統計科學研究所
INSTITUTE OF STATISTICAL SCIENCE

統計所學術演講

中研院統計所

學　術　演　講

講　題：Long-Read Correction and Phasing Algorithms for Antimicrobial Studies

講　者：黃耀廷 教授

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時　間：2022年7月11日(星期一)，10:30-12:00

地　點：線上視訊辦理

Abstract

The Oxford Nanopore Technology (ONT) is a third-generation sequencing platform that can produce ultra-long reads, uncover epigenetic modifications, and enable point-of-care diagnosis with a short turnaround time. Despite new sequencing kits, flowcells, and basecalling algorithms, the accuracy of ONT is still confounded by two types of systematic errors. The first part of this talk will present two software developed for correcting ONT systematic errors, which can produce high-quality ONT genomes without Illumina short-read polishing. Next, a novel algorithm will be introduced for simultaneously phasing single nucleotide polymorphisms and structural variations, enabling nearly chromosome-scale phasing solely based on long reads. The second part will cover a number of antimicrobial studies using next- and third-generation sequencing. We will show how microbes find their own ways of combating various antibiotic agents.

※ 中文演講