12th Symposium of the VAAM special group Molecular Biology of Fungi

Natural Products and Fungal Factories - Genes and Chromosomes - Sensing the Environment - Pathogenic Interactions - Symbiosis

28th-30th of September 2017

Leibniz Institute for Natural Product Research and Infection Biology
-Hans Knöll Institute -
Beutenbergstraße 11a
07745 Jena

PROGRAMME

September 28, 2017

15:00	Registration
17:30	Welcome address Axel Brakhage
17:40	**Plenary lecture I** **Hailing Jin, *University of California*** **Bidirectional cross-Kingdom RNAi and exosome-mediated small RNA trafficking between Arabidopsis and the fungal pathogen *Botrytis cinerea***
	Session I – Pathogenic Interactions Chair: Axel Brakhage
18:20	Regine Kahmann, *Max Planck Insitute for Terrestrial Microbiology, Marburg* Core effectors in smut fungi: an amazing treasure box
18:40	Jörg Bormann, *University of Hamburg* Taming a virus: a novel defence gene controls virus spread
18:55	Anja Raschke, *University of Halle-Wittenberg* From biotrophy to necrotrophy –iron dependant lifestyle transition in *Colletotrichum graminicola*
19:10	Selene Mogavero, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* *Candida albicans'* road to pathogenicity: from attachment to Candidalysin-induced damage
19:25	Get together at the posters, finger food, and drinks **Poster Session I (No. 1 - 45)** Pathogenic Interactions, Sensing the Environment, Symbiosis

September 29, 2017

	Session II – Natural Products and Fungal Factories	Chair: Michael Feldrügge
08:30	Vera Meyer, *Technische Universität Berlin* The path to success in cell factory engineering: *Aspergillus niger* as an exemplary example	
08:50	Hamed Hosseinpour Tehrani, *RWTH Aachen* Comparative analysis of transporters from *Aspergillus terreus* and *Ustilago maydis* involved in itaconic acid production	
09:05	Erika Kothe, *Friedrich Schiller UniversityJena* *Tricholoma vaccinum*: volatilome and putative functions	
09:20	Maximilian Wenderoth, *Karlsruhe Institute of Technology* Analysis of polyketide synthase containing secondary metabolite gene clusters in *Alternaria alternata*	
09:35	Huijuan Guo, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Chemical analysis of *Pseudoxylaria* sp. X802, a fungal antagonist of fungus-growing termites	
09:50	Clara Chepkirui, *Helmholtz Centre for Infection Research, Braunschweig* Novel bioactive secondary metabolites from tropical Basidiomycota	
10:10	Coffee break (Poster exchange)	
	Session III – Growth and Development	Chair: Jan Schirawski
10:45	Stefanie Pöggeler, *University of Göttingen* Signaling and nutrient recycling during fruiting-body formation in *Sordaria macrospora*	
11:05	Ursula Kües, *University of Göttingen* Fruiting body development in the basidiomycete *Coprinopsis cinerea*	
11:25	Florian Hennicke, *Senckenberg Frankfurt* A conservation of fruiting-related genes and a versatile CAZyme arsenal in the genome of the commercially grown mushroom *Agrocybe aegerita*	
11:40	Kai Heimel, *University of Göttingen* Systematic analysis of UPR crosstalk reveals novel connections to old friends	
11:55	Hamzeh Haj Hammadeh, *TU Braunschweig* BRO-1 interacts with the SO protein and is essential for germling communication and fusion in *Neurospora crassa*	
12:10	Gerhard Braus, *University of Göttingen* Fungal development and virulence and the control of protein turnover	
12:30	Lunch | **Poster session II (No. 45 - 90)** Growth and Development, Natural Products and Fungal Factories, Genes and Chromosomes	
	Session IV – Sensing the Environment	Chair: Gerhard Braus
14:00	Natalia Requena, *Karlsruhe Institute of Technology* Arbuscular mycorrhizal fungi employ effector proteins to rewire the phosphate starvation response of plants	
14:20	Stephan Wawra, *University of Cologne* Effector-mediated suppression of extracellular ATP-triggered immunity by the root endophyte *Serendipita indica*	
14:40	Zhenzhong Yu, *Karlsruhe Institute of Technology* Evidence for conformational changes of phytochrome and phosphotransfer from the Hog pathway to phytochrome during light signaling in *Aspergillus nidulans*	

