



Universität Hamburg
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Hybrids

Chances and Challenges of New Genomic
Combinations

Institute of Plant Science and Microbiology
University of Hamburg

12.-14.06.2019

Preliminary Programme

www.biologie.uni-hamburg.de/hybridSYMPOSIUM



The Hybrid-Symposium was funded by:



Landesforschungsförderung Hamburg

Landesforschungsförderung Hamburg
“Hybride – Chancen und Herausforderungen neuer genomischer Kombinationen”

ABOUT THE CONFERENCE

Hybrids, crosses between species, are much more common in nature than was assumed only some decades ago. Apparently, they play a decisive, yet so far, little investigated role in evolution. In addition, hybrids often are invasive species and pose challenges for many ecosystems. In times of global climate change and the resulting shift of habitats, we can expect an increase in hybridization events.

Recent studies show that hybridization is omnipresent in nature and that hybrids are often fertile. Thus, it seems that all forest ants that have emerged in the last two million years seem to be capable of fertile crosses. At present, it is assumed that more than 25 percent of all plant species and more than 10 percent of all animal species hybridize naturally.

Nevertheless, hybridization between individuals of different species is still considered a marginal phenomenon and is a little addressed topic in biology. This is partly due to the fact that it is often not known what the distribution rate of hybrids is and which parents form the basis of hybridization. Hybridization and the associated introgression of new alleles or even genes into existing populations by crossing hybrids with individuals of parental populations play an important role in evolution. First estimates suggest that introgressions cause ten times the rate of genome alteration per base pair compared to point mutations. However, we are still a long way from understanding the extent and significance of hybridization in the evolutionary context.

Therefore, we cordially invite you to this conference and look forward to outstanding presentations and lively discussions that will contribute to a better understanding of hybridizations and their significance in evolution.

Susanne Dobler

Arp Schnittger

Coordinators from the University of Hamburg (UHH) Department of Biology

Prof. Dr. Susanne Dobler
Molecular Evolutionary Biology

Prof. Dr. Arp Schnittger
Developmental Biology

Dr. Susanne Stirn
Developmental Biology

The Hybrid-Consortium in Hamburg

PD Dr. Minka Breloer, Bernhard-Nocht-Institute of Tropical Medicine,
Molecular Biology and Immunology

Prof. Dr. Thorsten Burmester, UHH, Molecular Animal Physiology

Prof. Dr. Kathrin Dausmann, UHH, Functional Ecology

Prof. Dr. Susanne Dobler, UHH, Molecular Evolutionary Biology

Prof. Dr. Jörg Fromm, UHH, Wood Biology

Prof. Dr. Jörg Ganzhorn, UHH, Animal Ecology and Conservation

Prof. Dr. Dieter Hanelt, UHH, Aquatic Ecophysiology and Phycology

Prof. Dr. Bernhard Hausdorf, UHH, Central of Natural History

Prof. Dr. Stefan Hoth, UHH, Molecular Plant Physiology

Prof. Dr. Daniela Jacobs, Helmholtz-Centre Geesthacht, Climate Service
Centre

Prof. Dr. Kai Jensen, UHH, Applied Plant Ecology

Prof. Dr. Julia Kehr, UHH, Molecular Plant Genetics

Prof. Dr. Myron Peck, UHH, Centre for Earth System Research and
Sustainability

Prof. Dr. Sigrun Reumann, UHH, Plant Biochemistry and Infection Biology

Prof. Dr. Jutta Schneider, UHH, Behavioural Biology

Prof. Dr. Arp Schnittger, UHH, Developmental Biology

THE VENUE

The Hybrid-Symposium will be held at the Institute of Plant Science and Microbiology of the University of Hamburg

How to get there:

By train:

From the central station or the train station Altona, take the S1 (green line, direction Blankenese/Wedel) or the S11 (green line, direction Blankenese) to the station Klein Flottbek (Botanischer Garten) (approx. 10 minutes).

By car:

Coming from north or south: A7 exit Bahrenfeld, then to the west on Osdorfer Weg/B431, after 2.4 km turn left into Heinrich-Plett-Straße, after 1.5 km turn right into Ohnhorststraße

By plane:

From the airport, take the S1 direction Blankenese/Wedel to the station Klein Flottbek (Botanischer Garten) (approx. 50 minutes)

