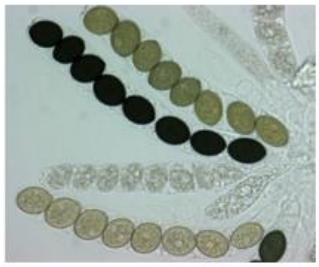

Kaiserslautern,
7-9 September 2022

TECHNISCHE UNIVERSITÄT KAISERSLAUTERN

Symposium Molecular Biology of Fungi 2022

7th - 9th September, TU Kaiserslautern

14th Symposium of the VAAM Special Group ‚Biology and Biotechnology of Fungi'

2nd joint meeting with the GeneAG ‚Fungal Genetics' of the German Society of Genetics

Program and Abstracts

Wednesday, Sept. 7th 2022

14:00 Registration

16:00 Welcome address

16:10 - 18:10 Session 1: Plant Pathology

16:10 - 16:50 Keynote lecture: **Sylvain Raffaele**, Toulouse, FR: Evolutionary genomics of generalist parasitism in Ascomycetes

16:50 - 18:30 (15 min talks)

Arne Weiberg (LMU München): Small RNA communication in fungal-plant interaction

Weiliang Zuo (Univ. Köln): Sts2, a transcriptional activator-like effector secreted from *Ustilago maydis* regulates tumor formation on maize leaves

David Scheuring (TU Kaiserslautern): The *Botrytis* hypersensitive response inducing protein 1 triggers non-canonical PTI to induce plant cell death

Slavica Janevska (Univ. Amsterdam): The influence of epigenetic modifications on pathogenicity and chromosome transfer in tomato-infecting *Fusarium oxysporum*

Vera Göhre (Univ. Düsseldorf): Nuclear-localized effectors of the Brassicaceae smut fungus *Thecaphora thlaspeos*

Daniela Nordzieke (Univ. Göttingen): Spore types-specific infection of different maize tissues by *Colletotrichum graminicola*

Lukas Dorian Dittiger (Univ. Jena): Characterizing effector proteins of *S. reilianum* specifically targeting the phytoalexin response of *Sorghum bicolor*

18:30 - Get together with finger foods and drinks

Poster Session 1

The potential of the emerging RNAi strategy, called SIGS, in the control of *Botrytis cinerea* in horticultural crops (Poster BIOTECH)

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Botrytis cinerea, the causal agent of the gray mold disease, is one of the main limiting factors of horticultural crops production worldwide, consuming up to 40% of fungicides in its control. However, this fungus has been categorized by FRAC (*Fungicide Resistance Action Committee*) as a phytopathogen with a high risk for fungicide resistance development, a fact that has been demonstrated in our country. In addition, and according to the "farm to fork" strategy of the recent European Green Deal, the diversity of fungicides available to growers will be reduced by 50% in 2030. For this reason, alternative control tools and molecules with fungicide activity are, more than ever, needed to control this important disease. In this study, we intend to check if the efficacy of the emerging RNA interference (RNAi) strategy, called "spray-induced gene silencing" (SIGS), could be a valid sustainable solution and an alternative to the use of conventional fungicides for the control of *B. cinerea*. For this purpose, several double-stranded RNA (dsRNA) has been designed against targets genes involved in the virulence/pathogenicity of the fungus. Preliminary results, obtained in *in vivo* assays, indicated that the application of dsRNAs significantly reduces the development of the fungus, demonstrating the potential of the SIGS technique for the control of *B. cinerea*. On the other hand, and to improve the application of these oligonucleotides in the field, their encapsulation to create nanoparticles will be carried out. If we succeed, new molecules with fungicidal action, could be included into the several strategies carried out to obtain a sustainable plant protection control programs in the field.

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