

Title: *What really killed the dinosaurs? A look at the latest developments*

Presented by Dr. François Therrien

ABSTRACT: The extinction of dinosaurs, which occurred 66 million years ago during an event called the Cretaceous-Paleogene (K-Pg) mass extinction, is one of the most talked-about topics in paleontology. Many theories have been proposed to explain the disappearance of these fantastic beasts, invoking causes ranging from the mundane to the extraterrestrial. Despite frequent claims of “ground-breaking discoveries” making the headlines in the media, the exact details of the K-Pg mass extinction remain shrouded in mystery. Although it is widely known that dinosaurs were wiped out during the K-Pg mass extinction, people often don’t realize that many other types of animals also went extinct at the same time, both in the oceans and on land, resulting in the disappearance of nearly 75% of all species on Earth. For several decades, scientists have argued over whether dinosaurs went extinct gradually, over millions of years in response to environmental changes, or suddenly in response to a catastrophic event. The debate still rages on, but there are now several lines of evidence that suggest that dinosaurs were going strong until at least 50,000-100,000 years prior to their extinction and that they went extinct suddenly. But what cause/event could have caused their extinction? In his presentation, Dr. Therrien will review what we know about the state of the world at the end of the Cretaceous, the latest scientific discoveries, the “accuracy” of the various hypotheses proposed to explain the demise of the dinosaurs, and conclude with a likely scenario for the Cretaceous-Paleogene mass extinction.

Biography

Dr. François Therrien is the Curator of Dinosaur Palaeoecology at the Royal Tyrrell Museum of Palaeontology in Drumheller, Alberta, Canada. He holds a B.Sc. in Geology from the Université de Montréal, a Master's degree in Geosciences from the University of Rhode Island, and a Ph.D. in Functional Anatomy & Evolution from the Johns Hopkins University – School of Medicine. For his Master's degree, François studied the sedimentology and paleosols of the Late Triassic Chinle Formation of Arizona and New Mexico in order to reconstruct the paleoenvironments in which the earliest dinosaurs from North America lived. For his Ph.D., he traveled to Romania to study the sedimentology and paleosols of dinosaur-bearing rock formations in order to reconstruct the paleoenvironments that prevailed at the end of the Age of the Dinosaurs in Transylvania. François' primary research interests focus on the study of faunal and environmental changes that occurred just before the extinction of the dinosaurs as well as the study of dinosaur behavior, particularly the feeding behavior and bite force of extinct predators. Over the years, he has conducted field research in Canada, the USA, Romania, and Mongolia. François was involved in the discovery and study of the first feathered dinosaurs from North America and, more recently, the description of a young tyrannosaur preserving the remains of two small caenagnathids in its stomach, evidence of its last meal.