INCT • Atlântico
Scientific Ocean Drilling BRAZIL

DEEP OCEAN DRILLING PROGRAM

22–26 April 2026 • Rio de Janeiro, Brazil

CHINA–BRAZIL
Scientific Ocean Drilling
WORKSHOP

Rio de Janeiro - 2026

1. About the Event

International scientific ocean drilling stands as the longest-running, largest, and most successful collaboration in Earth sciences. Both China and Brazil have been active participants in this global effort and share a common vision for its future. To advance international cooperation in ocean drilling beyond 2025 and to explore new collaborative pathways, both sides have agreed to convene this workshop.

The workshop aims to create a platform for scientists from both countries to share recent advances in ocean drilling research and to facilitate strategic dialogue on specific mechanisms to promote bilateral collaboration. Key objectives include facilitating joint research, co-developing drilling proposals, and promoting exchanges and training for early-career scientists. Moreover, both sides will work to strengthen Brazil's role in China's Deep Ocean Drilling Program (DODP).

2. Scientific Sessions – April 23rd and 24th.

(1) Deep Biosphere and Carbon Cycling
Coordinators: Fengping Wang (Shanghai Jiao Tong University), Gerson Fauth (Vale do Rio dos Sinos University)

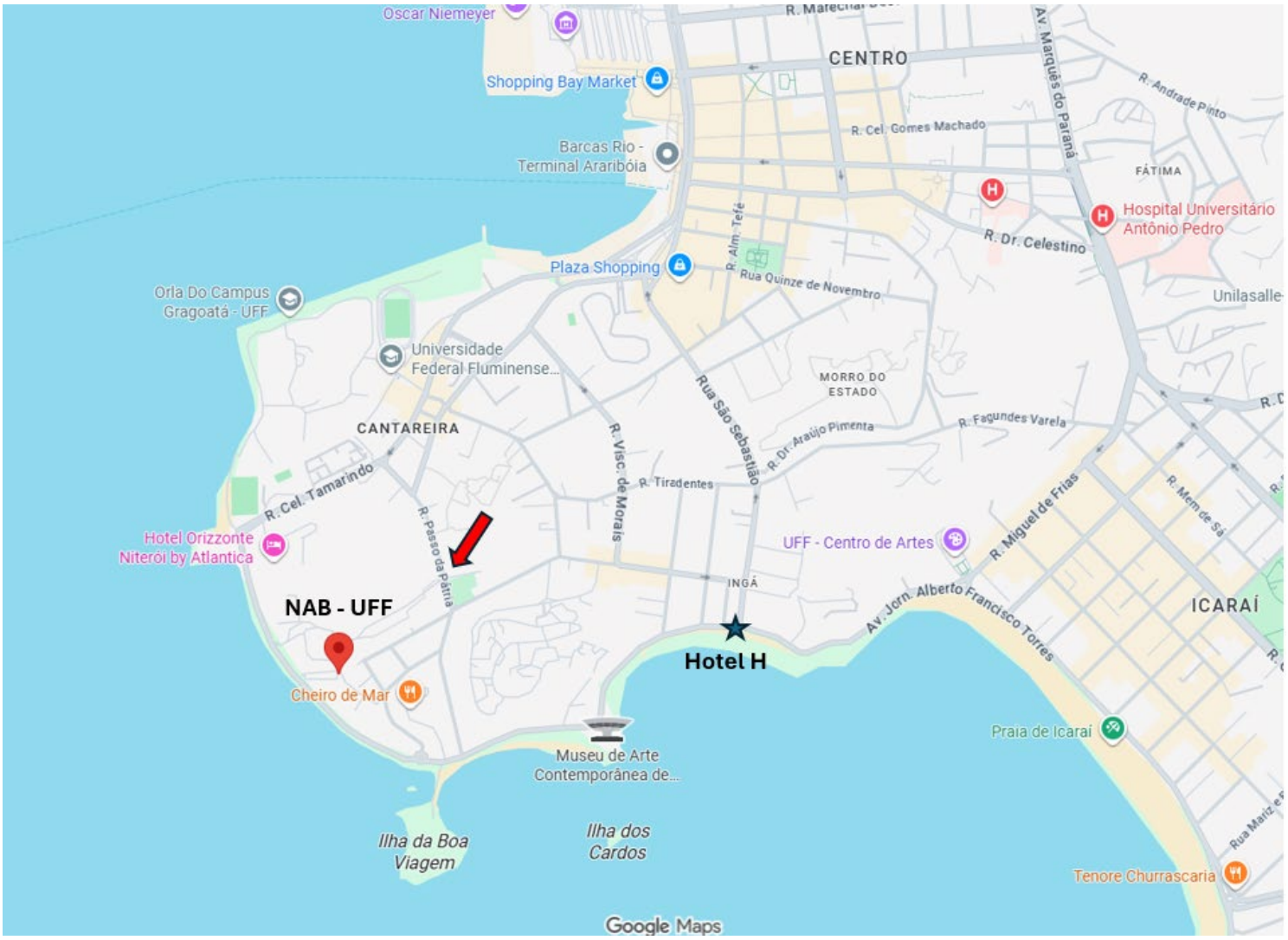
(2) Paleoceanography and Climate Evolution
Coordinators: Haowen Dang (Tongji University), Cristiano Mazur Chiessi (São Paulo University)

