

UNIVERSITY OF MIAMI

ROSENSTIEL
SCHOOL of MARINE &
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Department of Environmental
Science and Policy

Student Seminar Series

April 29, 2022 | 10:30 AM



Designing Digital Serious Games
to Support JEDI in STEM and
Heritage Access

Karen Backe



Valuing the Voiceless: Beyond
Anthropocentric Value for
Animals in Nature

Ethan Prall



Designing Digital Serious Games to Support JEDI in STEM and Heritage Access

Karen Backe

Abstract:

Positive science, technology, engineering, and math (STEM) experiences are an important component of building STEM identities. Game play in particular can support building self-efficacy and provide safe identity experimentation space. Marine natural and cultural heritage exist in highly access-restricted spaces but are deeply connected to human societies. Authentic public access is essential for increasing diversity among stakeholders and building equity in allocation of marine heritage benefits and risks. Technology based serious games are being explored and studied for their value in teaching, job training, building social empathy, and forming connections between people and culturally relevant history. We are testing the hypotheses: digital informal STEM experiences designed with a justice, equity, diversity, and inclusion (JEDI) lens can: a) help bridge the STEM gap through building self-efficacy; affirmative identity experimentation; safe-to-fail play spaces, AND b) these resources can be used to further open access to restricted heritage sites and spaces. We are designing and testing a digital serious game centered around archaeological sites in South Florida, intended to reach low-wealth communities and students who identify with demographics which are minorities in STEM fields. As large datasets are increasingly extant for management purposes, development of technology-based serious games becomes more feasible and cost-effective. Repurposing these datasets into play-based experiences for students in STEM contexts may be an effective way to support building JEDI in STEM identity development and provide a platform for engaging, meaningful, and truly public access to marine heritage sites.

About Karen:

Karen is a doctoral student in the Environmental Science and Policy program at the Abess Center for Ecosystem Science and Policy at the University of Miami. She holds a master's degree in marine science and undergraduate degrees in language and culture. She has been a field biologist for the USGS, a web and visual information designer for the National Park Service, taught science classes at San Francisco State University, and been an informal science educator for the National Park Service, the National Aquarium in Baltimore, and the Aquarium of the Pacific in Long Beach. She is combining her interests in science, STEM outreach and education, public access, visual design, storytelling, and field work in her dissertation research at UM.

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Valuing the Voiceless: Beyond Anthropocentric Value for Animals in Nature

Ethan Prall

Abstract:

Research on valuation in environmental science and policy has focused heavily on the anthropocentric value of nonhumans and nature, often their economic or monetary value. Stakeholders and the public, however, often express high support for non-anthropocentric types of value in nature, such as intrinsic value, and without considering these values, researchers risk under-representing natural value and failing to provide comprehensive environmental solutions. In this talk, I will review types of non-anthropocentric value explained by environmental ethicists in recent years, including the intrinsic value, moral value or status, and non-anthropocentric instrumental value of individual animals. Considering these sources of value, researchers can pursue interdisciplinary work on valuing nature comprehensively, with more attention devoted to the moral status of individual sentient animals and to the value of organisms that support such animals. Recent work in “compassionate conservation” biology has begun to consider the moral value of individual animals, but this research pays insufficient attention both to problems outside of traditional conservation, such as climate change, and to the full scope of non-anthropocentric value applicable to nonhuman animals. For example, in climate change research, further work can be done to integrate the value of nonhuman animals into science and policy, much as compassionate conservation has done within conservation biology, including by assessing the impacts of human use of animals on climate change mitigation and the impacts of global change on animal welfare.

About Ethan:

Ethan Prall is a doctoral student in Environmental Science and Policy at the University of Miami through the Abess Center and an environmental lawyer. His work focuses on the science and governance of environmental problems that pose existential or catastrophic risks to both animals and humans. He holds a J.D. from Harvard Law School and leverages his expertise in domestic and international environmental law and governance and his training in ethics and philosophy to identify solutions to the crises of extreme climate change and ecosystem collapse from the perspective of intergenerational and interspecies ethics. Ethan also studied philosophy and ethics at the undergraduate level and through a master’s focused on religion and ethics at Duke University. After law school, he clerked for two federal judges and spent several years practicing in environmental law and policy in Washington, D.C. He has experience in the law and policy surrounding climate change, biodiversity, and marine governance at the U.S. federal and international levels. He is a Dean’s Fellow at the University of Miami and a Climate Reality Leader.

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