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**What's New**

**CBTH Phase VI Atlas now online**

The CBTH Phase VI Atlas (2020-2023) is now available online for our continuing sponsors! This 411-page volume summarizes all CBTH products from September 1, 2020 through August 31, 2023, including regional mapping, seismic transects, subsurface mapping, gravity models, burial history plots, and more. Sponsors can download this essential deliverable from our password-protected sponsor website by visiting <http://cbth.uh.edu>



**Upcoming presentations at IMAGE 2024**

CBTH students and researchers will be presenting 10 poster and oral presentations at this year's IMAGE conference on August 26-29, the most ever for our group at this event! In addition, CBTH researchers Jose Gorosabel and Sharon Cornelius, as well as CBTH PhD graduate students Ruth Beltran, Daniel Maya, and Chesney Petkovsek, will all be serving as invited, session chairs during the conference. Finally, on Wednesday, August 28, Paul Mann, Jose Gorosabel, Sharon Cornelius, Ruth Beltran, and Kenneth Shipper will all give brief presentations as part of the New Technology Showcase. A full list of these exciting events can be found later in this newsletter.

**CBTH luncheon at IMAGE 2024**

The CBTH Project will be hosting our annual luncheon during IMAGE 2024 on Tuesday, August 27 at noon at The Grove Downtown location just a short walk from the convention center. If you are interested in attending this year's luncheon, email us at [cbthproject@gmail.com](mailto:cbthproject@gmail.com)



## What's New

### UH team wins third place at the Imperial Barrel Award global finals

Congratulations to the UH Department of Earth and Atmospheric Sciences IBA team, who won third place in the global finals of the Imperial Barrel Award Program (IBA) of the American Association of Petroleum Geologists (AAPG)! The team previously came in 1st Place in the IBA North America Region Petroleum semifinals before advancing to the global competition where UH is the top-ranked team worldwide in the petroleum exploration area. To read more, [click here](#).

### CBTH summer internships

Congratulations to MSc student Josh Miller and Kenneth Shipper, who both received summer internships in the oil and gas industry in Houston. Josh is currently interning with Hillcorp, and Kenneth is interning with Equinor.

### PhD graduate Juan Pablo Ramos wins Gordan I. Atwater award

Juan Pablo Ramos recently received the 2023 Gordan I. Atwater Award for Outstanding Poster Presentation at the GeoGulf 2024 in April for his presentation on basin modeling in offshore Colombia and Panama. In May, Juan Pablo completed his PhD study titled "Tectonostratigraphic Studies of the Paleogene Yucatan Back-Arc Basin, the Miocene-Recent Collisional Zone Between the Panama Arc and South America, and the Late Cretaceous Caribbean Large Igneous Province and its Adjacent Oceanic Crust," which is now available on our sponsor website. Juan Pablo began working as an explorationist with the BP Gulf of Mexico team in May 2024. Congratulations on these outstanding accomplishments!



### PhD student Daniel Maya represents UH and Ecuador at AAPG Leadership Summit

Congratulations to CBTH PhD student Daniel Maya, who recently represented UH and Ecuador in the Latin America and Caribbean Region Student and Young Professional Chapter Leadership Summit hosted by AAPG-LACR. For more information, [click here](#).

### CBTH Annual Sponsor Meeting date set

The 2024 CBTH Annual Sponsor Meeting will be held on Friday, October 11 on the UH Campus. Stay tuned for more details, including the meeting schedule and finalized location on the UH campus.