(3) Lithosphere and Plate Tectonics
Coordinators: David Lopes de Castro (Federal Rio Grande do Norte University), Chuanzhou Liu (Laoshan Laboratory)

(4) Minerals and Hydrate Resources
Coordinators: Cleverson Guizan Silva (Federal Fluminense University), Yinan Deng (Guangzhou Marine Geological Survey)

3. Venue

Fluminense Federal University, Niterói, Brazil.
Building: Núcleo de Estudos em Biomassa e Gerenciamento de Águas - NAB
Rua Edmundo March s/n Campus da Praia Vermelha, Niterói - RJ, 24210-310
Link to Google Maps location: https://maps.app.goo.gl/sPpZ9wLxbBPTcuxN7
Access to the campus is indicated by the arrow at Rua Passos da Pátria.



4. Local Contacts

- Dr. Tiago Jonatan Girelli, Geology and Geophysics Research Group, UNISINOS, Brazil; e-mail: tgirelli@unisinos.br
- Dr. Pengfei Ma, DODP Science Center, State Key Laboratory of Marine Geology, Tongji University, China; e-mail: pma@tongji.edu.cn
- Prof. Farid Chemale Junior, INCT-Atlântico, Brazil; e-mail: faridcj@unisinos.br
- Ms. Tianyue Peng, ACCA21, NSFC, China; e-mail: pengty@acca21.org.cn

Workshop Scientific Program

23th April - Morning - Scientific Session Opening Ceremony		
Time	*Speaker*	*Institution*
7:30-8:50	*Registration*	
9:00-9:05	*Professor Raimundo Damasceno*	*Director of NAB-UFF*
9:05-9:10	*Dr. Zhiyong Han*	*Natural Science Foundation of China (NSFC) - Secretary General*
9:10-9:15	*Professor Zhifei Liu*	*Science Center Deep Ocean Drilling Program (DODP) - Tongji University*
9:15-9:20	*Professor Farid Chemale Junior*	*INCT Atlântico*
9:20-9:25	*Professor Fabio Passos*	*Rector Universidade Federal Fluminense*
9:25-9:30	*Signature of Cooperation Agreement*	

