

# Final Announcement

## Understanding Carbonate Processes, Deposition, and Preservation: Breakthroughs and Challenges

August 24-25, 2025

George R. Brown Convention Center, Houston, TX

SEPM is sponsoring this two-day event highlighting the latest in CO<sub>3</sub> research (scheduled immediately before the 2025 IMAGE conference). It will include invited speakers focusing on key carbonate themes and poster presentations covering broader research topics and student projects. The format will encourage strong discussion with ample time for Q&A, and participation from a diverse mix of academia and industry, professionals and students, domestic and international. This event is independent from the IMAGE program – [see last page of this flyer for registration costs & info.](#)

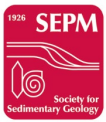
### Invited oral sessions focus on four themes that highlight recent advances in carbonate research:

- **Physical, Biological, and Chemical Process Sedimentology of Carbonates**  
*Keynote: Elizabeth Trower (Univ. of Colorado Boulder)*
- **Mixed Siliciclastic and Lacustrine Carbonate Systems**  
*Keynote: Sam Purkis (Univ. of Miami)*
- **Carbonates as Archives of Earth Processes and Changes**  
*Keynote: Kristin Bergmann (Massachusetts Inst. of Technology)*
- **Integration of New Applications with Carbonate Interpretation**  
*Keynote: Cédric John (Queen Mary Univ. of London)*

Poster sessions will highlight student & young professional projects that cover the breadth of CO<sub>3</sub> research around academia.

[---See following pages of this flyer for event program---](#)

*Special thanks to SEPM & IAS for supporting student presenter travel for this event!*



From the organizers –

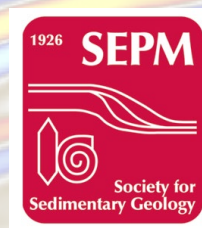
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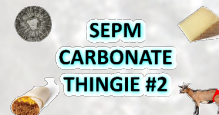
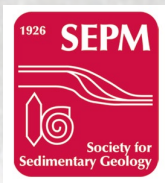




Day 1 Program, Sunday August 24, 2025

# Understanding Carbonate Processes, Deposition, and Preservation: Breakthroughs and Challenges

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*We have an outstanding invited lineup of 20 speakers and 27 poster presentations during this two-day event!*

## Oral Session 1: Physical, Biological, and Chemical Process Sedimentology of Carbonates

**Keynote Elizabeth Trower** (Univ. of Colorado Boulder): A World in a Grain of Sand: Learning to Read the Geological Information Preserved in Ooids

**Guillem Mateu-Vicens** (Univ. of the Balearic Islands): Understanding Carbonate Factories Through Palaeoecological and Sedimentological Signals

**Victorien Paumard** (Univ. W. Australia): Seismic Stratigraphy and Geomorphology of Mass-Transport Complexes in Carbonate Depositional Environments: Insights from the Cenozoic Margin of the Exmouth Sub-Basin (NWS, Australia)

**Gregor Eberli** (Univ. of Miami): Microbial Cementation from the Shallow to the Deep

**Thomas Teillet** (King Abdullah Univ. of Science & Tech.): Micritized Grains and Peloids: The Taphonomic Adventures of Carbonate Grains in Shallow Marine Settings

## Oral Session 2: Mixed Siliciclastic and Lacustrine Carbonate Systems

**Keynote Sam Purkis** (Univ. of Miami): Climate Control of Mixed Clastic-Carbonate Sedimentation in the Red Sea Rift

**Ben Rendall** (Univ. of Potsdam): Building a New Continental Margin from Reefs and Rivers in the Northern Red Sea

**Gavin Dunbar** (Victoria Univ. of Wellington): Quaternary Evolution of the Central Great Barrier Reef

**Kristin Bergmann (Mass. Inst. of Tech.)**: The Evolution and Controls on Lacustrine Carbonate Systems of Pre-Salt Brazil

**Maria Mutti** (Univ. of Potsdam): An Outcrop-Based Insight into Lacustrine Carbonate Reservoirs: Lessons from the Yacoraite Formation (Salta Basin, Argentina)

## Poster Presentations

**Keynote Paul (Mitch) Harris**: Lessons Learned from an Invaluable Modern Analog – The Joulter Ooid Sandbody

**Bosiljka Glumac** (Smith College): Influence of Microbial Encrusters on Porosity and Permeability of Pleistocene Coral-Rich Shallow-Marine Carbonate Deposits from The Bahamas

