

DEVELOPMENT AND PRODUCTION COMMITTEE 2024-2025 REPORT

Committee chair: Samarjit Chakraborty

Committee vice-chair: Shauna Oppert

Committee members: Lukumon Adeoti, Abdulfattah Al-Dajani, Othman Al-Mousa, Kaushik Banerji, William Barkhouse, Amy Borgmeyer, Adam Bucki, Sam Buist, Reynaldo Cardona, Mark Chapman, Alan Cohen, Rocco Detomo, Jean-Paul Van Gestel, Mariana Gherasim, Scott Haberman, Francois Hindlet, Ronny Hofmann, David Johnston, Asiya Kudarova, Martin Landro, Yongyi Li, Eric Von Lunen, Shawn Maxwell, Michael Mueller, Shauna Oppert, Amit Padhi, Marianne Rauch, Jeffrey Roth, Andrew Royle, Douglas Schmitt, Bruce Shang, Zandong Sun, Naser Tamimi, Maria Tatanova, Martin Terrell, Pierre Thore, Ali Tura, Kanglin Wang, Ellen Xu, Yang Xue, Li Yong, Jianhua Yue, Jeremy Zimmerman

Board liaison: Sergio Chávez-Pérez

Staff liaison: Scott Sutherland

EXECUTIVE SUMMARY

The Development and Production Committee had an impactful year marked by global collaboration and technical advancements in reservoir monitoring and 4D seismic applications. Key highlights included the successful 4D Forum in Galveston, Texas, and strong committee presence at IMAGE 2025 through a technical special session, luncheon, and postconvention workshop. These initiatives reinforced the committee's mission to advance geophysical technologies for optimized resource management in a digital and energy-transition world.

HIGHLIGHTS FROM THE PAST YEAR

4D Forum - Insight to Actions

Date: 4-6 November 2024 | **Location:** Galveston, Texas

Led by Adam Bucki (ExxonMobil) and Mariana Gherasim (TGS), along with a global organizing team, the 4D Forum addressed critical challenges in reservoir monitoring and resource optimization across the industry. Over two and a half days, experts from academia and industry shared insights on seismic acquisition, advanced processing techniques, reservoir property prediction, and strategies to reduce cycle time. Discussions also explored carbon sequestration applications and approaches for evolving 4D programs within the context of digital transformation.

Planning is underway for the next SEG 4D Forum, scheduled for November 2026.



SEG 4D Forum group photo

IMAGE 2025 Technical Engagements

Development and Production Luncheon

The luncheon featured two insightful presentations. Maria Tatanova-Malhaire (Shell) discussed how 4D seismic continues to deliver value throughout a field's lifecycle—particularly in mature fields where optimization is essential. William A. Burnett (ExxonMobil) shared lessons from Guyana's transition from streamer to OBN surveys, highlighting the use of engineered signals for enhanced monitoring.



Attendees engaged in technical discussions during the SEG Development and Production Luncheon.



Luncheon speakers: Will Burnett and Maria Tatanova.

Special Session: From 4D Acquisition to Seismic History Matching

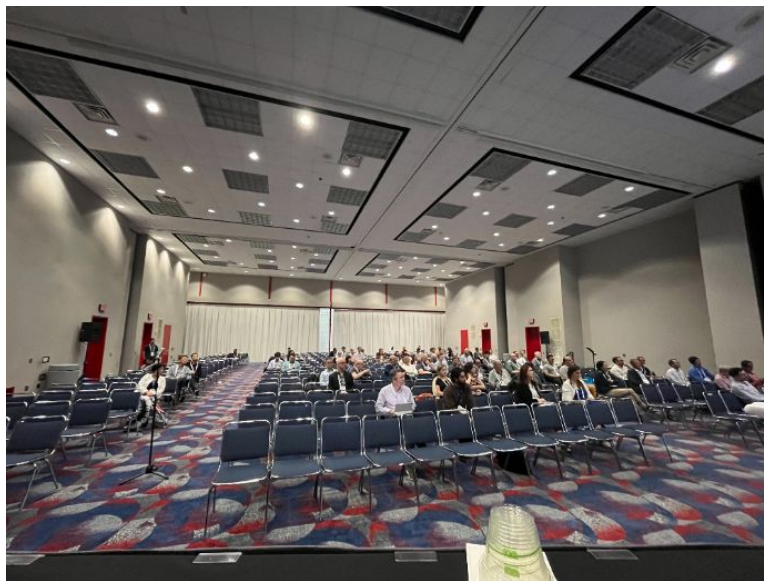
Invited speakers, led by Mariana Gherasim (TGS) and David Johnston (Differential Seismic, LLC), shared innovative approaches to 4D seismic applications. Presentations covered hybrid acquisitions and full waveform inversion (FWI) for pre-salt reservoirs, lessons learned from North Sea ocean-bottom node (OBN) monitoring, integrated workflows for history matching, and engineered signals used to calibrate models in Guyana's Liza field. These case studies showcased advancements in acquisition strategies and reservoir modeling for improved production optimization.

SEG Development & Production Committee Meeting

During IMAGE 2025, the committee convened a meeting attended by Rocky Detomo, Eric Von Lunen, Maria Tatanova, Sergio Chávez-Pérez, David Johnston, Shauna Oppert, Kanglin Wang, and Samarjit Chakraborty. Members reviewed ongoing initiatives and discussed goals and challenges for 2026, focusing on enhancing technical engagement across disciplines and addressing resource constraints for future events.

Postconvention Workshop - W-2: Advancements and the Road Ahead in 4D Seismic

Led by Shauna Oppert (Chevron) and Kanglin Wang (Shell), this workshop explored advancements in Paleogene 4D seismic through seven technical presentations and an open discussion. Topics included mapping reservoir depletion in Wilcox formations, subsalt production strategies, and integrating rock physics and geomechanics for time-lapse applications. The session emphasized practical case studies and collaborative learning in 4D workflows.



Audience engagement during the workshop reflected high participation and knowledge exchange.