

PRESENTED BY:
BDG LIFESCIENCES



A 90-120 MIN LIVE SESSION

BIOINFORMATICS DISCOVERY

FROM DNA TO AI-POWERED MEDICINE

**AN INTRODUCTION TO
BIOINFORMATICS FOR HIGH
SCHOOL STUDENTS**

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DISCOVER THE WORLD OF BIOINFORMATICS

What if you could explore DNA, investigate proteins, and see how scientists use computers to understand life?

Every living organism contains biological information. Scientists use bioinformatics to analyse that information, investigate biological questions, and support discoveries in medicine, biotechnology, and drug development.

Bioinformatics brings together biology, computing, data analysis, and artificial intelligence. It plays an important role in areas such as genome research, disease investigation, protein structure prediction, and modern biomedical science.

In this introductory discovery session, students will explore how researchers turn biological data into scientific insights using real-world bioinformatics resources.

What will you discover?

- DNA and biological data: Understand how biological information can be represented and analysed.
- Scientific databases: Discover how researchers access biological sequences and other scientific information.
- Sequence comparison: Explore how scientists compare DNA or protein sequences to investigate biological relationships.
- Protein structures: See how proteins can be visualised in three dimensions.
- AI in biology: Discover how artificial intelligence is changing protein structure prediction and biomedical research.
- Future possibilities: Explore how bioinformatics connects to medicine, biotechnology, research, and STEM careers.

Who should attend?

This session is designed for curious high school students who:

- Enjoy biology, science, technology, computers, or mathematics.
- Want to explore biotechnology, medicine, genetics, or artificial intelligence.
- Are curious about scientific research beyond the school curriculum.
- Are considering future studies in biomedical sciences or related STEM fields.
- Want an accessible first look at computational biology before committing to a longer programme.

No previous bioinformatics experience is required. The session will introduce the concepts step by step. Any specific device or software requirements will be communicated before the session.

YOUR BIOINFORMATICS DISCOVERY EXPERIENCE

A guided journey from biological information to scientific insight

1. Meet Bioinformatics

Discover what bioinformatics is, why it matters, and how scientists use computers to investigate biological questions.

2. Explore Real Scientific Databases

Get an introduction to biological databases such as NCBI and see how researchers retrieve information about genes, DNA, and proteins.

3. Compare Biological Sequences

Learn the basic idea behind sequence alignment and see how BLAST can help researchers compare biological sequences.

4. Visualise the World of Proteins

Explore how proteins fold into complex three-dimensional structures and why their shapes matter in biology and medicine.

5. Discover AI in Life Sciences

Get an introduction to AI-assisted protein structure prediction and how computational methods are contributing to modern biological research.

6. Take on a Mini Scientific Challenge

Use the concepts introduced during the session to think through a guided biological question and discuss how computational tools may help investigate it.

7. Ask Questions and Explore What's Next

Discuss your questions and discover potential learning pathways in bioinformatics, computational biology, biotechnology, and biomedical research.

The final session agenda, demonstrations, and activity will be confirmed by BDG Lifesciences before registration opens.

YOUR BIOINFORMATICS DISCOVERY EXPERIENCE

What makes this experience valuable?

Learn beyond the textbook

See how biology connects with computing and data analysis in real scientific settings.

Discover professional research resources

Get an introductory look at databases and tools used in bioinformatics.

Make complex science approachable

Build an initial understanding of biological data, sequence comparison, and protein structures.

Explore the role of AI

Understand how computational approaches are contributing to scientific discovery.

Find a new STEM interest

Discover whether bioinformatics could be a subject worth exploring further.

START YOUR JOURNEY IN COMPUTATIONAL BIOLOGY

Why learn with BDG Lifesciences?

BDG Lifesciences provides training and educational experiences in bioinformatics, computational biology, molecular modelling, genomics, and related life-science disciplines.

Its educational approach connects scientific concepts with practical exposure to research databases, analytical tools, and computational methods.

This introductory programme offers high school students an accessible starting point for discovering the field before deciding whether to pursue more advanced training.

START YOUR JOURNEY IN COMPUTATIONAL BIOLOGY

Where could bioinformatics take you?

Bioinformatics connects to a wide range of scientific and technology-driven fields, including:

- Bioinformatics and computational biology
- Genetics and genomics
- Biotechnology and biomedical research
- Drug discovery and pharmaceutical research
- Structural biology and protein science
- AI applications in biology and medicine

This introductory session is an opportunity to explore these fields; it does not constitute professional training or a qualification in any of them.

Programme at a glance

Programme: Bioinformatics Discovery: From DNA to AI-Powered Medicine

Duration: 90–120 minutes

Delivery: Live online session

Target audience: High school students, Grades 8–12

Experience level: Beginner-friendly

Fee: US\$ 19

Date and time: 25 October, 2026 from 5 Pm PDT

Ready to discover the science behind the data?

Take your first step into bioinformatics and explore how biological information, computational tools, and artificial intelligence are helping scientists investigate life.

REGISTER YOUR INTEREST / RESERVE YOUR PLACE

Visit: <https://bdglifesciences.com/>

Contact: info@bdglifesciences.com

Continue your learning

- [Explore our 10-day Bioinformatics: Basics to Advanced programme.](#)
- [Browse all BDG Lifesciences high school programmes.](#)
- Write to info@bdglifesciences.com for High School Research Programs where we conduct 4-6 Months Novel research Projects which are presented in Science Fairs like ISEF Regeneron and National/Regional Science Competitions.

Programme details, availability, fees, and eligibility for further training should be checked on the relevant programme page.