

4th TRAINING SCHOOL – COST IPLANTA
CA15223

Application of RNA molecules by high pressure spraying

RLP AgroScience, AIPlanta - Institute for Plant Research
Neustadt a.d. Weinstr., Germany

16th - 17th Oct 2019

A main goal of the Action is to overcome technical challenges of developing plant RNAi technologies. External application of RNA molecules is one of these technologies which holds good prospects mainly for fighting insect and fungal pests. AIPlanta developed methods to introduce RNA molecules to plants (topically and application to vascular system) which will be demonstrated during the workshop. These methods include high pressure spraying techniques to achieve intracellular up-take of RNA molecules. In addition, to combat pathogens colonising the xylem, the delivery of RNA by a drilling and a petiole absorption method will be introduced. The participants will be trained to apply these methods. This will contribute to the exploitation of this technology and identifying information gaps and research needs which is within the frame of the action.

All scientists/researchers/experts of the biotechnology area are eligible to submit application for the iPLANTA grants, in the selection a priority will be given to Early Career Investigators (ECIs) and to the qualification of the curriculum. Grant applications should be made using the appropriate application forms in the Training School area (at: <http://iplanta.univpm.it/node/6>) before 31 August 2019. Unselected trainees can attend the school at their own expense.

Tuesday 15th Oct

Optional participation in iPlanta WG2 meeting all day. However, you must still register to attend the WG2 meeting.

Wednesday 16th Oct

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| 09.00 – 09.15 | Welcome and introductions, Gabi Krczal (RLP AgroScience, Germany) |
| 09.15 – 10.15 | Exogenous application of RNA molecules in plants, Athanasios Dalakouras (University of Thessaly, Greece) |
| 10.15 – 11.00 | Exogenous RNA applications, chances and limitations, Michael Wassenegger (RLP AgroScience, Germany) |
| 11.00 – 11.30 | Coffee |
| 11.30 – 12.15 | High pressure spraying and genome editing, Veli Vural Uslu (RLP AgroScience, Germany) |

12.15 – 13.00 RNAi for insect control (title to be confirmed), Karl-Heinz Kogel (Giessen University, Germany)

13.00 – 14.00 Lunch

Demonstrations and Practical Part I

14.00 – 16.00 High pressure spraying of small interfering RNAs (siRNAs) to induce silencing in *Nicotiana benthamiana* plants, Veli Vural Uslu (RLP AgroScience, Germany)

16.00 – 17.00 Technical details and Discussion

Thursday 17th Oct 09.00 - 17.30

Demonstrations and Practical Part II

09.00 – 11.00 Drilling and a petiole absorption method, Athanasios Dalakouras (University of Thessaly, Greece)

11.00 – 12.00 Technical details and Discussion

12.00 – 12.45 Approval of RNA-based plant protection products, Achim Gathmann (Federal Office of Consumer Protection and Food Safety (BVL), Germany)

12.45 - 13.00 Final Remarks and Closing, Gabi Krczal (RLP AgroScience, Germany)

Trainers' Abstracts