:00	Poster Sessions: (Infrastructure and Well Design; Reservoir Characterization and Subsurface Storage Modeling; Risk Management and Monitoring; CCUS Pilot and Demonstration Projects)
10:15–10:45	Coffee Break, Poster and Exhibit Visits
10:45–12:30	Oral Sessions: (Evaluation and Assessment of Capture Projects, Well Integrity and Geological Evaluation; Fracturing and Fracture Modeling)
12:30–13:45	Topical Luncheon: Community Relations and Social License to Operate in CCUS Projects
12:30–14:00	Lunch Break
14:00–15:45	Oral Sessions: (Infrastructure and Well Design; Risk and Potential Assessment; Modeling of Trapping Mechanisms)
15:45–16:15	Coffee Break, Poster and Exhibit Visits
16:15–18:00	Oral Sessions: (Risk Management and Monitoring; Pre-Feasibility and Feasibility Assessments)

Friday

08:30–17:30	Short Course: From Source to Sink: Confronting Uncertainty and Risk in CCS Projects
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GENERAL INFORMATION

Registration

Location: Foyer, 6th Floor

- 14:00–18:00 - Tuesday
- 07:30–18:30 - Wednesday
- 07:30–18:30 - Thursday

Exhibition

Location: Foyer, 6th Floor

- 08:00–18:00 - Wednesday
- 08:00–18:00 - Thursday

Speaker Service Center

Location: Caracol II, 6th Floor

- 14:00–18:00 - Tuesday
- 07:30–18:30 - Wednesday
- 07:30–18:30 - Thursday

No-Electronic Capturing Policy

Capturing or photographing contents of Exhibit Displays or Technical Sessions is strictly prohibited.

Exhibition Information

Exhibition Location: Foyer, 6th Floor

Exhibition Hours

- 08:00–18:00 - Wednesday
- 08:00–18:00 - Thursday

Lost and Found

Location: Registration, Foyer, 6th Floor

Items found during the event should be turned in to CCUS Show Management personnel, located in Registration. If your lost items have not been turned in, you can leave contact information at Registration.

Code of Conduct

Carbon Capture, Utilization, and Storage Events are conducted for the benefit of interested parties to advance the science of geology, promote technology, and facilitate networking and collaboration between professionals within the world's geosciences community.

CCUS values the participation of its guests and wants all event attendees to have an enjoyable and fulfilling experience. Accordingly, CCUS is dedicated to providing a harassment-free event experience for everyone, regardless of gender, sexual orientation, disability, physical appearance, body size, race, or religion.

We do not tolerate harassment of event participants in any form. All attendees are expected to show respect and courtesy to other attendees throughout the event and at all events, whether officially sponsored by CCUS or not.

If a participant engages in behavior that violates this code of conduct, CCUS reserves the right to take any action deemed appropriate, including warning the offender(s) or expelling the offender(s) from the event with no refund.

CCUS's complete anti-harassment policy can be found at CCUSevent.org/code-of-conduct.

OPENING SESSION

The State of CCUS in Colombia and Latin America

Day: Wednesday
Time: 08:00–09:30
Location: Aguamarina I-II
Fee: Included with Registration

Join us for the Opening Session, featuring valuable insights from Program Co-Chairs and energy sector leaders, who will share their perspectives on carbon management initiatives in Colombia and beyond.

The session includes remarks from top executives representing Colombia's National Hydrocarbon Agency, ANH, and National Energy Company, Ecopetrol.

CCUS Latin America Program Co-Chairs:



Helber Cubillos
Program Co-Chair,
SPE



Luz Adriana Diaz
Program Co-Chair,
AAPG



Jorge Barrios
Program Co-Chair,
ARMA/SEG

Speakers:



Orlando Velandia
President,
ANH



Juan Carlos Palacio
Upstream Technical
Manager, Ecopetrol



Leonardo Tamayo
Upstream Group
Coordinator
Hydrocarbons
Division, Ministry of
Mines and Energy



COMMITTEE

Helber Cubillos
SPE Program Chair
Ecopetrol

Luz Adriana Diaz
AAPG Program Chair
Colombian Geological Survey

Jorge Barrios
SEG/ARMA Program Chair
The Ohio State University - Battelle Center for
Science, Engineering, and Public Policy

Alessandra Simone
Special Sessions Chair
Ryder Scott/ Society of Low Carbon
Technologies (USA)

Jorge Romero
Technical Program Theme Chair
GeoPark

Carlos Vega
Technical Program Theme Chair
ResFrac Corporation

Juan Almeida
Technical Program Theme Chair
Baker Hughes

Eduardo Lopez
Technical Program Theme Chair
Ecopetrol

Manuel Rodriguez
Technical Program Theme Chair
Colombian Geological Survey

Cassandra Dewan
Technical Program Theme Chair
SLB

Catalina Riaño
Technical Program Theme Chair
Colombian Geological Survey

Javier Sanmiguel
Technical Program Theme Chair
Tygua Consulting Corporation

Jhon Muñoz
Host Society Liaison
ACGGP

Flover Rodriguez
Host Society Liaison
ACGGP

Andres Pesca
Host Society Liaison
SPE Colombia Section

Atahualpa Villaroel
Host Society Liaison
SPE Colombia Section

PANEL SESSIONS

Join thought leaders shaping the region's energy landscape at strategic panels highlighting the business, policy, and social aspects of CCUS projects. Each session includes brief overview presentations followed by a moderated panel discussion with speakers and chairs. Strategic panels compliment the technical program by facilitating "big picture" discussions and reviewing above ground considerations affecting carbon management initiatives in Latin America and beyond.

Decarbonization Strategies for Energy and Difficult to Abate Sectors

Day: Wednesday
Time: 09:30–10:45
Location: Aguamarina I-II
Fee: Included with Registration
Moderator: **Diana Khandilyan**, Energy Transformation Solutions, S&P Global Commodity Insights

Panelists:



Juan Carlos Palacio
 Upstream Technical Manager, Ecopetrol



Flavia Marques
 CCUS Business Development Senior Analyst, Petrobras



Arne Graue
 Head of Reservoir Physics - Energy Technology and CCUS, Bergen University



Steve Walkinshaw
 Vice President Geoscience, Strategic Biofuels

CCUS Initiatives in Latin America and the Caribbean: Infrastructure, Incentives, and Implementation

Day: Wednesday
Time: 14:00–15:15
Location: Aguamarina I
Fee: Included with Registration
Moderator: **Helber Cubillos**, CCUS Subsurface Leader, Ecopetrol

Panelists:



Raffie Hosein
 Coordinator of Carbon Capture and Utilisation and Storage – Collaborate (CCUS-C), University of the West Indies and University of Trinidad and Tobago



Victor Salazar
 Regional Director Latin America and Caribbean, CMG



Kevin Hathaway
 CEO, Terra Carbon Development



Marylena Garcia
 Head of Sustainability, Ryder Scott

Investment, Public Policies, and Regulation: Key Enablers for CCUS Scalability in Latin America and the Caribbean

Day: Wednesday
Time: 11:15–12:30
Location: Aguamarina I-II
Fee: Included with Registration

Moderator:

Panelists:



Maria Rosa Ceron
 Technical Vicepresidency Geologist ANH



Daniel Kelley
 Director, Battelle Center for Science, Engineering and Public Policy, Ohio State University



Israel Lacerda
 Legislative Consultant, Federal Senate of Brazil



Cecilia Romeu
 Energy Transition Engineer, ANCAP



LUNCHEONS

Maximize your time in Cartagena and interact with decisionmakers by attending topical luncheons held on-site at the event venue. Designed for executives, topical luncheons are designed to promote discussion around non-technical topics affecting CCUS deployment in the Latin America. Sessions include brief presentations and panel discussions with leaders working in the field, as well as time for discussion with attendees interested in the topics presented.

