

# UC COMBO

University of Chicago COMputational Biology Outreach  
Winter Newsletter 2024

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## COMBO is having an amazing academic year...

Our Fall quarter kicked off with a bang at the **South Side Science Festival**! Drawing in over 4.5k attendees, our interactive table sparked curiosity and introduced children to the fascinating world of DNA.

We brought our Genetic Code Workshop to a 5th-grade class at **Gunsaulas Scholastic Academy**. The workshop introduced the concepts of transcription and translation, and provided students with hands-on coding experience.

Next, we taught our Intro to GWAS workshop to an AP Biotech class at **Lindblom High School**. Students had the opportunity to explore linear regression and multiple testing through a guided 'mini GWAS'.

# What's up for COMBO next quarter?

*Here's what to look forward to:*

We'll be tabling at **STEM Fest at Pritzker school** in Wicker park

3/14

4/6

We're bringing our workshops to **Expand Your Horizons**, an annual one-day symposium in Chicago for middle school girls to explore STEM careers

4/18-19

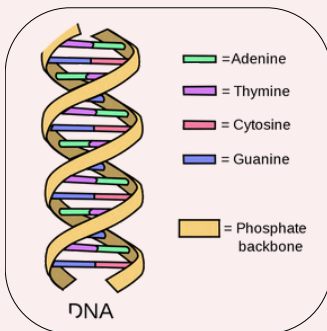
We will be returning to **Lindblom High School** for another round of our mini-GWAS workshop

**Know a Chicago-area school that might be interested in holding a workshop? Feel free to reach out at [ucompbio@gmail.com](mailto:ucompbio@gmail.com)**



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# What workshops do we teach?

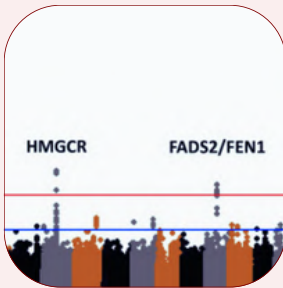


## Cracking the genetic code

A workshop tailored for **elementary and middle school students**, providing an accessible entry point into the world of genetics. Students learn **basic python skills** and use them to translate the coding sequence of luciferase.

## Crafting a protein sequence

In this **hands-on craft activity**, well loved by kids and parents alike, participants get the chance to **read the coding sequence of luciferase** and assemble it on a **bracelet** to take home.



## Genotypes and phenotypes

Affectionately called “mini-GWAS”, this workshop gets students to embark on a quest to **identify a causal mutation for a specific disease**, while learning **python skills**, as well as important statistical concepts such as **p-values** and **multiple testing**.

**Our scientific content team is always working to improve the workshops we have on offer...**



We are adding a hands on component to help teach the impact of genetic variation on phenotypes. Students will participate in a taste test to determine whether they have the variants to make them **Super Tasters!**

We will be creating an updated version of the mini-GWAS to show the use of these powerful genetic tools in solving real world problems in **cancer** and **agriculture**.

Our scientific content team is always happy to take new volunteers! Please contact our scientific content chair, [gibbonsliz@uchicago.edu](mailto:gibbonsliz@uchicago.edu) if you want to get involved...

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## Who are we?

We are a group of **UChicago researchers** who aim to make **programming and computational biology accessible and exciting for middle and high school students in the Chicago area**. Our **hands-on tutorials** are designed to be engaging, with a focus on **real-world biological examples** that bring the subject to life.

We gather bi-weekly to **plan workshops and events**, although we also welcome **day-of volunteers** who solely participate in teaching the workshops. Our workshops not only teach **Python programming** but also introduce young people to **diverse careers in the Sciences**.

## Why should I get involved?

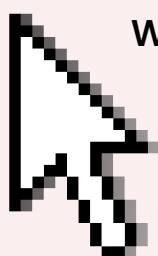
🌱 **Make a Positive Impact:** share your knowledge and passion with local students in our workshops.

🔍 **Develop new skills:** learn from the experience of teaching children, or getting involved in workshop design and organizational roles.

👉 **Build Connections:** Become part of a supportive community dedicated to making education exciting and accessible.

## Who can join?

We welcome volunteers from a range of academic backgrounds and career stages. Although most of our team comprises BSD graduate students and postdocs, we welcome members from other divisions and levels. Feel free to reach out for more information!



Want to know more, or interested in joining the team? Reach out at [uccompbio@gmail.com](mailto:uccompbio@gmail.com) or

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