

College of Public Health News

April 7, 2017

Georgia Southern University

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Georgia Southern Masters of Public Health Students win First at Rural Health Conference

April 7, 2017



Dr. Kelly Sullivan, assistant professor of epidemiology at the Jiann-Ping Hsu College of Public Health Georgia Southern University, recently took a group of first year MPH Epidemiology students to present research at the [Rural Health Conference at the University of Alabama](#). They gave one oral presentation and presented 3 posters highlighting research they have conducted this semester. The poster entitled, "Subjective sleep quality among residents of Southeast Georgia," authored by Mr. Collins Onyeka Ordiah, Mr. Oluwaseun Oguntomole, Ms. Aurela Nikaj, and Mr. Bruno Okoro received 1st place in the student division. These experiences and opportunities for publication are enhancing epidemiology students' preparedness to serve as leaders in public health and providing a strong foundation for their future academic and career endeavors, while advancing the mission of JPHCOPH.

Georgia Southern Examines Immunomodulating Effects of Bacterial Endotoxin

April 7, 2017



How very high exposure levels to bacterial endotoxin in a farming environment provide protection against respiratory allergic symptoms and low-to-moderate levels of endotoxin in urban homes promote allergic response is unclear. Dose-specific bacterial endotoxin or LPS-induced tolerance mechanisms can affect lung inflammations, coupled with the Th2 immune responses. In this research study, the authors explored the effects of intranasal exposure of endotoxin at two different doses (based on occupational exposure levels during handling of agricultural wastes) in OVA-sensitized allergic wild type (WT) and TLR4-KO mice, particularly, with respect to Th2 cytokines and Tregs level. Low-dose endotoxin (100 ng) exposure prohibited airway tolerance and failed to generate T-cell-dependent protection against lung inflammations in allergic mice. Furthermore, low Tregs at the inflammatory site and induced Th2 cytokines, as well as IL-6 and IL-25, suggested that low-dose might be associated with the suppression of tolerance mechanisms. In contrast, high-dose endotoxin (20 μ g) favored the suppression of Th2 cytokines, IL-6 and IL-25, but failed to induce Th1 cytokines (e.g. IFN- γ). The results suggest that low-dose LPS can enhance airway allergic inflammation through failing of antigen-dependent immune regulatory homeostasis. The study concludes that exposure levels of endotoxin can determine the generation of inflammatory responses in respiratory allergy.

“[Dose-dependent immunomodulating effects of endotoxin in allergic airway inflammation](#),” was recently published in *Innate Immunity*.

Dr. Sudhir Kumar, Department of Pediatrics at the Cincinnati Children’s Hospital Medical Center was the lead author and Dr. Atin Adhikari, assistant professor of environmental health sciences at the Jiann-Ping Hsu College of Public Health was the co-author.