CCUS in the Market: Commercialization Strategies and Investment Opportunities

Day: Wednesday
Time: 12:30–13:45
Location: Oceánika, 6th Floor
Fee: \$55

Moderator:



Andres Pesca
 President,
 SPE Colombia
 Section; Director,
 PskEnergy

Panelists:



Alessandra Simone
 CCS Subject Matter
 Expert, Society
 for Low Carbon
 Technologies



Jon Cartlidge
 Commercial
 Sales Director,
 Battelle

Community Relations and Social License to Operate in CCUS Projects

Day: Thursday
Time: 12:30–13:45
Location: Oceánika, 6th Floor
Fee: \$55

Moderator:



Flover Rodriguez
 Executive Director,
 ACGGP

Panelists:



Nathalia Weber
 Co-Founder and
 Director, CCS Brasil



Gabriel López
 Deputy Director,
 National
 Environmental
 Licensing Authority
 (ANLA)

NETWORKING EVENTS

Coffee Breaks

Day: Wednesday–Thursday
Times: 10:45–11:15
 15:15–16:15
Location: Aguamarina III-IV
Fee: Included with registration

Have a snack while getting up to date on the latest science and technological advances. Visit the poster sessions and stands during the refreshment breaks.

Networking Reception

Day: Tuesday
Time: 18:00–20:00
Location: Oceanika Lounge, 6th Floor
Fee: Included with registration

Celebrate your arrival to Cartagena, and interact with event attendees the evening before the conference starts. Enjoy beverages and appetizers while watching the sun set over the Caribbean Sea.

End-of-Day Reception

Day: Wednesday
Times: 18:00–20:00
Location: Sunset Pool Terrace
Fee: Included with registration

Take discussions outside while enjoying the atmosphere and the view. Have a snack and a beverage while connecting with colleagues in a relaxed setting.

SHORT COURSES

	Title:	Instructor(s)	Date and Time	Location	Room Name
SC 01	The Role of Geoscientists and Petroleum Engineers in the Energy Transition: Global Best Practices and Strategic CCUS Approaches	Jorge Barrios , PhD, GeoKnowledge, LLC	Tuesday, 27 May 08:30–17:30	7th Floor Meeting Rooms	Zafiro
SC 02	From Source to Sink: Confronting Uncertainty and Risk in CCS Projects	Pieter Pestman , Rose Subsurface Assessment and Diana Khandilyan , S&P Global	Friday, 30 May 08:30–17:30	7th Floor Meeting Rooms	Zafiro

TECHNICAL PROGRAM AT A GLANCE

Oral Sessions			
Session Rooms	Aguamarina I , Level 6	Aguamarina II, Level 6	Caracol I , Level 6
Wednesday Morning	Opening Session: The State of CCUS in Colombia and Latin America		
	Special Session: Decarbonization Strategies for Energy and Difficult to Abate Sectors		
	Special Session: Investment, Public Policies, and Regulation: Key Enablers for CCUS Scalability in Latin America and the Caribbean		
Wednesday Afternoon	Special Session: CCUS Initiatives in Latin America: Infrastructure, Incentives and Implementation	Theme 3: Site Screening Methodologies	Theme 3: Machine Learning and Data Integration
	Theme 3: Recent Advances of CCUS in Colombia	Theme 1: CO ₂ Injection Assessment and Processes	Theme 1: Dynamic Simulation and Processes
Thursday Morning	Theme 4: Decarbonizing the Energy Industry: Innovations and Case Studies	Theme 3: Geomechanics and Seal Analysis	Theme 1: Nanotechnology and Materials Applications
	Theme 6: Evaluation and Assessment of Capture Projects	Theme 6: Well Integrity and Geological Evaluation	Theme 1: Fracturing and Fracture Modeling
Thursday Afternoon	Theme 2: Infrastructure and Well Design	Theme 6: Risk and Potential Assessment	Theme 3: Modeling of Trapping Mechanisms
	Theme 5: Risk Management and Monitoring	Theme 3: Pre-Feasibility and Feasibility Assessments	

Poster Sessions	
Aquamarina III-IV, Level 6	
Wednesday	Theme 1: CO ₂ Injections Considerations, EOR and Utilization
	Theme 6: CCUS Case Studies and Life Cycle Analysis
Thursday	Theme 2: Infrastructure and Well Design
	Theme 3: Reservoir Characterization and Subsurface Storage Modeling
	Theme 4: CCUS Pilot and Demonstration Projects
	Theme 5: Risk Management and Monitoring

WEDNESDAY ORAL SESSIONS

Wednesday Morning Oral Sessions

Opening Session: The State of CCUS in Colombia and Latin America

Location: Aquamarina I-II

08:00–09:30

Speakers:

- Orlando Velandia, ANH Colombia
- Juan Carlos Palacio, Ecopetrol
- Leonardo Tamayo, Ministry of Mines and Energy

Society Chairs:

- Helber Cubillos, Program Co-Chair, SPE
- Luz Adriana Diaz, Program Co-Chair, AAPG
- Jorge Barrios, Program Co-Chair, ARMA/SEG

Special Session: Decarbonization Strategies for Energy and Difficult to Abate Sectors

Location: Aquamarina I-II

09:30–10:45

Moderators: Diana Khandilyan, S&P Global Commodity Insights

Speakers:

- Juan Carlos Palacio, Ecopetrol
- Flavia Marques, Petrobras
- Arne Graue, Bergen University
- Steve Walkinshaw, Strategic Biofuels

Special Session: Investment, Public Policies and Regulation: Key Enablers for CCUS Scalability in Latin America and the Caribbean

Location: Aquamarina I-II

11:15–12:30

Moderators: Maria Rosa Ceron, ANH Colombia

Speakers:

- Daniel Kelley, Ohio State University
- Israel Lacerda, Federal Senate of Brazil
- Cecilia Romeu, ANCAP

Wednesday Afternoon Oral Session

Special Session: CCUS Initiatives in Latin America and the Caribbean: Infrastructure, Incentives, and Implementation

Location: Aquamarina I

14:00–15:45

Moderators: Helber Cubillos, Ecopetrol

Speakers:

- Marylena Garcia, Ryder Scott
- Victor Salazar, CMG
- Kevin Hathaway, Terra Carbon Development
- Raffie Hosein, University of the West Indies and University of Trinidad and Tobago

Theme 3: Site Screening Methodologies

Location: Aquamarina II

Co-Chairs: G. D'aubeterre and A. Salazar Franco

14:00

Introductory Remarks

14:05

Chasing CO₂ storage sites: Perspectives of depositional sequence characterization from uniformitarianism-based experiments and real-world basin: N. Daynac (Eliis)

14:25

Comparison of Multi-Time / Multi-Scale Approaches for CO₂ Storage Screening using a feasibility study in the Middle Magdalena Valley Basin: A. Thebault¹, A. Barrois¹, P. Rouvroy¹, E. Lopez-Ramos² (1. Beicip-Franlab; 2. Ecopetrol S.A.)

