

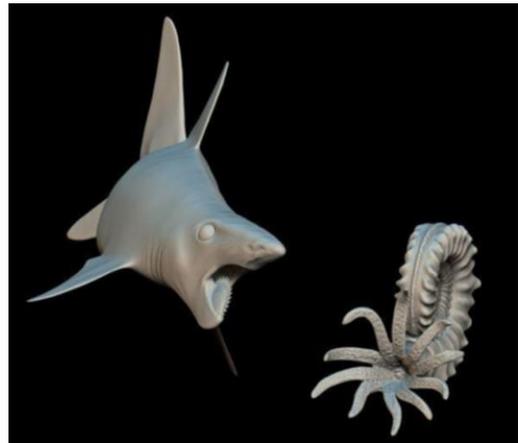
Presentation and Reception – Thursday, August 21, 2014
Interdisciplinary Science Building (ISA) 7th Floor 4:30 PM

Dr. Herbert Maschner will be visiting USF from Idaho State University (ISU), where he is a Research Professor in the Department of Anthropology. Professor Maschner is Director of the Idaho Museum of Natural History and a Professor of Anthropology at Idaho State University. An archaeologist with over 120 books, articles and chapters, he is a specialist in the prehistory of the north Pacific and in archaeological method and theory. His publications cover a range of topics including GIS, Darwinian theory, accelerator physics, complex systems analysis, fisheries ecology, community sustainability, and museum studies. His recent research, highlighted in National Geographic, is focused on using 3D scanning and virtualization techniques to bring entire archaeological and natural history repositories to the world as part of an effort to democratize science. Dr. Maschner is an elected Fellow of the American Association for the Advancement of Science.



Virtualization and the Democratization of Science: How 3D Technologies are Changing How we do Science

Accessing data can often present aggregating problems to researchers in nearly every academic field of study, but this is especially acute for natural history and archaeological collections, and the lack of access has been a contributing factor in problems of data comparability and an increasing reliance on the conclusions drawn in resulting publications. We argue that the creation of virtual repositories housed in a comprehensive, hyper-plastic data-base system, serving as virtual representations of a museum's complete inventory or a complete archaeological collection and archive, is critical to the future of modern analysis and the democratization of knowledge. Using 3D technologies, newly developed image-based database architectures, online measurement and analysis tools, and related methods of virtualization enhance science by bringing collections to any scientist, student, educator, or layperson, located anywhere in the world. With strong support from the National Science Foundation and private industry, the Idaho Museum of Natural History's Idaho Virtualization Laboratory is at the forefront of using 3D technologies to bring scientific analysis to the globe. This presentation will describe our capture techniques, image processing, and delivery structures, and highlight some of our key successes.



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