**Abdulah Eljalafi** (Ovintiv): From Channelized Slopes to Basin-Floor Fan Systems – A Quantitative Approach to Delineating Depositional Environments, Early Permian “Wolfcamp”, Midland Basin TX

**Arnoud Slootman** (Colorado School of Mines): Depositional Architecture of a Prograding Reef-Rimmed Carbonate Slope, Lower Carboniferous, Bolshoi Karatau Mountains, Kazakhstan

**Aubin Cosson** (Univ. of W. Australia): Seismic Stratigraphy and Geomorphology of Isolated Carbonate Build-ups and Associated Mass-Transport Complexes in the Vulcan Sub-basin, Bonaparte Basin, Australia: New Insights from 3D Seismic Data

**David Nworie** (Colorado School of Mines): How do Carbonate Turbidity Currents Contribute to Carbon Sequestration?

**Kai Hachmann** (King Abdullah Univ. of Science & Tech.): Microbial Stabilization of Modern Carbonates from the Intertidal to the Aphotic – A Critical Component of Limestone Lithification in the Red Sea

**Saikat Misra** (ITT Gandhinagar): Sediment Texture and Component Heterogeneity Over the South Andaman and Swaraj Dweep Fringing Reef

**Kevin Hatton** (Stony Brook Univ.): Age and Temperature of Authigenic Carbonates Associated with Lithium-Bearing Illite Claystones, Thacker Pass, Nevada, USA

**Morgan Chakraborty** (Univ. of Miami): Microbe-Mineral Interactions in Deep-Sea Brine Pools

**Wafaa Altyeb** (Univ. of Potsdam): Sea Level, Climate, and Ecological Controls on Mixed Coastlines in the Northern Red Sea

**Manuel Ariza-Fuentes** (King Abdullah Univ. of Science & Tech.): Whittings in the Red Sea

**Brayton Keith** (Devon Energy): Stratal Architecture of a Retreating Mixed Carbonate-Siliciclastic Ramp, Pennsylvanian Strawn Formation, Southeast New Mexico and West Texas, USA

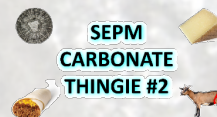
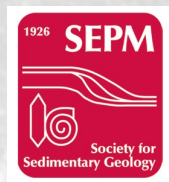
**Asil Newigy** (Univ. of Potsdam): The Littoral Blender – Mixing Point-Sourced Siliciclastics with Shelf-Derived Carbonates by Longshore Sediment Transport



Day 2 Program, Monday August 25, 2025

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## Oral Session 3: Carbonates as Archives of Earth Processes and Changes

**Kristin Bergmann** (Keynote; Massachusetts Inst. of Technology): Isotopic Constraints on End-Ordovician Glacial Dynamics and Climate

**Charles Kerans** (Univ. of Texas Austin): Comparative Anatomy of the Last Interglacial (MIS 5e) and Holocene (MIS 1) Highstands, Bahamas-Caicos Archipelago

**Roger Creel** (Texas A&M Univ.): Untangling the Influence of Glacial Isostatic Adjustment on Carbonate Records of Last Interglacial Sea Level

**Brian Kelley** (Penn State Univ.): The Carbonate Factory in the Aftermath of Extinction: Triassic Slope Sedimentation Modes from the Surface Ocean to the Twilight Zone

**Robert Forkner** (Think Onward): Mixed Signals: The Varied Record of the Sedimentary Response to Oceanic Anoxic Events (OAEs) Across a Spectrum of Shallow Water Carbonate Depositional Settings

## Oral Session 4: Integration of New Applications with Carbonate Interpretation

**Keynote Cédric John** (Queen Mary Univ. of London): Sharper, Faster, Smarter: Revolutionizing Carbonate Geology with Computer Vision

**Haifa AlSalmi** (Queen Mary Univ. of London): Enhancing Seismic Imaging with Deep Learning: A Carbonate Atoll Case Study

**Michelle Thompson** (Shell): Integrating Advanced Technologies to Characterize Subsurface Carbonate Systems

**Robin Domisse** (Bureau of Economic Geology): Data Integration and AI for Carbonate Reservoir Modeling

**Akbar Wicaksono** (King Abdullah Univ. of Science & Tech.): What Drives Depositional Heterogeneities in Epeiric Carbonate Platforms? New Perspective from Paleo-Hydrodynamic Simulation