14:45

The Impact of a Comprehensive Seismic and Petrophysical Analysis to Optimize Site Screening for CO₂ Injection at a Saline Aquifer: V. Marchesi¹, S. Randazzo¹, T. Salter¹, J. Salazar¹, V. Di Filippo¹, T. Pereira², P. Oliveira², P. Ernesto³ (1. Baker Hughes; 2. UISA; 3. Renovar)

15:05

Site Characterization for Permitting and Subsurface Risk Mitigation in CCUS Projects: A Review Based on Recent Drilling Experiences in the U.S.: M. Valluri¹, A. Duguid¹, E. Olivera² (1. ARI; 2. Hidroplan)

15:25

A Multi-scale Approach for Global CO₂ Geological Storage Resources Assessment and Site Competency Rating: A. Chen¹, M. Garcia² (1. BlueCCS.com; 2. Ryder Scott Company LP)

Theme 3: Machine Learning and Data Integration

Location: Caracol I

Co-Chairs: M. Flannery and R. Patterson

14:00

Introductory Remarks

14:05

Use of Multivariate Analysis and Machine Learning Techniques to Extract Insights On Site-specific CO₂ Storage Coefficients Obtained from Numerical Reservoir Simulation: J. Gomez (Petrotechnical Insights LLC)

14:25

Machine Learning Predictive Models for CCS Near-Well Modelling Using Open-Source Tools: J. Lliguizaca Davila¹, D. Landa-Marbán³, J. Mendoza Sanz², J. Cobos Mora¹ (1. University of Bergen; 2. Escuela Superior Politécnica del Litoral; 3. NORCE Norwegian Research Centre AS)

14:45

Reservoir characterization using legacy data: A key factor for the de-risking of BECCS projects potential at the Parecis Basin, Brazil: M. R. Zimmermann, H. Lopes, F. Miranda, D. Michelon, M. Farias, L. B. Silva, H. Padoves, L. Souza, J. Barbosa (Eneva)

15:05

Evaluation and Uncertainty Modelling of Geological CO₂ Storage in the Jeanne d'Arc Basin, Offshore Atlantic Canada: E. K. Ovwigho, H. Shiri, K. Waghorn, I. Sinclair, D. G. Lowe, K. G. Welford, L. A. James (Memorial University of Newfoundland)

15:25

Revising Seismic Data Portfolios for CO₂ Storage Site Assessment: A Catalogue of Challenging yet Promising Basins: N. Daynac (Eliis)

Theme 3: Recent Advances of CCUS in Colombia

Location: Aquamarina I

Co-Chairs: F. Miranda and J. Sánchez Sierra

16:15

Introductory Remarks

16:20

Common Risk Segment Analysis Coupling with Forward Stratigraphic Modelling: New approach to Define Best Sites for CO₂ Storage in the Central Part of the Middle Magdalena Basin, Colombia: E. Lopez-Ramos (Ecopetrol)

16:40

Evaluation of CO₂ Storage Potential in the Llanos Orientales Basin, Casanare Sector: Static and Dynamic Modeling of the Carbonera Formation, Unit C1: E. C. Kairuz¹, J. C. Gelvez², R. Arismendy¹, E. Arias¹, D. Londoño¹ (1. Neoil Energy; 2. Geopark)

17:00

Development of prediction model for storage efficiency factor to evaluate volumetric-based CO₂ storage capacity: Y. A. Rincon Cuenca², H. Shin¹, V. Nguyen-Le³ (1. Inha University; 2. ANH; 3. Geological Survey of Canada)

17:20

Advancing CCUS for Carbon Neutrality: Execution of Subsurface Characterization Strategy at Ecopetrol: H. Cubillos (Ecopetrol)

17:40

CO₂ Enhanced oil recovery laboratory and numerical study for pilot design with CO₂ storage considerations: G. Maya¹, K. M. Colmenares¹, J. A. Caicedo Avellaneda¹, L. M. Salas², J. O. Castañeda¹, H. Cubillos¹ (1. Ecopetrol S.A.; 2. TIP Colombia)



WEDNESDAY ORAL SESSIONS

Theme 1: CO₂ Injection Assessment and Processes

Location: Aguamarina II

Co-Chairs: L. Diaz Delgado and M. Machado

- 16:15 **Introductory Remarks**
- 16:20 **Carbon Dioxide as a Carbon Source for Biosurfactant Production:** F. dos Santos¹, A. Napp¹, C. P. de Aguiar¹, W. Lautert Dutra¹, F. Dalla Vecchia¹, R. D. Tewari², C. L. Melo¹ (1. PUCRS; 2. PETRONAS Research Sdn Bhd)
- 16:40 **Geological Carbon Dioxide Storage: Mineralogical and Petrophysics Insights from Jandaíra Formation Carbonate Rocks, Potiguar Basin, as Analogues to Brazilian Pre-Salt Reservoirs:** C. F. França, A. Borges de Campos, R. Perobelli Borba, W. Luiz Silva, C. J. Delgado Mateus, L. F. De Melo Faria, G. Da Silva Chagas (UNICAMP)
- 17:00 **The implementation of CO₂ injection for EOR in X Field – South China Sea:** D. Pham, T. Nguyen, V. Nguyen, T. Duong (New Mexico Institute of Mining and Technology)
- 17:20 **Investigating CO₂ Phase Behaviors During Injection Restart and Shut-in Operations in Depleted Gas Reservoirs: A Non-Equilibrium Analysis for Operational Safety:** C. Wei, S. Beheshtian, Y. Chen* (Louisiana State University)
- 17:40 **Evaluation of Caprock Sealing Capacity and Wettability for CO₂ Storage:** A. Soomro (AGH University of Science and Technology)

Theme 1: Dynamic Simulation and Processes

Location: Caracol I

Co-Chairs: F. Torres and A. Villarroel

- 16:15 **Introductory Remarks**
- 16:20 **Optimizing CO₂ Sequestration and Production in Gas-Condensate Reservoirs: An Integrated Subsurface-Surface Approach for Near-Zero Emissions:** J. M. Santos Rueda, L. Santos, V. Lara (Computer Modelling Group Ltd)
- 16:40 **Comprehensive Algorithm-Assisted Study of CO₂ Trapping Mechanisms and Their Plume Radius Influence:** F. Yatte, A. Alvarez, V. Lara, G. Oliveira, V. Salazar (Computer Modelling Group CMG)
- 17:00 **Advance workflow for Dynamic Simulation and Optimization of CCUS Projects in the Middle Magdalena Valley Basin:** D. M. Victoria¹, F. Faiz¹, H. Cubillos², J. O. Castañeda², F. Torres², C. D. Cundar² (1. SLB; 2. Ecopetrol)
- 17:20 **Numerical Modeling of the Most Influential Mechanisms in CO₂ Trapping within a Porous Medium during a Water-Alternating-Gas (WAG) Injection Process. A Colombian case study:** J. G. Barrera, M. I. Sandoval Martínez, V. E. Mousalli Diaz (Universidad Industrial de Santander)
- 17:40 **Use of flue gas and production gas mix in EOR process – Critical Review:** E. M. Trigos Becerra², G. Maya², F. Cortés¹ (1. Universidad Nacional; 2. Ecopetrol)

