

CBTH PHASE IV

Caribbean Basins, Tectonics, & Hydrocarbons

NEWSLETTER JANUARY 2015 VOL.10 NO.1

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2005 - 2015
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What's New with the CBTH Project in Houston, Texas and Stavanger, Norway



CBTH annual sponsor meeting

The CBTH Annual Sponsor Meeting was held on Friday, September 12, 2014 at the University of Houston. Thanks to all of our attending sponsors for making this year's meeting a success!

UH student Shenelle Gomez wins Sheriff poster competition award in one category and receives fellowship

Congratulations to PhD candidate Shenelle Gomez for coming in 1st place at this year's Sheriff lecture series and student poster competition in the category "undergraduate and first-year MS". Shenelle was also recently awarded the highly competitive University of Houston Presidential Cullen and Stella Ehrhardt Fellowship for the 2015-2016 year.

Congrats to Fall 2014 CBTH graduates

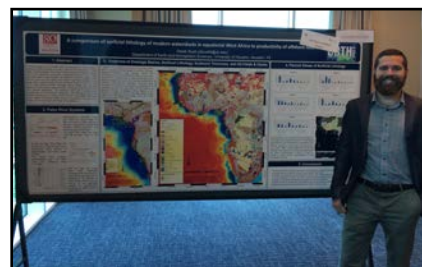
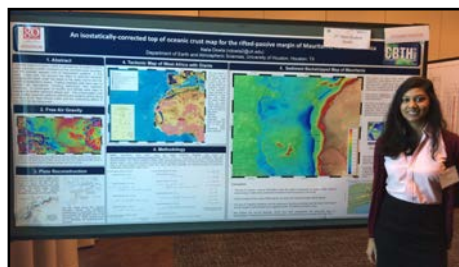
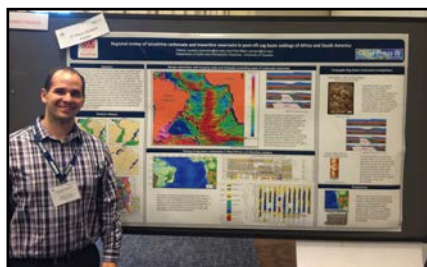
Graduates include Tricia Alvarez (PhD, UT Austin, returning to Trinidad), Suhail Ahmad (MSc, UiS, now a PhD student at UiS working on the low frequency project), Karilys Castillo (MSc, UH, Colombia offshore group at Anadarko), Orietta Mata (MSc, UH, Colombia offshore group at Shell), and Murad Ismael (MSc, UH, Shell [formerly Murad Hasan]). Patrick Loureiro completed his MSc thesis on Puerto Rico and is now starting his PhD work on the Brazil-west African margin and Naila Dowla completed her BSc and BSc Honors thesis and is starting her PhD work on the Mauritania-Florida conjugate margin.

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What's New



UH students receive top awards at 13th Annual Conference on African Exploration and Production

Congratulations to Patrick Loureiro, Naila Dowla, and Derek Scott for their first, second, and third place poster awards, respectively, at the 13th Annual Conference on African Exploration and Production, jointly organized by the Houston Geological Society and the Petroleum Exploration Society of Great Britain. The meeting was held on September 9-10, 2014, at The Westin Houston, Memorial City.

New publication in Geophysics by CBTH graduate Lucia Torrado

Congratulations to Lucia Torrado, who recently published her MSc work on the Llanos basin of Colombia in the August 2014 issue of Geophysics. This publication was adapted from her award-winning "Top Ten Presentation" for the 2013 AAPG ICE meeting in Cartagena, Colombia. Lucia will start as a CBTH-supported research assistant with the CBTH project in January 2015.

CBTH students win three student awards at the AAPG ICE meeting

Congratulations to Tricia Alvarez for her third place award for best student oral presentation on her study of the Trinidad area at the 2014 AAPG ACE meeting and to Bryan Ott for his third place poster award for his work on the Nicaraguan Rise and to Javier Sanchez for his fourth place poster award for his work on the offshore Honduras area.

