



Progetto VITALITY | Programma di Consulenza Specialistica | Seminario

CYCLOPs: A Unified Framework for Hurricanes Outside the Tropics

Abstract

Professor Emeritus Kerry Emanuel (MIT), a leading authority in meteorology and climate science, presents CYCLOPs: a unified framework for understanding hurricanes that form outside the tropics. These often-overlooked systems are becoming increasingly relevant in a changing climate. CYCLOPs integrates theory, modeling, and observations to explore the formation, evolution, and intensification of these hybrid cyclones, offering new insights with important implications for forecasting and risk mitigation in midlatitude regions.

lunedì 14 aprile 2025 - Ore 15.00

Aula De Tollis

Dipartimento di Fisica e Geologia



Kerry A. Emanuel

MIT - Massachusetts Institute of Technology

Dr. Kerry Emanuel is the Cecil and Ida Green emeritus professor of atmospheric science at the Massachusetts Institute of Technology, where he was on the faculty from 1981 to 2022. Before that he was on the faculty of UCLA from 1978 to 1981. Emanuel's initial focus was on the dynamics of rain and snow banding in winter storms, but his interests gradually migrated to the meteorology of the tropics and to climate change. His specialty is hurricane physics and he was the first to investigate how long-term climate change might affect hurricane activity, an issue that continues to occupy him today. His interests also include cumulus convection, and advanced methods of sampling the atmosphere in aid of numerical weather prediction. Emanuel is the author or co-author of over 300 peer-reviewed scientific papers, and three books, including *Divine Wind: The History and Science of Hurricanes*, published by Oxford University Press and aimed at a general audience, and *What We Know about Climate Change*, published by the MIT Press and now entering its third edition. He was a co-founder and co-director of MIT's Lorenz Center, a climate think tank devoted to basic, curiosity-driven climate research. He is the Chief Scientific Officer and co-founder of WindRiskTech, LLC, which provides clients with advanced synthetic tropical cyclone events sets for assessing current and future tropical cyclone risks worldwide.