

# Arizona Geological Society - 11 March 2021

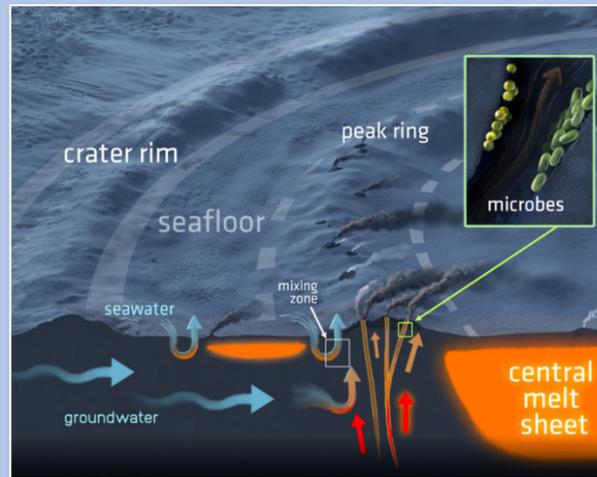
## Virtual presentation

### Drilling into the Chicxulub Impact Crater

Dr. David Kring

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**Abstract:** The discovery of the Chicxulub impact crater added tremendous credibility to the impact mass extinction hypothesis. That discovery led, in turn, to detailed studies of the impact's environmental effects. More recently, deep subsurface drilling by IODP and ICDP provided an opportunity to study the formation of the extraordinary ~180 km diameter basin, which shattered the Yucatán Peninsula and uplifted deep crustal granitoid rocks to the surface to produce a peak ring of rock. The heat of the impact spawned a vast hydrothermal system that persisted for more than a million years. That hydrothermal system is currently being used as a proxy for Hadean Earth systems that may have hosted Earth's earliest life in the midst of an intense impact bombardment of the Earth's surface.



Art by Victor O. Leshyk for the LPI\David A. Kring.

#### From Dr. Kring's Webpage

The Center for Lunar Science and Exploration is led by Dr. David A. Kring. Kring received his Ph.D. in earth and planetary sciences from Harvard University. He specializes in impact cratering processes produced when asteroids and comets collide with planetary surfaces. Kring is perhaps best known for his work with the discovery of the Chicxulub impact crater, which he linked to the K-T boundary mass extinction of dinosaurs and over half of the plants and animals that existed on Earth 65 million years ago. He has also studied the environmental effects of impact cratering and shown how impact processes can affect both the geological *and* biological evolution of a planet. This work includes studies of the dramatic environmental perturbations (*e.g.*, prolonged darkness, acid rain, wildfires) expected after the Chicxulub impact event, plus studies of several smaller local, regional, and global effects produced by the thousands of impact events that affected Earth after life evolved.

Since 1991, Dr. Kring authored or co-authored scores of peer-reviewed papers. In 2002, the Arizona Geological Society published David's popular geology text on the origin of the Tucson Mountains, 'Desert Heat & Volcanic Fire: The Geologic History of the Tucson Mountains and Southern Arizona'. (For a listing of Kring's publications <https://www.lpi.usra.edu/science/kring/research.shtml> .)