INCT • Atlântico
Scientific Ocean Drilling BRAZIL

22–26 April 2026 • Rio de Janeiro, Brazil

CHINA–BRAZIL
Scientific Ocean Drilling
WORKSHOP

DEEP OCEAN
DRILLING PROGRAM

23th April - Morning - Deep Biosphere and Carbon Cycle			
Chairs: Fengping Wang and Gerson Fauth			
Time	*Speaker*	*Institution*	*Presentation Title*
09:30-09:45	Fengping Wang	Shanghai Jiao Tong University	Marine Deep Biosphere: A dynamic Engine of Subsurface Elemental Cycling
09:45-10:00	Vivian Helena Pellizari	Universidade de São Paulo (USP)	Exploring microbial Carbon cycling processes in methane-rich sediments of the Southeastern Atlantic Continetal Margin
10:00-10:15	Alex Bastos	Universidade Federal do Espirito Santo (UFES)	Reefs and Sediments: The Late Quaternary Sedimentation in the Espirito Santo Basin and Abrolhos Shelf
10:15-10:30	Jiangtao Li	Tongji University	Ecological response of microbial communities to iddingsitization in altered peridotites from the Tianxiu Hydrothermal Field, Northwest Indian Ocean
10:30-10:45	Dermeval Aparecido do Carmo	Universidade de Brasília (UnB)	Remarks on limnic Ostracoda assemblage from Alagoas Stage, Lower Cretaceous, Brazil: approach to expeditions on the Continental Equatorial Margin from Brazil
10:45-11:00	*Break*		
11:00-11:15	Renata Medina	Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS)	Deep biosphere from the Rio Grande Rise cone cold seep area.
11:15-11:30	Min Luo	Shanghai Ocean University	Role of silicate weathering on subseafloor carbon cycling and deep biosphere
11:30-11:45	Xiaohua Zhang	Ocean University of China	Biogeochemical cycles driven by microorganisms in the subseafloor sediments of the Mariana trench
11:45-12:00	Franciele Trentin	Universidade do Vale do Rio dos Sinos (UNISINOS)	Assessing organic carbon burial in western Amazonian wetlands during the Middle Miocene
12:00-12:15	Guilherme Krahl	Universidade do Vale do Rio dos Sinos (UNISINOS)	The global oceanic events after K/Pg boundary: insight at planktic foraminifera assemblage
12:15-13:00	*Discussion - Q&A Section*		

23th April - Afternoon - Paleoceanography and Climate Evolution			
Chairs: Haowen Dang and Cristiano Mazur Chiessi			
Time	*Speaker*	*Institution*	*Presentation Title*
14:00-14:15	Zhifei Liu	Tongji University	Sunda Shelf driling: Pleistocene sea-level and hydroclimate
14:15-14:30	Ana Luiza Albuquerque	Universidade Federal Fluminense (UFF)	Reconstructing South Atlantic climate evolution: Proxy calibration, sedimentary archives and multispectral innovation
14:30-14:45	Jiawang Wu	Sun Yat-sen University	Depth fluctuations of Mediterranean Outflow Water along its northward propagation
14:45-15:00	Marilia de Carvalho Campos Garcia	Universidade de São Paulo (CENA/USP)	Atlantic and South American climate evolution across the penultimate glacial-to-interglacial transition
15:00-15:15	Haowen Dang	Tongji University	Toward the Low-latitude forcing of the climate evolution: from the tropical western Pacific to a broader picture
15:15-15:30	*Break*		
15:30-15:45	Yige Zhang	Guangzhou Institute of Geochemistry, Chinese Academy of Sciences	What 50 years of Ocean Drilling tell us about the Global Carbon Cycle?
15:45-16:00	Thiago Santos	Universidade de São Paulo (USP)	Exploring orbitally forced sedimentation to develop high-resolution Neogene astronomical timescales in the Amazon Fan and Solimões Basin
16:00-16:15	Xufeng Zheng	Hainan University	Pleistocene variations in the Atlantic Sector of Southern Ocean
16:15-16:30	Gerson Fauth	Universidade do Vale do Rio dos Sinos (UNISINOS)	Cretaceous paleoclimatic evolution in South America and Africa
16:30-16:45	Cristiano Mazur Chiessi	Universidade de São Paulo (USP)	Tipping elements, rainfall and vegetation: How Atlantic Ocean dynamics may destabilize the Amazon rainforest
16:45-17:30	*Discussion - Q&A Section*		

