

Genomics, Phenomics and Bioinformatics

Department Information

- **Program Director:**
Phillip McClean, Ph.D.
- **Email:**
Phillip.McClean@ndsu.edu
- **Department Location:**
Plant Sciences, Loftsgard Hall
- **Department Phone:**
(701) 231-8443
- **Application Deadline:**
International applications are due May 1 for fall semester and August 1 for spring and summer semesters. Domestic applicants should apply at least one month prior to the start of classes.
- **Credential Offered:**
Ph.D., M.S.
- **English Proficiency Requirements:**
TOEFL iBT 71, IELTS 6; Duolingo 100

Genomics, Phenomics and Bioinformatics is an interdisciplinary graduate program that involves around 30 faculty from six departments and three colleges. The program initially focused on Genomics and Bioinformatics. In 2021, the program underwent a major change. This was prompted by advances in high-throughput phenotyping, and the growing importance of phenomics data and its direct relationship to genes controlling traits. Based on those relations, phenomics was added as another research track.

Students in the program will perform advanced study, training and research in areas that focus on functional genomics, high-throughput phenotyping, and computation analysis of genomic and phenomic data. This will lead to an understanding of the many -omics fields interact to understand how a phenotype is expressed.

The program is designed to provide both Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) students the necessary skills and intellectual background to work cooperatively with others in a research areas that take systems-wide approach to the study of the organization and expression of the many genes and their products expressed in an organism. Exposure to modern techniques and instrumentation will prepare the student for success in both industrial and academic careers.

Students can obtain a M.S. or Ph.D. in either the functional genomics, bioinformatics, or phenotypics tracks. Comprehensive options are available for all three tracks for M.S. students.