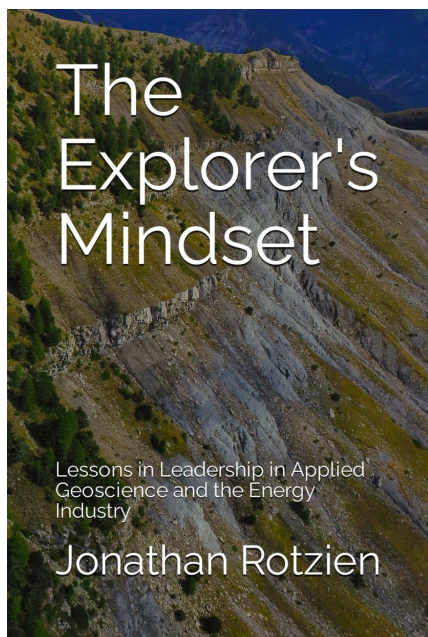
## What's New

### New publications from CBTH researchers

A peer-reviewed article by CBTH researchers has just been published in the special issue of "Geochemistry, Geophysics, Geosystems," on the Caribbean plate. CBTH researchers Kenneth Shipper and Paul Mann published "Crustal Structure, Deformational History, and Tectonic Origin of the Bahamas Carbonate Platform." A second article, entitled "Crustal structure and tectonic origin of Late Cretaceous oceanic crust and adjacent Caribbean Large Igneous Province in the Colombian Basin" by Juan Pablo Ramos, Paul Mann, and Luis Carlos Carvajal has been revised based on reviewer comments and re-submitted to the same special issue. Later this fall, PhD student Chesney Petkovsek will publish an article in Interpretation titled "Multi-layer 3D seismic attribute analysis and fault framework modeling of shallow extensional fault systems in the Delaware Basin." Finally, CBTH allied researcher Jean-Claude Hippolyte and CBTH Project Director Paul Mann recently published a new article, titled "U–Pb calcite dating reveals the origin of a 600 km-long intraplate fault: The Balcones Fault System of Texas" in the June issue of Terra Nova. Visit the "Recent and Upcoming Publications" section for more details, including download links.

### Articles on Colombia in Geo ExPro

CBTH PhD graduate Juan Pablo Ramos, Luis Carlos Carvajal, and Lucia Torrado, along with Project Director Paul Mann, recently published two articles in Geo ExPro (Vol. 21, No. 2) titled "Natural Gas: The best ally for Colombia's energy transition" and "Is the Colombian Basin on its way to becoming the next big frontier?" Click here to access the full issue online.



### New book from Jonathan Rotzien

CBTH Allied Researcher Jonathan Rotzien has published a new book entitled "The Explorer's Mindset: Lessons in Leadership in Applied Geoscience and the Energy Industry." The book is a collection of 30+ interviews with leaders in geoscience, most of whom (including Paul Mann) are involved in the energy industry focused on oil and gas exploration and production (from companies, academia, government agencies, investment groups, etc.). The book aims to characterize the traits of successful geoscience leaders who are responsible for the substantial growth and success of our industry over the last few decades. Get your copy today on Amazon!



## Graduating Students



**JUAN PABLO RAMOS VARGAS** is a geologist who graduated from the National University of Colombia and has worked on the crustal, tomography, and the analysis of petroleum sedimentary basins in the Caribbean Sea and in northwestern South America. He completed his PhD dissertation, titled "Tectonostratigraphic Studies of the Paleogene Yucatan Back-Arc Basin, the Miocene-Recent Collisional Zone Between the Panama Arc and South America, and the Late Cretaceous Caribbean Large Igneous Province and its Adjacent Oceanic Crust," in May 2024. He currently works for BP in Houston.

## New Students

**JOSH MILLER** completed his BS in geology at the University of Texas in May 2023 and joined the CBTH as an MSc student in January 2024. His MSc study will use 3D seismic data to map the Cretaceous-Cenozoic stratigraphy of the Uruguayan margin and create a basin model for hydrocarbon prediction.



**PETER SAVRIDES** is an MSc student who joined the CBTH Project in August 2024. He is a native New Yorker who graduated from SUNY Binghamton in May 2024 with a BS in geology and a minor in Russian language. Peter will be studying the passive margin of Eastern Canada and offshore basin modeling near Newfoundland and Labrador.

