

## **Internship Opportunity: Practical Course: Computing for High-Throughput Biology**

At the Chair of Plant Breeding at Technical University of Munich (TUM), we are offering internship opportunities as part of the course “*Practical Course: Computing for High-Throughput Biology*” during the summer semester 2026.

We would like to highlight that this is a **6-week internship**, during which participants will work independently on a scientific project and prepare a final report, which will be graded.

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### **Available Internship Topics**

#### **1. Genomic Reconstruction and Founder Contribution in Doubled Haploid Populations**

- Focus: Mapping the genetic architecture of Doubled Haploid (DH) populations using high-density SNP data
  - Programming Language: R
  - Methodology: Computational analysis of SNP data, pedigree validation, genetic diversity assessment, and haplotype mapping
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#### **2. Simulation of Multi-Trait Selection**

- Focus: Comparison of different methods of multi-trait selection using simulation datasets
  - Programming Language: R
  - Methodology: Computational analysis using AlphaSimR, multi-trait selection theory, and evaluation of selection response
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#### **3. Deriving Trait Architecture for Breeding Program Simulations**

- Focus: Exploring different assumptions for constructing the genetic architecture of a trait
  - Programming Language: R
  - Methodology: Simulation studies and genetic analysis using SNP data
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These internships are ideal for students interested in computational biology, quantitative genetics, and data analysis in plant breeding.

If you are interested, please get in touch for further details via e-mail:  
[studaffairs.plantbreeding@ls.tum.de](mailto:studaffairs.plantbreeding@ls.tum.de)

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**Chair of Plant Breeding**  
**Technical University of Munich (TUM)**