



香港科技大學
THE HONG KONG
UNIVERSITY OF SCIENCE
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DEPARTMENT OF
MATHEMATICS
SCHOOL OF SCIENCE, HKUST

THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

Summer Research Program 2022

PG STUDENT SEMINAR

**Adversarial domain translation networks for
integrating large-scale atlas-level single-cell datasets**

By

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Abstract

As single-cell technologies evolved over years, diverse single-cell atlas datasets have been rapidly accumulated. Integrative analyses harmonizing such datasets provide opportunities for gaining deep biological insights. In this seminar, we present Portal, a unified framework of adversarial domain translation to learn harmonized representations of datasets. When compared to other state-of-the-art methods, Portal achieves better performance for preserving biological variation during integration, while achieving the integration of millions of cells, in minutes, with low memory consumption. Through integration of numerous datasets, Portal also shows high flexibility. Portal is widely applicable to integrating datasets across different samples, platforms, data types as well as species.

Date : 26 July 2022 (Tuesday)

Time : 3:00pm

Zoom Meeting : <https://hkust.zoom.us/j/96675832361> (Passcode: 418271)

All are Welcome!