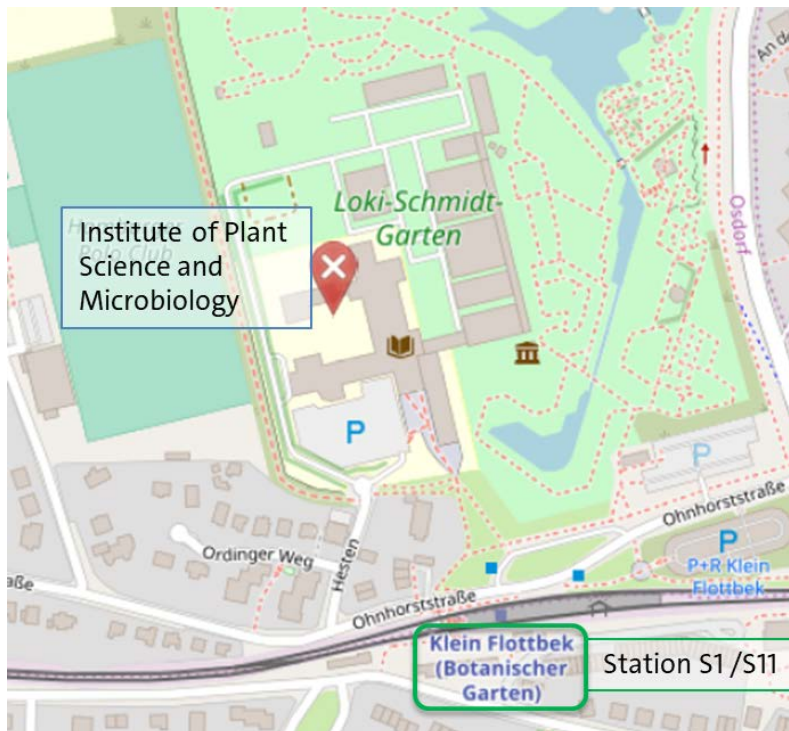
Institute of Plant Science and Microbiology, Ohnhorststr. 18, 22609 Hamburg:



Foto: UHH/Kober

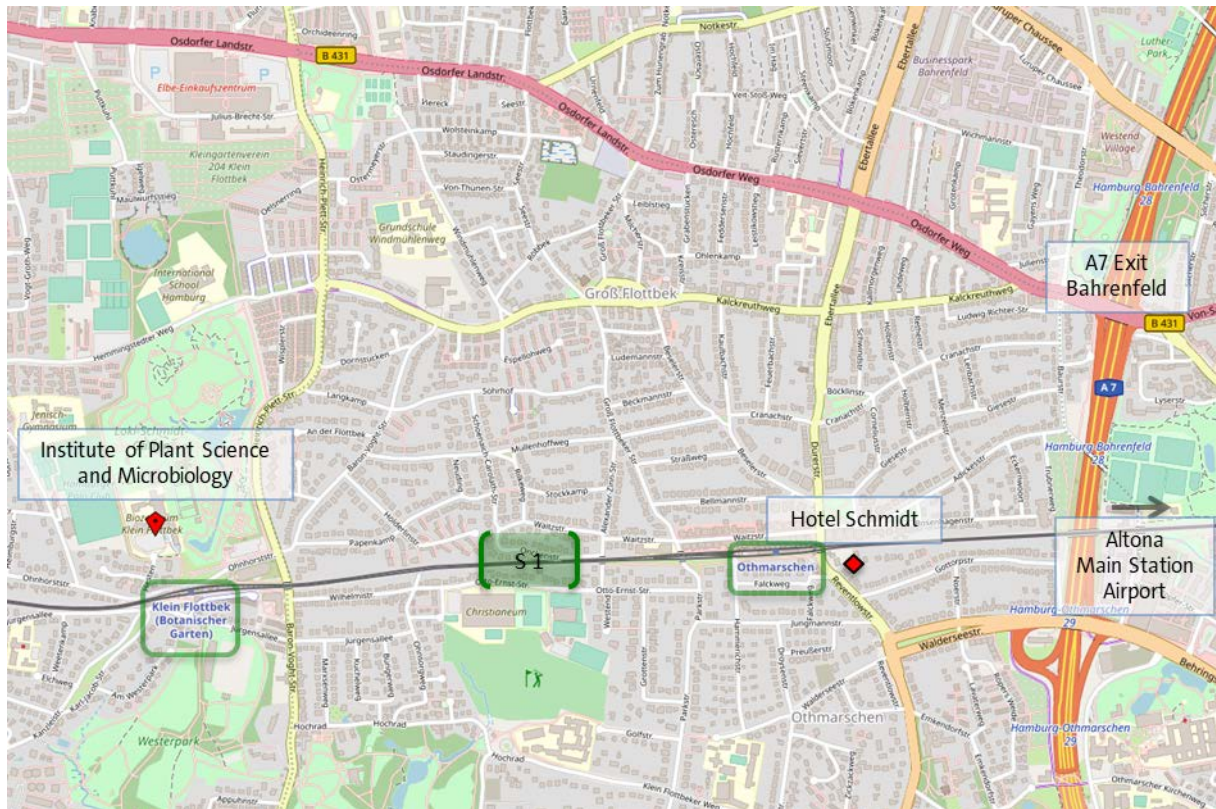
For your orientation:

