

# SEMINAR IN PHYSICS

Friday, **January 20**, 2016  
3:30-4:25 – Ross 0220

~ Refreshments! ~

## Earth and Space Informal Science Education with Digital Planetariums

***Dr. Ka Chun Yu***

***Curator of Space Science  
Denver Museum of Nature & Science***

Informal science education institutions have a uniquely different mission from the formal education of K-12 schools and universities. Rather than a lengthy period over which information can be delivered and skills built, the interaction time through exhibits and presentations tends to be far shorter. Therefore it has long been recognized that informal science education is best for inspiring and exciting learners about science as oppose to helping them retain content knowledge. Yet there has been a more recent awareness that informal learning may be an important contributor to the scientific literacy of American adults.

Planetariums are an important and popular informal science venue, with a long history of instilling awe and wonder about the universe to the public. Domes in the 21st century with computer-driven projection have even greater versatility and potential. In this talk, I will present some of my digital planetarium projects at the Denver Museum of Nature & Science and elsewhere involving earth and space science education, including innovative approaches to teaching climate and environmental change. Results from my own educational research suggest how domes can facilitate the learning of topics requiring spatial understanding, and how immersion itself may result in greater attention.

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*After receiving his PhD in 2000, Dr. Ka Chun Yu joined DMNS in 2001 as part of a team tasked to create planetarium software to visualize the known universe for the Gates Planetarium. He continues to work extensively to create new educational content and visualizations for displays like the digital dome and Science On a Sphere, and research the most effective ways of using this type of technology for education. He is one of the founders of the Worldviews Network, a group using immersive visuals to place Earth within its cosmic context, and to connect public audiences with ecological and biodiversity issues. In the past he has been involved with observational programs using the Hubble Space Telescope, as well as ground-based optical, infrared, and radio observatories from around the world.*