# NEXT GENERATION SEQUENCING TECHNOLOGY APPLICATIONS AND CAREER PROSPECTUS

#### Introduction:

- Conducted on: 19<sup>th</sup> March 2024
- The guest lecture on "Next Generation Sequencing" was designed to provide students with a deeper understanding of the latest advancements in genetic sequencing technologies. The target audience primarily comprised students enrolled in M.Sc. Biotechnology programs across different academic years, supplemented by individuals who expressed interest in the subject matter. The overarching goal of the lecture was to offer students practical insights into the application of next-generation sequencing (NGS) techniques within the realms of biology and medicine.

## **Guest Speakers:**

**1. Dr Vishwanathan**, a seasoned Senior Scientific Officer from Mediomix Diagnosis & Bioresearch Pvt Ltd, served as the keynote speaker for the event. Dr. Vishwanathan delivered a comprehensive discourse on NGS technology, covering its fundamental principles and diverse utility.

**2. Dr. Nagaraju,** also representing Mediomix, supplemented the discussion by elucidating the various training initiatives provided by the organization. Dr. Nagaraju detailed how these programs empower students to engage in the practical analysis of NGS data sets.

## • Presentation by Dr Vishwanathan:

Dr Vishwanathan commenced her presentation with a lucid exposition on the underlying mechanics of NGS technology, elucidating its pivotal role in contemporary research and diagnostics. She meticulously delineated the procedural intricacies involved in DNA sequencing, from sample preparation to data interpretation. Employing real-world case studies, Dr. Vishwanathan underscored the instrumental role of NGS in disease diagnosis, genetic screening, and evolutionary studies. Furthermore, she elucidated the computational challenges inherent in NGS data analysis, highlighting the need for proficient bioinformatics expertise.

# • Presentation by Dr Nagaraju:

Dr. Nagaraju's segment of the lecture delved into the pragmatic aspects of NGS technology education. He expounded upon the educational modules offered by Mediomix, delineating the curriculum's progression from foundational concepts to advanced data analysis techniques. Dr. Nagaraju underscored the significance of hands-on experience and practical training in cultivating proficiency in NGS data analysis. Additionally, he underscored the importance of continuous learning and adaptation in keeping abreast of the dynamic landscape of genomic research.

#### **Conclusion:**

• The guest lecture served as a pivotal educational forum, fostering a deeper understanding of NGS technology and its myriad applications. Dr. Vishwanathan and Dr. Nagaraju's erudite presentations, complemented by interactive discussions, not only demystified the complexities of genomics but also instilled a sense of enthusiasm among students to explore career opportunities in this burgeoning field. Overall, the lecture underscored the indispensable role of NGS technology in driving transformative advancements in the domain of life sciences.