



EVENT REPORT

Career Talk on Biotechnology & Bioinformatics

Speaker: Sahil Sethi, JUIT Alumnus

Event: NEXUS'26 – Mini Flagship Event

Date: 17 September 2026

Time: 10:00 AM – 11:00 AM

Topic: Future in Biotechnology & Bioinformatics

Introduction

As part of **NEXUS'26**, SYNAPSE organized an informative career-oriented talk by **Sahil Sethi**, an alumnus of Jaypee University of Information Technology (JUIT). Currently pursuing a career in biomedical informatics and data architecture, Sahil Sethi shared his academic and professional journey and discussed the growing intersection of **biology, bioinformatics, data science, and artificial intelligence**.

Talk Overview

The session introduced students to the interdisciplinary nature of bioinformatics and explained how biological problems can be addressed using computational approaches. The speaker highlighted the integration of **biology, coding, data, AI/ML, and problem-solving** as important components of modern biotechnology and biomedical research.

He also shared his own career journey, beginning with a **B.Tech in Bioinformatics**, followed by an **M.S. in Biomedical Informatics**, industry experience involving **genomics and next-generation sequencing (NGS)**, and PhD research involving **RNA-seq, gene expression, gene co-expression, and machine learning**. He currently works in the area of **data architecture, cloud systems, pipelines, and data warehouses**.

Key Areas Discussed

The session covered several important areas of biological data and computational biology, including:

- Whole-genome and sequencing data
- Next-generation sequencing (NGS)
- RNA-seq and gene expression analysis
- Transcriptomics and miRNA
- Clinical and molecular data integration



- Machine learning in biological research
- Data engineering and cloud technologies

The speaker explained how machine learning can be applied to large biological datasets and emphasized that effective computational research begins with **high-quality data and a clearly defined research question**. His PhD work involving RNA-seq, gene co-expression, and machine learning in SARS-CoV-2-infected tissues was presented as an example.

Guidance for Students

A major part of the session focused on skills that students can begin developing during their first and second years. The speaker recommended strengthening fundamentals in **genetics, molecular biology, cell biology, and biochemistry**, while gradually learning **Python, statistics, data analysis, SQL, visualization, and basic machine learning**. He also encouraged students to work on small projects, reproduce research results, and develop scientific communication skills.

Career Opportunities

The talk highlighted the wide range of career opportunities available to students who combine biotechnology with computational skills. These included **research and academia, pharmaceuticals and biotechnology, healthcare and clinical data, AI and machine learning, agriculture and environmental applications, and data engineering and cloud technologies**.

Conclusion

The session provided students with a broader understanding of the evolving career landscape in biotechnology and bioinformatics. Through his personal journey and practical guidance, Sahil Sethi emphasized that students do not need to have their entire career path decided during their initial years. Instead, building strong fundamentals, experimenting with different areas, developing complementary technical skills, and remaining curious can help create diverse opportunities in the future. The session concluded with an encouragement to keep learning, experimenting, and taking the next step toward building an interdisciplinary career.



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