

GENOMICS (GRADUATE MINOR FIELD)

Graduate School

Program Description

This minor graduate field is intended to provide both broad and specific training in the rapidly evolving area of genomics.

This is a minor field. Application for admission is made only to the major fields. After matriculation, a student may select minor subjects from the major or minor fields.

Graduate Minor Field Requirements

Students in the field are required to select two courses from the list below. Additional courses can be required by the special committee, depending on area of study and fundamental competency.

Code	Title	Hours
<i>Select two of the following:</i>		
ANSC 3310	Applied Dairy Cattle Genetics	2
BIOEE 4800	Ecological Genetics	4
BIOMG 3800	Advanced Genetics and Genomics	3
BIOMG 4000	Genomics: Technology, Data, and Applications	3
BIOMG 4870	Human Genomics	3
BIOMG 4880	Cancer Biology and Metabolism	3
BIOMG 6390	The Nucleus	3
BIOMI 3940	Applied and Food Microbiology	3
BIOMI 4850	Bacterial Genetics	2-3
BME 6120	Precision and Genomic Medicine	3
FDSC 5940	Applied and Food Microbiology	3

Faculty

Esther R Angert (<http://cals.cornell.edu/esther-r-angert>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** Comparative genomics of bacterial developmental systems, genomic analysis of symbiotic microbes, molecular evolution.

Adam Boyko (<http://www.vet.cornell.edu/about-us/people/adam-boyko-phd>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** genomic investigation of dogs as a model of genetic disease and evolutionary genetics; understanding how the forces of natural and artificial selection have shaped the domestic dog genome and the genetic architecture underlying the tremendous diversity we see in dogs today.

Ilana Lauren Brito (<http://www.bme.cornell.edu/faculty-directory/ilana-lauren-brito>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics

- **Research Interests:** human microbiome & disease, host-microbe interactions, mobile genetic elements, antibiotic resistance, metagenomic sequencing

Daniel H Buckley (<http://cals.cornell.edu/daniel-h-buckley>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** genomic analysis of soil microorganisms; environmental genomics; metagenomics; microbial genome ecology and evolution

Andrew G Clark (<http://cals.cornell.edu/andrew-g-clark>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** population genetics and molecular evolution; drosophila population genetics; innate immunity; human population genetics

Paula Cohen (<http://www.vet.cornell.edu/about-us/people/paula-cohen-phd>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** meiosis; gametogenesis; recombination; DNA repair, reproduction and development

Ruth N Collins (<http://www.vet.cornell.edu/about-us/people/ruth-collins-phd>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** genetic and genomic analysis of organelle identity and evolution; cell growth and polarity

Charles G. Danko (<http://www.vet.cornell.edu/about-us/people/charles-danko-phd>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** gene regulation, genomics, computational biology

Anthony G Hay (<http://cals.cornell.edu/anthony-hay>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** environmental microbiology, microbial ecology, biofilms, biodegradation

John D Helmann (<http://cals.cornell.edu/microbiology/research/active-research-labs/helmann-lab>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** bacterial gene regulation; roles of alternative sigma factors for RNA polymerase; regulation of metal homeostasis and oxidative stress responses; cell envelope stress

Ian Hewson (<http://cals.cornell.edu/ian-hewson>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics

- **Research Interests:** marine microbiology; metagenomics; metatranscriptomics; genomics of uncultivated organisms; microbial oceanography

David Ming Lin (<http://www.vet.cornell.edu/about-us/people/david-lin-phd>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** neurobiology; olfaction; genomics; genetics

Magdalen Lindeberg (<http://cals.cornell.edu/magdalen-lindeberg>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** genomics

Jason G. Mezey (<http://cals.cornell.edu/people/jason-mezey>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** quantitative genetics/genomics; statistical genetics; computational biology; pathway modeling; molecular evolution

Wojtek Pawlowski (<http://cals.cornell.edu/wojtek-pawlowski>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** Mechanisms of meiosis and meiotic recombination

Eric J. Richards (<http://cals.cornell.edu/eric-richards>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** epigenetics; cytosine methylation

John C. Schimenti (<http://www.vet.cornell.edu/about-us/people/john-schimenti-phd>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** mouse genetics and functional genomics; genomic instability; genetic recombination; genetics of gametogenesis and development; use of ES cells to mutagenize the mouse genome

Tudorita Tumber (<http://cals.cornell.edu/tudorita-tumber>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics

Robert Samuel Weiss (<http://www.vet.cornell.edu/about-us/people/robert-weiss-phd>)

- **Campus:** Ithaca - (Minor Member)
- **Concentrations:** *Genomics:* genomics
- **Research Interests:** molecular mechanisms for maintenance of genomic stability; cellular responses to DNA damage; mouse models of human cancer