

RESEARCH COMMITTEE

2024-2025 REPORT

Committee chair: Stephan Gelinsky

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Board liaison: Sergio Chávez-Pérez

Staff liaison: Annabella Betancourt

EXECUTIVE SUMMARY

Following its membership refresh the prior year, the Research Committee (RC) refocused on its role in supporting the advancement of applied geophysical technologies. The Technology Communities initiative was launched with significant support from the RC, and a proposal for a *Geophysical Technology Industry Collaboration* was initiated. The RC also continued to be a major contributor to IMAGE post-convention workshops, special sessions, and SEG Research Workshops.

HIGHLIGHTS FROM THE PAST YEAR

The Technology Communities (TC) concept was introduced by then President Arthur Cheng and RC Chair Stephan Gelinsky in the June 2024 *TLE* President's Page. Incorporating member feedback, the RC developed draft community guidelines and operating procedures, which were subsequently refined by former Technical Director Paola Vera and SEG First Vice President, Aria Abubakar.

The RC Chair nominated five Technology Champions for presidential approval to lead the initial pilot TCs: Borehole Geophysics; Carbon Capture, Utilization, and Storage (CCUS); Full Waveform Inversion (FWI) and Seismic Imaging; Machine Learning and Artificial Intelligence (AI); and Reservoir Characterization. SEG soft-launched the TC initiative ahead of IMAGE 2025, with additional placeholder communities joining the five pilot communities on the sign-up page.

The concept of Technology Communities—groups of SEG members connecting around applied geophysical technologies—was inspired by the RC's CO₂ Subcommittee. That group had brought together individuals interested in all aspects of carbon capture and storage to plan CCUS-

themed workshops and contribute to emerging industry guidelines and standards. With the launch of the CCUS TC, the RC voted to discontinue its CO₂ Subcommittee, which had grown large and attracted participants beyond the RC's core membership, and encouraged its members to remain active in the new CCUS TC.

In previous years, the RC created an Early Career (EC) Subcommittee to support organic membership rejuvenation. Like the CO₂ Subcommittee, the EC Subcommittee grew to include many participants outside the RC's original focus. Consequently, the RC launched an EC Community alongside the new TCs, creating a space for all SEG early career members to connect and network professionally. RC EC Subcommittee Chair Joshua Pwawodi was nominated and appointed as the first EC Community Champion. The RC voted to maintain a small EC Subcommittee to support ongoing membership development, which will collaborate closely with the new EC Community.

Led by several RC members, the committee also explored an initiative to create a *Geophysical Technology Industry Collaboration*. The goal of this proposed framework is to promote the development and advancement of geophysical technologies that address current market conditions and drivers. By bringing together industry leaders, academic researchers, operators, technology providers, and regulators, the initiative aims to create a collaborative environment for innovation. Initial feasibility screening identified the existing SEAM and DeepStar technology development partnerships as potential collaborators. DeepStar leadership, for example, expressed interest in broadening its current subsea equipment focus to include subsurface geophysical technologies.

RC members co-organized 12 of the 18 IMAGE 2025 post-convention workshops and are pursuing several research workshops in the areas of FWI and CCUS. The RC-organized *Recent Advances and the Road Ahead* special session was well attended and honored the legacies of geophysical pioneers Amos Nur and Sven Treitel, highlighting how their work continues to shape the future of geophysics.

Looking ahead, the RC has been asked to increase the number of high-quality workshop offerings in close collaboration with the new Technology Communities, which are expected to contribute domain expertise in their respective technology areas.

At the conclusion of IMAGE 2025, RC Chair-Elect Erkan Ay was appointed Chair.



Some of the members and guests of the Research Committee assembling for the annual committee dinner during IMAGE week. Photo and event logistics courtesy Annabella Betancourt.