



Conference

# Current Findings in Plant Pathology

June 4-5, 2014

Fraunhofer Institute for Molecular Biology  
and Applied Ecology IME, Aachen

 **Fraunhofer**  
IME

**DAAD**

Deutscher Akademischer Austausch Dienst  
German Academic Exchange Service



Federal Ministry  
of Education  
and Research

# Welcome

## **Dear colleagues and friends,**

Plants are confronted with a vast number of fungi, bacteria, viruses and parasites each day. Every plant has evolved mechanisms of resistance towards the majority of potentially pathogenic microbes. This so called nonhost resistance is the most common form of disease resistance exhibited by plants. Such resistance contrasts with host resistance, which is expressed by specific plant genotypes within a susceptible host species. Biotechnological approaches can be used to improve host resistance and are in some plant-microbe interactions the only way to gain resistance to a specific pathogen.

During the conference "Current findings in Plant Pathology" at the Fraunhofer IME in Aachen renowned phytopathologists and plant biotechnologists will present their recent findings on plant disease resistance and susceptibility. The conference is co-sponsored by the DAAD program "Modern Applications of Biotechnology".

We would like to invite students and young researchers to participate in the conference and interact with the leading experts and peers to broaden their understanding about the current state of research in plant pathology by presenting their work in the poster sessions during the conference.

We are looking forward to inspiring presentations and fruitful discussions.

See you at the Fraunhofer IME in Aachen in June 2014!



**Greta Nölke**

Head of Pathogen Resistance  
Fraunhofer IME

## Programme: June 4, 2014

- 10.00 - 10.30 Registration / Welcome coffee
- 10.30 - 10.40 **Welcome**  
Rainer Fischer, Fraunhofer IME
- 10.40 - 11.15 **Opening lecture: Phytopathology – Current findings and challenges**  
Dierk Scheel, Leibniz Institute of Plant Biochemistry, Halle (Saale)

### Session: Mechanisms of innate immunity

Chair: Holger Schultheiss

- 11.15 - 11.40 **Patterns and receptors in plant immunity to microbial infection**  
Thorsten Nürnberger, University of Tübingen
- 11.40 - 12.05 **Live and let die – Arabidopsis immunity to powdery mildew fungi**  
Volker Lipka, University of Göttingen
- 12.05 - 12.30 **Nonhost resistance of Arabidopsis to *Phakopsora pachyrhizi***  
Katharina Göllner, RWTH Aachen University
- 12.30 - 12.40 **Pitches by poster presenters**
- 12.30 - 13.30 **Lunch / Poster session**

### Session: Mechanisms of host susceptibility and resistance

Chair: Karl-Heinz Kogel

- 13.30 - 13.55 **Plant-virus interaction and its manipulation by abiotic stress**  
Uwe Sonnewald, University of Erlangen-Nürnberg
- 13.55 - 14.20 **Downy mildew infection of Arabidopsis: a story of triggers and suppressors**  
Guido van den Ackerveken, University of Utrecht, NL
- 14.20 - 14.45 **Plant defense priming**  
Uwe Conrath, RWTH Aachen University
- 14.45 - 15.10 **Plant MLO proteins: conserved “disease susceptibility factors” for powdery mildew fungi**  
Ralph Panstruga, RWTH Aachen University
- 15.10 - 15.20 **Pitches by poster presenters**
- 15.20 - 15.45 **Coffee break / Poster session**

### Session: Detection of phytopathogens

Chair: Ralph Panstruga

- 15.45 - 16.10 **Argus-Monitoring – an innovative service for farmers**  
Marcel Thieron, Argus Monitoring GmbH

- 16.10 - 16.35 **Detection and identification of viruses in plants: new possibilities and their limits**  
Thierry Wetzel, RLP AgroScience GmbH
- 16.35 - 17.00 **Rapid on-site plant pathogen detection using a novel magnetic immunoassay**  
Florian Schröper, Fraunhofer IME
- 17.00 - 17.30 **Keynote: Global challenge in securing food supply**  
Rainer Fischer, Fraunhofer IME
- 17.30 - 19.00 **Get together / Dinner**

## Programme: June 5, 2014

### Session: Plant pathogen resistance – Biotechnological approaches I

Chair: Stefan Schillberg

- 9.00 - 9.25 **RNAi-mediated protection of crops against pest insects**  
Eileen Knorr, University of Gießen
- 9.25 - 9.50 **Antibody fusion-based resistance to *Aspergillus* in maize**  
Greta Nölke, Fraunhofer IME
- 9.50 - 10.15 **TAL effectors: from fundamental biology to applied biotech**  
Thomas Lahaye, University of Tübingen
- 10.15 - 10.40 **Resistance inversion in wheat seedling and spike in response to *Fusarium graminearum***  
Yu-Cai Liao, Huazhong Agricultural University, CN
- 10.40 - 11.15 **Coffee break / Poster session**

### Session: Plant pathogen resistance – Biotechnological approaches II

Chair: Stefan Schillberg

- 11.15 - 11.40 **Plant protection by host-induced gene silencing: a case study with *Fusarium graminearum***  
Karl-Heinz Kogel, University of Gießen
- 11.40 - 12.05 **Disease resistance projects at BASF Plant Science**  
Holger Schultheiss, BASF Plant Science Company GmbH
- 12.05 - 12.30 **Epigenetics as a tool for breeding**  
Gabriele Krczal-Gehring, RLP AgroScience GmbH
- 12.30 - 12.45 **Poster award / Closing remarks**
- 12.45 - 14.00 **Lunch / Poster session**
- 14.00 **Departure**

## Registration

The participation in the conference is free of charge, but the number of participants is limited to 60. The places will be allocated on a „first come first serve“ basis. Registration is possible exclusively via the online registration form on [www.life-tec.org](http://www.life-tec.org).

**Registration deadline: May 28, 2014**

### For further information:

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## Call for posters

Presenting a poster is a great opportunity to obtain interesting and valuable feedback on ongoing research from a knowledgeable audience at the conference. Students will have the opportunity for presenting late breaking results, ongoing research projects, and speculative or innovative work in progress in the poster sessions.

All poster presenters are invited to give a pitch (one slide, 1 min.) on their poster during the conference. A jury will select the winner of the Best Poster Award. The prize will be awarded at the end of the conference on June 5, 2014.

Submit your poster during the registration process on [www.life-tec.org](http://www.life-tec.org)



Host



Organizer

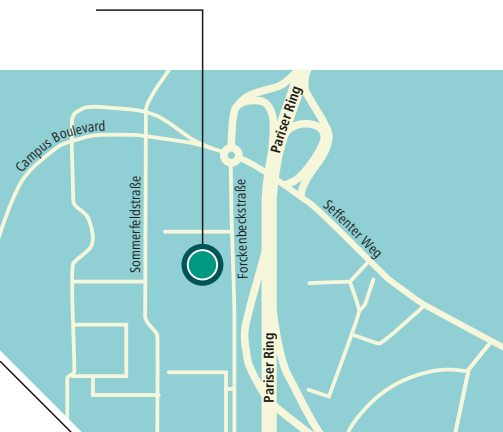


# Conference Venue

## Fraunhofer Institute for Molecular Biology and Applied Ecology IME

Forckenbeckstraße 6

D-52074 Aachen



The Fraunhofer IME conducts research in the field of applied life sciences from a molecular level to entire ecosystems. One focus of the research activities of the division Molecular Biology in Aachen is the biotechnological modification of plants to improve their agronomic properties, e. g. increased pathogen and stress resistance.

[www.ime.fraunhofer.de](http://www.ime.fraunhofer.de)



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