24th April - Morning - Lithosphere and Plate Tectonics			
Chairs: David Lopes de Castro and Chuanzhou Liu			
Time	*Speaker*	*Institution*	*Presentation Title*
09:00-09:15	Zhen Sun	Guangzhou Marine Geological Survey	Deciphering the breakup mechanism of the South China Sea margin through ocean drilling
09:15-09:30	Webster Mohriak	Universidade do Estado do Rio de Janeiro (UERJ)	The failed oceanic propagators in the southern Santos Basin and the South China Sea
09:30-09:45	Tiago Jonatan Girelli	Universidade do Vale do Rio dos Sinos (UNISINOS)	Drilling Volcanic Passive Margins: Seeking the Origins of Oceans
09:45-10:00	Alexandra Yang Yang	Guangzhou Institute of Geochemistry, Chinese Academy of Sciences	Southern hemisphere ridges: deciphering mantle heterogeneity and testing sea-level magmatic modulation
10:00-10:15	Chuan-Zhou Liu	Laoshan Laboratory	Moho drilling on ocean core complexes in the slow- to ultra-slow spreading ridges
10:15-10:30	*Break*		
10:30-10:45	David Castro	Universidade Federal do Rio Grande do Norte (UFRN)	Divergent / Transform Segmentation of the Brazilian Equatorial Margin
10:45-11:00	Rodrigo Perovano	Universidade Federal Fluminense (UFF)	Gravity-Driven Deformation and Sedimentary Dynamics in the Amazon Deep-Sea Fan, Foz do Amazonas Basin
11:00-11:15	Guoliang Zhang	Sun Yat-sen University	Ultra-slow subduction of oceanic plateou and subduction initiation at the Yap Arc in the Western Pacific
11:15-11:30	Alanna Dutra	Universidade Federal da Bahia (UFBA)	An Integrated Multi-Geophysical Study of the Fernando de Noronha Ridge
11:30-11:45	Hongjin Chen	Guangzhou Marine Geological Survey	Hafnium isotope evidence for latitudinal heterogeneity in continental silicate weathering during the PETM
11:45-12:30	*Discussion - Q&A Section*		

24th April - Afternoon - Minerals and Hydrate Resources			
Chairs: Cleverson Guizan Silva and Yinan Deng			
Time	*Speaker*	*Institution*	*Presentation Title*
14:00-14:15	Gang Li	Guangzhou Institute of Energy Conversion, Chinese Academy of Sciences	Numerical Simulation of Methane Hydrate Formation and Dissociation in Marine Sediments
14:15-14:30	Luigi Jovane	Universidade de São Paulo (USP)	Polymetallic deposits and deep-sea mining in Brazilian Continental Shelf and Extended Continental Shelf.
14:30-14:45	Mingjun Yang	Dalian University of Technology	The shipboard detection and laboratory testing techniques for marine natural gas hydrates
14:45-15:00	Luiz Frederico Rodrigues	Universidade do Vale do Rio dos Sinos (UNISINOS)	Clumped isotope constraints on the origin of methane hydrate from the Amazon Con
15:00-15:15	*Break*		
15:15-15:30	Yinan Deng	Guangzhou Marine Geological Survey	The deep-sea enrichment mechanism of rare earth elements in the Eastern South Pacific
15:30-15:45	Gabriel Travassos Tagliaro	Universidade de São Paulo (USP)	Natural Hydrogen in the Oceans: Potential of the Brazilian Margin and the Case of the Saint Peter and Saint Paul Archipelago
15:45-16:00	Jin Liang	Second Institute of Oceanography, Ministry of Natural Resources	Deep-Ocean Drilling Proposal of Hydrothermal Systems at the Ultraslow-Spreading Southwest Indian Ridge
16:00-16:15	Adolpho Herbert Augustin	Universidade do Vale do Rio dos Sinos (UNISINOS)	Gas hydrates on the Brazilian Continental Margin
16:15-17:00	*Discussion - Q&A Section*		

