Satellite event:
How to combine remote sensing with epidemiological modelling to improve plant disease management?

19 August 11am - 20 August 5pm

ICPP 2023 LYON
ONE HEALTH for all plants, crops and trees
20-25 August, France

Scope and aims

A number of studies have now shown how plant diseases can be detected early – at various spatial scales – via remote sensing. This offers the possibility of revolutionising our understanding of plant pathogen interactions. The promise of remote sensing has attracted many researchers, and it is a rapidly growing research field. However, although there is also a large research community focusing on plant disease modelling, relatively few researchers concentrate on how remote sensing can be used for plant diseases.

This satellite meeting is intended to link the two – currently largely disjoint – communities of researchers modelling plant disease and those interested in remote sensing. We intend to do this by bringing together members of both research communities, and exploring - via an exciting combination of didactic talks, keynote presentations, and contributed posters and research talks - how remote sensing can inform plant disease modelling (and vice versa).

As well as bringing together these communities, an explicit goal of the meeting will be to write a "Challenges in …" review article, highlighting what progress has been made, and what remains to be done. Time in the meeting will be dedicated to discussions to allow us to begin to assign tasks for such a paper.

Keynote speakers

Pablo Zarco-Tejada, Univ. of Melbourne, Australia
"High-resolution hyperspectral and thermal imaging for the early detection of plant diseases. Prospects and limitations"

Katie Gold, Cornell University, USA
"Plant disease sensing: studying plant-pathogen dynamics at scale"

Samuel Soubeyrand, INRAE, Avignon, France
"Estimating beet yellows severity at plot resolution with satellite observations"

Didactic talks

Uwe Rascher (Forschungszentrum Jülich, Germany)
on remote sensing

Alexey Mikaberidze and **Nik Cunniffe**
on plant disease epidemiology and modelling

Organising committee

Alexey Mikaberidze (University of Reading, UK),
Carlos Camino (EC JRC, Italy),
Frédéric Fabre (INRAE, France),
Frédéric Hamelin (Institut Agro, France),
Nik Cunniffe (University of Cambridge, UK),
Pieter Beck (EC JRC, Italy),
Stephen Parnell (University of Warwick, UK),
Suzanne Touzeau (INRAE, France)

Abstract submission deadline: 15 February 2023
(follows the deadline of the main ICPP conference, likely to be extended by 15 days)
Attendees are encouraged to submit an abstract for an oral presentation or a poster

Funders, organising networks
The event is sponsored by the British Society for Plant Pathology, INRAE - ModStatSAP network and the International Society for Plant Pathology - Epidemiology Committee

British Society for Plant Pathology BSPP

INRAE

ISPP INTERNATIONAL SOCIETY FOR PLANT PATHOLOGY

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Practical information

Abstract submission

Attendees are encouraged to propose an abstract for an oral presentation or a poster via the ICCP website: https://www.icpp2023.org/call-abstracts

Select topic 28 "Satellite events" and subtopic "28.08 How to combine remote sensing with epidemiological modelling to improve plant disease management?"

The length of the presentations (ca. 20 minutes) will be adjusted according to the number of proposals received.

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Registration

Attendees must register on the conference website: https://www.icpp2023.org/registration

For non-ICPP2023 congress attendees, check "Satellite events only - 2 days" and select this satellite

Registration fees

• For ICPP2023 congress attendees: 150 euros
• For non-ICPP2023 congress attendees (satellite event only): 300 euros

They include the Saturday and Sunday lunches, as well as the Sunday reception.

Tentative schedule

Saturday, 19 August

11am-1pm - didactic talks, keynote talks
1-2pm - lunch
2-5pm - keynote talks, introduce challenges paper
5.30-7pm - posters

Sunday, 20 August

9.30am-1pm - contributed talks / discussions
1-2pm - lunch
2-5pm - contributed talks / discussions / conclusions
6-7.30pm - ICPP2023 welcome reception

Keywords

epidemiology, mathematical modelling, phytopathology, remote sensing, basic reproduction number, emerging disease, parameter estimation, inverse problem, model inference, disease control, satellite, sensor technology, RADAR, LiDAR, hyperspectral imaging, thermal infrared imaging, spatial epidemiology, sensor networks, smart farming, precision agriculture