Models supporting the management of insect pests and invasive species

The Agrofood Lab of the University of Brescia is looking for highly motivated and enthusiastic MSc to be involved in the development of **quantitative approaches and models supporting the management of plant pests** (mainly arthropods). The candidate will deal with i) the extraction, analysis and synthesis of biological and environmental data, ii) the quantitative evaluation of the risk of introduction, establishment and spread of pests, and iii) the analysis and predictions of the impacts linked to pests.

The candidate will be involved in the following tasks:

- Review of the literature, extraction, analysis and management of data concerning i) the biology, the life-history, the distribution, the population dynamics and the impacts of plant pests, ii) the environmental variables influencing plant pests, and iii) the efficacy of risk management options
- Design and implement procedures for model parameterisation and validation
- Support the development and the application of models applied to plant pests for evaluating and predicting:
    - The risk of entry, establishment and spread
    - The suitability of the habitat
    - The impacts on cultivated plants
    - The outcome of pest management strategies

Education
MSc Degree in Biology, Environmental Sciences, Agronomy or related subjects.

Previous theoretical or practical experience on modelling insects' physiology, population dynamics, distribution and spread is an asset.

Contract
A public call for a PhD position will be launched in July/August 2022. The possibility to activate a research scholarship before the beginning of the PhD can be evaluated.

Workplace
University of Brescia, Italy.

Specific skills

- Capacity to perform and manage the process of literature review (development of search strings, extraction and classification of relevant literature, etc.)
- Skills in the management of large datasets and capacity of making synthesis of relevant data and information
- Capacity to conceptualise the biological system under investigation
- Strong organizational skills, ability to plan activities and capacity to meet deadlines
- Knowledge on programming languages (Python, C++, etc.) and programming platforms (Matlab, R, etc.) is an asset

Contacts

For those interested in the collaboration, please send your CV to the attention of Prof. Gianni Gilioli (e-mail: agrofood@unibs.it).