

QUANTIFYING OF BIOTIC STRESSORS IN PLANTS AND EVALUATING ABIOTIC STRESS EFFECTS THROUGH HIGH-THROUGHPUT TOOLS

Sala Congressi CNR Portici, May 18-22, 2026

SW Session: Quantifying of biotic stressors in plants

18-20 May 2026

May 18, 2026

14:00- 14:30 Registration

Opening remarks and welcome by the Director of the Institute. **Dott. ssa Michelina Ruocco**

- 14:30-15:15: “Biotic Stress in Plants: Introduction to Plant Pathology and Biological Control”. **Dott. I. Baccelli**
- 15:15- 16:00: “Insect Pests and Biocontrol: Strategies for Sustainable Plant Protection” . **Dott. D. G. Crispo**
- 16:00-16:30 Coffe break
- 16:30-17:30: “From Stress to Traits: Plant Phenotyping Under Biotic Pressure” **Prof. F. Loreto**

May 19, 2026

Start 9:30

- 9:30-10:30: “Introduction and tools for early detection”. **Dott. A. Bottino**
- 10:30-11:00 Coffe break
- 11:00-11:30: “The Role of Volatile Organic Compounds (VOCs) in Plant–Pathogen Interactions”. **Dott.ssa M. Ruocco**
- 11:30-12:00: “Priming: plant-plant communication”. **Dott.ssa Simona Gargiulo**
- 12:00-12:30: “From Signal to Response: Insect Pheromones as Triggers of Plant Priming”. **Dott. F. Sorrentino**

13:00 -14:30 Lunch

- 14:30- 15:00 Case study: “In vivo whole-plant Ca²⁺ imaging (Arabidopsis thaliana) in response to VOC exposure”. **Dott.ssa G. Fiorino**
- 15:00-15:30 Case study: “Brassica rapa: effects on plant-plant communication and defence against Athalia rosae”. **Dott.ssa M.Cangemi**
- Visit to Ercolano ruins

TS Session: Evaluating abiotic stress effects through high-throughput tools

20-22 of May 2026

May 20, 2026

09:00- 10:0 Registration

Opening remarks and welcome by the Director of the Institute. Dott. ssa Michalina Ruocco

- 10:00-11:00: “Advances in Plant Phenotyping Through Artificial Intelligence”. **Prof. S. Cuomo**
- 11:00-11:30 Coffe break
- 11:30- 12:00: “Analytical Approaches for VOC Detection: Introduction to PTR-TOF-MS and Gas Chromatography”. **Dott.ssa D. D’Esposito**
- 12:00-12:30: “Monitoring Photosynthesis and Plant Stress Using Li-Cor, Walz, and PAM Systems”. **Dott.ssa G. Fiorino and M. Cangemi**
- 12:30-13:00 : Advanced Satellite Image Analysis: Methods and Applications”. **Dott. A.Marino**

13:00 -14:30 Lunch

- 14:30-16:30: “Collecting and Analyzing Data: A Practical Guide”

Social Dinner

May 21, 2026

- Full Day: Visit to Alsia Metaponto (Phenotyping Platform)

May 22, 2026

- 9:30-10:30: “Seed morphological phenotyping by X-ray micro-CT: application to stress effects evaluation and relation to functional properties”. **Dott. G. Mele and Dott.ssa L. Gargiulo**
- 10:30-11:00 Coffe break
- 11:00-12:00: “X-ray Micro-CT Analysis: Applications for Evaluating Stress Effects and Functional Properties” Visit to the lab. **Dott. G. Mele and Dott.ssa L. Gargiulo**
- 12:00-13:00: Pheno-Bee Dott.Di Prisco, **Dott.ssa Valenzano, Dott.ssa Chianese, Dott.ssa Santopietro.**

13:00 -14:30 Lunch

- 14:30- 16:30: Visit to Facilities INFRA-VOL (Hands on)