

SRA 2020 Round Table Symposium Proposal: Dialogue on data and models for dose-response relationships for SARS-CoV-2

Jointly Sponsored by Dose-Response and Microbial Risk Analysis Specialty Groups

Co-chairs: Jade Mitchell and Matt Wheeler (Michigan State University and NIOSH)

Symposium Description

Knowledge of relationships governing human responses to viral pathogens continues to accumulate for the COVID-19 pandemic caused by a novel corona virus (SARS-CoV-2). A tremendous amount of data on pandemic cases was made available very quickly worldwide through preliminary manuscripts and expedited commentaries and journal review processes. Some full-text open-source studies provide raw data estimating viral loads for a few individuals from hospital admission through recovery using reverse transcription polymerase chain reaction (RT-PCR) and droplet digital PCR (ddPCR). However, sparse information is provided characterizing method performance for many studies, particularly unspecified limits of detection and quantitation critical to evaluating dose-response relationships across studies. Four perspectives relevant to dose-response assessment were emphasized by the invited speakers in a previous technical session. In the current Round Table Symposium, the co-chairs will engage the SRA audience to expand dialogue beyond dose and response data and models. Of particular interest are data on transmission from asymptomatic and symptomatic carriers early and late in the disease cycle and qualitative or semi-quantitative data on attack rates and clinical outcomes for cohorts of test- positive and -negative cases who subsequently developed mild and severe disease. The invited panelists and co-chairs will prepare a perspectives article for submission to Risk Analysis based on presentations from the previous technical session and dialogue from the Round Table Symposium.

Proposed Panelists	Affiliations	Topic/Expertise
1. Mark Weir	Ohio State University	Microbial risk assessor/QMRA Wiki Team member/animal models for estimating infectivity and virulence of SARS viruses
2. Madeline Lewis and Mark Weir	Ohio State University	Microbial risk assessors and QMRA Wiki Team member /considering Severity in NYC
3. Jade Mitchell	Michigan State University	Microbial risk assessor/ QMRA Wiki Team member
4. Peg Coleman and Gene McClellan	Coleman Scientific Consulting and Applied Research Associates	Microbial risk assessor and particle physicist/modeler of human data for time- and dose-dependent severity of SARS-CoV-2

