Plenary Talk PV IV Tue 9:45 ELP 6: HS 3+4

Climate Crisis Education-Physics Instruction's Role in Ensuring a Sustainable Future — •Doug Lombardi — University of Maryland, United States

It might be as simple as one, two, three. One, the climate crisis is upon us; two, this crisis is impacting Earth's entire environment; and three, humans, who are intertwined in Earth's complex environmental system, are the culpable actors causing the climate crisis. However, addressing this crisis is no simple matter. Over many decades, the science community has characterized and forecasted climate change. Planners and policymakers now face the task of mitigating and adapting to extreme weather events, mass migrations, disease outbreaks, collapsing ecosystems, and social and economic injustice caused by the climate crisis. Despite these challenges, hope remains. Educators across many disciplines, including physics educators and physics education researchers, can help turn hopelessness into hope and despair into agency and action. Multidisciplinary collaborations involving physicists, physics education researchers, and physics instructors, along with other scientific disciplines, are needed to shape theoretical frameworks and methodologies that will facilitate innovation for a sustainable future. This presentation overviews my research team's efforts–in collaboration with a wide variety of scientists and educators–to design and rigorously test effective instructional interventions and strategies that facilitate students deep understanding of the climate crisis and how to adaptively respond.