Biology Seminar

Speaker: Michael Angilletta, Ph.D.
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Using virtual reality to teach biological concepts and transferrable skills to undergraduates

I will present a new way of learning biology, called Dreamscape Learn, that combines immersive experiences in virtual reality with highly structured, student-centered activities in the classroom. This new curriculum enables students to enter a fictional world, where an artificial intelligence has created an intergalactic wildlife sanctuary to preserve endangered ecosystems from across the galaxy. In each learning module, students become the heroes of a story—discovering, investigating, and solving novel yet realistic problems. A narrative arc continues throughout experiences in VR and in the classroom, creating an immediate need to learn concepts and skills. Undergraduate students in this new curriculum were almost twice as likely to score between 90 and 100% on assignments than were students in the existing curriculum at Arizona State University. Students who participated in VR more frequently also felt more engaged in the course and performed better on assignments. Differences in student performance between the curricula were similar among demographic groups, suggesting that the new curriculum might help to reduce achievement gaps. This research underscores potential benefits of leveraging emerging technologies and narrative structure to enhance education and training in science.

Seminar Speaker Hosts: Ray Huey & Lauren Buckley