CBTH Student Javier Sanchez publishes dissertation research

Congratulations to Javier Sanchez for his paper accepted to the special publication of the Geological Society of London on sheared margins titled "Late Cretaceous-Cenozoic tectonic transition from collision to transtension, Honduran borderlands and Nicaraguan Rise, northwestern Caribbean plate boundary". This is one chapter of his PhD study; a second chapter is in press in AAPG Memoir 108.

AAPG Memoir 108 on Colombia and its offshore area

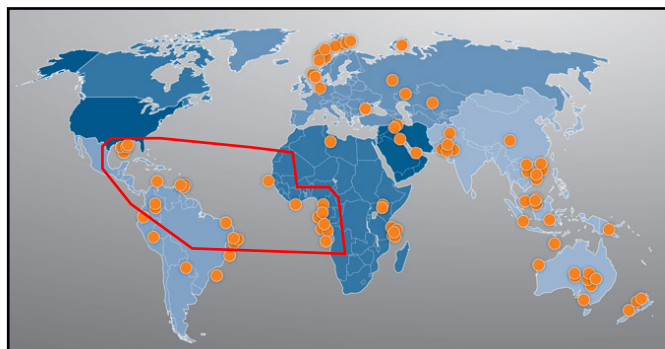
This volume, edited by Claudio Bartolini (Repsol) and Paul Mann and now in production with AAPG, contains a total of 27 chapters of which 9 are by CBTH students or CBTH allied scientists including Peter Bartok and Carlos Zuluaga. See the full list of CBTH chapters in the Recent Publications section.

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What's New



Map modified from AAPG Explorer article showing 2014 oil and gas discoveries. CBTH study area shown in red.

Ecopetrol announces discovery in offshore Tayrona block

Results from the Orca-1 well just north of La Guajira in Colombia confirm the hydrocarbon potential of the basin, which has is being actively studied by CBTH PhD students Steve Leslie and Javier Sanchez.

Welcome to our new sponsors

The CBTH Project would like to welcome our new sponsors: Reliance Industries Limited (India), Antilles Oil and Gas (Australia), and Ecopetrol ICP. Thanks for your sponsorship and support of the project!

Targeted Internships for 2015

During the summer, we encourage our CBTH graduate students to seek out targeted internships in the oil and gas industry focusing on their Master's or Doctoral study areas. This type of internship is beneficial both for the student by expediting their progress towards graduation, improving the quality of their thesis research through increased exposure to industry-based mentors, and to the company by taking full advantage of the CBTH knowledge database. If your company would be interested in coordinating a targeted internship with a CBTH student, please contact Dr. Paul Mann (pmann@uh.edu) in Houston or Dr. Alejandro Escalona (alejandro.escalona@uis.no) in Stavanger.

Number of awards for CBTH research is growing

As the numbers of students and researchers has grown over the years, so has the number of awards for CBTH work. Another factor has been the location of the project at UH starting in 2011, which allowed project workers (including undergrads) easier access to meetings held in the Houston area.

See the complete list of awards at: <http://cbth.uh.edu/awards.php>

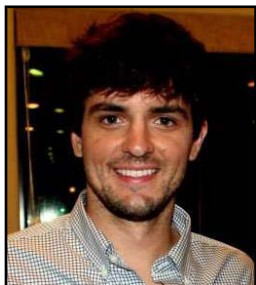
2005 (Phase 1, UT Austin): 0 awards
2006: 1 award
2007: 0 awards
2008 (Phase 2, UT Austin): 4 awards
2009: 1 award

2010: 1 award
2011 (Phase 3, UH): 2 awards
2012: 3 awards
2013: 8 awards
2014 (Phase IV, UH): 26 awards

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New Students at the University of Houston



Alex Cheney

Alex is an undergraduate research assistant who began working with the CBTH Project in summer 2014. He will assist with GIS and reference database compilation in addition to helping with materials for the annual atlas release.



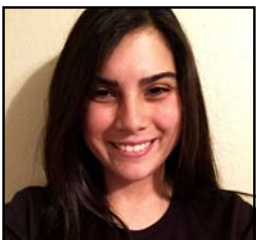
Sarah Dailey

Sarah is a UH undergraduate geology major who will assist with the GIS database starting in January 2015.



