

## **Neuroimmune interactions and its impact on VCID**

Friday, July 26, 2024 | 8:00a.m. – noon  
Marriott (Grand Ballroom E) — Philadelphia, USA  
All times are in Eastern Standard Time  
In-person attendance only

### **Overview**

There is growing appreciation in the role of neuroinflammation in Alzheimer's disease and other neurodegenerative diseases. The role of pathological interactions with blood vessels and the downstream neuroinflammation in vascular contributions to dementia (VCID) is an understudied and potentially therapeutically relevant area of research. Neuroimmune interactions form a dynamic interface between the periphery and the brain. This complex interplay is crucial for maintaining homeostasis and, if disturbed, contributes to neuroinflammatory and neurological disease. In recent years, neuroimmune bi-directional interactions have been heavily investigated, for example, the lung-brain axis, brain-spleen axis, gut-brain axis, and bone marrow-brain axis, but also the interactions between peripheral immune cells with brain vasculature and the downstream effects on neuro-glial networks. The immune system and the brain vascular cells communicate directly as well as through secreted cytokines (e.g.: IL-1 beta, TNF, and IL-6). Moreover, hormones and neurotrophic factors contribute to this complex interplay and downstream effects on brain cells. Recent advances in molecular and cellular tools provide means to probe complex immuno-vascular interactions in order to advance knowledge toward development of therapeutic targets. This workshop will cover several aspects of neuroimmune interactions, starting from recent discoveries in translational animal models and patient-centered molecular and cellular models. The goal is to understand how to use various cutting-edge tools to derive simple principles from complex biology in order to formulate therapeutic interventions and design translational research projects to build the foundation for future clinical trials.

### **Organizing Committee**

- Oliver Bracko, University of Miami
- Fanny Elahi, Icahn School of Medicine at Mount Sinai
- Amy Nelson, University of South Alabama

## **Presenters**

- Nikki Schultek, Intracell Research Group
- Susanne van Veluw, Massachusetts General Hospital
- Samantha Chaney, University of South Alabama
- Beth Stevens, Harvard Medical School
- Jennifer David, Duke University
- Paulo Pires, University of Arizona

## **Target Audience**

This ISTAART Immersive workshop is targeted to attendees who are involved in research and is pitched at a beginner-intermediate-advanced level.

## **Learning Objectives**

1. Compare and contrast the state-of-the-science of immuno-vascular interactions from the periphery to the brain in VCID.
2. Perform hands-on measures of cutting-edge techniques from bench-to-bedside to evaluate immuno-vascular interactions in VCID.
3. Discuss scientific concepts with peers interested in immunity, AD and VCID providing synergy to develop new thinking.

## **Registration**

Educational workshops are offered for in-person attendance only. Workshops require a separate registration fee in addition to AAIC full conference registration, or they may be purchased as stand-alone events.

**Agenda**

Time	Session Details	Speakers and Moderator