



ÖSTERREICHISCHE  
AKADEMIE DER  
WISSENSCHAFTEN

MONDAY, JULY 22, 2024  
11.00 A.M.  
AUSTRIAN ACADEMY OF SCIENCES  
ONLINE VIA ZOOM



**GEOK GUEST LECTURE**

# **THE ETHIOPIAN LANDMASS: UNDER THE INFLUENCE OF THE EAST AFRICAN RIFT SYSTEM**



Miruts H. Ghidey is Professor of Geology at School of Earth Sciences, Mekelle University, Tigray, Ethiopia. He obtained his first and second degrees from Addis Ababa University Ethiopia and his PhD under the supervision of Christian Koeberl at the University of Vienna in 2011 within the framework of an ÖAD-NS-PhD-Scholarship. He has been working on the volcano-tectonic systems of the Afar Depression and published more than 50 papers in reputable journals. Currently, he is a guest professor at the University of Vienna, Austria, sponsored by the Austrian Academy of Sciences.

## THE ETHIOPIAN LANDMASS: UNDER THE INFLUENCE OF THE EAST AFRICAN RIFT SYSTEM

The East African Rift System is one of the youngest plume-driven structures on Earth that continues rifting apart Africa into two plates: the Nubian and the Somalian plate. The rift system starting at the Afar Depression/Ethiopia propagates to the Red Sea, Gulf of Aden and the Ethiopian rifts. Large parts of the floor of the Afar Depression are about 120 m below sea level and form a unique subaerial oceanic basin. The lava lake of Erta' Ale and the Dallol Active Geothermal fields are among the few planetary analog field sites on Earth. This region is also the birth and burial place of "LUCY": A human ancestor "*Australopithecus afarensis*" living in this world before 3.2 Ma. Both flanks of the Afar Depression form the Ethiopian highlands (up to 4620 masl) are also called the "water towers of the Horn of Africa", from which the Blue Nile originates.

# PROGRAM

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## WELCOME

**Christian Köberl** | Chair, Commission for Geosciences, OeAW,  
Chair, Department of Lithospheric Research, University of Vienna

## LECTURE

**Miruts H. Ghidye** | Mekelle University, Tigray, Ethiopia  
*The Ethiopian landmass: Under the influence of the East African Rift System*

## DISCUSSION

## **ORGANIZER**

Commission for Geosciences (GEOK)  
Austrian Academy of Sciences (OeAW)

## **CONTACT**

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## **PARTICIPATION VIA ZOOM**

Online Access:

<https://oeaw-ac-at.zoom.us/j/65303031411?pwd=mJ6r6pmfvYYlzYeFYfdHUUO9I9vLUi6.1>

Meeting ID: 653 0303 1411

Password: M7Vckn

## **INFORMATION**

Please note that the event will be recorded. Please turn off your camera if you have any concerns or if you wish to be exempted from this activity.

Title photo: The Dallol hot springs with colorful hydrothermal deposits are located in the Danakil Depression, Ethiopia, at the northern part of the Afar Triangle where three geological plates meet and the East African rift system starts. Photo: C. Koeberl, 2019