

## ***Flood Basalts and Mass Extinctions: The Cretaceous/Paleogene Perspective***

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Increasingly precise and accurate geochronology is building an increasingly strong circumstantial case for causal linkage between flood basalt events and Earth's major mass extinctions. The specific mechanisms for the linkage are probably climate changes induced by magmatic gas emissions. The Cretaceous/Paleogene (K/P) extinctions, among the most severe in Phanerozoic history, occurred during the eruption of the Deccan Traps in what is now the Indian subcontinent. The peak K/P extinction also coincided precisely with the Chicxulub bolide impact, the only major mass extinction clearly linked to such an event. Earth scientists have puzzled over the apparent temporal coincidence of these three catastrophic phenomena. A recent hypothesis proposes that the impact triggered an acceleration of the Traps volcanism, thus both contributed to the extinction. New data supporting this hypothesis will be presented.

**Biography:** **Paul Renne** is the Director of the Berkeley Geochronology Center and a Professor in Residence at U.C. Berkeley's Department of Earth and Planetary Science. Renne received his A.B. (1982) and Ph.D. (1987) at UC Berkeley, followed by a postdoctoral fellowship at Princeton, and returned to Berkeley in 1990 to assume directorship of the Institute of Human Origins Geochronology Center. He co-founded the Berkeley Geochronology Center in 1994 and joined the UC Berkeley faculty in 1995. Renne's research emphasizes the causes and effects of massive volcanism, mass extinctions, and human evolution. He is a specialist in  $^{40}\text{Ar}/^{39}\text{Ar}$  dating and paleomagnetism. He has coauthored more than 280 refereed papers. Renne is a Fellow of the Geological Society of America, the American Geophysical Union, and the American Association for the Advancement of Science. He lives in Walnut Creek with his wife and thirteen-year-old daughter.