



ACCADEMIA NAZIONALE DEI LINCEI

CONVEGNO LINCEO

BIRTH OF A NEW OCEAN IN THE RED SEA, DANAKIL AND EAST AFRICA REGION

25-26 MARCH 2026

Comitato ordinatore: Enrico BONATTI (Lincoo, Istituto di Scienze Marine – CNR), Marco LIGI (Lincoo, Istituto di Scienze Marine – CNR), Giulio Armando OTTONELLO (Lincoo, Università di Genova).

PROGRAMME

The formation of a new ocean through the separation of continental lithospheric blocks is one of the fundamental geological processes predicted by the theory of Plate Tectonics and the hypothesis of Continental Drift. Today, this process is observable in the region of the Red Sea and the Horn of Africa (Afar, East African Rift), where the Arabian plate is separating from the African plate. There is no other geological scenario of equal significance that so clearly demonstrates the importance of interdisciplinary collaboration for a deeper understanding of such major phenomena.

In recent years, numerous studies in geodesy, seismology, geophysics, tectonics, magmatism, petrology, and geochemistry have taken shape in this region, contributing to an increasingly detailed and precise understanding of the ongoing processes. We propose a conference at the AccademiadeiLincei to bring together experts from various scientific disciplines, with the aim of reviewing the results achieved so far, analyzing the synergies between different areas of research, and outlining the prospects for future developments on this critical issue for the Earth Sciences.

The goal of the conference is to provide a space for discussion among leading national and international experts, address open scientific challenges, and stimulate new reflections in a strictly academic context.

Wednesday, 25th March

10.00 Enrico BONATTI (Lincoo, Istituto di Scienze Marine – CNR): *Brief introduction to the Meeting*

10.20 Attila BALAZS (ETH-Zurich): *Tectonic and magmatic evolution of rifted margins and oceanic spreading: inferences from thermo-mechanical modelling*

11.00 Coffee Break

11.30 Luca LUPI (Società Geografica Pontederese): *The Danakil Region*

12.10 Giacomo CORTI (Istituto di Geoscienze e Georisorse, CNR): *Rift propagation, abandonment, migration and the complex volcano-tectonic evolution of the Southern Main Ethiopian Rift*

12.50 Break

- 14.00 Carolina PAGLI (Università di Pisa): *Deep magma underpressure and connectivity drive large dyke intrusions*
- 14.40 Derek KEIR (Università di Firenze): *Along rift variations in style of extension in Afar*
- 15.20 Carlo DOGLIONI (Vicepresidente dell'Accademia Nazionale dei Lincei): *Welcome on behalf of the Accademia dei Lincei – Why is an ocean born?*
- 16.00 Coffee break
- 16.30 Neil C. MITCHELL (University of Manchester): *Nubia-Arabia separation: clues from oceanic spreading fabric and seismic receiver function results*
- 17.10 Alessio SANFILIPPO (Università di Pavia): *Recurring signature of Proterozoic mantle in Arabian magmatism*

Thursday, 26th March

- 10.00 Marco LIGI (Linco, Istituto di Scienze Marine - CNR): *Parting continents: Lower-crustal intrusions delayed continental rupture in the Red Sea*
- 10.40 Froukje VAN DER ZWAN (KAUST): *Activity, distribution, and biodiversity of hydrothermal vent sites in the Red Sea*
- 11.20 Coffee break
- 11.50 Jamie CONNOLLY (ETH, Zurich): *Thermobarometry as an inverse problem with incomplete information*
- 12.30 Giulio Armando OTTONELLO (Linco, Università di Genova): *The engine: ab-initio assisted petrology*
- 13.10 *Conclusions*

ROMA - PALAZZO CORSINI - VIA DELLA LUNGARA, 10

Segreteria del convegno: convegni@lincei.it – <http://www.lincei.it>

Tutte le informazioni per partecipare al convegno sono disponibili su:

<https://www.lincei.it/it/manifestazioni/birth-new-ocean-red-sea-danakil-and-east-africa-region>

Per partecipare in presenza al convegno è necessaria l'iscrizione online

Fino alle ore 10 è possibile l'accesso anche da Lungotevere della Farnesina, 10

I lavori potranno essere seguiti dal pubblico anche in streaming

L'attestato di partecipazione al convegno viene rilasciato esclusivamente a seguito di partecipazione in presenza fisica e deve essere richiesto al personale preposto in anticamera nello stesso giorno di svolgimento del convegno