Genetics

The Genetics Graduate Program is a University wide program. Current faculty are in 14 Departments and four Colleges. The Genetics Program provides a well-balanced program of graduate course work and research training. The faculty conducts basic research in all areas of genetics, including molecular, cellular and developmental genetics; behavioral genetics, biomedical genetics, evolutionary, population and quantitative genetics, statistical genetics, and bioinformatics. Faculty research utilizes both traditional model organisms (fruit flies, mice and Arabidopsis) and non-traditional systems (cats, cockroaches, dairy cattle, dogs, maize, pigs, pine trees and more). Interdisciplinary research is encouraged.

Admission Requirements
Applicants may come from a number of undergraduate programs that include biological, agricultural, physical and mathematical science training. All applications are screened by an admissions committee, and the best qualified applicants will be accepted up to the number of spaces that are available for new students. The program uses the requirements set by the Graduate School to evaluate applications (GRE, unofficial transcripts from each previously attended college or university, three letters of recommendation, personal statement, and proof of English proficiency for non-US citizens). Competitive applicants will include research and other relevant experience as well as their interest and fit for the program in their personal statement.

Master’s Degree Requirements
The M.S. degree requires a minimum of 30 credit hours, of which 14 hours are core course requirements, three hours are additional elective graduate courses with substantial genetics content, and three hours are other elective graduate courses. M.S. students majoring in Genetics are required to complete dissertation research with three credit hours of Master’s Thesis Research, one credit of Master’s Thesis Prep, and one credit of Master’s Examination. M.S. students are also required to teach one semester of undergraduate courses and may enroll in three credits of Master’s Supervised Teaching. 12 hours of required courses are required for Genetics minors. The Master's of Genetics requires a minimum of 31 credit hours, of which 17 hours are core course requirements, six hours are additional elective genetics courses and eight hours are elective graduate courses.

Doctoral Degree Requirements
A total of 18 hours of seven core courses and 12 hours of elective graduate courses, nine of which have substantial genetics content, is required of all majors. Ph.D. students majoring in Genetics are required to complete dissertation research with three credit hours of Doctoral Supervised Research and a combination of Doctoral Dissertation Research, Doctoral Preliminary Examination, and Doctoral Dissertation Prep to total 39 hours. Students are also required to and teach two semesters of undergraduate courses and may enroll in six credits of Doctoral Supervised Teaching to be used toward the remaining 39 credit hours. 12 hours of required courses are required for Genetics minors.

Student Financial Support
Genetics graduate students are supported on Research and Teaching Assistantships (RAs and TAs). Specific pay varies depending on the assistantship, and students are paid bi-weekly. More information will be provided at the time of acceptance into the program.

Other Relevant Information
All M. S. and Ph. D. students rotate through three laboratories during their first semester. At the end of the semester, they choose a laboratory for their research activities consistent with their interests and available research projects. Provisions are available for a co-major and collaborative research in more than one laboratory.

Degrees
- Genetics (MR) (http://catalog.ncsu.edu/graduate/interdisciplinary/genetics/genetics-mr/)
- Genetics (MS) (http://catalog.ncsu.edu/graduate/interdisciplinary/genetics/genetics-ms/)
- Genetics (PhD) (http://catalog.ncsu.edu/graduate/interdisciplinary/genetics/genetics-phd/)
- Genetics (Minor) (http://catalog.ncsu.edu/graduate/interdisciplinary/genetics/genetics-minor/)

Faculty
Full Professors
Jose Miguel Alonso
Peter J. Balint-Kurti
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David M. Bird
Adam Joseph Birkenheuer
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Major M. Goodman
Fred L. Gould
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Associate Professors

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Assistant Professors

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Ruben Rellán Alvarez
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Caitlin Suzanne Smukowski Heil
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Emeritus Professors
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Eugene Eisen
Charles S. Levings III
Todd Robert Klaenhammer
Wesley Edwin Kloos
Dale F. Matzinger
Wendell Herbert McKenzie
John G. Scandalios
Henry E. Schaffer
Ron Ross Sederoff
Charles William Stuber
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Adjunct professors
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Alison Anne Motsinger-Reif
Nadia Singh