



UNIVERSITY OF MIAMI  
COLLEGE of  
ARTS & SCIENCES

## University of Miami, Physics Department Seminar

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**Date:** Wednesday, May 29, 2024  
**Time:** 3:00 pm – 4:00 pm  
**Location:** Rm 203, Knight Physics Building

### **Speaker:**

**Professor Djordje Minic**  
Virginia Tech University

### **Talk Topic:**

## **How to Compute the Vacuum Energy, the Higgs Mass and the Masses and Mixing Angles of Quarks and Leptons**

I will discuss a fully quantum calculation of the vacuum energy which matches the observed cosmological constant. In particular, I will explain the crucial new insight and the robustness of the final result. Then I will extrapolate this new insight and present the calculations of the Higgs mass and the quark and lepton masses and the relevant mixing matrices, including the specific predictions for a normal hierarchy of neutrino masses. These calculations point to a new view of quantum gravity based on “gravitized” quantum theory, and I will suggest an experimental “smoking gun” for this new understanding of quantum gravity.