

# Department of Biomedical Sciences Presents a seminar

## Nucleic acid sequencing: the history and clinical applications

Dr. Yang SHAO, Ph.D.

Founder and CEO, Nanjing Geneseq Technology Inc.  
Distinguished professor, Nanjing Medical University

**Date:** 8 February 2023 (Wednesday)

**Time:** 11:00am – 12:00noon (Hong Kong Time)

**Venue :** G4302, 4/ F Yeung Kin Man Academic Building, CityU

**Zoom Link:** <https://cityu.zoom.us/j/94042367337>

(Meeting ID: 940 4236 7337 & Passcode : 223645)

**Abstract:** Nucleic acid sequencing has become a crucial part of modern biological and biomedical research. The early beginning of nucleic acid sequencing can be traced back to 20<sup>th</sup> century. In 2003, the first human reference genome was sequenced based on Sanger sequencing method which took around 13 years. Whereas, by using the next generation sequencing (NGS) technology today, the human genome sequencing can be done in two weeks.

Nowadays, NGS has rapidly transitioned from research to clinical use and gained acceptance in several areas: human reproductive health, oncology, and infectious diseases. In clinical oncology, NGS is used to improve cancer therapy through identifying druggable mutations. Due to the development of technologies, NGS-based assays have been used in minimal residual disease diagnosis, and even cancer screening. As for infectious disease diagnose, metagenomic NGS assays can identify all pathogens in a specimen, overcoming the limitations of conventional methods, and enabling rapid diagnosis.

In this talk, Dr. Shao will introduce the history of nucleic acid sequencing, discuss the applications of NGS-based assays in clinical practice, challenges ahead, and the need for more cooperation of Industry-University-Research.

**About the speaker:** Dr Yang SHAO's studies focus on cancer biology and genetics, and has been published in more than 50 papers in international journals including *Molecular Cancer*, *Nature Genetics* and *Cell*.

He was listed in the Forbes 30 Under 30 Asia (Healthcare & Science) of 2017. In 2020, he won the Second Prize of Science and Technology of Jiangsu as the project leader specializing in cancer precision medicine. In 2021, he was awarded Top 10 Science & Technology Stars of Nanjing.

Nanjing Geneseq Technology Inc has been committed to the application of high-throughput next-generation sequencing (NGS) and liquid biopsy technologies to provide precision molecular diagnostic services for cancer patients and to support clinical translational research.

### Enquiries:

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