**ESTEFANI RUIZ TORO** graduated in May 2024 from the University of Houston-Downtown with a BS degree in geosciences with a concentration in petroleum geotechnology. In the summer of 2024, she worked for the CBTH project as researcher and for NASA as a summer intern. She is currently a first-year, MS student with the CBTH project researching the tectonic history, potential fields, seismic stratigraphy, and hydrocarbon potential of the Bering Sea and its margins in western Alaska and northeastern Russia.





## Recent Meetings

Project sponsors have access to meeting presentations from 2005 to present, with updates added shortly after each conference. Please visit our website for more information.

### **HGS International Group Virtual Zoom Dinner: Research on Suriname and Colombia from the CBTH Project at the University of Houston (Virtual, January 17, 2024)**

- o Juan Pablo Ramos – Crustal architecture of the Colombian Basin and its implications for the early evolution and hydrocarbon potential of the Caribbean Sea
- o Kenneth Shipper - Predicted hydrocarbon trends of the Guyana-Suriname margin based on a 3D full-thickness lithospheric and basin model

### **AAPG Academy Webinar (Virtual, April 1, 2024)**

- o Paul Mann - The final frontier of deepwater exploration: The continent-ocean transition zone of rifted-passive margins

### **GeoGulf 2024 (San Antonio, April 10-12, 2024)**

- o Juan Pablo Ramos and Paul Mann - How oceanic and oceanic plateau crustal architecture controls potential deepwater hydrocarbon plays in the Colombian Basin, Caribbean Sea

### **UH EAS 37th Annual Student Research Conference and Alumni & Industry Open House (UH Main Campus, April 26, 2024)**

- o Jumoke Akinpelu - Re-defining the continent-ocean boundary beneath the distal Niger delta and expanding its deepwater hydrocarbon play fairway based on the wider zone of continental rifts and syn-rift source rocks
- o Ruth Beltran - Aptian-Albian tectonic evolution of a hyperextended, continental rift system and its transition into oceanic crust in the ultra-deepwater Campos basin, Brazil
- o Kaitlyn Bryant - Using a compilation of vintage seismic reflection data and earthquake data to understand the tectonic origin of the Puerto Rico-Virgin Islands Arch
- o Daniel Maya - Using gravity modeling to constrain the crustal structure of the Early Cretaceous volcanic-rifted margin of Uruguay
- o Josh Miller - Paleogene arc collision and migration in the Bering Sea interpreted from regional magnetic and gravity data
- o Upal Shahriar - Crustal structure and tectonostratigraphy of the Andaman oblique-subduction margin and its control on hydrocarbon potential
- o Kenneth Shipper - Flexural and basin modeling of the transition between the non-volcanic and volcanic rifted margins of Guyana and Suriname



## Recent Meetings

### AAPG Academy Webinar (Virtual, May 14, 2024)

o Andrew Pepper – Petroleum Systems

### 8th Conjugate Margins Conference 2024 (Lisbon, May 27-29, 2024)

- o Jose Miguel Gorosabel Araus and Paul Mann - Comparison of deepwater, marginal rifts and their hydrocarbon potential: Examples from the Gulf of Mexico and Atlantic margin of Morocco
- o Jose Miguel Gorosabel Araus, Alanny Melo, David Castro, and Giogenes Oliveira - The deepwater Barreirinhas Basin of the Equatorial Margin of Brazil: Refined basin modeling reveals upside hydrocarbon potential



*Jose Miguel Gorosabel Araus presents at the 8th Conjugate Margins Conference.*

### II Workshop SBGf: South America Equatorial Margin (Rio de Janiero, July 2-3, 2024)

- o Jose Miguel Gorosabel Araus - Evaluating the deepwater hydrocarbon potential of the Equatorial Margin of Brazil from regional-scale characterization of Early and Late Cretaceous source rocks and basin modeling

### Geological Society of Trinidad and Tobago Virtual Technical Talk (Virtual, July 23, 2024)

- o Juan Pablo Ramos - Crustal structure in the Colombian Basin interpreted from 3D seismic data: Implications for the tectonic evolution of the Caribbean Plate and its petroleum systems