Shenelle Gomez

Shenelle recently completed her BSc at UH and started her PhD study in Fall 2014 on the Trinidad-Barbados area. She will also be maintaining the GIS database and helping to maintain the GeoMapper application.



Sabrina Martinez

Sabrina is a UH undergraduate geology major who will assist with the GIS database starting in January 2015.

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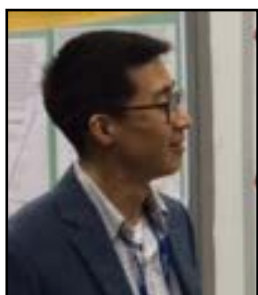
Lourdes Rodriguez Milano

Lourdes is an MSc candidate in Geophysics who began working with the CBTH Project in summer 2014. She will be working with data from the Roblote Area in the Eastern Venezuela Basin and will graduate in August 2016. She will be presenting at the GCSSEPM and GCAGS meetings in 2015.



Shelly Tran

Shelly is a UH undergraduate geology major who will assist with the GIS database starting in January 2015.



Jiannan Wang

Jiannan is a PhD student working with Paul Mann on the Chirp survey of the Haiti lakes which he presented at the December 2014, AGU meeting. This work is funded by the SEG Geophysicists Without Borders program.

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Allied Researchers Working with the CBTH Project



Karen Leever, PhD

Karen Leever is a researcher at GFZ Helmholtz Centre in Potsdam, Germany working with the Stavanger group on offshore Colombia. Her expertise is in analogue modeling.



Udo Zimmerman, PhD

Udo is a contributing scientist and is an Associate Professor at the University of Stavanger. His main research interests are provenance studies. Udo has been conducting fieldwork in Barbados to improve the understanding of the provenance of Cenozoic deposits for CBTH in Phase III. He will expand the work to Jamaica with a similar objective.



Carlos Zuluaga, PhD

Dr. Carlos Zuluaga, a professor of geology at the National University of Colombia, is an allied research with the CBTH project working on the tectonic and evolution of the Colombian Caribbean Margin. He was in residence at UH and worked with the CBTH group and with Dr. Tom Lapen and the radiometric dating facilities at UH in the fall of 2014 with these results now in press in AAPG Memoir 108. He returned to Colombia in January 2015.

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Recent Meetings

EAGE 2014

CBTH students and researchers Sayyid Suhail Ahmad, Elisabeth Johansen, Karen Leever, and Alejandro Escalona presented their research at the European Association of Geoscientists and Engineers (EAGE) Conference in Amsterdam, The Netherlands on June 16-19, 2014.

AGU 2014

CBTH student researchers Ian Ambrosius, Steve Leslie, Jiannan Wang, and Patrick Loureiro presented at the American Geophysical Union's fall meeting on December 15-19, 2014 in San Francisco.

Upcoming Meetings



AAPG 2015 Annual Conference and Exhibition

CBTH students and researchers will be presenting at the 2015 AAPG Annual Conference & Exhibition on May 31 - June 3, 2015 at the Colorado convention center in Denver.

Below, you'll find information for CBTH presenters.

TITLE: La Vela Bay, Offshore Falcon Basin, Western Venezuela: Eastern Extension to the La Perla Carbonate Reservoir Trend

AUTHORS: Joan M. Blanco, Paul Mann

AAPG 2015 (continued)

TITLE: Controls of Asymmetrical Rifting on Giant Oil Habitats within Conjugate, Pre-Salt Carbonate Sag Basins of Brazil and West Africa

AUTHORS: Patrick Loureiro, Paul Mann, Mike Saunders

TITLE: Trends and Predictions for Giant Oil and Gas Field Discoveries, 2000-2019

AUTHORS: Paul Mann, Naila Dowla, Myron K. Horn

TITLE: Recent Progress in Understanding a Two-Stage Opening Model for the Gulf of Mexico and Its Implications for Deepwater Exploration in the U.S. and Mexican Maritime Zones

