

# IMPLEMENTING DNA AND RNA NANOPORE SEQUENCING TECHNOLOGY IN UNDERGRADUATE TEACHING

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Considering the fast pace at which sequencing technologies progress and at which genomics data are generated, it is no longer possible to ignore the urgency of equipping undergraduate students in science programs with the required skills to manage the amount and type of sequencing data being generated. In particular, the third-generation technologies, such as nanopore sequencing, became highly relevant for genomic research and clinical diagnostics due to low capital cost, device portability and real-time data acquisition.

One of the stage 3 undergraduate courses our School offers is Molecular Frontiers (BABS 3281). The course focuses on cutting-edge molecular biology techniques and their applications in biomedical research. We recently included nanopore DNA and direct RNA sequencing as a part of practical laboratory classes in the course and introduced lectures constructively aligned to the experimental protocol of the practical. The implementation of nanopore technology, where students could generate genome-wide RNA sequencing data and explore biological meaning of gene expression profiles using online bioinformatics pipeline, resulted in significant increase in students' satisfaction with BABS 3281 and 3-fold increase in student enrolments in the following year. In this presentation, I will reflect on the students' experience and discuss lessons learned as a course coordinator.

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