## Upcoming Meetings



### IMAGE 2024 (Houston, August 26-29, 2024)

- o Jumoke Akinpelu and Paul Mann - Re-defining the continent-ocean boundary beneath the distal Niger delta and expanding its deepwater, hydrocarbon play fairway based on the wider zone of continental rifts and syn-rift source rocks  
Session Style: Poster Presentation  
Session ID: AFR P1  
Session Title: Approaches to Data Integration 1: Geophysical Workflows  
Presentation Date and Time: August 28, 2024 from 1:20 PM to 3:00 PM
- o Ruth Beltran - Session Chair for Brazil's Presalt Basins 2 - Subsalt Modeling, Session ID LAC 7, Oral, Wednesday, August 28, 2024 10:20 AM to 12:00 PM, Room 351B
- o Ruth Beltran - HC potential of the Campos ultra-deepwater using multiple data types  
Session Title: New Technology Showcase  
Presentation Date and Time: August 28, 2024 from 4:40 PM to 4:50 PM
- o Ruth Beltran and Paul Mann - Crustal structure and hydrocarbon potential of the ultra-deepwater, External rift zone, Campos basin, Brazil  
Session Style: Poster Presentation  
Session ID: LAC P1  
Title: Exploration and Development 1  
Presentation Date and Time: August 28, 2024 from 8:00 AM to 9:40 AM
- o Sharon Cornelius - Session Chair for US Gulf of Mexico: Overview, Session ID NA 2, Oral, Tuesday, August 27, 2024 8:00 AM to 9:40 AM, Room 361B
- o Sharon Cornelius - A new deepwater HC play in the deepwater Santos basin predicted from basin modeling  
Session Title: New Technology Showcase  
Presentation Date and Time: August 28, 2024 from 4:50 PM to 5:00 PM



## Upcoming Meetings

### IMAGE 2024 (Houston, August 26-29, 2024)

- o Sharon Cornelius - Regional basin modeling of the Santos-Campos-Espirito Santo basins, offshore Brazil, for predictive prospectivity of the external rift zone source rock  
Session Style: Oral Presentation  
Session ID: LAC 5  
Session Title: Brazil's Presalt Basins 1  
Presentation Date and Time: August 28, 2024 from 9:15 AM to 9:40 AM
- o Jose Gorosabel - Session Chair for Suriname Exploration 1, Session ID LAC 3, Oral, Tuesday, August 27, 2024 1:20 PM - 3:00 PM, Room 351B
- o Jose Gorosabel - Predicted deepwater and sub-salt HC trends in Morocco from basin modeling  
Session Title: New Technology Showcase  
Presentation Date and Time: August 28, 2024 from 4:30 PM to 4:40 PM
- o Jose Gorosabel and Paul Mann - 3D seismic characterization of hydrocarbon plays in the deepwater zone of the Rio Muni Basin, deepwater margin of Equatorial Guinea  
Session Style: Oral Presentation  
Session ID: AFR 3  
Session Title: Field-Scale Studies  
Presentation Date and Time: August 29, 2024 from 8:00 AM to 8:25 AM
- o Jose Gorosabel, Paul Mann, Alanny Melo, David de Castro, Diogenes Oliveira - Hydrocarbon potential of the deepwater Barreirinhas Basin and the Equatorial Margin of Brazil based on refined source rock characterization and basin modeling  
Session Style: Oral Presentation  
Session ID: LAC 9  
Session Title: Brazil's Equatorial Margin  
Presentation Date and Time: August 28, 2024 from 2:10 PM to 2:35 PM
- o Paul Mann – Advances in basin modeling and analytics for new insights for deepwater reservoirs  
Session Title: New Technology Showcase  
Presentation Date and Time: August 28, 2024 from 4:10 PM to 4:20 PM
- o Daniel Maya - Session Chair for Frontier Offshore Basins, Session ID LAC 2, Oral, Tuesday, August 27, 2024 10:20 AM to 12:00 PM, Room 351B
- o Daniel Maya and Paul Mann - Crustal structure of the volcanic-rifted margin of offshore Uruguay based on gravity modeling and application to hydrocarbon basin modeling  
Session Style: Oral Presentation  
Session ID: LAC 2  
Session Title: Frontier Offshore Basins  
Presentation Date and Time: August 27, 2024 from 10:20 AM to 10:45 AM