14:55	Julia Schumacher, *University of Münster* Role of the stress-activated MAP kinase module in regulation of photomorphogenesis in *Botrytis cinerea*	
15:10	Reinhard Fischer, *Karlsruhe Institute of Technology* Cell-cell and interspecies signaling in nematode-trapping fungi	
15:30	Election, internal meeting of the VAAM special group	
15:45	Coffee break	
	Session V – Pathogenic Interactions	Chair: Vito Valiante
16:15	Michael Bölker, *University of Marburg* tba	
16:35	Jörg Kämper, *Karlsruhe Institute of Technology* Stage-specific hierarchical transcriptional control in *Ustilago maydis*	
16:55	Nisha Agrawal, *RWTH Aachen* The *Sporisorium reilianum* effector Sad1 targets the maize RGLG2-like protein to suppress apical dominance in maize ears	
17:10	Iris Gase, *University of Halle-Wittenberg* Class I histone deacetylases of the maize anthracnose fungus *Colletotrichum graminicola* are coordinators of virulence	
17:25	Franziska Schmidt, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Pathogenic fungus targets flotillin-dependent lipid rafts of phagolysosome membrane	
17:40	Sven Krappmann, *University Erlangen-Nuremberg* Protecting the Offspring - linking developmental pathways of *Aspergillus fumigatus* to toxic compounds	
18:00	Coffee, snacks, and refreshments	
18:30	**Plenary lecture II** **Michael Freitag, *Oregon State University*** **Facultative heterochromatin in *Fusarium*: Control of development, pathogenicity and expression of secondary metabolites**	
20:30	Conference dinner at the “ParadiesCafé”	

September 30, 2017

	Session VI – Genes and Chromosomes	Chair: Falk Hillmann
09:00	Antonio Serrano*, TU Braunschweig* Fungal dialogs: Intra- and interspecies communication in *Neurospora crassa*	
09:15	Thomas Pohlmann, *University of Düsseldorf* The endosomal protein Upa1 connects mRNA transport to membrane trafficking in *Ustilago maydis*	
09:30	Volker Schwartze, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Naturally occurring polyploidy in *Lichtheimia ramosa* gives new insights into mucoralean genome evolution	
09:45	Ines Teichert, *University of Bochum* A-to-I RNA editing during fungal sexual development	
10:00	Jonas Ulrich, *Karlsruhe Institute of Technology* Engineered DNA-binding molecule-mediated chromatin immunoprecipitation (enChIP) as a tool to analyze combinatorial transcriptional control during the dimorphic shift in *Ustilago maydis*	
10:15	Coffee break	
10:30	**Plenary lecture III** **Joseph Heitman, *Duke University*** **RNAi-dependent epimutations evoke transient antifungal drug resistance**	
11:10	Poster prizes and end of the event	
11:30	Small lunch	

POSTERS

Pathogenic Interactions

P1	Mohamed Abdelwahab Hassan, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Investigation the role of spore surface protein of *Lichtheimia corymbifera* in the interaction with alveolar macrophages
P2	Gunnar Baermann, *University of Hamburg* Ubiquitin-dependent protein degradation during infection structure development by the plant pathogenic fungus *Fusarium graminearum*
P3	Kristin Bösch, *Heinrich-Heine-University Düsseldorf* The smut fungus *T. thlaspeos* employs conserved and novel mechanisms to infect its Brassicacae hosts
P4	Jana Boysen, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* The peroxiredoxin Asp f3 protects *Aspergillus fumigatus* against external superoxide
P5	Osama Elshafee, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Investigating the fitness role of the *Candida albicans* protein Ece1 using novel *in vitro* and *ex vivo* competition models
P6	Julia Fortenbacher, *Karlsruhe Institute of Technology* The trimeric complex bE/bW, Rbf1 and Clp1 controls the pathogenic development in *Ustilago maydis*
P7	Rena Gratz, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Lactobacilli protect intestinal cells against *Candida albicans*-mediated cytotoxicity in an in vitro commensal model
P8	Lewin Günther, *University of Hamburg* Role of plant induced secreted ROS-related enzymes in the initial infection process of *Fusarium graminearum* on wheat
P9	Matthias Hahn, *University of Kaiserslautern* Analysis of VELVET mutants indicates important roles of host tissue acidification and protein secretion for pathogenesis of *Botrytis cinerea*
P10	Rebekka Harting, Annalena Höfer, *University of Göttingen* Ménage à Trois: Fluorescent rhizosphere pseudomonads pursue combined strategies to control polarity and growth of pathogenic Verticillium fungi and their plant hosts
P11	Falk Hillmann, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Defence strategies of human pathogenic fungi against killing by soil amoeba

