

The Cluster of Excellence on Plant Sciences CEPLAS invites applications for a

## Postdoc position in Algorithmic genomics (100 %, EG 13 TV-L)

to be filled for three years at the Heinrich Heine University Düsseldorf, Germany.

### SMART Plants for Tomorrow's Needs

The Cluster of Excellence on Plant Sciences ([www.ceplas.eu](http://www.ceplas.eu)) is a joint unit of Heinrich Heine University Düsseldorf, University of Cologne, Max Planck Institute for Plant Breeding Research Cologne and Forschungszentrum Jülich. CEPLAS is developing innovative science-based strategies for sustainable plant production. Our aim is to mechanistically understand complex plant traits of agronomic relevance that impact on yield and adaptation to limited resources.

### What we offer

CEPLAS creates an international, interdisciplinary research environment. We offer a comprehensive training program for early career researchers tailored to your respective career level. Program components are (scientific) training, mentoring, coaching and networking with industry.

### We are looking for

talented, highly motivated applicants with a PhD degree and a strong background in bioinformatics, genetics, quantitative biology or a related discipline.

We invite applications for the following project:

### Comprehensive and efficient identification of genomic differences from whole-genome alignments

Genome sequences are key resources to understand functional processes and divergent trait evolution within and between different species. Within CEPLAS, many high-quality genome assemblies of closely

related species of the Brassicaceae and other plant families are being generated. This makes it possible, in principle, to reveal intra-family similarities and structural variations from pairwise whole-genome alignments (WGA) as a major step towards family pangenome representations. However, even though efficient whole-genome alignment solutions exist there are no computational approaches that would annotate all genomic differences including the obvious hierarchy ranging from small single nucleotide changes to large complex rearrangements. The project will therefore extend SyRI, an existing algorithm for genome-wide structural rearrangement identification to solve this efficiently.

**Qualifications needed:** good algorithmic background, programming skills, basic knowledge in bioinformatics, Plus: experience with genomic data and/or plant genomics

**Project leaders:** Prof. Dr. Gunnar Klau (HHU), Dr. Korbinian Schneeberger (Max Planck Institute for Plant Breeding Research)

### Application process

According to the applicant's personal qualification, employment will be based on EG 13 TV-L. Qualified candidates should send their application (cover letter, curriculum vitae, contact info of two references, PhD certificate if already issued) by indicating the project title by e-mail (one single pdf-file) to [office@ceplas.de](mailto:office@ceplas.de). Applications are accepted until the position is filled.

In principle, the employment can also take place part-time, if no compelling official reasons are opposed in an individual case. The Heinrich Heine University Düsseldorf is an equal opportunity employer and strives for gender equality and diversity. Applications from individuals with backgrounds that are underrepresented in MINT disciplines are expressly welcome. Women with comparable qualifications will receive particular consideration. Applications from suitably qualified severely disabled persons or people of equivalent status according to Book IX of the German Social Legal Code (SGB – Soziales Gesetzbuch) are encouraged to apply. Severely disabled applicants of equal merit and qualifications will be given priority.