THURSDAY ORAL SESSIONS

Thursday Morning Oral Session

Theme 4: Decarbonizing the Energy Industry: Innovations and Case Studies

Location: Aguamarina I

Co-Chairs: D. Ramnath and L. Valbuena

- 08:30 **Introductory Remarks**
- 08:35 **History of the first commercial Carbonated Water Injection (CWI) pilot in Colombia, Galán field:** J. O. Castañeda, H. Cubillos, H. D. Ramos (Ecopetrol S.A.)
- 08:55 **Techno-Economic Challenges and Opportunities of CCUS Projects:** J. Saithala, R. Krishnamurthy, I. Ceyhan (Blade Energy Partners)
- 09:15 **Pre-feasibility studies for CO₂ Utilization and Storage in Mature Oil Fields, Examples from MMV Colombia:** H. D. Ramos, H. Cubillos, J. O. Castañeda (Ecopetrol S.A.)
- 09:35 **Decarbonizing the Operations of the Oil Industry in Colombia through Innovative Solutions for the Capture and Use of CO₂:** J. A. SÁCHICA, G. Duarte Poveda, J. Sarmiento Chaparro, J. Niño Gomez, E. Castillo Monroy (Ecopetrol)
- 09:55 **Digital Mindset: Machine Learning Pilot Study for CCUS Screening:** M. J. Ceron¹, L. D. Mendoza¹, F. Eremiev¹, H. Cubillos², E. M. Trigos², A. J. Villarroel¹, J. O. Castañeda², M. C. Penaloza², J. Moreno¹, J. Parra¹ (1. SLB; 2. Ecopetrol S.A.)

Theme 3: Geomechanics and Seal Analysis

Aguamarina II

Co-Chairs: L. Giraldo and J. Gomez

- 08:30 **Introductory Remarks**
- 08:35 **Geomechanics Contribution to a Pre-feasibility Characterization of a Candidate Aquifer CO₂ Storage Site in Deep Water Offshore Colombia:** N. Rubio², O. Carvajal*¹, H. Cubillos², E. Lopez-Ramos², J. Macias¹, P. Basu³ (1. Baker Hughes; 2. Ecopetrol)
- 08:55 **Helium, CO₂, and XRF: An Integrated Approach for Seal Capacity and Reservoir Characterization in CCUS Projects:** D. Llanos, A. Liborius*, D. Tonner (DIVERSIFIED)
- 09:15 **Effects of CO₂ Injection on Mechanical Properties of Coquina Samples From Morro do Chaves, Brazil:** M. S. Teixeira, L. Souza, D. Roehl (PUC-Rio)
- 09:35 **Stochastic Modeling of CO₂ Injection under an Integrated Geoscience-Reservoir-Geomechanics Perspective – Gains and Challenges:** J. Rojas, B. Tang, W. Zheng (SLB)
- 09:55 **WITHDRAWN: Evidence of Seal Integrity and Internal Baffling Using Fluid Inclusion Analysis on Legacy Cuttings from the Illinois Basin Decatur Project:** S. Cowan¹, B. Hill¹, J. Chao¹, W. Phiukhao¹, D. Hall² (1. SLB; 2. FIS LLC)

THURSDAY ORAL SESSIONS

Theme 1: Nanotechnology and Materials Applications

Location: Caracol I

Co-Chairs: D. Meehan and E. Trigos

- 08:30 **Introductory Remarks**
- 08:35 **Development of a Dual Purpose Nanotechnology-based Huff & Puff Process with CO₂ for Improving Oil productivity and Carbon Geostorage:** L. J. Giraldo¹, C. D. Cundar², R. Osorio², C. A. Franco², G. Maya², W. Cañas², E. Tabora¹, C. Franco¹, F. Cortés¹ (1. Universidad Nacional de Colombia; 2. Ecopetrol S.A.)
- 08:55 **Nanotechnology to stabilize asphaltenes in CO₂ injection processes into Colombian crude oil: Experimental study at reservoir conditions:** E. Tabora¹, L. J. Giraldo¹, R. Osorio², W. Cañas², C. D. Cundar², C. A. Franco², G. Maya², F. Cortés¹, C. Franco² (1. Universidad Nacional de Colombia; 2. Ecopetrol S.A.)
- 09:15 **Enhanced Oil Recovery by Injecting CO₂-N₂ Foams Potentiated by Nanoparticles:** M. C. Benjumea, F. Cortés, S. Lopera, J. Sánchez (Universidad Nacional de Colombia)
- 09:35 **Compositional Single Well Modelling of CO₂ Huff and Puff Scenarios in Middle Magdalena Valley Fields – A tool for Pilot Design:** A. Restrepo, C. A. Franco, J. O. Castañeda, H. Cubillos, G. E. Caldera, C. M. Saavedra, J. A. Sachica, R. Amaya (Ecopetrol SA)
- 09:55 **WITHDRAWN: CO₂ Foam Flooding as a Potential Alternative to ASP Flooding in an Indian Oilfield: A Sustainable Approach Towards Decarbonization:** R. S. Vadhan², R. Phukan¹ (1. Dibrugarh University; 2. ONGC)

Theme 6: Evaluation and Assessment of Capture Projects

Location: Aguamarina I

Co-Chairs: H. Cubillos and R. Middleton

- 10:45 **Introductory Remarks**
- 10:50 **Canadian CCUS From Policy to Profit - A year in Review:** A. Lafreniere (McDaniel)
- 11:10 **Developing regional carbon hubs to support CCS in the United States:** E. Middleton, R. Middleton, J. C. Duque, M. Miranda, J. Prehn, A. Harrison, L. Bailey (Carbon Solutions)
- 11:30 **Exploring CCS Viability in Brazil's Potiguar Basin: Preliminary Results from the Pendência Formation:** E. L. Vargas Guzmán (University of São Paulo)
- 11:50 **Pre-feasibility Study for CO₂ Storage in Depleted Gas Sandstone in the Lower Magdalena Valley, Colombia:** H. D. Ramos, J. O. Castañeda, E. Lopez-Ramos, F. Torres, H. Cubillos (Ecopetrol S.A.)
- 12:10 **Causes and Consequences of Unexpected Plume Migration: A South Texas Case Study:** J. Mello, D. Newton, Z. Long (Netherlands, Sewell & Associates, Inc.)

Theme 6: Well Integrity and Geological Evaluation

Location: Aguamarina II

Co-Chairs: P. Catalina Montañó and G. Maya

- 10:45 **Introductory Remarks**
- 10:50 **Overcoming Integrity Issues in CCUS Wells: Through-Tubing Diagnostics for Verifying Well Barrier Effectiveness:** H. Govea, E. Loya, M. Volkov, S. Avilez, J. Martin-Gaubeca* (TGT Diagnostics)
- 11:10 **Blending Exploration and Bioenergy production to tap Emission reduction and CCS Opportunities at the Paraná Basin:** L. B. Silva, F. Miranda, D. Michelon, M. R. Zimmermann*, F. Galbiati, R. Almeida (Eneva)
- 11:30 **Assessment of CO₂ Geological Storage Potential: A Case Study of the Lower Magdalena Valley Basin:** L. E. Moreno¹, A. Sarmiento¹, M. Reyes² (1. Fundación Universidad de América; 2. New Mexico Bureau of Geology and Mineral Resources)
- 11:50 **Geological favorability for CO₂ storage in Colombian sedimentary basins:** M. F. Rodríguez, N. A. Gamba Ruiz, L. Montenegro Rivera*, J. M. Sánchez Sierra, O. H. Rodríguez Moreno, M. T. Cantisano de Sandoval, M. A. Avila Paez, A. M. Salazar Franco, H. F. Alarcón Olave, C. Herrera Vargas, N. Cruz, C. Riaño Garzón, P. C. Montañó, D. Arevalo Daza, C. F. Agudelo Escalona (Servicio Geológico Colombiano)
- 12:10 **Unlocking CO₂ Storage Potential: Using SRMS to Identify Areas for CCUS Projects in Brazil:** D. Cardoso¹, T. Guimarães¹, F. Andres¹, C. S. dos Santos¹, L. P. Neis¹, J. T. Zielinski¹, L. Felipe¹, P. F. Games¹, L. Genro¹, C. L. Melo¹, M. Martins² (1. Pontifical Catholic University of Rio Grande do Sul; 2. Petrobras)

