

BayCEER Kolloquium

Lectures in Ecology and
Environmental Research

Summer 2023



UNIVERSITÄT
BAYREUTH

Donnerstag/Thursday

06.07.2023

12:15 in H6, GEO



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Chair of Crop Plant Genetics, University of Bayreuth

Plant-to-plant signalling via volatiles regulates interactions between plants and microbes

Plant-microbe interactions are governed by a complex network of plant immune responses. Often such responses are propagated by long-distance signals which prime or induce immunity in systemic tissues. By identifying the signalling intermediates involved, our research aims to contribute to more sustainable plant protection methods by exploiting plant's own immune mechanisms. A subset of systemic immune signals includes volatile organic compounds, for example those belonging to the group of monoterpenes or the C9-aldehyde nonanal. Emissions of these volatiles are induced upon pathogen infection of the model plant *Arabidopsis thaliana* and the cereal crop barley (*Hordeum vulgare*), respectively. Reverse genetics approaches allowed the characterization of intra- and interspecific recognition of these volatiles as plant-to-plant defense cues, priming immunity in neighbouring plants.

Further data will be discussed, which suggest that receiver plants propagate volatile plant-to-plant defense cues, reaching farther-away neighbours and potentially culminating in waves of immune signals in (agricultural) plant populations.

Bayreuth Center of Ecology
and Environmental Research

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