Detlef Weigel, Director,
Max Planck Institute for
Developmental Biology
in Tübingen

PUBLIC LECTURE

Climate in Transition – Plants in Transition

We are living through a dramatic change in the world's climate. But what does that mean for wild plants and animals? Do they stand any chance at all of adapting to changing environmental conditions in so short a time?

In his lecture, Detlef Weigel will first explain the basics of evolutionary research, including why evolution is always about compromise in order to balance contradictory demands. He will then move on to his own work and discuss predicting if and how plants might survive in the climate of the future. Finally, Mr Weigel will briefly discuss how new methods of genome editing may make it possible to modify crops to withstand the rapid change in our climate.

One important conclusion is that species should not be viewed as a rigid entity, but that their genetic diversity – and the limits of their intra-species diversity – must be taken into account.

VENUE
Im Neuenheimer Feld 360, Heidelberg

ADDITIONAL INFORMATION AND FREE REGISTRATION
genetics2019.github.io/symposium

Sponsors:

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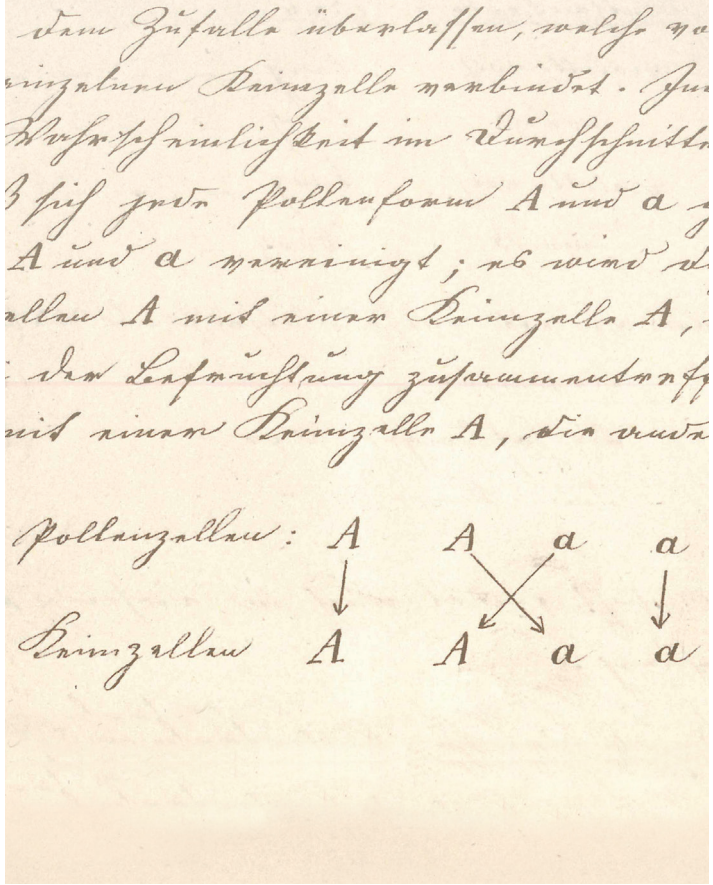
GENETICS 2019: OLD QUESTIONS AND NEW FRONTIERS

6TH COS SYMPOSIUM, JUNE 6–7, 2019



6TH COS SYMPOSIUM PROGRAMME

Genetics 2019: Old Questions and New Frontiers

Genes determine form and function of all organisms. Since the discovery of genetics by Gregor Mendel circa 1866, researchers from all over the world have been working to unravel how genes control the development, physiology, and behaviour of living things. Thanks to a number of technological breakthroughs in the last ten years, modern-day genetic research has enjoyed a Renaissance.

New methods of genome sequencing have allowed us to decipher the genes of numerous species, and highly precise gene scissors now make it possible to replace individual sequences in the code of life. Because of environmental destruction and climate change, more and more species are under threat or being forced out by more robust species. To monitor and mitigate these ever-faster changes, we need a deep understanding of the genetic foundations of adaptation and evolution.

This year's COS Symposium covers the entire spectrum of modern genetics and aims to build a bridge from the genetic network that controls the function of individual cells to the genetic diversity in natural populations. Speakers will also explore approaches to the analysis and treatment of diseases and the enormous challenges posed by computer-assisted analysis of genetic data.

Detlef Weigel, Director of the Max Planck Institute for Developmental Biology in Tübingen, will deliver a public evening lecture entitled "Climate in Transition – Plants in Transition" to provide insights into modern genome research.

This year's COS Symposium will be held on 6 and 7 June in the lecture hall of the building located at Im Neuenheimer Feld 360.

Thursday, June 6

14:00 – 14:15 Welcome

GENETIC VARIATION

14:15 – 15:00 **How to Build a Dog in 927, 152, 360 Easy Steps**
Elaine Ostrander

15:00 – 15:45 **Testing the Omnigenic Model for Quantitative Traits**
Diethard Tautz

15:45 – 16:45 Coffee Break and Poster Session

16:45 – 17:30 **Context Dependent Effects of Alleles Affecting Quantitative Traits: Insights from Drosophila**
Trudy Mackay

17:30 – 18:00 Coffee Break

18:00 – 19:00 **PUBLIC LECTURE**
Climate in Transition – Plants in Transition
Detlef Weigel

19:00 – 19:30 Reception

20:00 Speaker's Dinner

Friday, June 7

GENETICS AND ENVIRONMENT

08:30 – 09:15 **Epigenetic Mechanisms Regulating Plant Reproduction**
Claudia Köhler

09:15 – 10:00 **Shining Light on Seeds Sheds Light on Germination**
Ortrun Mittelsten Scheid

10:00 – 10:30 Coffee Break

10:30 – 11:15 **The Evolution and Natural Control of Genetic Incompatibilities**
Korbinian Schneeberger

11:15 – 12:00 **The Evolution of Transcriptional Regulation among Mammals**
Duncan Odom

12:00 – 13:30 Lunch and Poster Session

CELLULAR GENETICS

13:30 – 14:15 **Genome Regulation during Developmental Transitions: a Single Cell View**
Eileen Furlong

14:15 – 15:00 **From Phenotypes to Pathways: Global Exploration of Cellular Systems Using Yeast Functional Genomics**
Brenda Andrews

15:00 – 15:45 **Design Principles of Gene Expression in Space and Time**
Nikolaus Rajewsky

15:45 – 16:15 Coffee Break

16:15 – 16:45 **Schmeil and Poster Prize Awards**

MOLECULAR MECHANISMS

16:45 – 17:30 **There and Back again: from Phototropism to Heliotropism**
Stacey Harmer

17:30 – 18:15 **Structure, Biogenesis, and Engineering of the Eukaryotic CO2-Concentrating Organelle, the Pyrenoid**
Martin Jonikas

18:15 **COS Summer Party: Barbecue with open end**