

Single Cell Genomics

and

Spatial Gene Expression

Seminar

## Roy J. Carver Biotechnology Center DNA Sequencing Laboratory Presents:

**Description:**

The DNA Services lab is hosting a seminar on single cell transcriptomics, single-cell ATAC-Seq, and announcing the new Visium Spatial Gene Expression application.

Please register (see link below) so that we can ensure seating and pizza for all.

**Featured Speakers:**

**Alvaro G. Hernandez, Director of DNA Services lab, UIUC.**

* **Introduction and overview of capabilities in the DNA Sequencing Laboratory**

**Keith Cockrum, Technical Sales Specialist, 10x Genomics.**

* **Resolving Biology: Combining Single Cell Gene Expression and ATAC-seq**
* **Introducing the Visium Spatial Gene Expression Solution**

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| The Chromium Single Cell Gene Expression Solution provides a comprehensive, scalable solution for cell characterization and gene expression profiling of hundreds to tens of thousands of cells. The Chromium Single Cell ATAC (Assay for Transposase Accessible Chromatin) Solution accelerates the understanding of the regulatory landscape of the genome, thereby providing insights into epigenetic variability on a single cell level. |

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| The ability to discern spatial gene expression differences in complex biological systems is critical to our understanding of normal development and disease pathology. However, the complexity presented by heterogeneous tissue has been historically difficult to overcome. Immunohistochemistry, *in situ* hybridization, and H&E staining are foundational tools for understanding tissue architecture based on a combination of gene expression and cell morphology information. Though recent advances in RNA sequencing have made it possible to obtain high-throughput gene expression data, these experiments require dissociated cells and cannot preserve morphological context, until now.  The Visium Spatial Gene Expression Solution from 10x Genomics analyzes complete transcriptomes in intact tissue sections, across wide variety of species and cell types, allowing you to discover genes and markers relevant to your research without having to rely on known targets. Preserving spatial resolution offers critical information for understanding the relationships between cellular function, phenotype, and location in the tissue. |

Please Register, seating is limited:  [https://10x\_seminar\_illinois\_091819.eventbrite.com](https://10x_seminar_illinois_091819.eventbrite.com/)

**Date/time**: **September 18th, at 11:45am to 1pm** (seminar starts at noon)

Location: **612 IGB** (lower floor of gatehouse)

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| *The meeting is free to attend, but registration is required. Pizza will be provided to registered attendees. Please RSVP to reserve your spot.* We look forward to seeing you there! |

**Questions?**

Contact **Alvaro Hernandez** [aghernan@illinois.edu](mailto:aghernan@illinois.edu) or **Chris Wright** [clwright@illinois.edu](mailto:clwright@illinois.edu)