



**Winter school “Application of Population Genetics Theory”**

**Dates: 20 – 23 March 2017**

**Location: Hotel Keindl, Oberaudorf, Germany**

**Instructors:** Prof. Dr. Wolfgang Stephan (Natural History Museum, Berlin, Germany)  
Prof. Dr. Aurélien Tellier (TU Munich, Germany)  
Dr. Pavlos Pavlidis (IMBB, Heraklion, Greece)  
Dr. Stefan Laurent (EPFL Lausanne, Switzerland)  
Hanna Märkle (TU Munich, Germany)

**Aims and scientific presentation:**

The winter school “Application of Population Genetics Theory” will focus on providing an introduction to population genetics/genomics theory as well as hands on applications to polymorphism data analysis. The two main questions to be addressed in the winter school are 1) to understand how genetic polymorphism is shaped by the neutral evolutionary forces (drift, demography, migration and recombination) and by natural selection (positive, purifying or balancing selection), and 2) how to search for genes undergoing selection by disentangling the effect of these forces in genome wide polymorphism data.

**Program overview:**

Monday 20/03: Arrival of participants by 14.00.

*Afternoon:* Neutral theory and coalescence

*Evening:* Coalescent simulations (exercise)

Tuesday 21/03:

*Morning:* Demography and spatial structure (theory)

*Afternoon/evening:* Statistical inference of demography (exercise)

Wednesday 22/03:

*Morning:* Footprints of natural selection (theory)

*Afternoon/evening:* Selective sweeps detection (exercise)

Thursday 23/03:

*Morning:* Disentangling demography from selection in genome data (exercise)

*Participants leaving after lunch.*

**Organization:**

Participants will be asked to bring a laptop (preferably linux) for the exercises. Further details on softwares and datasets to be downloaded will be given later.

*We ask all participants to pay upon registration a fee of 50 Euros. The remaining of the registration and accommodation fees will be covered by the SPP1819 or SPP1590 central funds for the SPP members. For external participants, the total costs are 300 Euros including accommodation, full pension (meals) and registration.*

*Please register online on the SPP1819 webpage: <https://dfg-spp1819.uni-hohenheim.de/>.*

*For questions on the program, organization or registration please contact*

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