AUTHORS: Paul Mann, Murad Hasan

The CBTH Project will also be hosting its annual AAPG Luncheon during the conference on Monday, June 1st at noon (location to be determined). For up-to-date information on presentations times and luncheon information, visit our website:

<http://cbth.uh.edu/conferences/AAPG2015.php>

For more on the 2015 conference, click here:
<http://ace.aapg.org/2015>

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Upcoming Meetings

6th Annual Deepwater and Shelf Reservoirs AAPG Workshop

CBTH PhD student Bryan Ott will present a 40-minute overview talk at the Sixth Annual Deepwater and Shelf Reservoirs AAPG Technical Workshop, which will be held on January 27-28 2015 in Houston, Texas. Bryan will summarize his PhD work on deepwater exploration on the Nicaraguan Rise and Jamaica area. [Click here for more details.](#)



20th Caribbean Geological Conference

The Geological Society of Trinidad & Tobago will host the 20th Caribbean Geological Conference on May 17-22, 2015 at the Hyatt Regency Hotel in Port-of-Spain, Trinidad & Tobago. CBTH Principal Investigator Dr. Paul Mann serves on the CGC steering committee. Presenters will include Tricia Alvarez, Shenelle Gomez, and Paul Mann. Shenelle Gomez will participate in the field trip to Barbados, which is the topic of her PhD work. [Click here for more information.](#)



Gulf Coast Association of Geoscientists (GCAGS) Annual Meeting

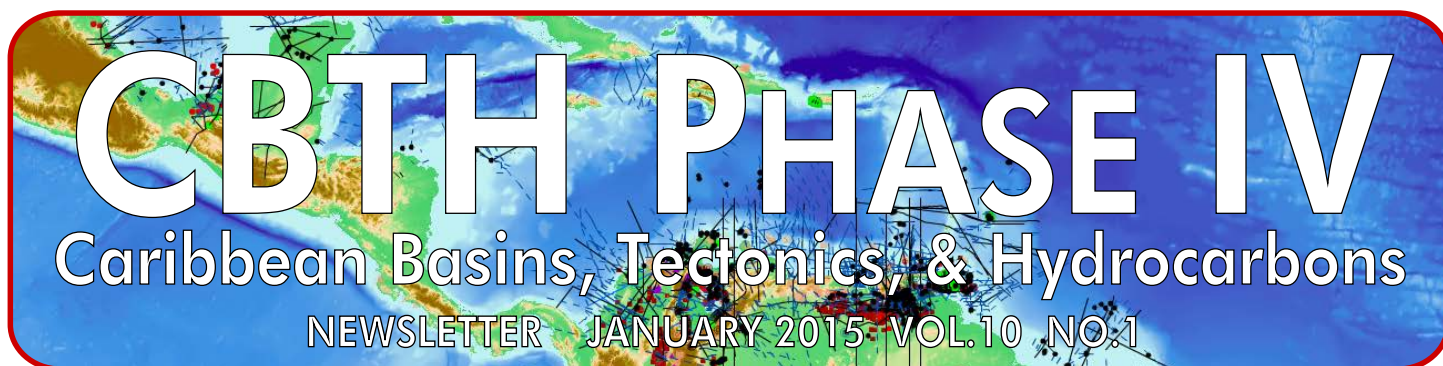
The Gulf Coast Association of Geoscientists (GCAGS) is hosting its annual meeting on September 20-22, 2015. CBTH presenters in the student poster session will include Lourdes Rodriguez, Alex Cheney, Bryan Ott, Patrick Loureiro, Naila Dowla, David Lankford-Bravo, and Derek Scott. For more information, [click here.](#)

SEG International Exhibition and 85th Annual Meeting

The Society of Exploration Geophysicists (SEG) International Exhibition and 85th Annual Meeting will be held on October 18-23, 2015 in New Orleans, Louisiana. [Click here for more information.](#)

34th Annual GCSSEPM Foundation Bob F. Perkins Research Conference

Several CBTH researchers will be presenting at the 34th Annual GCSSEPM Foundation Bob F. Perkins Research Conference on December 6-9, 2015. [Click here for more information.](#)



