

## Dean's Colloquium

Dr. Vincent Nziko, Assistant Professor  
Department of Chemistry and Biochemistry, Hampton University



**When: Wednesday, March 08, 2023**

**Where: Turner 129**

**Time: 3:30 – 3:50 pm, Q&A: 10 min**

**Title: Structure Base Drug Design of 5HT-2A Agonist**

**Abstract:** Serotonin 5-hydroxytryptamine 2A (5HT2A) receptor is a G-protein coupled receptor widely distributed in the central nervous system. It is critical in various physiological functions, including mood regulation, perception, and cognition. Additionally, the 5HT2A receptor has been implicated in several neuropsychiatric disorders, including schizophrenia, anxiety, and depression. The 5HT2A receptor has become an attractive target for drug discovery. Several compounds have been identified as 5HT2A receptor ligands, including serotonin, LSD, and ibogaine. However, developing selective and potent 5HT2A receptor ligands with fewer side effects remains challenging. My group uses a combination of molecular docking, molecular dynamics simulations, and quantum mechanics calculations to identify the key structural features responsible for the interaction between ibogaine analogs and the 5HT2A receptor. Based on these findings, we designed and synthesized compounds with improved potency and selectivity toward the 5HT2A receptor.

**Bio:** Dr. Vincent Nziko joined HU in August 2018 as a Department of Chemistry and Biochemistry faculty member. Dr. Nziko has excellent research and teaching accomplishments at the national and international levels. He has made several important innovative and original research discoveries in computational and organic chemistry. He has an extensive record of scholarly achievements and publications with an h-index of 12 in reputed journals such as organic chemistry and physical chemistry A. Dr. Nziko is also interested in developing novel teaching methods. Dr. Nziko has mentored a cohort of diverse graduate and undergraduate students since his admission to Hampton University.