Summer undergraduate research program at UNC Chapel Hill

Virtual Open House
Q&A Session
January 17, 2023
Introductions

Folami Ideraabdullah, PhD
  Lead principal investigator
Jonathan Berg, MD/PhD
  Principal investigator
Sabrina Powell, PhD
  Program Director
Grace Byfield, PhD
  Associate program director
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?

2-year summer undergraduate research program at UNC Chapel Hill

Educational pathways to increase Diversity in Genomics

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<th>2023</th>
<th>2024</th>
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<tr>
<td>Duration</td>
<td>3 weeks July 8-29</td>
<td>8 weeks June-July, exact dates TBD</td>
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<tr>
<td>Stipend</td>
<td>Stipend $1800; housing &amp; meals provided</td>
<td>Stipend $4800; housing &amp; meals provided</td>
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Summer 2023 calendar

3 weeks - first year students
8 weeks - second year students

June

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What will happen during EDGE Genomics 2023?

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 successful mentoring relationships
- ...and engage with faculty, fellow EDGE Genomics students, and students from other UNC summer programs
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<tr>
<td><strong>Morning session 1</strong></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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<td><strong>Morning session 2</strong></td>
<td>Genomics in medicine</td>
<td>Research in genomics</td>
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<td>Genomics in medicine</td>
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<td><strong>Afternoon session 1</strong></td>
<td>Lab skills</td>
<td>Genomics in society</td>
<td>Lab skills</td>
<td>Careers in genomics</td>
<td>Reading scientific articles</td>
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<td><strong>Afternoon session 2</strong></td>
<td>Science writing</td>
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<td>Mentoring</td>
<td>Science writing</td>
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What will happen during EDGE Genomics 2024?

- Hands-on experience in a UNC research lab
- Enhanced mentoring network
- Professional Development opportunities
- Reading scientific papers
- Science communication
- Applications of genomics in the clinic
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<td>Afternoon 1:30-3:30pm</td>
<td>Professional development</td>
<td>Applications of genomics</td>
<td>Journal club &amp; science communication</td>
<td>Mentoring circle</td>
<td>Responsible conduct of research</td>
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<td>Afternoon 3:30-5pm</td>
<td>Professional development</td>
<td>Applications of genomics</td>
<td>Journal club &amp; science communication</td>
<td>Mentoring circle</td>
<td>Genomics case studies &amp; Ethics</td>
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Eligibility

• EDGE is focused on undergraduate freshman and sophomore students who are interested in genomics or want to learn more about it
• Must be 18 or older
• Must be a U.S. citizen or permanent resident
• EDGE is open to 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

2023 Timeline

• Feb 27: Applications due
• March 6: Reference forms due
• April: Acceptances announced
• July 8-29: Program dates

Steps to complete

• Find application here or at EDGE Genomics website:
  ◦ https://applynow.unc.edu/register/EDGEgenomics2023
• Written answers to 2 questions: (max 600 words each)
  ◦ 1. Why are you passionate about science/STEM and what are your educational/training and career goals?
  ◦ 2. How will participating in EDGE Genomics help you achieve your goals?
• Recommendation form completed by AP class or college instructor
• Complete all steps - incomplete applications will not be considered.

https://go.unc.edu/EDGEgenomics
Word cloud from summer 2023 EDGE Genomics students
What questions do you have?

https://go.unc.edu/EDGEgenomics
precisionmedicine@med.unc.edu