P12	Thi Ngoc Mai Hoang, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Characterization of *Aspergillus fumigatus* mutants regarding their interactions with human leukocytes
P13	Sarah Irmscher, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* *C. albicans* stimulates Kallikrein, which represents also an independent complement activator
P14	Lia Ivanova, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* The impact of redox regulation on the stress response of Aspergillus fumigatus and its role in host-pathogen interaction
P15	Matteo Jurca, *Karlsruhe Institute of Technology* Hdp2 - relief of Rbf1 as regulator during early plant infection in *Ustilago maydis*
P16	Michael Mentges, *University of Hamburg* Transcriptomics and experimental proof that compound appressoria are arsenals of *Fusarium graminearum*
P17	Christian Müller, *RWTH Aachen University* Is epigenetic regulation through methylation of histones involved in determining host specificity of *S. reilianum*?
P18	Daniela Nordzieke, *University of Göttingen* Conidial anastomosis tubes are exclusively formed by oval conidia in the maize pathogen *Colletotrichum graminicola*
P19	Peter-Louis Plaumann, *Friedrich-Alexander University of Erlangen-Nürnberg* Identification of a dispensable chromosome required for virulence in *Colletotrichum higginsianum*.
P20	Mareike Scheven, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Iron sensing in the pathogenic fungus *Aspergillus fumigatus* involves HapX and GrxD interaction
P21	Karina Schneider, *Karlsruhe Institute of Technology* Function of CORVET complex in *Ustilago maydis*
P22	Marcel Sprenger, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Fungal biotin homeostasis is crucial for intracellular fitness within macrophage
P23	Felicia Stanford, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Iron - new insights into the acquisition, transport and utilization in *L. corymbifera*
P24	Arne Weiberg, *Ludwig-Maximilians-University Munich* Relevance and prevalence of cross-kingdom RNA interference in filamentous plant pathogens

Sensing the Environment

P25	Arin Ali, *Karlsruhe Institute of Technology* The structure of a fungal phytochrome from *A. nidulans* FphA
P26	Fruzsina Bakti, *University of Göttingen* Heavy metal induced expression of PcaA provides cadmium tolerance to *Aspergillus fumigatus* and supports its virulence
P27	J. Philipp Benz, *Technical University of Munich* Fungi can be confused - Understanding the cross-talk between cellulose and hemicellulose signaling in *Neurospora crassa*
P28	Razieh Karimi Aghcheh, *University of Göttingen* Proteomics studies of LaeA/1-Velvet interplay in Aspergillus and Trichoderma
P29	Christoph Pinecker, *Karlsruhe Institute of Technology* Analysis of the role of opsins in *Alternaria alternata*
P30	Karl G. Thieme, *University of Göttingen* The VosA velvet protein controlled zinc cluster transcription factor ZtfA coordinates *Aspergillus nidulans* asexual development and oxidative stress response to secondary metabolism
P31	Sabine Thieme, *University of Göttingen* The intrinsically disordered region of the VelB velvet domain is required for accurate light control of *Aspergillus nidulans* development
P32	Xi Yu, *Karlsruhe Institute of Technology* Analysis of the killing mechanisms of the nematode-trapping fungus *Duddingtonia flagrans*
P33	Ruben Betz, *Karlsruhe Institute of Technology, Karlsruhe* The Arbuscular Mycorrhiza conserved SP7-like effector family targets the plant mRNA processing machinery
P34	Olga Bogdanova, *Friedrich-Schiller University Jena* Microbial processes in soil development at a former uranium mining site
P35	Vincenzo De Rocchis, *Leibniz Institute of Vegetable and Ornamental Crops, Erfurt* Carbohydrate metabolism of Sebacinales
P36	Leonie Hacker, *Karlsruhe Institute of Technology* Analysis of the Arbuscular Mycorrhiza effector SP7 mediated phosphate starvation response
P37	Meike Hartmann, *Karlsruhe Institute of Technology* Mycorrhizal fungi employ effector proteins to modulate host phosphate starvation response
P38	Sven Heidt, *Karlsruhe Institute of Technology* Mycorrhizal effectors of the SP7-like protein family of *Rhizophagus irregularis* hijack the plant mRNA pathway
P39	Katrin Krause, *Friedrich Schiller University Jena* Mycorrhizosphere: communication in the *Tricholoma vaccinum*-spruce mycorrhizosphere

