



# Old Dominion University

## Department of Physics

### Colloquium

**Tuesday, March 27, 2018**

**"The EMC effect in light and heavy nuclei"**

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**Abstract:** The deep-inelastic scattering (DIS) and the Drell-Yan (DY) experiments with nuclei demonstrated significant nuclear effects on the parton level. These observations rule out the naive picture of the nucleus as a system of quasi-free nucleons and indicate that the nuclear environment plays an important role even at energies and momenta much higher than those involved in typical nuclear ground state processes. The understanding of nuclear effects at the parton level is relevant for interpretation of the results of high-energy experiments in different fields including DIS with charged leptons and neutrinos, DY process, heavy-ion collisions. In this talk I review the data on the nuclear EMC effect and discuss a microscopic model of nuclear structure functions (parton distributions), which takes into account a number of physics mechanisms responsible for nuclear corrections.

Presentation: **OCNPS 200 @ 3:00 pm**  
Refreshments: **OCNPS Atrium @ 2:30 pm**

**All interested persons are cordially invited to attend.**