Science, Music and the Human Condition
Wednesday, January 26, 7:15 p.m.

Despite an oft-perceived dichotomy between the arts and sciences, significant aspects of congruence across these fields exist, as do unique opportunities for multidisciplinary inquiry leading to better understanding of the human condition.

Why do we move to music? What is the allure of “sad” songs? How are musicians’ brains different from those of non-musicians? How can playing music facilitate better living? These questions require a multidisciplinary perspective. Assistant Professor Tracy Lipke-Perry (Crane School of Music, SUNY Potsdam) will discuss the effects of music participation on the human body and the implications for well-being, healthy development and aging, and the potential impact of the arts in education and on the economy. She will discuss her lab’s ongoing work to improve understanding of music learning and performance.

DNA Damage and mRNA Maturation: What’s the Connection?
Wednesday, February 16, 7:15 p.m.

Evidence from mammalian cells suggests links between DNA damage, mRNA maturation and tumorigenesis — the accumulation of genetic mutations within cells. Join Assistant Professor Fathima Nazeer (Chemistry, SUNY Potsdam) as she elucidates the interplay between the DNA damage response and mRNA maturation. Nazeer and her students study the roles that specific proteins play in regulating mRNA maturation. They have found some unexpected interconnections between these two pathways, using relatively simple biochemical techniques. These findings are expected to increase the understanding of some of the molecular mechanisms that lead to tumorigenesis.

Sexual Fluidity: Exploring Identity Development and Social Stigma
Wednesday, March 9, 7:15 p.m.

Sexual identity is often assumed to be established early in life and to remain stable across the lifespan. However, this popular belief disguises the reality of many bisexual, pansexual and sexually fluid (i.e., bi+) individuals for whom sexual identity may be in continuous development and who are more likely to experience a shift in attraction and identity later in life. Partially because these individuals violate long-held beliefs about sexual identity development, bi+ individuals encounter unique stereotypes that distinguish them from others within the LGBTQ+ community. Assistant Professor Megan Carpenter (Psychology, St. Lawrence University) will discuss reports given by bi+ individuals about their own experiences with evolving attraction and identity, as well as her more recent experimental research on how perceptions of bi+ individuals are also influenced by their age, race and gender.

Harnessing the Soil Microbiome in Sustainable Agriculture
Wednesday, March 30, 7:15 p.m.

Increasing agriculture yields often relies on using chemical inputs with long-lasting and detrimental effects on the environment. Sustainable agriculture practices, such as natural farming, instead emphasize using on-farm resources and recycling farm waste to promote soil health and crop yield. A better understanding of the soil microbiome and the identification and application of beneficial microbes is therefore essential for restoring soil health and improving crop productivity. Assistant Professor Alice Tarun (Biology, St. Lawrence University) will discuss using DNA sequencing approaches to analyze the soil microbiome and how its functioning is affected by various agricultural practices. Applying microbiome analysis to Korean Natural Farming and Bokashi, two popular natural farming practices, will be described.

Innovations in Teaching Biology Laboratories
Tuesday, April 12, 7:15 p.m.

In recent years, we have seen a decrease in scientific literacy skills (locating and interpreting relevant primary literature, analyzing data, communicating results, etc.) in first-year biology laboratory students. Join Assistant Professor Stefanie Kring (Biology, Clarkson University) (top right) and PhD candidate Evie Brahmsledt (bottom right) for a discussion of the preliminary findings of their educational research, conducted in fall 2021, including the impact of a scientific literacy seminar on the writing skills of biology students. Kring will also discuss her participation in BIOME (Biology and Mathematics Educators) Institute 2021, titled “From Pieces to Patterns: Building a Scientific Worldview.”