Poster Session

Presenter	*Institution*	*Poster Title*
Meile Wang	Tongji University	Oxygen and Biogeochemical Changes in Subantarctic South Pacific Deep Water during the Northern Hemisphere Glaciation
Hucai Zhang	Yunnan University	Pleistocene variations in the Atlantic Sector of Southern Ocean
Haifeng Wang	Guangzhou Marine Geological Survey	High-Resolution Chronology reveals palaeoceanography and resource Genesis of Polymetallic Nodules
Wei Deng	Guangzhou Marine Geological Survey	Exploration progress and drilling discoveries of natural gas hydrates in the South China Sea
André Oliveira Sawakuchi	Universidade de São Paulo	Operations and initial results of the Trans-Amazon Drilling Project (TADP): origin and evolution of the forests, climate, and hydrology of the South American tropics
Bruna Borba Dias	Universidade de São Paulo	Intermediate and deep South Atlantic responses to Atlantic Meridional Overturning Circulation reorganizations: insights from glacial-interglacial cycles to the Anthropocene
Gelvam André Hartmann	Universidade Estadual de Campinas	Defining magnetic properties from marine sediments of Santos Basin, Brazil
Rodrigo Azevedo Nascimento	Universidade Federal do Paraná	Paleoceanographic and paleoclimatic insights from sediment cores off the NE Brazilian margin: orbital- and millennial-scale variability
Maria Julia de Castro	Universidade Federal Fluminense	Southern Ocean Asymmetric Stratification Across the Mid-Pleistocene Transition
Marcus Kochhann	Universidade de São Paulo	AMOC pacing long-term western South Atlantic upper ocean stratification
Breno Marques	Universidade Estadual de Campinas	Decoupling between surface and subsurface temperature and salinity in Agulhas Leakage during Termination V and MIS 11
Raissa Tayt-Sohn	Universidade Federal Fluminense	Reconstructing bottom currents along the Brazilian margin from the Last Glacial Maximum to the Holocene
Eduardo Thomaz de Aquino Ribeiro	Universidade Federal Fluminense	Structural control on submarine channel morphology in the Cananéia Canyon system, São Paulo Plateau, Brazil
Leonardo Junius Chapeta Santos	Universidade Federal Fluminense	Influence of Salt Tectonics on Seafloor Morphology of the Central-Southern São Paulo Plateau
Eduardo Leaubon	Universidade Federal Fluminense	Early Pliocene to recent evolution in NW portion of Amazon Fan system: linking high-resolution 3D seismic geomorphology to depositional and structural architectures
Jordan Syllas Saraiva Leite	Universidade Federal Fluminense	Eustatic Control on Shelf–Slope Sediment Connectivity During the Last Deglaciation off Southeastern Brazil.
Edna J. F. Tungo	Universidade do Vale do Rio dos Sinos (UNISINOS)	Calcareous Nannofossil Responses to Paleoceanographic Perturbations During Oceanic Anoxic Event 2 in the North and South Atlantic
Marcelo Carvalho	Universidade Federal do Rio de Janeiro	Land–sea integration during the late Aptian South Atlantic opening: palynological evidence for paleoceanographic and paleoclimatic changes
Geise S. Anjos Zerfass	Petrobras/Cenpes	Quaternary benthic foraminifera assemblages from the gas hydrate province of the Rio Grande Cone, southern Brazil
Fabiana K. de Almeida	Universidade Federal do Espirito Santo	Late Quaternary Terrigenous Input and Deep-Sea Benthic Foraminiferal Turnover on the Continental Slope of the Southwest Atlantic (Espírito Santo Basin).
Martino Giorgiono	Universidade de Brasilia	Deep sea drilling in the south -central Atlantic: an opportunity for understanding the long-term evolution of the ocean-climate system
Onofre Flores ou Alana Dutra	Universidade Federal da Bahia	Hybrid Mantle Model along the Vitória–Trindade Ridge: Sensitivity of Geophysical Observables
Luana Garcia	Universidade do Estado do Rio de Janeiro	Neotectonic Reactivation of Basement Structures: A Transect from the Rio Grande Rise to the Mid-Atlantic Ridge
Amanda Gerotto	Universidade de São Paulo	Reconstructing carbonate saturation in the South China Sea over the last 200 kyr using coccolith morphological attributes
Caio Cézar de Souza Gonçalves	Universidade Federal Fluminense	Tracing Redox Variability in the Western Tropical South Atlantic Through Sedimentary Sulfur Geochemistry Since the Last Glacial Period
Júlia Sambugaro	Universidade de São Paulo	Intermediate Western Boundary Current speeds from the Southeastern Brazilian margin: A 16,000-year record from grain-size evidence
Luiza Freitas	Universidade Federal Fluminense	Stability of the equatorial Atlantic mid-depth circulation across the mid-Pleistocene transition
Bruno Gomes da Silva	Universidade Federal Fluminense	Eastern Brazil Hydroclimate Weakening Linked to Stronger AMOC During MIS16-13
Amr Said Zaky	Universidade de São Paulo	Reconstructing Late Holocene Climate Variability in Northern Africa Using Multiproxy Records from El-Beida Lake (Egypt)
Igor Martins Venancio Padilha de Oliveira	Universidade Federal Fluminense	LAM+: A New Multispectral and AI-Based Laboratory for High-Resolution Sediment Core Analysis in Brazil
Joao Ballalai	Universidade Federal Fluminense	One Million Years of Deep Western Boundary Current Strength Using Sortable Silt and Zr/Rb Ratios
Julia Fonseca	Istituto Nazionale di Oceanografia e di Geofisica Sperimentale	Tectonic Segmentation and Evolution of Potiguar-Ceará Rifted Margin

