



Cosmic Serpent --

Bridging Native and Western Learning in Museum Settings

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www.cosmicserpent.org

ABOUT THE COSMIC SERPENT PROJECT

Cosmic Serpent will explore commonalities between Western and Native science, taking into account that Native cultures have, over millennia, developed ways of knowing that are highly adapted, interconnected, and enduring. Each knowledge system informs the practice of science and its role in society in a fundamental way, and the commonalities can provide a framework for developing mutually inclusive learning experiences in STEM (science, technology, engineering, and mathematics). The project recognizes previous work that attempts to integrate the two systems; however our approach of identifying and relating the commonalities in the context of informal science education (ISE) is innovative in the area of professional development for museums, science centers and tribal museums.

COLLABORATIONS: AN OVERVIEW

Due to the bi-cultural nature of the Cosmic Serpent program, the NSF collaborative proposal—where two institutions share the responsibility for carrying out the

proposed work—seemed to be exactly what this project required. With the Indigenous Education Institute (Santa Fe, NM) as the lead institution and the University of California, Berkeley as the Co-Lead, we come together to collaborate, working as a close team to ensure we are



David Begay leads a group on the path of discovery.

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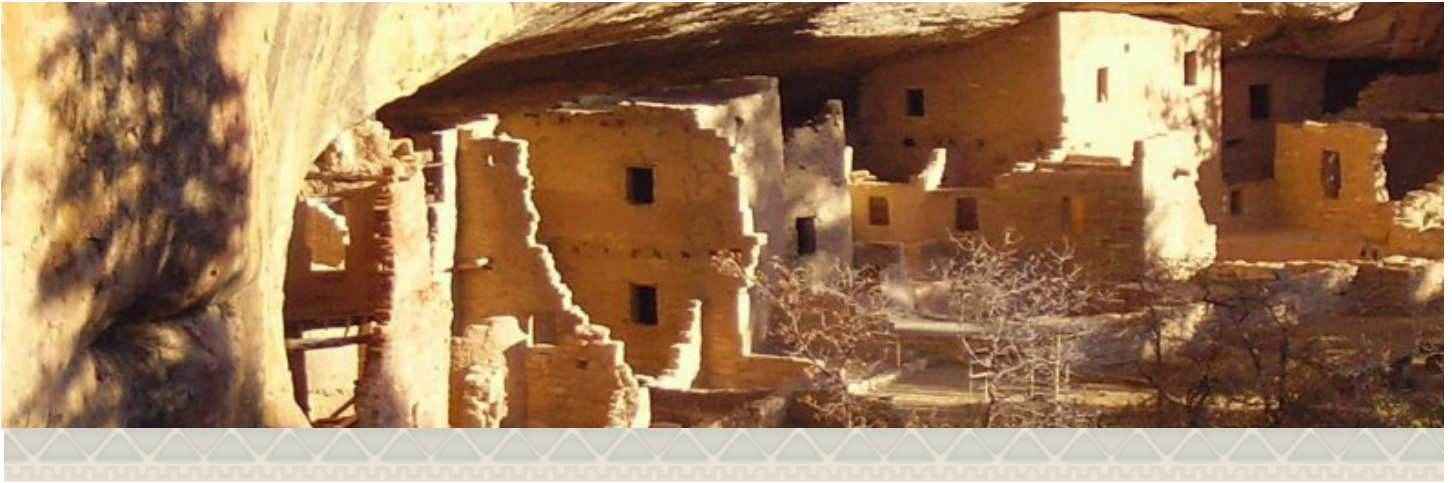
Artist Delbridge Honanie, photo courtesy of Arizona State Museum, photographer Jannelle Weakly.

meeting the goals of our program and communities. This type of collaborative process is imperative to the success of our program that involves different ways of understanding the world, including different ways of communicating and understanding relationship.

Collaboration is a thread that is woven throughout the Cosmic Serpent program. Collaboration is built on a web of relationships all working towards the same program and goal.



Cosmic Serpent is a Collaborative project led by Indigenous Education Institute and UC Berkeley Space Sciences Laboratory. Cosmic Serpent is funded by the National Science Foundation under grants No.DRL-0714631 and DRL-0714629.



CO-PRINCIPAL INVESTIGATOR'S SHOUT-OUT (LAURA PETICOLAS)

What an amazing time in which we live – one where we can work towards truly sharing different paradigms of thought and ways of knowing. Until I participated in two separate week-long “One Earth, One Universe” workshops—hosted in part by Isabel Hawkins, the previous UC Berkeley Principal Investigator of Cosmic Serpent—I never truly had even a taste of a paradigm shift. My inclination to think as a scientist: wondering and hypothesizing about nature, having fun with math, seemed to have been with me since I was very young. But I had never before considered what cultural, historical, and linguistic context into which this scientific thinking had been placed, as I worked my way towards scientific research. In the “One Earth, One Universe” workshops, I was exposed to many Indigenous cultures and ways of learning about the world. The Indigenous use of careful observation, and the creation of models to go with the observations, seemed very similar to the Western science techniques I knew so well. The ways of moving from observation to model also seemed to be quite familiar at times—but at other times, notably different. Moreover, the worldview underlying the observations is strikingly different from



Co-PI Dr. Laura Peticolos

what I have known. This glimpse into a different way of knowing our world and universe has changed my thinking about our scientific

world, from wondering about how we might sustain life on our planet to the way we listen and talk to one another. My exposure to the Indigenous worldview has opened my eyes and added another ‘dimension’ to the joy I have found, and still find, in the Western scientific world.