## Upcoming Meetings

### IMAGE 2024 (Houston, August 26-29, 2024)

- o Josh Miller and Paul Mann - Comparison of potential fields and seismic reflection data from known and proposed areas of exhumed mantle on non-volcanic, rifted-passive margins: Implications for frontier hydrocarbon exploration of the ultra-deepwater realm

Session Style: Oral Presentation

Session ID: ECR 1

Session Title: New Insights into Europe 2

Presentation Date and Time: August 29, 2024 from 10:45 AM to 11:10 AM

- o Chesney Petkovsek - Session Chair for Studies of geological and geophysical processes to further enhance the understanding of the Permian Basin and the Eastern Shelf, Session ID NA3 P2, Oral, Tuesday, August 27, 2024 10:20 AM to 12:00 PM

- o Chesney Petkovsek - Session Chair for Geological and geophysical studies and methods of the Permian Basin and Eastern Shelf, Session ID NA5 P4, Poster, Tuesday, August 27 3:40 PM to 5:20 PM

- o Juan Pablo Ramos, Paul Mann, and Luis Carlos Carvajal-Arenas - Reassessing the Late Cretaceous basement crustal structure of the Colombian Basin and its implications for ultra-deepwater petroleum systems in the Caribbean Sea

Session Style: Oral Presentation

Session ID: LAC 10

Session Title: Exploration

Presentation Date and Time: August 28, 2024 from 4:55 PM to 5:20 PM

- o Kenneth Shipper – A new basin model for the Guyana-Suriname margin and its predicted HC trends

Session Title: New Technology Showcase

Presentation Date and Time: August 28, 2024 from 4:20 PM to 4:30 PM

- o Kenneth Shipper and Paul Mann - Controls on the tectonic evolution of source rock thermal stress patterns in the Moroccan salt basin

Session Style: Oral Presentation

Session ID: AFR 2

Session Title: Play-Scale Studies

Presentation Date and Time: August 28, 2024 from 11:10 AM to 11:35 AM

- o Kenneth Shipper and Paul Mann - 3D crustal model for the volcanic-rifted margin of Suriname and the non-volcanic margin of Guyana with implications for Jurassic-Cretaceous source rock maturity

Session Style: Oral Presentation

Session ID: LAC 4

Session Title: Suriname Exploration 2

Presentation Date and Time: August 27, 2024 from 4:55 PM to 5:20 PM



## Upcoming Meetings

**HGS Annual Student Expo (Houston, September 9-10, 2024)**

**HGS-GESGB Africa Conference (Houston, September 24-25, 2024)**

- o Jumoke Akinpelu - Expanding the play fairway of hydrocarbon systems based on syn-rift Cretaceous source rocks, western Niger Delta, offshore Nigeria
- o Jose Gorosabel - Hydrocarbon prospectivity of the deepwater Rio Muni Basin, offshore Equatorial Guinea, based on the 3D seismic characterization of hydrocarbon play
- o Upal Shahriar - Impact of the transition from a Jurassic volcanic to non-volcanic rifted margin on hydrocarbon prospectivity in northwest Africa
- o Kenneth Shipper - Tectonic history and transient full-lithosphere thermal modeling to predict thermal stress of source rocks within the Moroccan basin



**CBTH Annual Sponsor Meeting (UH Main Campus and virtual, October 11, 2024)**

**First EAGE Conference on Energy Opportunities in the Caribbean (Port-of-Spain, November 6-8, 2024)**

**2024 Perkins-Rosen GCSSEPM RC: The Energy Transition the Gulf Coast and Basin (Houston, December 2-4, 2024)**

**AGU 2024 (Washington, D.C., December 9-13, 2024)**

## Recent Theses and Dissertations

Ramos, J.P., 2024, Tectonostratigraphic Studies of the Paleogene Yucatan Back-Arc Basin, the Miocene-Recent Collisional Zone Between the Panama Arc and South America, and the Late Cretaceous Caribbean Large Igneous Province and its Adjacent Oceanic Crust, PhD dissertation, University of Houston, 254 p.



