



**Joint MUMS Program Transition - SPUQ Workshop**  
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**SPEAKER/ABSTRACT**

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*“Structural model discrepancy in Nuclear Energy Density Functional Simulators”*

**Abstract:**

Nuclear Energy Density Functional (EDF) theory has been invaluable in understanding the properties of nuclei and their impact on applications from stellar phenomena to energy applications. Numerical implementations of EDF models are able to simulate the properties of elements across the nuclide table, but involve approximations to the underlying physics. The impact of missing physics has systematic effects that are important for calibration, prediction, and extrapolation using the physics model. This talk will present work on calibration of the EDF models and analysis of a structured discrepancy model with the goal of improving the ability to extrapolate to new nuclei properties beyond the observed and further understanding of the ways in which the simulator can be improved.