The location of the institute directly at the S-Bahn station Klein Flottbek



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The surroundings of the Institute of Plant Science and Microbiology



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ACCOMODATION

The Institute of Plant Science and Microbiology is located in the west of Hamburg. In the vicinity of the institute there is only one hotel:

Hotel Schmidt

Reventlowstraße 60, 22605 Hamburg

T +49 (0)40-88 90 70

reservierung@hotel-schmidt.de

Prices:

Sunday to Thursday: single room from 92 € / double room from 122 €

Friday to Sunday: single room from 102 € / double room from 142 €

Alternatively, there are several hotels in located in Altona, which is only 8 minutes with the S 1/S11:

Hotel Stephan

Schmarjestraße 31, 22767 Hamburg

T +49 (0)40-3895108

www.hotel-stephan.de

From 75 €

Hotel-Hamburg-Altona

Hahnenkamp 8, 22765 Hamburg

T +49 (0)40-39908954

info@hotel-hamburg-altona.de

From 50 €

Meininger Hotel, Hamburg City Center

Goetheallee 11, 22765 Hamburg

T +49 (0)40-28464388

ga@meininger-hotels.com

From 40 €

PRELIMINARY PROGRAMME

Wednesday, June 12, 2019	
16:00 – 17:00	Registration
17:00 – 17:30	Welcome Address
17:30 - 18:30	Opening Lecture Jim Mallet, Harvard University <i>Hybridization and gene flow among Heliconius butterfly species and relevance for other taxa</i>
18:30	Welcome Reception at the Institute
Thursday, June 13, 2019	
09:00 – 09:25	Nick Barton, Institute of Science and Technology, Austria <i>The role of hybrid zones as barriers to gene flow</i>
09:25 – 09:50	Mario Vallejo-Marin, University of Stirling <i>Hybridization and rapid speciation in invasive monkey flowers</i>
09:50 – 10:15	Kenneth Whitney, University of New Mexico <i>Hybridization speeds adaptation: experimental evolution in sunflowers</i>
10:15 – 11:00	Coffee Break & Poster Exhibition
11:00 – 11:25	Arne Nolte, University of Oldenburg <i>Changes in the genetic makeup of sex through admixture</i>
11:25 – 11:45	Selected Poster Talk I
11:45 – 11:55	Selected Poster Talk II
11:55 – 13:45	Lunch Break

13:45 – 14:10	Luca Comai, University of Davis <i>Chromosome remodeling during hybridization</i>
14:10 – 14:35	Paul Grini, University of Oslo <i>Imprinting revisited: Genetic and phenotypic routes to post-zygotic hybrid barriers and bridges</i>
14:35 – 15:00	Arp Schnittger, University of Hamburg <i>The many roads to whole genome duplications in plants</i>
15:00– 17:00	Coffee Break & Poster Exhibition
17:00 – 17:25	Jeffrey Chen, University of Texas <i>Evolution and Function of Polyploid and Hybrid Genomes</i>
17:25 – 17:50	Richard Abbott, University of St. Andrews, UK <i>Climate change, hybridization and consequences</i>
Friday, June 14, 2019	
09:00 – 09:25	Zachariah Gompert, Utah State University <i>Connecting pattern to evolutionary process with a comparative analysis of ancient versus contemporary hybrid zones in Lycaeides butterflies</i>
09:25 – 09:50	Simon Martin, Cambridge University <i>Male killing in a butterfly hybrid zone: cause, consequence or coincidence?</i>
09:50 – 10:15	Susanne Dobler, University of Hamburg <i>Genetic Conflicts over Sex Determination and Sexual Reproduction in Hybridogenetic Beetles</i>
10:15 – 11:00	Coffee Break & Poster Exhibition
11:00 – 11:25	Eunyoung Chae, National University of Singapore <i>Natural Variation in the Plant Immune System and its Contribution to Hybrid Performances</i>

11:25 – 11:50	Kirsten Bomblies, ETH Zürich <i>Hybrids and habitat - gene flow and secondary ruderal adaptation in Arabidopsis arenosa</i>
11:50 – 12:00	Selected Poster Talk III
12:00 – 12:10	Selected Poster Talk IV
12:10 – 13:45	Lunch Break
13:45 – 15:30	Poster Exhibition
15:30 – 15:55	Gerald Heckel, University of Bern <i>Host hybridization at the onset of pathogen speciation</i>
15:55 – 16:20	Diethard Tautz, MPI for Evolutionary Biology <i>Shared regions of phylogenetic discordance between subspecies and species suggest continued adaptive genetic exchanges after lineage splits</i>
16:20 – 16:50	Coffee Break
16:50 – 17:50	Closing Lecture Rosemary Grant, Princeton University <i>The Causes and Evolutionary Consequences of Hybridization in Darwin's Finches</i>
17:50 – 18:00	Farewell Address
19:00	Conference Dinner