ISTAART Immersives: Exploring the Seattle Alzheimer's Disease Brain Cell Atlas

Saturday, July 11, 2026 | 8 a.m. - 12 p.m.
Arora 14, 17 — InterContinental — London, United Kingdom
All times are in British Summer Time
In-person attendance only

Overview

Since its founding in 2003, open science has been a core principle of the Allen Institute; this has resulted in the generation and free sharing of data on 100+ million brain cells across multiple brain areas, species, and disease states. Recently, the Institute has created the Seattle Alzheimer's Disease Brain Cell Atlas (SEA-AD), in collaboration with the University of Washington, the UW Alzheimer's Disease Research Center, and Kaiser Permanente Washington Health Research Institute. By combining data from next generation single-cell multi-omic profiling, spatial transcriptomics, quantitative neuropathology, and advanced machine learning techniques, SEA-AD aims to pinpoint the molecular and cellular changes throughout disease progression. The SEA-AD cohort contains 84 donors, spanning the spectrum of disease severity. Using data from these donors and comparing to cell types defined in healthy human adults, the SEA-AD team created a highly robust transcriptomic cell type taxonomy, containing additional glia not observed in healthy adult. Comparison of these multi-omics data to metrics of disease progression defined using quantitative neuropathology revealed selective transcriptomic cell type vulnerability during disease progression; a few types of somatostatin inhibitory neurons are affected early in disease before plaque formation, while certain excitatory types are affected in later disease stages. To make these datasets more accessible for other researchers, multiple tools for data analysis, visualization, exploration and mapping have been developed for the SEA-AD project and made freely available along with tutorials and documentation for their use at sea-ad.org. The goal of this session is to introduce attendees to the SEA-AD project and methods, present the most recent findings, demonstrate how these data can be accessed through tools, present example research use cases, and provide hands on assistance using SEA-AD data tools.

Organizing Committee

- Rachel Hostetler, PhD
- Jeremy Miller, PhD

Target Audience

Learning Objectives

- Learn about the Seattle Alzheimer's Disease Brain Cell Atlas and the associated methods, data, and analysis.
- Discover how to access large-scale transcriptomic and neuropathological datasets from the Seattle Alzheimer's Disease Brain Cell Atlas through user-friendly tools.
- Practice using the Seattle Alzheimer's Disease Brain Cell Atlas data tools to explore datasets and conduct research.

Registration

Pre-conferences are offered for in-person attendance only. Preconferences require a separate registration fee in addition to AAIC full conference registration, or they may be purchased as stand-alone events. Visit alz.org/AAIC.

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Time	Session Details	Speakers and Moderator
8:00 a.m. - 9:00 a.m.	Introduction of SEA-AD project and taxonomy	
9:00 a.m. - 10:00 a.m.	Live demos of data and tools: showing how to access datasets, presenting example use cases (e.g., reproducing study results, exploring disease-associated microglia) and demonstrating how to integrate SEA-AD data with other Alzheimer's single cell datasets	
10:00 a.m. - 10:15 a.m.	**Break**	
10:15 a.m. - 11:15 a.m.	Hands-on assistance exploring tools and data on sea-ad.org	
11:15 a.m - 12:00 p.m.	Closing discussion	