

EPSTEIN INSTITUTE SEMINAR ISE 651

**GAME THEORY, DATA ANALYTICS,
AND DISASTER MANAGEMENT**

ABSTRACT

SOCIETY FACES INCREASING PROPERTY DAMAGE AND CASUALTIES FROM BOTH MAN-MADE AND NATURAL DISASTERS. DEVELOPING SOCIETAL RESILIENCE TO THESE THREATS IS BOTH CRITICAL AND CHALLENGING. THIS RESILIENCE DEPENDS ON MULTIPLE STAKEHOLDERS, INCLUDING FEDERAL AND LOCAL GOVERNMENTS, THE PRIVATE AND NONPROFIT SECTORS, INDIVIDUAL CITIZENS, AND EVEN ADVERSARIES. THIS RESEARCH WILL EMPLOY A GAME-THEORETICAL FRAMEWORK TO IDENTIFY MORE EFFECTIVE DISASTER MANAGEMENT STRATEGIES, FOCUSING ON BALANCING EFFICIENCY WITH EQUITY, PRIVATE VERSUS PUBLIC INVESTMENT, AND ECONOMIC DEVELOPMENT VERSUS SECURITY. IN ADDITION, RECENT STUDIES ON SOCIAL MEDIA MISINFORMATION MANAGEMENT, FIRE MANAGEMENT, PUBLIC SAFETY, BORDER SECURITY, AND ARCTIC SECURITY WILL BE DISCUSSED.



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SPEAKER BIO

DR. JUN ZHUANG IS THE ASSOCIATE DEAN FOR RESEARCH IN THE SCHOOL OF ENGINEERING AND APPLIED SCIENCES AND THE MORTON C. FRANK PROFESSOR IN THE DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING AT THE UNIVERSITY AT BUFFALO. HIS PRIMARY RESEARCH INTEGRATES OPERATIONS RESEARCH, BIG DATA ANALYTICS, GAME THEORY, AND DECISION ANALYSIS TO IMPROVE MITIGATION, PREPAREDNESS, RESPONSE, AND RECOVERY EFFORTS FOR BOTH NATURAL AND MAN-MADE DISASTERS. AS A PRINCIPAL INVESTIGATOR, DR. ZHUANG HAS LED MORE THAN 40 FUNDED RESEARCH PROJECTS SUPPORTED BY ORGANIZATIONS SUCH AS THE NATIONAL SCIENCE FOUNDATION AND THE DEPARTMENT OF HOMELAND SECURITY. HE HAS PUBLISHED OVER 160 PEER-REVIEWED JOURNAL ARTICLES AND IS A FELLOW OF BOTH THE INSTITUTE OF INDUSTRIAL AND SYSTEMS ENGINEERS AND THE SOCIETY FOR RISK ANALYSIS.



TUESDAY, FEBRUARY 11, 2025 | 3:30 PM – 4:30 PM
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