Recent Publications

MSc Theses

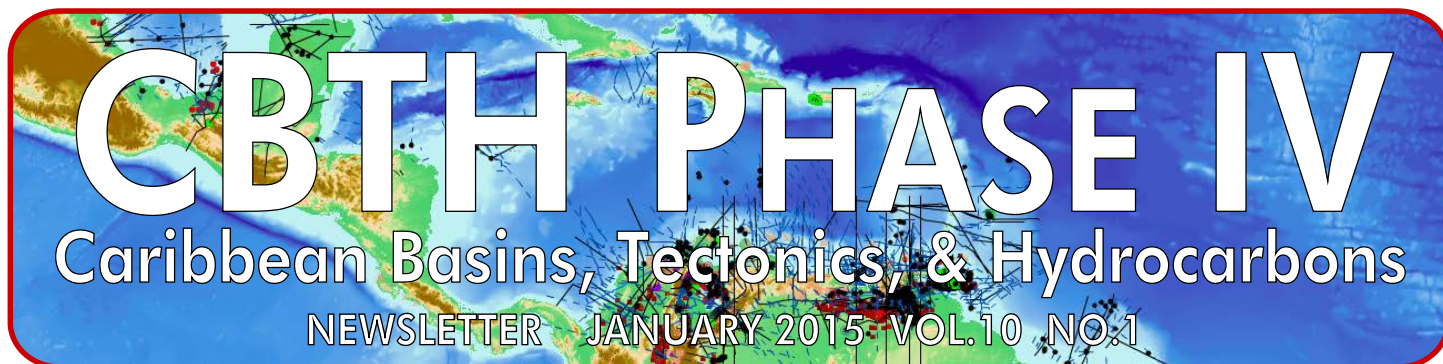
- Ahmad, S., 2014, Paleogeographic reconstruction of the northern Caribbean region from Late Cretaceous to the Recent: MSc thesis, University of Stavanger, 128 p.
- Castillo, K., 2014, Stratigraphy, Structure, and Petroleum Potential of the Easternmost Part of the Eastern Venezuelan Basin: MS thesis, University of Houston, 124 p.
- Ismael, M., 2014, Tectonostratigraphic stages in the Mesozoic opening and subsidence of the Gulf of Mexico basin based on deep-penetration seismic reflection data in the salt-free eastern part of the basin : MS thesis, University of Houston, 103 p.
- Loureiro, P., 2014, Cenozoic basin evolution of the Virgin Islands basin and Anegada Passage, northeastern Caribbean: MS thesis, University of Houston, 79 p.
- Mata, O., 2014, Cenozoic Structure, Stratigraphy, and Paleogeography of the Lower Magdalena Basin, Colombia: MS thesis, University of Houston, 177 p.

PhD Dissertations:

- Alvarez, T., 2014, The Southeastern Caribbean Subduction to Strike-Slip Transition Zone: A Study of The Effects of Lithospheric Structures and Overlying Clastic Basin Evolution and Fill: PhD dissertation, University of Texas at Austin, 270 p.
- Bernal-Olaya, R. 2014, Tectonostratigraphic evolution of the Sinu accretionary prism and Lower Magdalena forearc basin formed above a shallow-dipping subduction zone, Caribbean margin of Colombia: PhD dissertation, University of Houston, 237 p.

Publications

- Bartok, P., Mejía-Hernández, M. C., Hasan, M., 2015, Paleogeographic constraints on Middle to Late Jurassic tectonic reconstruction of the Maya block of southern Mexico and equivalent strata of northwestern South America, in eds. C. Bartolini and P. Mann, Petroleum Geology and Potential of the Colombian Caribbean Margin, AAPG Memoir 108, in press.
- Bernal-Olaya, R., Mann, P., and Escalona, A., 2015, Tectonostratigraphic evolution of the Lower Magdalena Basin, Colombia: An example of an underfilled to overfilled, forearc basin, in eds. C. Bartolini and P. Mann, Petroleum Geology and Potential of the Colombian Caribbean Margin, AAPG Memoir 108, in press.
- Bernal-Olaya, R., Mann, P., and Vargas, C. A., 2015, Earthquake tomography, seismic reflection, and gravity evidence for a shallowly-dipping subduction zone beneath the Caribbean margin of Colombia, in eds. C. Bartolini and P. Mann, Petroleum Geology and Potential of the Colombian Caribbean Margin, AAPG Memoir 108, in press.



