Claudio Cioffi-Revilla, PhD, DPolSc

University Professor Emeritus, College of Science
AAAS Honorary Fellow, NAS Jefferson Science Fellow

Education

DPolSc, Applied Mathematics in Social Science, University of Florence, Italy
PhD, Mathematical Political Science State University of New York, Buffalo

Key Interests

Disaster Science | Applied Mathematics | Resilience Theory and Research | Computational Social Science | National and Homeland Security | Anthropogenic Disasters |

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SELECT PUBLICATIONS

> Cioffi-Revilla, C. (2016). Universal Laws of Disaster. In: 2016 IEEE Global Humanitarian Technology Conference (GHTC) (pp. 272-279). IEEE.

> Cioffi-Revilla, C. (2014). Seeing It Coming: A Complexity Approach to Disasters and Humanitarian Crises. *Complexity*, 19(6), 95-108.

> Cioffi-Revilla C. (2016). Socio-Ecological Systems. In: Bainbridge W., Roco M. (eds) *Handbook of Science and Technology Convergence*. Springer, Cham.

> Cioffi-Revilla, C. (2014). *Introduction to Computational Social Science*. London and Heidelberg: Springer.

Research Focus

I am an interdisciplinary scientist with forty years of experience conducting research on complex systems, including applications to coupled social, natural, and engineered systems. Extreme events in complex systems require data-driven, mathematical, and computational models to assess and estimate risks. Strategic analysis involving extreme events in complex systems requires formal assessment tools, data, and a proper mix of modeling tools capable of generating results in terms of valuable insights. Such results provide a basis for mitigation, preparedness, recovery, and reconstruction. Resilience analysis is a major application of theory and research on extreme events in complex systems.

Current Projects

- Development of an interdisciplinary science of hazards, disasters, and resilience.

- Development of formal foundations and mathematical methods for interdisciplinary research.

- Application of interdisciplinary methods and tools to cross-domain complex systems and extreme events.

- Extensions of strategic analysis and related applications to social complexity theory and research.