Open House

Summer undergraduate research program at UNC Chapel Hill
Genomics is the study of the entire genome, or all of an organism’s genes, interactions among genes, and the environment’s role in affecting them.

Genetics is the study of individual genes, or how the characteristics of living organisms are transmitted from one generation to the next (heredity).
Applications of genomics

- Veterinary scientists crossbreed dairy cattle for different production environments
- Sequenced genomes of model organisms facilitate the understanding of biological processes
  - Plant breeders utilize genetic diversity to create improved crop varieties
  - Geneticists work to improve the strains of yeast that produce alcohol in the brewing industry
- Genomics helps researchers improve health and prevent disease
Are you interested in genetics and genomics?

| Educational pathways to increase Diversity in Genomics |

2-year summer undergraduate research program at UNC Chapel Hill

<table>
<thead>
<tr>
<th>2022</th>
<th>2023</th>
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<tbody>
<tr>
<td>Virtual</td>
<td>In-person</td>
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<tr>
<td>3 weeks</td>
<td>8 weeks</td>
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<tr>
<td>June 6-24</td>
<td>dates TBD</td>
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<tr>
<td>Stipend $1000</td>
<td>Stipend $4800; housing &amp; meals provided</td>
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What will happen during EDGE 2022?

You will learn about:

- How the genome influences traits & health
- How scientists study the genome
- Ethical, legal, & social issues
- The breadth of careers in the field of genomics
- How to build mentoring relationships
<table>
<thead>
<tr>
<th>Time</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
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<tbody>
<tr>
<td>Morning</td>
<td>Careers in genomics</td>
<td>Ethics in genomics</td>
<td>Basics of heredity</td>
<td>Ethics in genomics</td>
<td>Careers in genomics</td>
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<tr>
<td>session 1</td>
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<tr>
<td>Morning</td>
<td>Genomics in medicine</td>
<td>Research in genomics</td>
<td>Genomics in medicine</td>
<td>Research in genomics</td>
<td>Genomics in medicine</td>
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<tr>
<td>session 2</td>
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<tr>
<td>Afternoon</td>
<td>At home experiments</td>
<td>Mentoring</td>
<td>Virtual experiments</td>
<td>Mentoring</td>
<td>Virtual lab tour</td>
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<tr>
<td>session 1</td>
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<tr>
<td>Afternoon</td>
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<tr>
<td>session 2</td>
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<td>Independent reading and writing</td>
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What will happen during EDGE 2023?

- Hands-on experience in a UNC research lab
- Enhanced mentoring network
- Reading scientific papers
- Science communication
Eligibility

- EDGE is focused on undergraduate freshman and sophomore students who are interested in genomics or want to learn more about it.
- Must be a U.S. citizen or permanent resident.
- Must be 18 or older.
- EDGE especially welcomes applications from students who are underrepresented in the field of genomics: individuals who belong to underrepresented racial and ethnic groups (Native Americans/Alaska natives, Hispanic Americans, Hawaiian natives/U.S. Pacific Islanders, and African Americans), individuals with disabilities, and/or individuals from socioeconomically disadvantaged backgrounds.
Applying to EDGE

Timeline

- Feb 28: Applications due
- March 7: Reference forms due
- March 25: Acceptances announced
- June 6-24: Program dates

Steps to complete

- Find application at:
  - https://applynow.unc.edu/register/EDGE2022
- Written answers to 3 questions: (max 300 words each)
  - 1. Why are you interested in EDGE?
  - 2. What do you hope to gain from participating in EDGE as it relates to your educational and career goals?
  - 3. Why are you passionate about science/STEM?
- Reference form completed by AP or college instructor

https://go.unc.edu/EDGEgenomics
What questions do you have?

https://go.unc.edu/EDGEgenomics