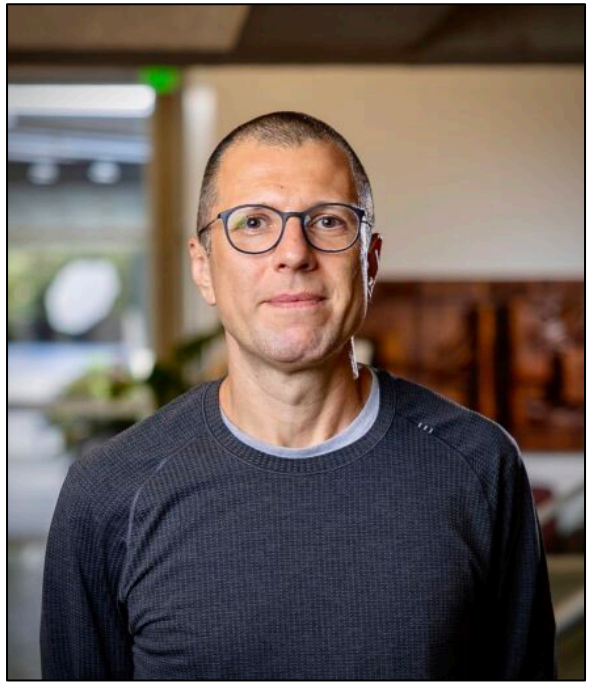
P-32 | Application of Bayesian Networks to Hurricane Risk Assessment

COA SHOWCASE



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Hurricanes, and even less severe tropical storms, can cause a series of natural hazards, such as high winds, storm surges, tidal waves, heavy rainfall, and inland flooding. These hazards are often studied independently along the U.S. Gulf Coast. However, there remains a gap in comprehensive risk analysis, particularly those focusing on household impacts, due to the complexity of vulnerabilities and conditional probabilities involved. This research proposes the use of Bayesian networks to integrate multiple hazards and vulnerabilities, especially when data is limited or heterogeneous. This study aims to allow estimate of impacts at various threat levels, enhancing planning and emergency preparedness by introducing a research framework that promotes a participatory and comprehensive approach to risk analysis and future evaluations of risk mitigation strategies.