

Physics Colloquium

Professor Tristan Hubsch

(Physics & Astronomy, Howard University)

“The Dark Side of String Theory”

Friday, February 12, 2021

2:30pm—3:30pm

Zoom link: <https://virginiatech.zoom.us/j/96084996911>

A closer reexamination of a family of toy models with a 3+1-dimensional de Sitter spacetime obtained in the standard low-energy limit of string theory reveals a host of novel features: On the phenomenological side, they predict several types of dark energy and dark matter, including a cosmological constant consistent with observations of the accelerated expansion of the Universe. These stem from cosmologically broken supersymmetry, the inherent strong coupling of these models, and the ensuing involvement of additional, non-commutative, phase-space-like stringy degrees of freedom. The inclusion of these, hitherto ignored degrees of freedom also implies a natural seesaw-like solution to the hierarchy problem.