

## Second Announcement

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

August 24-25, 2025

George R. Brown Convention Center, Houston, TX

SEPM will sponsor 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 & chemical process sedimentology of carbonates**  
*Keynote: Lizzy Trower (Univ. of Colorado)*
- **Mixed siliciclastic & lacustrine carbonate systems**  
*Keynote: Sam Purkis (Univ. of Miami)*
- **Carbonates as archives of Earth processes & changes**  
*Keynote: Kristin Bergmann (Massachusetts Inst. of Technology)*
- **Integration of new applications with carbonate interpretation**  
*Keynote: Cedric 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 –

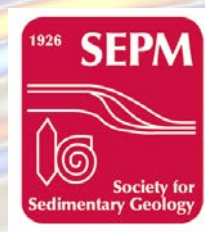
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**SEPM  
CARBONATE  
THINGIE #2**

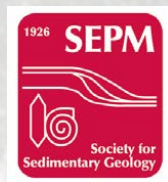




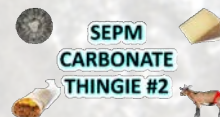
Day 1 Program, Sunday August 24, 2025

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

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*We have an outstanding invited lineup of 20 speakers  
and 28 poster presentations during this two-day event!*



## Oral Session 1: Physical, biological & chemical process sedimentology of carbonates

**Keynote Lizzy Trower** (Univ. of Colorado): A world in a grain of sand: Learning to read the geological information preserved in ooids

**Guillem Mateu Vicens** (Univ. de les Illes Balears): 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 Northern Carnarvon Basin (NWS, Australia)

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

**Thomas Teillet** (KAUST): Micritized Grains and Peloids: The Taphonomic Adventures of Carbonate Grains in Shallow Marine Settings

## Oral Session 2: Mixed siliciclastic & lacustrine carbonate systems

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

**Ben Rendall** (Univ. of Potsdam): Light at the end of the funnel: Building a new continental margin from reefs and rivers in the northern Red Sea

**Gavin Dunbar** (Victoria Univ. of Wellington): Plio-Pleistocene evolution of the Great Barrier Reef

**Kristin Bergmann (Mass. Inst. of Tech.)**: The evolution and controls on lacustrine CO<sub>2</sub> systems of pre-salt Brazil

**Maria Mutti** (Univ. of Potsdam): Multi-Scale Properties of the Yacoraite Formation (Salta Basin, Argentina): A Unique Outcrop-Based Insight into a Lacustrine Carbonate System

## Poster Presentations

**Keynote Poster - Mitch Harris: Lessons Learned from an Invaluable Modern Analog – Joulter's Ooid Sandbody**

**Aubin Cosson** (Eliis): 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

**Tiffany Legg** (Oklahoma Univ.): Predictive Modeling of Pedogenic Carbonate Dynamics: Towards a Global Understanding of Soil Inorganic Carbon Flux

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

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

**Morgan Chakraborty** (Univ. of Miami): Brine pool microbes enrich critical metals in mixed siliciclastic-carbonate salt-giant basins

**Kevin Hatton** (Stonybrook Univ.): Age and Temperature of Authigenic carbonates associated with Lithium-bearing illite claystones at Thacker Pass, Nevada, USA

**Andrew Hollenbach** (Kansas Univ.): Long-lived hydrothermal alteration in structurally damaged carbonates: Implications of convection as opposed to gravity driven advection or fault pumping

**Josie Bianco** (Texas A&M): Mapping Dissolution Features to Predict Fluid Flow Directions of an Ooid Grainstone Deposit in Happy Spraberry Field, Garza County, Texas

**Saikat Misra** (ITT Gandhinagar): Sediment texture and component heterogeneity over south Andaman and Swaraj Dweep fringing reef

**Wafaa Altyeb** (Univ. of Potsdam): Sea level, climate, and ecological controls on mixed sediment routing system in the northern Red Sea

**Bolton Howes** (Washington Univ.): Ooids as recorders of ancient seawater chemistry: Three-dimensional reconstructions and databases reveal shifts in distribution, abundance, and size across time and space

**Ardiansyah Koeshidayatullah** (KFUPM): Can Large Language Model Transform Education and Research in Carbonate Geosciences?

