

The Art of Yellowstone Science ~ Mammoth Hot Springs as a Window on the Universe

Bruce W. Fouke and Tom Murphy, Crystal Creek Press. 2016. 300 p.

This book is being provided as a gift to your library and science teachers as a means to share the ongoing results of our NASA and NSF sponsored research at Yellowstone with high school, university, continuing education and life-long learner classrooms. Activities and curricula materials, high-definition digital copies of figures, videos of Yellowstone fieldwork, and a 5-minute video lecture series can be downloaded at: <http://artofyellowstonescience.igb.illinois.edu>. The book also compliments our free *Emergence of Life* Massive Open Online Course (MOOC) available on the Coursera platform: <https://www.coursera.org/learn/emergence-of-life>

Content – We hope that your faculty will consider using the following diagrams in their biology, chemistry, geology and other science courses. These figures contain our latest understandings and approaches, and can be used to supplement current state and federal content requirements.

1. Tree of Life p. 169 –this is the first illustration to fully integrate geological time, geological events, the Tree of Life, and the origin of life in deep seafloor spreading centers
2. Additional Tree of Life p. 150, 151 and 164 – these diagrams illustrate the differences between the most recent Tree of Life and previous versions currently used in textbooks
3. Molecular Phylogeny p. 142-185 – a history of the development of evolutionary theory and the advent of gene sequencing to the determine evolutionary relatedness of all of life
4. Powers of 10 p. 43 – provides key examples from the Yellowstone ecosystem that hierarchically span immense dimensions of space and time
5. Scientific Inquiry p. 64 – Scientific Method is graphically reconfigured into an endless spiraling process that tightens ever closer to truth and understanding nature
6. Deep Geological Time p. 194 – the entirety of deep geological time is simplified into only a handful of select ages, geological time intervals, and historical events

Summary of *The Art of Yellowstone Science*

Art and science both originate from the same human desire to understand the world within and around us. In the pages of this book, photographic art at Mammoth Hot Springs in Yellowstone National Park is melded with cutting-edge natural sciences to search for common laws of nature through the power of observation and a willingness to embrace the unexpected. Biological evolution is the essential expression for this combination and Mammoth becomes a window on the universe, through which fundamental understandings of nature can be directly applied around the world and throughout the cosmos.

Book Distribution Websites, Press Releases and Contact Information

Art of Yellowstone Science Website: <http://www.artofyellowstonescience.com>

Illinois Press Release: <https://news.illinois.edu/blog/view/6367/424796>

NASA Press Release: <https://astrobiology.nasa.gov/news/the-art-of-yellowstone-science/>

Professor Bruce W. Fouke, Carl R. Woese Institute for Genomic Biology, University of Illinois Urbana-Champaign, 1206 W. Gregory Drive, Urbana, Illinois 61801

Email: fouke@illinois.edu; Website: <https://www.geology.illinois.edu/people/fouke/home>