Theme 1: Fracturing and Fracture Modeling

Location: Caracol I

Co-Chairs: O. Rodríguez Moreno and J. Santos Rueda

- 10:45 **Introductory Remarks**
- 10:50 **Effect of brine composition and salinity on CO₂ plume migration and trapping capacity in deep saline aquifer: Geochemical approach:** M. I. Sandoval¹, G. Maya², H. Cubillos², J. A. Caicedo Avellaneda*² (1. Cooperative De Tecnólogos E Ingenieros De La Industria Del Petróleo Y AFI-NES – TIP; 2. Ecopetrol)
- 11:10 **The Impact of Microfractures on Effective Diffusion Coefficients: Integrating Physics-Informed Neural Network and Pore-Scale Simulation:** M. Wang (China University of Petroleum, Beijing)
- 11:30 **Impact of Interfacial Tension and Molecular Diffusion on CO₂ Injection: Insights into Hydrocarbon Recovery and CO₂ Storage:** C. Ariza Quiroga¹, M. I. Sandoval¹, C. D. Cundar², G. Maya², J. D. Aristizabal² (1. TIP; 2. Ecopetrol)
- 11:50 **Numerical Investigation of Inline Flow Control Devices for Multi-Stage Pressure Management in CO₂ Injection Wells: A Simulation Study for Depleted Reservoir Applications:** C. Wei, Y. Chen* (Louisiana State University)
- 12:10 **Hydraulic Fracturing for CO₂ Disposal Maximization in Carbon Capture, Utilization, and Storage (CCUS) Projects:** L. Sierra (LINQX)

Thursday Afternoon Oral Session

Theme 2: Infrastructure and Well Design

Location: Aguamarina I

Co-Chairs: R. Middleton and M. Garcia

- 14:00 **Introductory Remarks**
- 14:05 **Material Selection for CCS Injection Well: A Case Study for Onshore Storage in California:** P. Mauger¹, G. Neel, A. R. Angelo, N. Rodrigues*, P. Santana, K. Schleiss (Vallourec)
- 14:25 **Technical Standards for CCUS Infrastructure: Challenges and Perspectives in Subsea CO₂ Handling:** N. da Silva Souza¹, S. Macedo Pereira¹, L. Kling e Silva¹, C. Speglich², C. R. Lucas*¹ (1. Federal University of Para; 2. Petrobras)
- 14:45 **Corrosion modeling to select well tubulars for CCUS wells:** M. Valluri, A. Duguid* (Advanced Resources International, Inc)
- 15:05 **A Comprehensive Review Of Cementing Technologies For CO₂ Storage Projects:** V. Nguyen, T. Nguyen*, W. Ampomah, D. Pham, T. Dong, H. Vo (New Mexico Institute of Mining and Technology)
- 15:25 **The Use of In-Well Flow Control Devices to Address Multiple Challenges of Carbon Dioxide Injection in CCS Projects:** M. R. Konopczynski (TAQA)

Theme 6: Risk and Potential Assessment

Location: Aguamarina II

Co-Chairs: S. Khan and L. Montenegro Rivera

- 14:00 **Introductory Remarks**
- 14:05 **Risks to Widespread Adoption of Carbon Capture and Storage (CCS): A Multifaceted Challenge:** D. Meehan (Texas A&M University)
- 14:25 **Meeting the Global CCUS Challenge: Infrastructure Design and Roadmaps:** R. Middleton, L. Bailey, J. C. Duque, A. Jordan, E. Middleton, J. Ogland-Hand, J. Prehn, K. Sale, C. Talsma, C. Upchurch (Carbon Solutions)
- 14:45 **Contractual Hurdles for Establishing Transportation & Storage Agreements in CCUS Project Hubs:** M. C. Santoro (Petrobras)
- 15:05 **Flue Gas for Enhanced Oil Recovery Another Viable Alternative to Implement CCUS in Colombia:** J. A. SÁCHICA, J. E. Rivera De La Ossa, G. Maya (Ecopetrol)
- 15:25 **Assessing the Potential for CO₂ Enhanced Oil Recovery and Storage with Water Alternating Gas Injection in an Oil Sandstone in Chichime Field of Colombia:** F. Torres (Ecopetrol SAS)

THURSDAY ORAL SESSIONS

Theme 3: Modeling of Trapping Mechanisms

Location: Caracol I

Co-Chairs: A. Alvarez and D. Cardoso

14:00 **Introductory Remarks**

14:05 **Modelling Residual Trapping of injected CO₂ in the Migrant Structure, Offshore Nova Scotia, Canada:** K. Martyns-Yellowe¹, T. B. Kelly¹, G. Wach¹, B. F. Richards¹, D. E. O'Connor¹, L. Damascena², C. Ribeiro² (1. Dalhousie University Basin and Reservoir Lab; 2. Universidad do Ceara)

14:25 **Geological Trapping for CO₂ Sequestration in the Middle Magdalena Valley Basin: Stratigraphic and Structural Modeling:**

J. Calderon Lopez², H. D. Ramos², M. Cluzan¹, L. Giraldo¹, S. Figliuolo², L. Rodriguez², B. Serrano Cabrera², J. Leon Navarro² (1. Eliis; 2. Ecopetrol)

14:45 **Preliminary Evaluation of Uncertain Properties on the Carbon Dioxide Injectivity and Trapping in a Saline Aquifer: Case Study of Rio Bonito Formation:** A. Izadpanahi, C. Gaeta Tassinari, M. Sampaio (University of Sao Paulo)

15:05 **CO₂-Brine-Rock Interactions in Depleted Oil Reservoirs: Effects on Clean and Oil-stained Sandstone Properties:**

S. Mohammed¹, L. Sobers¹, O. Blake¹, D. Chakrabarti¹, A. Osman¹, U. Iyare², W. Clarke¹, S. Maharaj¹, A. Nowrang¹, T. Lee Chan¹, A. Mohammed¹, J. Smith¹ (1. University of the West Indies; 2. Los Alamos National Laboratory)

15:25 **CO₂ Sequestration in Oceanic Aquifers, Enhanced by CO₂ Immobilization and Formation of a CO₂-Hydrate Impermeable Bounding Layer in the Overburden:** G. J. Moridis (Texas A&M University)

Theme 5: Risk Management and Monitoring

Location: Aguamarina I

Co-Chairs: C. Riaño Garzón and O. Valishin

16:15 **Introductory Remarks**

16:20 **Develop and Implement a Digital Tool for the Management of Carbon Capture, Storage and Use (CCUS) Projects:** J. A. Sáchica¹, G. A. Londoño Obando¹, C. A. Heredia Luna³, M. C. Madera Vergara², C. A. Valencia Diaz¹ (1. Ecopetrol; 2. Universidad Los Libertadores; 3. Universidad del Magdalena)