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Recent Publications

Publications (continued)

- Bernal-Olaya, R., Sanchez, J., Mann, P., and Murphy, M., 2015, Along-strike crustal thickness variations of the subducting Caribbean plate produces two distinctive styles of thrusting in the offshore South Caribbean deformed belt, Colombia, in eds. C. Bartolini and P. Mann, *Petroleum Geology and Potential of the Colombian Caribbean Margin*, AAPG Memoir 108, in press.
- Blanco, J. M., Mann, P., and Nguyen, L., 2015, Location of the suture zone separating the Great Arc of the Caribbean from continental crust of northwestern South America inferred from regional gravity and magnetic data, in eds. C. Bartolini and P. Mann, *Petroleum Geology and Potential of the Colombian Caribbean Margin*, AAPG Memoir 108, in press.
- Campos, H. and Mann, P., 2015, Tectonostratigraphic evolution of the northern Llanos foreland basin of Colombia and implications for its hydrocarbon potential, in eds. C. Bartolini and P. Mann, *Petroleum Geology and Potential of the Colombian Caribbean Margin*, AAPG Memoir 108, in press.
- Carvajal-Arenas, L. C., Torrado, L., and Mann, P., 2015, Early and Late Eocene/Oligo-Miocene(!) petroleum system in the Nicaraguan Rise: Insight from basin and 3D petroleum system modeling, in eds. C. Bartolini and P. Mann, *Petroleum Geology and Potential of the Colombian Caribbean Margin*, AAPG Memoir 108, in press.
- Kocel, E., Stewart, R., Mann, P., and Chang, L., 2015, Near-surface geophysical investigation of coseismic folding and uplift of the Leogane fan-delta during the 2010 M7 Haiti earthquake, Interpretation, in press.
- Maria Catalina Moreno-López, Alejandro Escalona: Precambrian-Pleistocene tectonostratigraphic evolution of the southern Llanos Basin, Colombia, (in press; preliminary version published online Ahead of Print 10 December 2014): AAPG Bulletin, doi:10.1306/11111413138
- Ott, B., and Mann, P., 2015, Late Miocene to recent rotation of the Woodlark microplate as the driver of transpressional deformation and foreland basin along the Aure fold-thrust belt, Papua New Guinea, accepted with revisions, *Geochemistry, Geophysics, and Geosystems*.
- Sanchez, J. and Mann, P., 2015, Structure and basin analysis of the Cesar-Rancheria basin, northwestern South America: Implications for tectonic events and petroleum systems, in eds. C. Bartolini and P. Mann, *Petroleum Geology and Potential of the Colombian Caribbean Margin*, AAPG Memoir 108, in press.
- Sanchez, J., and Mann, P., 2015, Late Cretaceous-Cenozoic tectonic transition from collision to transtension Honduran Borderlands and Nicaraguan Rise, northwestern Caribbean plate boundary, Sheared margins, editor M. Nemcok, Geological Society of London, in press.
- Zuluaga, C., Pinilla, A. and Mann, P., 2015, Jurassic silicic volcanism and associated continental-arc basin in northwestern Colombia (southern boundary of the Caribbean plate), in eds. C. Bartolini and P. Mann, *Petroleum Geology and Potential of the Colombian Caribbean Margin*, AAPG Memoir 108,

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Thanks to our sponsors!

As we continue into Phase IV of the CBTH project, we would like to thank our active and inactive company sponsors for their support in providing data, software, funding, and knowledge to further student research in Caribbean geology. Your support has provided many opportunities for CBTH students to pursue research projects in the region and your efforts are truly appreciated.

Active Sponsors



Inactive Sponsors

