



## Next Breath & WFF 2021

### From Water to Air; Scientific Pathways towards a Clearer, Cleaner Future.

**Chad J Roy, PhD**  
Professor  
Director, Infectious Disease Aerobiology  
Tulane University, School of Medicine



**Talk Title — Aerosol Infectivity and Respiratory Transmission of SARS-CoV-2**

*"Airborne transmissible infectious disease has plagued humankind for millennia. Gaining a better understanding of the innate contagion of pathogenic aerosols and the complexity of infection remains one of the greatest labors of our time."*

Chad J. Roy

Dr. Roy presently is Professor of Microbiology and Immunology and a core scientist at the Tulane National Primate Research Center, Division of Microbiology. His primary faculty appointment is within the Tulane University School of Medicine, Department of Microbiology and Immunology. He also serves as the Director of the Infectious Disease Aerobiology scientific core located within the Division of Microbiology at the TNPRC. Dr. Roy is a career aerobiologist focused on respiratory health and the aerobiology of airborne infectious diseases; specifically, on gaining a better understanding of aerosol infection in the context of the development and application of preclinical disease models; the majority of efforts are directed in the use of the nonhuman primate for this purpose. The practical application of this research has been and continues to be enabling advanced pathogenesis studies as well as medical product evaluation. His laboratory works with a diverse array of infectious and highly toxic agents considered biological threat agents rather than a singular focus on a particular class or agent. Essentially all of the research in the Roy laboratory is performed within a high containment (BSL-3) environment. The inclusion of such a wide number of biological threat agents in the research program has been the result of extensive, highly collaborative studies between a number of extramural laboratories and the Roy laboratory. His current research portfolio includes evaluation studies of antivirals in aerosol-induced poxviral infections, and evaluation of optimized monoclonal antibodies as therapeutic agents for toxin (SEB and ricin) exposure. He is also involved in investigation of the immunogenicity and protective efficacy of virally-vectored vaccines against aerosol-initiated alphaviral disease. There are also significant efforts ongoing in his laboratory to develop disease models for biothreat agents such as Burkholderia pseudomallei in the nonhuman primate.

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