16:40 **Quantitative Evaluation of Tectonic Stability for Favorable Geological CO₂ Storage Sites in Colombia:** J. M. Sánchez Sierra, M. A. Avila Paez, A. M. Salazar Franco, O. H. Rodriguez Moreno, M. F. Rodriguez, L. Montenegro Rivera, H. F. Alarcón Olave, C. F. Agudelo Escalona, M. T. Cantisano de Sandoval, C. Herrera Vargas, N. Cruz, C. Riaño Garzón, P. C. Montaña, D. Arevalo Daza, N. A. Gamba Ruiz, L. A. Diaz Delgado (Servicio Geológico Colombiano)

17:00 **Concept of an Injector-Monitor Well for the CCS Pilot Project in Brazil:** L. C. Pereira, R. d. Oliveira* (Petrobras)

17:20 **Evaluating CO₂ Injection Measurement, Reporting and Verification Program performance: A review of early CCS tests (2001-2011), extended CCS pilots (2011-2019) and commercial CCS implementation MRV programs:** A. Simone (Ryder Scott)

17:40 **Quantitative Risking of Geological Carbon Storage Projects:** P. Pestman¹, P. D. Carragher¹, R. Constable², C. Jenkins¹ (1. Rose Subsurface Assessment; 2. Constable Energy Consulting)

Theme 3: Pre-Feasibility and Feasibility Assessments

Location: Aguamarina II

Co-Chairs: M. Avila Paez and L. Diaz

16:15 **Introductory Remarks**

16:20 **Challenges and Key Findings from the 1D Geomechanical Model of one of the First BECCS Projects in Brazil:** V. Marchesi¹, P. Basu¹, O. Carvajal*¹, T. Pereira², P. Oliveira², P. Ernesto³ (1. Baker Hughes; 2. UISA; 3. Renovar)

16:40 **The geological storage of CO₂ offshore Cameroon:** M. Mienlam Essi¹, S. Sakshi², M. Yem³, E. Lee⁴, V. Onana¹, J. Yene Atangana³ (1. Faculty of Science, University of Ebolowa; 2. Hindustan oil and Exploration Limited; 3. University of Yaounde I; 4. University of Vienna)

17:00 **Optimizing Injection Strategy to Control Plume Growth in Multilayer Reservoirs with no to Limited Interlayer Communication:** J. Rojas, B. Tang (SLB)

17:20 **Evaluation of CCS Feasibility in the Depleted Sudoeste de Urucu Oilfield, Brazilian Amazon, Solimões Basin:** A. R. da Cunha, T. Barbosa (UFPA)

17:40 **Thermodynamic Modeling of CO₂ Injection in Aquifers Using e-CPA EoS: A Colombian Case Study:** J. D. Aristizabal¹, C. D. Cundar¹, I. Moncayo¹, M. Ruiz², P. Benjumea², W. Agudelo¹, R. Osorio¹ (1. Ecopetrol S.A.; 2. Universidad Nacional de Colombia)



*Denotes the presenter other than the first author

WEDNESDAY POSTER SESSIONS

Posters displayed: 08:30–18:00; Presentations: 10:45–11:15 and 15:45–16:15; Location: Aguamarina III-IV

Theme 1: CO₂ Injections Considerations, EOR and Utilization

Location: Aguamarina III-IV

- P1 **Optimizing CO₂ Utilization for Enhanced Oil Recovery and Decarbonization: A Multi-Field Approach in the Middle Magdalena Valley Basin, Colombia:** J. O. Castañeda¹, H. Cubillos¹, E. M. Trigos¹, H. D. Ramos¹, A. Alvarez² (1. Ecopetrol S.A.; 2. CMG)
- P2 **Assessment of CO₂ Capillary Trapping Due to Hysteresis Phenomenon in a Water-Alternating-Gas (WAG) Injection Process Through Laboratory Tests:** M. A. Santos Gonzalez, V. E. Mousalli Diaz, M. I. Sandoval Martínez, J. G. Barrera, D. A. Siabato Guevara (Universidad Industrial de Santander)
- P3 **Geochemical Insights into Carbon Capture and Storage with Enhanced Oil Recovery in Trinidad and Tobago: A Numerical Simulation Approach:** D. Alexander, R. Maharaj, R. Hosein, D. Boodlal (University of Trinidad and Tobago)
- P4 **Development and Evaluation of Nanomaterials Synthesized from Agro-waste for Enhancement of the Carbonated Water Injection process as CCUS-EOR Strategy:** L. J. Giraldo, C. Franco, F. Cortés (Universidad Nacional de Colombia)
- P5 **Testing, Monitoring, and Verification Regulations for CCS and CCUS: Ensuring Safety, Efficiency, and Effectiveness:** G. S. Garcia Orrego (Ecopetrol)
- P6 **Construction of the Static Model of the Mugrosa Formation in a Sector of the Llanito Field as a Candidate for CCUS Projects:** M. A. Daza (Universidad Industrial De Santander)
- P8 **Lessons Learned from the Use of historical CO₂ EOR projects in Colombia the Key to the New CCUS Route:** J. A. Sáchica¹, R. Amaya¹, D. Sierra² (1. Ecopetrol; 2. Universidad Europea)
- P9 **CO₂ Utilization in Enhanced Oil Recovery: Surfactant and Polymer-based Carbonated Water Flooding Strategies:** L. Sharma (Rajiv Gandhi Institute of Petroleum Technology)
- P10 **National Strategy for Decarbonization Based on Convergent Technologies and the Fourth Industrial Revolution:** L. J. Giraldo, C. Franco, F. Cortés (Universidad Nacional de Colombia)
- P11 **Regional Statistical Evaluation of Hydrocarbon Potential and Basin Knowledge in Colombia's 23 Basins Using Creaming Curve and Fractal Analysis to Predict Yet-to-Find Reserves and Potential CO₂ Storage Capacity:** C. Riaño Garzón, M. A. Avila Paez, M. F. Rodriguez, N. A. Gamba Ruiz, N. Cruz, O. H. Rodriguez Moreno, J. M. Sánchez Sierra, L. Montenegro Rivera, P. C. Montañó, A. M. Salazar Franco, M. T. Cantisano de Sandoval, C. F. Agudelo Escalona, H. F. Alarcón Olave, D. Arevalo Daza, C. Herrera Vargas, L. A. Diaz Delgado (Servicio Geológico Colombiano)
- P12 **Contingency gas injection into reservoirs: Opportunities and risks:** M. J. Oliveira, A. Sakata, L. Cordeiro, D. de Almeida, P. Oliveira, A. Lino Neto (Petrobras)
- P13 **Mineralogical and Geomechanical Changes in Caprock and Reservoir Rocks After scCO₂ Exposure Under Geological Storage Conditions:** T. M. Pique, C. G. Grasetti Palacio*, K. Irvicelli, C. Casagrande, M. Pierrard, E. Besnati (Y-TEC)

