Hiba Baroud

Assistant Professor of Civil and Environmental Engineering at Vanderbilt University
Nashville, TN, US

Expert in risk, reliability and resilience of critical infrastructure against climate change and natural disasters, particularly flooding.

Biography

Dr. Hiba Baroud is an assistant professor in the Department of Civil and Environmental Engineering and the Littlejohn Dean's Faculty Fellow. Her work explores data analytics and statistical methods to measure and analyze the risk, reliability, and resilience in critical infrastructure systems. In particular, she has studied data-driven Bayesian methods to predict the occurrence of disruptive events in infrastructure systems and stochastically model the recovery process of the physically disrupted system as well as other interdependent and indirectly impacted systems. She also developed decision analysis tools to assess different preparedness and recovery investment strategies for the protection of civil infrastructures. Baroud holds a Ph.D. in Industrial and Systems Engineering from the University of Oklahoma. She has a Master of Mathematics from the Department of Statistics and Actuarial Science at the University of Waterloo where she focused in her research on the application of statistics, particularly time series models, to analyze Dr. Hiba Baroud is an assistant professor in the Department of Civil and Environmental Engineering and the Littlejohn Dean's Faculty Fellow. Her work explores data analytics and statistical methods to measure and analyze the risk, reliability, and resilience in critical infrastructure systems. In particular, she has studied data-driven Bayesian methods to predict the occurrence of disruptive events in infrastructure systems and stochastically model the recovery process of the physically disrupted system as well as other interdependent and indirectly impacted systems. She also developed decision analysis tools to assess different preparedness and recovery investment strategies for the protection of civil infrastructures. Dr. Baroud holds a Ph.D. in Industrial and Systems Engineering from the University of Oklahoma. She has a Master of Mathematics from the Department of Statistics and Actuarial Science at the University of Waterloo where she focused in her research on the application of statistics, particularly time series models, to analyze financial data. Prior to that, she obtained her B.S. in Actuarial Science from Notre Dame University, Lebanon.

Areas of Expertise

Climate Change, Flood Mitigation, Natural Disasters, Resilience Modeling, Interdependent Systems Data Analytics, Critical Infrastructure Modeling, Risk Analysis, Risk-informed decision analysis, Statistical Modeling, Climate and Climate Change, Disaster Recovery, Flooding

Affiliations

American Society of Civil Engineers (ASCE), Society for Risk Analysis (SRA), Institute for Operations Research and the Management Sciences (INFORMS), International Society for Bayesian Analysis (ISBA), Institute for Industrial Engineers (IIE), Institute of Electrical and Electronics Engineers (IEEE)

Education

University of Oklahoma
Ph.D.

University of Waterloo
M.Math.

Notre Dame University
B.S.

Accomplishments

Fall 2019 Chancellor's Public Voices Fellow
A semester-long program designed to expand Vanderbilt University?s global reach by amplifying the impact of faculty academic research.

Best Paper Award in the Homeland Security Track
Best Paper Award in the Homeland Security Track of the Industrial and Systems Engineering Research Conference.

Student Merit Award
Engineering and Infrastructure Specialty Group of the Society for Risk Analysis

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