P40	Debika Sarkar, University of Cologne Characterization of a tripartite interaction in a split root system
P41	Christine Seemann, *Karlsruhe Institute of Technology* Molecular analysis of MIG (Mycorrhiza induced GRAS) transcription regulators in the root development in *Medicago truncatula*
P42	Shubhangi Sharma, *Leibniz Institute of Vegetable and Ornamental Crops, Erfurt* Decoding the interaction between root endophytic fungi and beneficial bacteria
P43	Stefanie Walter, *Karlsruhe Institute of Technology* Functional Ccharacterization of CRN-like Effector Proteins in the Arbuscular Mycorrhiza symbiosis
P44	Alan Wanke, *University of Cologne* Catch me βy glucan: β-glucan triggered immunity in planta
P45	Stephan Wawra, *University of Cologne* A comparative study of two β-glucan-interacting lectins from the root endophyte *Serendipita indica*
Genes and Chromosomes	
P46	Nicole Knabe, *Bundesanstalt für Materialforschung und -prüfung* Genetics for geomycology
P47	Jessica Müller, *Heinrich Heine University Düsseldorf* A phylogenetic analysis of key proteins of the endosome-coupled mRNA transport machinery
P48	Paul Schäpe, *Technische Universität Berlin* A gene co-expression network for *Aspergillus niger* as an in silico tool to predict protein functions and functional modules
P49	Marta Cortesao, *German Aerospace Center* Growth and biofilm formation of *Penicillium chrysogenum* in simulated microgravity
P50	Bastian Dörnte, *University of Göttingen* Regulation and modification of interrelated aromatic amino acid and vitamin biosyntheses in *Coprinopsis cinerea*
P51	Tamás Emri, University of Debrecen How does *Aspergillus fumigatus* cope with iron starvation under oxidative stress?
P52	Elke-Martina Jung, *Friedrich Schiller University Jena* Visualization of fungal growth and development in *Schizophyllum commun*e
P53	Cindy Meister, *University of Göttingen* Ubiquitin specific protease A regulates development and secondary metabolims in *Aspergillus nidulans*
P54	Reyna Murry, *Friedrich Schiller University Jena* Inositol signaling through inositol monophosphatase controls intracellular trafficking of *Schizophyllum commune*
P55	Niko Pinter, *University of Göttingen* Analysis of Clp1-dependent UPR-modulation in *U. maydis*
P56	István Pócsi, *University of Debrecen* AtfA – a key player in the oxidative stress defense system of *Aspergillus nidulans*

