OHIO UNIVERSITY

Alexandra C. Semposki

Working Group 2

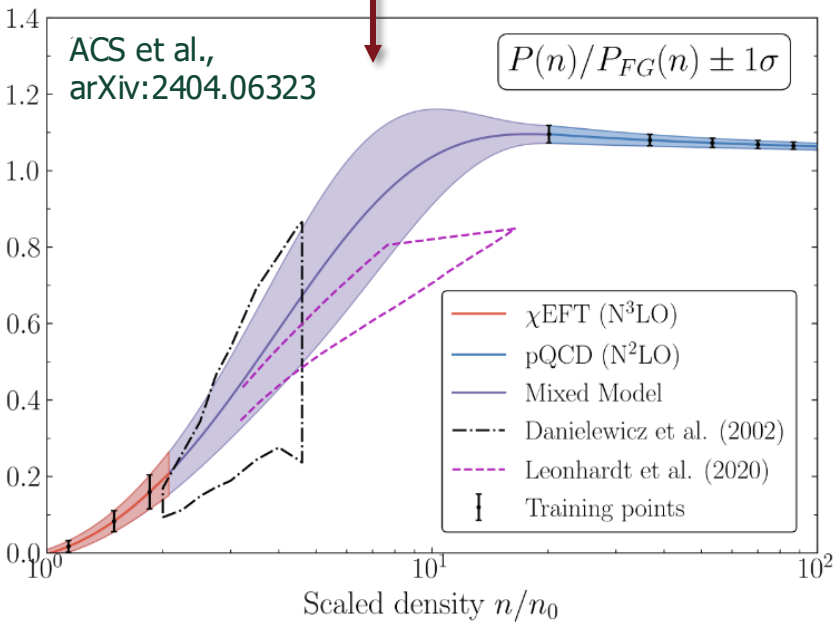
Research experience:

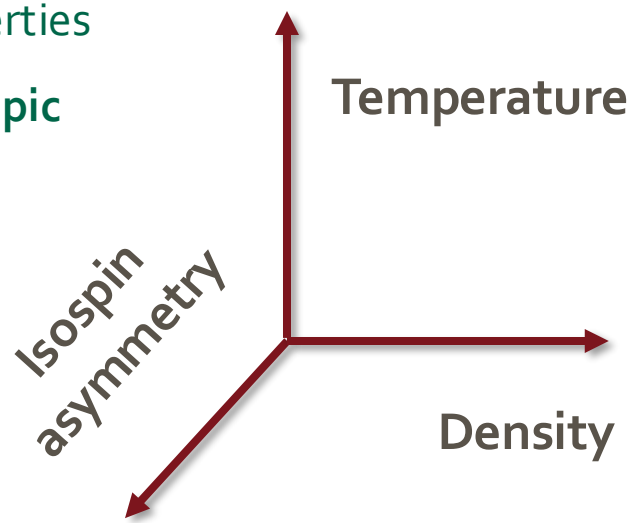
Bayesian UQ of **truncation errors**

Parameter estimation

Emulators for calculating neutron star properties

Bayesian model mixing (BMM) of microscopic EOS models (χEFT and pQCD)





Goal:

Unified EOS across the QCD phase diagram with quantified uncertainties through Bayesian methods

? *Questions & Ideas:*

How do we build **discrepancy models** for phenomenological EOSs that do not possess a truncation error?

How do we design GP kernels to include **phase transitions** in mixed models?

Are there better **BMM methods** than using GPs to bridge gaps between the theories?

Complementary expertise:

EOS for heavy-ion collisions
Lattice QCD
Finite temperature EOS
Machine learning
Bayesian statistics/discrepancy modeling

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