Theme 6: CCUS Case Studies and Life Cycle Analysis

Location: Aguamarina III-IV

- P14 **Extracting value from low-quality data in the site characterization phase of underground-storage projects in Latin America:** J. Macias, O. Carvajal* (Baker Hughes)
- P15 **Estimating Future Carbon Emissions of Unconventional Reserves:** W. J. Torres Diaz, D. Meehan (Texas A&M University)
- P16 **Approach to Environmental and Economic Costs in Pilot Projects for CO₂ Injection in Igneous Rock with Aquifer in the Brazilian Context:** V. Alzate Rubio, C. Gaeta Tassinari (Universidade de Sao Paulo)
- P17 **A Novel Model for H₂ and CO₂ Deployment in Decarbonization: A Case Study in Appalachia:** J. C. Duque¹, A. Harrison¹, Q. Mehdi¹, C. Upchurch¹, M. Ives², A. Nasta², D. Wissmiller², R. Middleton¹ (1. Carbon Solutions LLC; 2. GTI Energy)
- P18 **Roadmap for BECCS Hub Development in Western São Paulo State, Brazil: From Pilot Project to Regional Implementation:** N. Weber¹, J. A. Sousa¹, P. Jackson¹, C. Machado¹, C. Mathias², R. Esparta² (1. Manaca CCS; 2. EBEX)
- P19 **Carbon Capture Utilization and Storage (CCUS) and the Carbon Cycle:** R. J. Walty, K. W. Hathaway* (Terra Carbon Development, Inc.)
- P20 **Life Cycle Assessment of a Feasibility Use of Fluegas Streams in the Oil and Gas Industry for Carbon Capture Use and Storage Processes: Insight through transportation stage:** L. J. Giraldo, N. Cano, C. Franco, F. Cortés, J. D. Quintero*, P. Benjumea (Universidad Nacional de Colombia)
- P21 **Evaluation of the CCUS value chain for a case study of an O&G vertically integrated company and its potential for decarbonisation:** J. A. Caicedo Avellaneda¹, A. Duarte², E. Yañez¹, E. E. Betancourt³, G. Maya¹, J. Gutierrez², O. Blanco¹, H. Cubillos³ (1. Ecopetrol S.A.; 2. TIP Colombia; 3. Ecopetrol S.A.)
- P22 **Integrated evaluation for commercial design, monitoring and CO₂ sequestration for a prospective storage resource project in the Mount Simon Sandstone, Midwest United States:** M. Villalobos, S. Saavedra (Lapis Carbon Solutions)
- P23 **Circular Economy Of CO₂ And The Context In Colombia:** L. J. Valbuena (Universidad Nacional de Colombia)



*Denotes the presenter other than the first author

THURSDAY POSTER SESSIONS

Posters displayed: 08:30–18:00; Presentations: 10:45–11:15 and 15:45–16:15; Location: Aguamarina III-IV

Theme 2: Infrastructure and Well Design

Aguamarina III-IV

- P1 **Infrastructure and Well Design:** A. Singh (Rajiv Gandhi Institute of Petroleum Technology)

Theme 3: Reservoir Characterization and Subsurface Storage Modeling

Aguamarina III-IV

- P2 **Storage potential of CO₂ in Lower Miocene limestones of the Colombian Caribbean:** N. F. Gallego¹, A. Pardo¹, V. Vargas¹, E. Osorio Granada¹, M. Valencia Ortiz¹, M. Piragauta², Y. Buitrago², E. Ariza², S. Lopez Lopez², H. Buitrago² (1. Universidad de Caldas; 2. Agencia Nacional de Hidrocarburos)
- P3 **Optimized Saline Aquifer Characterization Using Measured Well Salinities for Petrophysical Calibration in Carbon Capture and Storage Projects:** P. C. Montañó, M. F. Rodriguez, D. Arevalo Daza, M. T. Cantisano de Sandoval, H. F. Alarcón Olave, C. Herrera Vargas, A. M. Salazar Franco, L. Montenegro Rivera, J. M. Sánchez Sierra, M. A. Avila Paez, C. Riaño Garzón, O. H. Rodriguez Moreno, N. Cruz, N. A. Gamba Ruiz, C. F. Agudelo Escalona (Servicio Geológico Colombiano)
- P4 **An Integrated Technique of Reservoir Characterization for Carbon Capture and Storage in Basalt, Santos Sedimentary Basin, Brasil:** O. A. Oluwadare, P. Tassinari (University of Sao Paulo, Brasil; Federal University of Technology Akure, Ondo state, Nigeria)
- P5 **Screening for CO₂ Storage using Forward Modelling: From Facies Characterization to Injection and Plume Evolution:** A. Thebault¹, S. Bou Daher¹, F. Smit², A. Mathiesen² (1. Beicip-Franlab; 2. GEUS)
- P6 **Quantitative characterization of fracture patterns as a critical aspect of carbon storage in shale reservoirs:** K. Chukwuma, N. Harris, E. Konstantinovska (University of Alberta)
- P7 **Phase Behavior of CO₂-CH₄-H₂O and CO₂-CH₄-NaCl-H₂O Systems: Implications for Instantaneous CO₂ Storage in Depleted Gas Reservoirs and Saline Aquifers:** D. A. Ramnath¹, R. Hosein¹, R. Lansangan² (1. University of West Indies, St Augustine; 2. TechnipFMC)
- P8 **Study on CO₂-EGR Numerical Simulation of Different Gas Reservoirs:** Y. Zhang, H. Yan, Y. Wei, Z. Cao, J. Guo, Y. Jiang, S. Yang (Research Institute of Petroleum Exploration & Development of CNPC)
- P9 **Predicting Woodford's Fracture Density through ML: A Case Study from North Central Oklahoma, USA:** A. Hajj Chehadeh, P. Jaiswal* (Oklahoma State University)
- P10 **Impacts on Petrophysical Properties from Coreflooding Experiments to Analyze CO₂ Sequestration Potential of Miocene Carbonates in Colombia:** N. F. Gallego¹, A. Pardo¹, H. Buitrago², M. Valencia Ortiz¹, V. Vargas¹, E. Osorio Granada¹, E. Ariza², S. Lopez Lopez², Y. Lopez¹ (1. Universidad de Caldas; 2. Agencia Nacional de Hidrocarburos)
- P11 **Estimation of theoretical CO₂ storage capacity in depleted hydrocarbon reservoirs within productive basins of Argentina:** C. G. Grasetti Palacio, G. A. Gallo, T. M. Pique (YPF Tecnologia)

Theme 4: CCUS Pilot and Demonstration Projects

Aguamarina III-IV

- P12 **Carbon Capture and Storage (CCS) in Trinidad and Tobago: A first Step Towards the Establishment of a Regional Hub:** D. Alexander¹, R. Hosein¹, A. Jupiter¹, P. Bradshaw-Niles² (1. University of Trinidad and Tobago; 2. Ministry of Energy and Energy Industries)

Theme 5: Risk Management and Monitoring

Aguamarina III-IV

- P13 **Environmental Monitoring of Unintended CO₂ Leakage at CCS Sites Using Hydrogeochemistry and Carbon Isotope Signature: Evidence from a Controlled CO₂ Release Experiment:** J. T. Zielinski¹, W. Fucks¹, L. P. Neis¹, V. J. M. dos Santos¹, F. Dalla Vecchia¹, P. R. Reginato², C. L. Melo¹, D. Cardoso¹ (1. Pontifical Catholic University of Rio Grande do Sul (PUCRS); 2. Hydraulic Research Institute (IPH), Federal University of Rio Grande do Sul (UFRGS))
- P14 **Integrating Social and Environmental Risks into Carbon Capture and Storage Site Selection: A Case Study from the Llanos Orientales Basin, Colombia:** A. M. Salazar Franco, M. F. Rodriguez, H. Rodriguez, C. Herrera Vargas, L. Montenegro Rivera, O. H. Rodriguez Moreno, N. Cruz, J. M. Sánchez Sierra, M. A. Avila Paez, P. C. Montañó, M. T. Cantisano de Sandoval, D. Arevalo Daza, C. Riaño Garzón, C. F. Agudelo Escalona, N. A. Gamba Ruiz, L. A. Diaz Delgado (Servicio Geológico Colombiano)
- P15 **Enhancing Safety and Efficiency in Carbon Capture, Utilization, and Storage: A Comprehensive Risk Assessment and Monitoring Framework:** D. A. Suleiman (University of Maiduguri)
- P16 **CO₂ storage and fracture intensity: How important is this criterion, and how can it be properly evaluated?:** M. A. Avila Paez, J. M. Sánchez Sierra, O. H. Rodriguez Moreno, A. M. Salazar Franco, L. Montenegro Rivera, M. F. Rodriguez, N. A. Gamba Ruiz, L. A. Diaz Delgado, H. F. Alarcón Olave, M. T. Cantisano de Sandoval, C. F. Agudelo Escalona, C. Herrera Vargas, N. Cruz, C. Riaño Garzón, P. C. Montañó, D. Arevalo Daza (Servicio Geológico Colombiano)
- P17 **Challenges and Current Status of Data for Regional Assessments of Geological CO₂ Storage:** O. H. Rodriguez Moreno, M. F. Rodriguez, J. M. Sánchez Sierra, A. M. Salazar Franco, L. Montenegro Rivera, M. A. Avila Paez, C. Riaño Garzón, N. Cruz, N. A. Gamba Ruiz, H. F. Alarcón Olave, C. F. Agudelo Escalona, M. T. Cantisano de Sandoval, C. Herrera Vargas, P. C. Montañó, D. Arevalo Daza, L. A. Diaz Delgado (Servicio Geológico Colombiano)