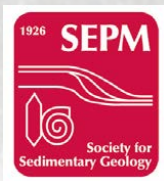
**Francesca Giovenzana** (KAUST): Assessing modern and past lagoon environments through geochemical variations in a large benthic foraminifera



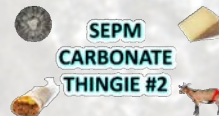
**Day 2 Program, Monday August 25, 2025**

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

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## **Oral Session 3: Carbonates as archives of Earth processes & changes**

**Keynote Kristin Bergmann** (Massachusetts Inst. of Technology): Isotopic records from carbonates before and during glaciation

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

**Roger Creel** (Texas A&M): Untangling the influence of glacial isostatic adjustment on carbonate records of Last Interglacial sea level

**Brian Kelley** (Penn State Univ.): The carbonate factory in an age of extreme warming: Triassic platform margin architecture and biogenic sedimentation modes from the surface ocean to the twilight zone

**Rob Forkner** (ConocoPhillips): Mixed Signals: The response of shallow water carbonate systems to Oceanic Anoxic Events

## **Oral Session 4: Integration of new applications with carbonate interpretation**

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

**Haifa AlSalmi** (Queen Mary Univ. of London): Enhancing Carbonate Atoll Interpretation Through Deep Learning-Based Seismic Reconstruction

**Michelle Thompson** (Shell): Integrating advanced technologies to characterize subsurface carbonate systems

**Robin Domisse** (BEG): Data Integration and AI for Carbonate Reservoir Modeling

**Abkar Wicaksono** (KAUST): What Drives Depositional Heterogeneities in Epeiric Carbonate Platforms? New Perspective from Paleo-Hydrodynamic Simulation

## **Poster Presentations**

**Keynote Poster - Mitch Harris: Lessons Learned from an Invaluable Modern Analog – 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

**Ander Martinez-Donate** (BEG): The role of refluxing deep hypersaline brines and their impact on carbonate strata (Delaware Basin, USA)

**Manuel Ariza-Fuentes** (KAUST): Modern carbonate and siliciclastic mud distribution in Al Wajh platform lagoon (northern Red Sea, Saudi Arabia), a modern analogue for arid carbonate platforms

**Brayton Keith** (Texas Christian Univ.): Stratal architecture of a retreating mixed carbonate-siliciclastic ramp, Pennsylvanian Strawn Formation, southeast New Mexico and west Texas, USA

**Arnoud Slootman** (Colorado School of Mines): Depositional architecture of a prograding microbial-reef-rimmed carbonate slope, Lower Carboniferous, Bolshoi Karatau Mountains, Kazakhstan

**Abdulah Eljalafi** (Ovintiv): Channelized Slopes to Basin-Floor Fan Systems – Depositional Architecture and Evolution of Carbonate Deposits of the Early Permian “Wolfcamp”, Midland Basin TX

**Asil Newigy** (Univ. of Potsdam): The Littoral Blender – Mixing Point-sourced siliciclastics with shelf-derived carbonates by longshore sediment transport

**Sebastian Patino** (KAUST): Limestones are also fractured!

**Robert Fröhder** (Univ. of Potsdam): Faulting as a controlling factor of accommodation space, hydrodynamics and facies distribution in mixed systems, Maltese Archipelago

**Pauline Falkenberg** (KAUST): Polygonal Tepee structures of Arabia: Indicators of intertidal microbial cementation processes

**Kai Hachmann** (KAUST): Microbial stabilization of modern carbonates from the intertidal to the aphotic – a critical component of limestone lithification in the Red Sea

**Abkar Wicaksono** (KAUST): Quantitative Bathymetry Reconstruction of the Late Jurassic Arabian Intraself Basin

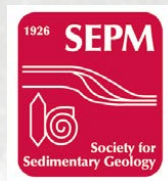
**Amanda Oehlert** (Univ. of Miami): Secular variation in seawater chemistry changes ichthyocarbonate production rate, composition, and fate

**Cameron Sam** (Univ. of Miami): Fractionation of stable carbon isotope ratios during the precipitation of magnesium-rich carbonate by marine bony fishes

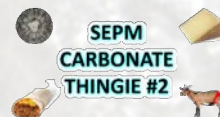


## Registration Information

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

**Seats are limited, so register now!**

- Go to main IMAGE site: [IMAGE 2025](#)
- 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
- Select **SC09 Understanding Carbonate Processes, Deposition, and Preservation (SEPM)** under Short Courses
- 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 – details to follow!**

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

From the organizers –

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