

Speaker:

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Date: Monday, Mar. 07, 2022**Time:** 4:00 pm - 4:50 pm**Location:** 1102A Genomics Auditorium**Zoom:** 948 0131 1028**Passcode:** 347039**Title:**

"Biowaste and the Black Soldier Fly: A circular economy journey"

Abstract:

Food and agricultural waste represent nearly half of waste produced worldwide and account for about 5% of global greenhouse gas (GHG) emissions. These figures are anticipated to almost double by 2050 if no changes are made in waste reduction and management. Improvements in these areas are needed at all societal levels. The UCR campus has pledged zero waste by 2025, and recently, a California law has come into effect that aims at reducing biowaste disposed in landfills by 75% by 2025 and GHG emissions from biowaste by 40% below 1990 levels by 2030. In this seminar will present an overview of a circular economy effort under way at the UCR campus to upcycle biowaste using, among other tools, the decomposing capability of the Black Soldier Fly (BSF), *Hermetia illucens* (Diptera: Stratiomyidae). BSF larvae can feed on any organic substrate, which they quickly transform into a compost-like substance called frass that can be used as biofertilizer and soil amendment and that is also rich in chitin/chitosan, a known plant defense elicitor. Besides, protein of BSF larvae can be used as feed for livestock, in aquaculture and for pets, and more high-end byproducts can be obtained from any life stage of BSF, making it a perfect circular economy bug. I will also present results of an experiment aimed at assessing the effect of Bokashi fermentation of two types of biowaste on BSF life traits.