## Poster Presentations

**Amanda Oehlert** (Univ. of Miami): Secular Variation in Seawater Chemistry Changes Ichthyocarbonate Production Rate, Composition, and Fate

**Ander Martinez-Donate** (Bureau of Economic Geology): The Role of Refluxing Hypersaline Brines in the Diagenetic Modification of Marginal Carbonates, Delaware Basin, USA

**Tiffany Legg** (Univ. of Oklahoma): Unlocking the Dynamics of Pedogenic Carbonates: A Machine Learning Approach

**Pauline Falkenberg** (King Abdullah Univ. of Science & Tech.): Polygonal Tepee Structures of Arabia - An Initial Assessment

**Francesca Giovanzana** (King Abdullah Univ. of Science & Tech.): Assessing Modern and Past Lagoon Environments Through Geochemical Variations in a Large Benthic Foraminifera

**Josephine Bianco** (Texas A&M Univ.): Assessing Ancient Fluid Flow Pathways Following Dissolution Features in Ooid Grainstone Deposits, Happy Field, Garza County, Texas

**Sebastian Patino** (King Abdullah Univ. of Science & Tech.): Limestones are also Fractured! Implications for Reservoir Quality and Fluid Flow

**Andrew Hollenbach** (Univ. of Kansas): Long-Lived Hydrothermal Alteration in a Structurally Damaged Area of Kansas: Convection as Opposed to Gravity Driven Advection or Fault Pumping

**Ben Rendall** (Univ. of Potsdam): Building on the Reciprocal Sedimentation Model to Explain Development of Photozoan Delta-top Carbonate Platforms

**Akbar Wicaksono** (King Abdullah Univ. of Science & Tech.): Bathymetric Reconstruction of the Late Jurassic Arabian Intra-Shelf Basin

**Cameron Sam** (Univ. of Miami): Empirical Definition of Stable Carbon Isotope Fractionation Factors in Biogenic High Magnesium Calcite

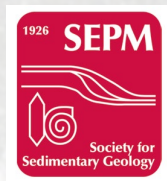
**Ardiansyah Koeshidayatullah** (King Fahd Univ. of Petroleum and Minerals): Can Large Language Models Transform Education and Research in Carbonate Geosciences?

**Waleed AlGharbi** (Imperial College): Seismic Reflection Termination Attribute (SRT-Ai): A Deep Learning Approach to Identify Seismic Reflection Terminations in Carbonate Systems



## Registration Information

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**Registration through the IMAGE website is now open.**

**Seats are limited, so register now! Registration closes on August 18!**

- Go to main IMAGE site: [IMAGE 2025](https://www.image2025.org)
- Click Register, then Member/Non-Member
- Select Registration Type – **note, there is an option to register for this event without IMAGE Full Convention Registration (choose Short Courses button)**
- Enter Contact & Demographic Information // **if Student, select 'Student' under Demographics & Job Title**
- Select **SC09 Understanding Carbonate Processes, Deposition, and Preservation (SEPM)** under Short Courses
- **If Student, scroll down to SC09S under Short Courses to get Student Rate**
- Fees for this event are \$250 for professionals and \$50 for students, which includes 2 days of oral & poster presentations, Meeting Notes Volume with Extended Abstracts, morning refreshments, \$60 Starbucks gift card, and an evening Carbonate Networking Event on Saturday, August 24! *Note - an additional \$35 charge will be added if registering only for the Short Course.*

**We also strongly encourage you to register for the IMAGE Full Convention program which continues an excellent carbonate technical program into the week (Tuesday and Wednesday, August 26-27) with six oral and five poster carbonate sessions covering the following topics:**

- Memorial Session honoring Luis Pomar, Chris Kendall, & Michael Whalen
- Deepwater Carbonates
- Mixed Carbonate-Siliciclastic Systems
- Unconventional Carbonate Systems
- Advances in Carbonate Characterization
- Carbonate Diagenesis, Porosity & Permeability
- Carbonate Outcrop & Modern Analogs

**Complete the carbonate trifecta by attending the SEPM Carbonate Research Group Meeting the evening of Tuesday August 26!**

***It will be a great week of carbonates and we hope to see you there!***

From the organizers –

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