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Key Determinants of the Fungal and Bacterial Microbiomes in Homes

April 3, 2015



A collaborative study including Dr. Atin Adhikari, assistant professor of environmental health sciences at the Jiann-Ping Hsu College of Public Health Georgia Southern University, examines the [key determinants of the fungal and bacterial microbiomes in homes](#). The microbiome of the home is of great interest because of its possible impact on health, such as respiratory allergies, asthma, and disorders in immune system. The goal of this study was to identify some of the factors that determine the richness, evenness and diversity of the home's fungal and bacterial microbiomes. Vacuumed settled dust from homes (n=35) were analyzed by pyrosequencing to determine the fungal and bacterial relative sequence occurrence. The correlation coefficients between home environmental characteristics, including age of home, Environmental Relative Moldiness Index (ERMI) values, occupant number, relative humidity and temperature, as well as pets (dog and cat) were evaluated for their influence on fungal and bacterial communities. In addition, linear

discriminant analysis (LDA) was used for identifying fungal and bacterial genera and species associated with those housing determinants found to be significant. Some key determinants of the fungal and bacterial microbiome appear to be excess moisture, age of the home and dog ownership. The study also indicated that bacterial and fungal richness, evenness, or diversity in house dust did not correlate.