P57	Jessica Pötschner, *Friedrich Schiller University Jena* First insights in special membrane micro-domains of *Schizophyllum commune*
P58	Marcel René Schumann, *Technical University of Braunschweig* The penta-EF-hand Protein PEF-1 mediates resistance against cell fusion-induced lysis and membrane-destabilizing antifungals
P59	Antonio Serrano, *Technical University of Braunschweig* Novel functions of the cell wall integrity MAP kinase MAK-1 in cell polarity and cell fusion
P60	Antonia Werner, *University of Göttingen* The selective autophagy cargo receptor SmNBR1 in the ascomycete *Sordaria macrospora*
P61	Sophia Wirth, *Friedrich Schiller University Jena* Sexual development affects volatile production of *Schizophyllum commune*
P62	Amjad Zia, *University of Göttingen* Development of the early sapwood degraders *Trametes versicolor* and *Shizophyllum commune* in dual culture
Natural Products and Fungal Factories	
P63	Johanna Becker, *RWTH Aachen University* Generation of an *U. maydis* MB215 strain for enhanced itaconic acid production by metabolic engineering and adaptive laboratory evolution
P64	Simon Boecker, *Technische Universität Berlin* *Aspergillus niger* as expression platform for novel cyclodepsipeptide-based pharmaceutical drugs
P65	Sophie Charlotte Brandt, *University of Hamburg* New cell wall degrading enzymes for bioeconomy by screening of a strain collection
P66	Timothy Cairns, *Technische Universität Berlin* In silico prediction and characterization of secondary metabolite biosynthetic gene clusters in the wheat pathogen Zymoseptoria tritici
P67	Elena Geiser, *RWTH Aachen University* Insights into the itaconate pathway of Ustilaginaceae enable enhanced production
P68	Jennifer Gerke, *University of Göttingen* Engineered peroxisomes as a new platform for the production of monoterpenoids in yeast
P69	Magdalena A. Hackhofer, *Technical University of Munich* A taste for ‘sour’ sugars: Characterization of a highly efficient D-galacturonic acid metabolism in two basidiomycete yeasts
P70	Benjamin Hanf, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Adaptation of the filamentous fungus *Aspergillus nidulans* to low temperature stress
P71	Sandra K. Hartmann, *RWTH Aachen University* Online *in vivo* analysis of dynamic changes in the NAD+/NADH balance of *Ustilago maydis*

P72	Sandra Hoefgen, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Cell free production of polyketides
P73	Kai Philip Hussnaetter, *Heinrich Heine University Düsseldorf* Towards a competitive expression platform: Strategies to optimize protein export via unconventional secretion in *Ustilago maydis*
P74	Sascha Jung, *Technische Universität Berlin* Verification of an in-silico reconstructed gene co-expression network for *Aspergillus niger* by wet-lab experiments
P75	Kang Kang, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Exploring the genetic, metabolic and phenotypic diversity among industrial and natural strains of *Saccharomyces cerevisiae*
P76	Julia Kirtzel, *Friedrich Schiller University Jena* Heavy metal release by fungal induced black slate degradation
P77	Tutku Kurt, *Technische Universität Berlin* Low shear force cultivation of *Aspergillus niger* using the single-use rocking bioreactor Cell-tainer®
P78	Min Jin Kwon, *Technische Universität Berlin* Investigating gene expression patterns of Aspergillus niger to deduce global and pathway-specific regulation networks controlling natural product biosynthesis
P79	Jun Lin, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Biosynthesis of austinoid derivatives based on an improved expression platform
P80	Derek J. Mattern, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Characterization of the insecticidal austinoids in *Aspergillus calidoustus*, from complete biosynthetic elucidation to the discovery of unique enzymes
P81	Sebastian Obermaier, *University of Freiburg* Two convergent phenol coupling systems in fungi
P82	Theresa Radebner, *Austrian Centre of Industrial Biotechnology* Shedding light on the regulatory network of the fungus *Trichoderma reesei* operating under cellulose-degrading conditions
P83	Martin Rühl, *Justus Liebig University Giessen* Terpene synthases of the agaric mushroom *Agrocybe aegerita*
P84	Ivan Schlembach, *RWTH Aachen University* Screening and evaluation of celllulase producers for the consolidated bioprocessing of cellulose to itaconic acid.
P85	Wiebke Thiele, *University of Freiburg* Identification of biaryl-forming enzymes in fungi
P86	Nils Thieme, *Technical University Munich* Breaking the backbone – Characterization of PDR-1, a multi-functional regulator of pectin deconstruction in *Neurospora crassa*

P87	Benjamin Voß, *Karlsruhe Institute of Technology* Analyzing non-ribosomal peptide synthase gene clusters in *Alternaria alternata* using the CRISPR-Cas9 system
P88	Franziska Wanka, *Austrian Centre of Industrial Biotechnology* Fine-tuning gene expression: Pantothenic acid inducible promoters in Trichoderma reesei
P89	Jakob Weber, *Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute, Jena* Regulation of natural product gene cluster during fungal bacterial coculture
P90	Lex Winandy, *Karlsruhe Institute of Technology* Surface coating with hydrophobin fusion proteins for the conservation of deteriorated stones in monumental buildings