

Richard Clark, Ph.D.

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Speaker Bio:

Richard D. Clark is the former Chair of the Department of Earth Sciences and Professor of Meteorology Emeritus at Millersville University.

Rich is the 2022 American Meteorological Society (AMS) President and Fellow and served as a member of AMS Council (2008-11) and several AMS Committees. He served two terms as an at-large member of the University Corporation for Atmospheric Research (UCAR) Board of Trustees (2009-2015) and served on UCAR governance committees. His research interests span boundary layers and turbulence and air chemistry with a special emphasis on field observations and instrumentation using airborne and balloon-borne platforms. He recently completed a collaborative effort with NCAR and COMET to produce a 10-lesson interactive online course on atmospheric instrumentation and measurement. Rich was responsible for the creation of the M.S. in *Integrated Scientific Applications* program, which focuses on creating business-ready scientists, as well as the graduate certificate program in *Space Weather and Environment: Science, Policy, and Communication*. He is the recipient of the 2006 Unidata DeSouza Award and the 2008 AMS Teaching Excellence Award. Rich has a Ph.D. in atmospheric science from the University of Wyoming ('87).

Presentation:

Convergence Frameworks Demand Partnerships: How the AMS and IAEM Partner to Address Weather, Water, and Climate Hazards

Emergency managers rely on strong partnerships with the research and engineering communities to understand and advise on natural and human-made hazards. Extreme weather as a manifestation of the influence of climate stressors, environmental and infrastructure degradation, socioeconomic inequities, and population growth and migration are increasing the potential for natural disasters. These events are complex, dynamic, and non-linear, and operate across natural, constructed, and human systems and include a high degree of uncertainty in predictability. This drives the imperative that shared knowledge and mutual

understanding of processes, relationships, and challenges must be part of a framework to reduce vulnerabilities and build resilience to increasing disaster risk. The American Meteorological Society (AMS) and the International Association of Emergency Managers (IAEM) already have a natural synergy based on weather, water, and climate hazards and disasters, but in order to optimize the effectiveness of this partnership to inform solutions, it will be necessary to facilitate convergence of social, disaster, natural, computational, and engineering sciences. The AMS and IAEM bring together a membership with a diversity of perspectives that can frame and guide research and operations across the weather, water, climate enterprise to address complex problems and find methodologies and solutions that can be employed by emergency managers to manage natural disasters. As partners there is a shared responsibility to ensure that the next generation of professionals entering the workforce experiences an immersive education that is inherently transdisciplinary in science and engineering, as well as in practice. Institutions that are intentional in developing programs with convergent curricular frameworks, which includes an ethos of diversity, equity, inclusion, and justice, are likely to be at the vanguard of new and innovative approaches to solving some of the complex problems associated with vulnerability and improving resilience. This presentation will focus on the value of partnerships in developing convergence frameworks and, in turn, how convergence strengthens the relationship and cooperation between partners.