April 25th – Field Trip

Field trip will depart at 08:00 AM from the Hotel H entrance and return at 06:00 PM.
Refreshments and sandwiches will be provided for the participants.
Participants must register for the field trip on the first day of the workshop.
There is a limited availability of van space for a maximum of 30 seats.
Extra food or drinks and entrance fees to tourist places should be paid by the participant.

Site 1 - Geological overview of the lagoons in the eastern Rio de Janeiro Coast (Região dos Lagos).

The lagoons in "Região dos Lagos" — particularly the Araruama, Lagoa Vermelha and Brejo do Espinho systems—are classic examples of coastal barrier–lagoon environments formed during the Quaternary. These shallow water bodies are separated from the Atlantic Ocean by sandy barrier bars. Their development is related to the Late Pleistocene and Holocene sea-level fluctuations, including transgressive and regressive phases over the past 120 Ky. Two distinctive barriers are present, the inner one, isolating the Araruama Lagoon, is related to the 120 Ky sea-level highstand, while the outer coastal barrier was formed in the Holocene sea-level rise from 7,000 to 5,100 years. The extensive strand plain observed in the inner barrier was developed during the last glaciation and sea-level regression. These beach-ridges are deeply reworked by wind action generating extensive dune fields. Internal circulation on the Araruama Lagoon promotes erosion of the back-barrier, forming elongate lagoon spits. Coastal upwelling creates a particular micro-climate, with very low precipitation and elevated evaporation rates. Hypersaline conditions on the coastal lagoons favor carbonate precipitation including dolomite, mediated by biogeochemical processes during subaerial diagenesis. Microbial mats and carbonate precipitation also create conditions for precursor stromatolite-like features, being a good modern analogue for the formation of prolific petroleum pre-salt carbonate reservoirs occurring on the Brazilian Campos and Santos offshore basins.

Site 2 – São José do Itaboraí Palaeontologic Park

The Itaboraí sedimentary basin is a Paleocene half-graben basin inserted in the oriental segment of the southeastern Brazil's Continental Rift. The basin displays alluvial, fluvial, lacustrine and palustrine sediments and is well known for its diverse fossil assemblage and the occurrence of travertine carbonates related to intensive hydrothermal activity associated with lower Eocene ankaramitic magmatic events. Thermal spring carbonates associated with lacustrine environments contain fossils of gastropods, reptiles, mammals, birds, macrophytes and weeds. This basin contains the single Brazilian deposit that registers the mammal's irradiation after the K-Pg extinction. Conglomerates and breccias are interpreted as evidence of tectonic activity and fault reactivation. Travertines, pisolites, carbonate breccias and marls were extensively explored for cement production from 1928 to 1984 providing material for large constructions in Rio de Janeiro, such as the Maracanã stadium and the Rio de Janeiro-Niterói bridge, across Guanabara Bay. Travertine, hydrothermal continental carbonates on the Itaboraí Basin are also considered analogues for the pre-salt carbonate reservoirs in Campos and Santos Basins, becoming of great scientific and industrial interest in the last decade.

Sponsors

Support