TEACHING-LEARNING-RESEARCH: DESIGN AND ENVIRONMENTS

• Paper / Proposal Title:
Architecture for Extreme Environments: Lessons for Remote Exploration

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• Abstract:
How can we teach students the valuable lessons Nature’s extreme environments hold when field trips and even in-person class meetings are on the decline? With over 10 years of teaching architecture students in extreme environments like Death Valley and the Northern Cascade Mountains, Professor George Elvin has developed tested strategies for unlocking the secrets of natural adaptation to climate extremes. With the advent of COVID and the decline of in-person educational activities like field trips, he has adapted with new strategies and technologies for studying extreme environments and analyzing ecosystems remotely. His unique Process Networks diagramming method of ecosystem analysis, for example, empowers students to understand and design for remote environments by examining local ones with appropriate social distancing. Augmented by innovative online, collaborative teaching-learning methods, this method has proven to help students understand, analyze and design for extreme environments and apply lessons learned in their own designs. Additional strategies for building Process Networks into the design process—adapting Nature’s lessons of flora and fauna adaptation to extreme environments—enable students to create resilient and regenerative buildings for the 21st Century. Strategies and technologies for engaging experts worldwide also bring first-hand expertise to the students during the design and research process. Case studies from Death Valley, the Northern Cascade Mountains, and the Outer Banks of North
Carolina bring these lessons to life, as do Professor Elvin’s research experiences in the world’s hottest, wettest, windiest and snowiest places.

• Author(s) Biography (200 words each):