



## 2024 Eagle Hill Institute Online Natural History Seminars

office@eaglehill.us 207.546.2821 Ext.4 www.eaglehill.us

# Deep Time: The Cenozoic Era

Dr. Frederick Rogers

June 12th – June 21st, 2024

Following up on last year’s “Deep Time: The Mesozoic Era”, this year we will look at that third and equally-fascinating era of the Phanerozoic Eon, the Cenozoic Era, often referred to as the “Age of Mammals”. Mammals first evolved at about the same time as the dinosaurs, in the Late Triassic Period, but were subordinate to them throughout the Mesozoic Era. Mammals came to be the dominant animals in the Earth’s ecosystems only after the demise of the dinosaurs at the end of the Mesozoic Era. Accordingly, we will “set the stage” for our look at the Cenozoic Era with an overview of the evolutionary history of mammals together with a closer look at that major mass extinction event at the end of the Mesozoic Era that ended the reign of the dinosaurs, the Cretaceous/Paleogene Boundary Event. Following that, we will examine the intimately interrelated trajectories of the Earth’s tectonic, climatic, and biological evolutionary events [not only the evolution of mammals, but the evolution of avian dinosaurs (birds), angiosperms (flowering plants), and other important taxa] epoch by epoch through the Cenozoic Era: the Paleocene, Eocene, Oligocene, Miocene, Pliocene, Pleistocene (the “Ice Age”) and Holocene (the “Recent”) Epochs. Some of those major events include the Paleocene–Eocene Thermal Maximum, the rise of the Himalayas and the accompanying global cooling and drying resulting in the spread of grassland habitats and the evolutionary radiation of grassland floras and faunas, and the “Ice Age”, with its “charismatic megafauna”. We will finish with a look at two extraordinary evolutionary transitions, the evolution of horses in the terrestrial realm and, especially, the evolution of whales in the marine realm.

## Scheduling Details

June 12, 14, 17, 19, and 21

7:00 to 9:00 PM EDT

Participants need to have a Zoom account (<https://zoom.us> sign up for zoom is free). You will receive a secure link to join the instructor before each class. Classes will be recorded so participants can review them or make up missed ones.

For more information regarding seminar costs and registration please visit:

<https://www.eaglehill.us/programs/sems-online/general-info.shtml>

## About the Instructor

**Dr. Frederick Rogers (rogersfs@franklinpierce.edu)** is a Professor of Geology and Environmental Science at Franklin Pierce University in Rindge, New Hampshire. He received his bachelor’s and master’s degrees in geology from the University of Massachusetts, Amherst, and his doctoral degree in geology from the University of Iowa, Iowa City. Within the broad field of geology, his areas of particular interest and research are invertebrate paleontology, micropaleontology, biostratigraphy, and lithostratigraphy, with a focus on Devonian-age brachiopods and conodonts from carbonate environments. In addition, he has a long-standing interest in all aspects of evolution, broadly defined – cosmic, geological, and biological – and in the history and philosophy of science.