

SEMINAR

Air pollutants change the chemical composition of scents produced by flowers to attract insect pollinators

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Flowers produce and emit scents to attract insect pollinators. Due to their molecular structure, floral scents can readily react with ozone, hydroxyl radicals, and nitrate radicals. In polluted air masses, chemical reactions reduce the distance that scents travel from their sources and modify the composition of floral odor plumes. During the seminar, experimental and theoretical results will be presented to evaluate the general hypothesis that elevated air pollutant concentrations deleteriously impact pollinators and plant communities due to reduced quality and quantity of floral odor mixtures. In one study, insects failed to detect their host

mixing ratio exceeded 80 parts per billion (ppbv), because chemical reactions altered the quality and the quantity of scents. Results from a three-dimensional numerical model indicate that insect foraging times significantly increase in polluted conditions due to considerable scent plume degradation of the floral scents. Results also indicate that increased levels of air pollutants could perniciously contribute to the observed declines in insect pollinators and reduced pollination.



Date: Thursday, December 1

Time: 3:15 refreshments, 3:30 seminar

FL2-1022, Large Auditorium

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