## Recent Publications

- Bugti, M.N., and Mann, P., 2023, Regional source rock thermal stress modeling and map-based charge access modeling of the Port Isabel passive margin foldbelt, northwestern Gulf of Mexico, *Interpretation*, v. 11, no. 4, T717–T734. <https://doi.org/10.1190/int-2023-0004.1>
- Cornelius, S., 2023, Comparison of the Characteristics of Cretaceous Salt Deposition in Brazil with the Jurassic Salt Deposition in the Gulf of Mexico, *Search and Discovery Article #11374*. <https://doi.org/10.1306/11374Cornelius2023>
- Hippolyte, J.C., Mann, P., Henry, P., Guihou, A., Deschamps, P., Ourliac, C., Godeau, N., Marié, L., and Gordon, M.B., 2024, U–Pb calcite dating reveals the origin of a 600 km-long intraplate fault: The Balcones Fault System of Texas, *Terra Nova*, 00, p. 1-10. <https://doi.org/10.1111/ter.12734>
- Ramos, J.P., and Mann, P., 2023, Late Cretaceous-Recent tectonostratigraphic evolution of the Yucatan back-arc basin, northern Caribbean Sea, *Geochemistry, Geophysics, Geosystems*, v. 24, no. 8, e2023GC010933. <https://doi.org/10.1029/2023GC010933>
- Shipper, K. and Mann, P., 2024, Crustal structure, deformational history, and tectonic origin of the Bahamas carbonate platform, *Geochemistry, Geophysics, Geosystems*, v. 25, e2023GC011300. <https://doi.org/10.1029/2023GC011300>

## Recent Awards

- o Sharon Cornelius, Researcher, 3rd Place Grover E. Murray Best Published Paper in the 2023 Transactions, GeoGulf 2024
- o Juan Pablo ramos, PhD Candidate, 2023 Gordan I. Atwater Award for Outstanding Poster Presentation, GeoGulf 2024
- o Jumoke Akinpelu, PhD Candidate, 2nd Place Presentation (Advanced PhD), Houston Geological Society and University of Houston Robert E. Sheriff lecture series and student poster competition
- o Upal Shahriar, PhD Candidate, 3rd Place Presentation (Advanced PhD), Houston Geological Society and University of Houston Robert E. Sheriff lecture series and student poster competition
- o Faith Walton, Undergraduate, 1st Place Presentation (Undergraduates), UH EAS Student Research Day 2023 (\$400)
- o Kenneth Shipper, PhD Candidate, 1st Place Presentation (Early PhD & MS), UH EAS Student Research Day 2023 (\$400)
- o Juan Pablo Ramos, PhD Candidate, 2nd Place Presentation (Advanced PhD), UH EAS Student Research Day 2023 (\$500)
- o Juan Pablo Ramos, PhD Candidate, UH EAS outstanding graduate work in Geology scholarship (\$500)
- o Juan Pablo Ramos, PhD Candidate, 1st Place Student Poster Presentation, GeoGulf23
- o Ruth Beltran, PhD Candidate, 3rd Place Student Poster Presentation, GeoGulf23



## Thanks to our sponsors!

As we continue into Phase VII of the CBTH Project, we would like to thank our active and inactive company sponsors for their support in providing data and software that has fostered our progress in understanding the hydrocarbon potential conjugate rifted-passive margins in the CBTH study area. Your support has provided many opportunities for CBTH students to pursue research projects in the region, and your support is truly appreciated.

### Active Sponsors for Phase VII, Year 1



### Previous Sponsors (2005 - 2023)



### Data Sharing



### Technical Support