I came onboard as the Co-Principal Investigator of the NSF Cosmic Serpent Project in August, 2008 after Isabel Hawkins announced her retirement. It has been the opportunity of a lifetime to work, not only with my own group at the University of California, Berkeley, but together with my colleagues Dr. Nancy Maryboy and Dr. David Begay and the broad network of indigenous knowledge holders, many who live and work in both worlds I mention above. As we plan our strategy for the year, create our workshop agenda, recruit participants, and determine how to meet the goals of the project, I am able to slowly expand my understanding of the Indigenous worldview and its relation to Western science.

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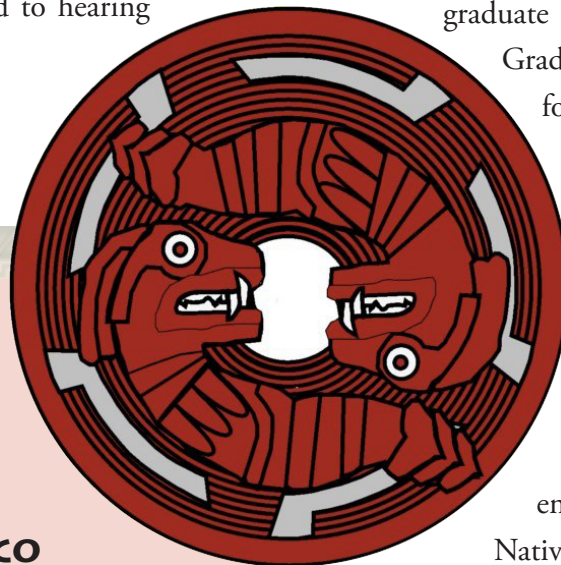
I hope that this project can ultimately lead to museum programs and/or exhibits that provide others with a similarly exciting glimpse, as I had, into a new and inspirational way of understanding the universe. I would be thrilled if our program ultimately leads to museum visitors having a permanent, profound and positive change in the way they view science and knowledge. If visitors simply leave with a sense that understanding our world and our universe is an even more fascinating adventure than they may first have thought, I will be quite satisfied.

If you wish, please join us and share your own thoughts and visions for bridging the Western science world with Indigenous ways of knowing in science centers and tribal museums. I am looking forward to hearing from you.

Laura Petcolas (Space Sciences Laboratory, University of California, Berkeley)

INSTITUTIONS THAT PARTICIPATED IN THE COSMIC SERPENT PILOT WORKSHOP APRIL 20-24, 2008, SANTA FE, NEW MEXICO

The Imaginarium, Inc.
Tulalip Tribes - Hibulb Cultural Center
Explora
Oregon Museum of Science and Industry (OMSI)
Barona Cultural Center & Museum
Navajo Nation Museum
Utah Museum of Natural History
Edge of the Cedars State Park Museum
Institute of American Indian Arts (IAIA)
Tamástslikt Cultural Institute
Exploratorium
Jicarilla Apache Cultural Affairs



FEATURED PARTICIPANT

In each issue, we will feature one participant.

Jessie Ryker-Crawford (White Earth Anishinaabe) is Chair of the Museum Studies Department at the Institute of American Indian Arts (IAIA). She received both a BA in Anthropology and an MA in Sociocultural Anthropology—with a minor in American Indian Studies—from



the University of Washington (UW), and continues her graduate studies in the UW Anthropology Graduate program as a Ph.D. candidate focusing on the Native American Fine Art Movement.

She has presented material on her studies at various conferences, including the 2003 University of Washington Indigenous Voices Symposium, the 2004 American Studies Association Annual Conference, and the 2005 Eiteljorg Museum Native American Fellowship symposium, *Absence of Our Presence*. She was published in the Eiteljorg catalogue, *Into the Fray*, and has currently been awarded a 2008 Mellon Research Fellowship. Ms. Ryker-Crawford is a board member of the Native American Art Studies Association (NAASA).

UPCOMING WORKSHOPS

Southwest - Santa Fe, NM, Mar 15-20, 2009

Northwest - Washington coast, Aug. 23-28, 2009

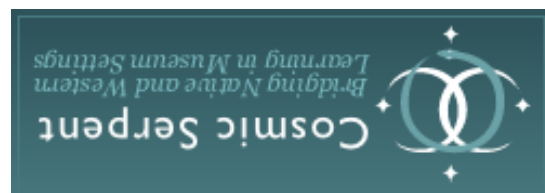
Southern California, Nov. 2009



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WWW.COSMICSERPENT.ORG

**FIRST SOUTHWEST WORKSHOP
MARCH 15-20TH, 2009
IN SANTA FE, NEW MEXICO**

The Cosmic Serpent program will serve practitioners at 96 science centers/museums and tribal/cultural museums in the U.S. Southwest, West, and Northwest (eight states) through three full workshops, three follow-up workshops, continuing communication and regional networks. Participants will gain awareness of diverse cosmologies and epistemologies and thus an increased understanding of the nature and cultural roots of science (Western, Native, or otherwise).



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