insects

IMPACT FACTOR 2.7

Indexed in: PubMed

CITESCORE 5.1

an Open Access Journal by MDPI

From Insect Pheromones to Mating Disruption: Theory and Practice

Guest Editors:

Prof. Dr. Andrea Lucchi
Department Agriculture, Food and Environment, University of Pisa, Via del Borghetto 80, 56124 Pisa, Italy

Dr. Giovanni Benelli
Department of Agriculture, Food and Environment, University of Pisa, Via del Borghetto 80, 56124 Pisa, Italy

Deadline for manuscript submissions:
closed (31 March 2021)

Message from the Guest Editors

Dear Colleagues,

The study of insect chemical ecology with special reference to their pheromones is a fascinating field of research. Pheromone-mediated mating disruption (MD) represents an effective and eco-friendly biocontrol technique to manage insect pests of agricultural importance. Worldwide, agricultural pests on more than 800,000 hectares are estimated to be managed with MD. This technique relies on the release of synthetic sex pheromones from dispensers in crops, interfering with mate finding and reproduction of the pest through both competitive and non-competitive mechanisms. Unfortunately, the use of MD is still restricted to a rather limited number of crop pests, with special efforts being directed toward moths. However, the MD potential is huge and urgently needs to be explored further.

The present Special Issue welcomes theoretical, laboratory, and field studies on insect pheromones, as well as on MD efficacy against insect species of economic importance, with special reference to the development of novel MD tools and approaches, their mechanisms of action, optimization of release geometries, cost-effectiveness, and possible non-target effects.