EXHIBITOR DIRECTORY

ACGGP

Calle 125 #20-70, Bogota, Colombia
+57 314 7232470
profesionaltecnico@acggp.org
www.acggp.org

Aspentech

20 Crosby Drive, Bedford, Massachusetts 01730, USA
Phone: +1 781 221 6400
Sales: +1 855 882 7736
Email: info@aspentech.com
www.aspentech.com

BGP

Av. Cra. 9 No. 113-52 Oficina 1502
Bogotá, D.C.
Colombian
borismachacado@bgp.com.co
www.bgp.com.cn

Computer Modelling Group (CMG)

3710 33 Street NW
Calgary, Alberta, T2L 2M1 Canada
Phone: +1 403 531 1300
+57 601 7450168 (Colombia)
CMG-Sales-LA@cmgl.ca
www.cmgl.ca

Ecopetrol

Edificio Principal Cr. 13 No. 36 - 24, Bogota, Colombia.
+57 310 315 8600
www.ecopetrol.com.co

Lonquist

12912 Hill Country Blvd, Ste F-200
Austin, TX 78738
USA
susan@lonquist.com
www.lonquist.com

PetroStrat

PetroStrat
Tan-y-Gang, Parc Caer Seion
Conwy, Wales LL32 8FA
UK
Niccola.seddon@petrostrat.com
www.petrostrat.com

SPE Colombia

Carrera 9 #53-58 Of. 705, Bogota, Colombia
+57 315 926 0948
administracion@spe.org.co
spe.org.co

Stryde

1-2 Paris Garden
London SE1 8ND
UK
Natalie.lusher@strydefurther.com
www.strydefurther.com

The Ohio State University - Battelle Center for Science, Engineering, and Public Policy

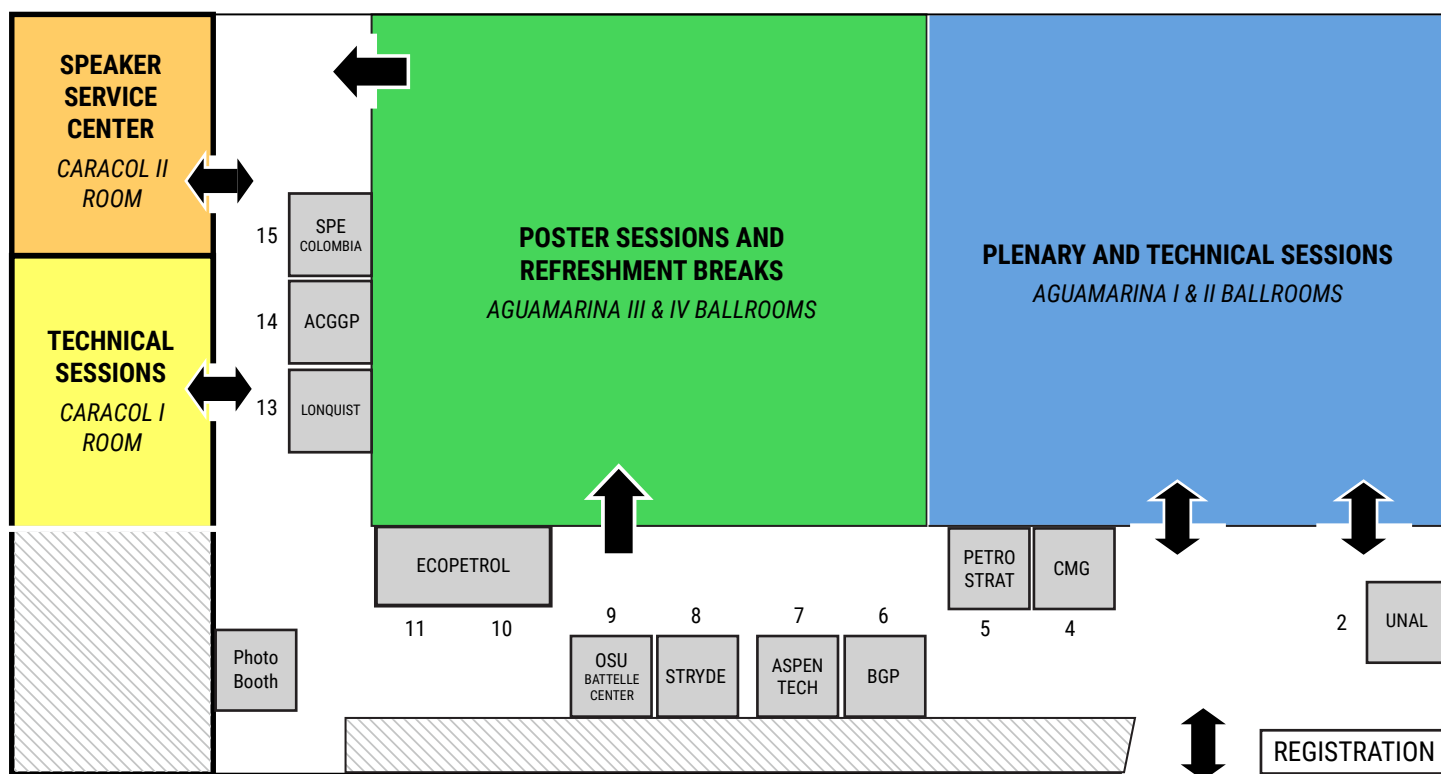
Page Hall, 1810 College Rd., Columbus, OH, 43210, United States
battellecenter@osu.edu
+1 614-292-5360
battellecenter.osu.edu

Universidad Nacional de Colombia (UNAL)

Cr 80#65-223 Bloque M3, Medellin, Colombia
+57 300 2023851
pbenjume@unal.edu.co
unal.edu.co



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Ecopetrol recognises the significance of reducing its carbon footprint as one of the pillars of its 2040 Strategy (SosTECnibilidad). As part of its commitment and to facilitate an effective energy transition, Ecopetrol has established the objective of reducing its scope 1 and 2 emissions by 25% by 2030 and ultimately achieving net-zero by 2050.

To accomplish this, it is imperative to adopt CCUS technologies to mitigate carbon emissions and catalyse their integration with sustainable initiatives, such as blue hydrogen.

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