

ISTAART Immersives: Cognitive Resilience in Alzheimer's Disease: Concepts, Statistical Methods, and Machine Learning/AI

Friday, July 10, 2026 | 1 p.m. - 5 p.m.

Aurora 12, 13, 15, 16 — InterContinental — London, United Kingdom

All times are in British Summer Time

In-person attendance only

Overview

This immersive workshop will explore the critical and evolving concepts of cognitive reserve, resilience, and protective factors in Alzheimer's disease, using the PIA published framework (Stern et al., 2020, *Alzheimer's & Dementia*, 16:1305-1311). Designed for beginner and intermediate participants across care, clinical practice, and research, the session combines conceptual foundations with hands-on training in advanced statistical modelling and machine learning approaches. Attendees will gain a clear understanding of how reserve and resilience are defined and measured, while practicing cross-sectional and longitudinal analyses using R. Data sheets and commented R code will be provided in advance, enabling participants to engage fully in interactive exercises during the workshop. Presentations will cover fundamental concepts, methodological approaches, and innovative perspectives on operationalizing resilience, including machine learning strategies to rethink traditional models. By integrating inclusive frameworks with modern analytic tools, participants will be equipped to apply findings to future projects, grant applications, and collaborations. In addition, the event fosters networking and group discussion, creating opportunities for international registrants to share perspectives and build partnerships. Success will be measured through participant feedback and post-event reporting, ensuring continuous improvement and relevance to the AAIC program. With a maximum capacity of 40 attendees, this workshop offers an engaging, interactive environment to strengthen skills, broaden understanding, and advance dementia science through innovative, inclusive approaches.

Organizing Committee

- Hamid Sohrabi, PhD
- Michael Ewers, PhD
- Maude Wagner, PhD
- Colin Birkenbihl, PhD

Target Audience

Learning Objectives

- Define Reserve, Resilience and Protective Factors using the PIA published Framework.
- Practice statistical models to examine cross-sectionally and longitudinally the concepts of reserve and resilience.
- Describe and utilize machine learning methods to design and analyse reserve and resilience measures.
- Outline measures and objective proxies of cognitive reserve

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
1:00 p.m. - 1:30 p.m.	Introduction Overview of the workshop format and introductory presentations	
1:30 p.m. - 3:00 p.m.	Presentations Three and Four Focus on statistical models using RStudio (One and Two)	
3:00 p.m. - 3:30 p.m.	Break	
3:30 p.m. - 4:00 p.m.	Continuation of Presentations Three and Four	
4:00 p.m. - 4:40 p.m.	Presentation Five Exploring machine learning perspectives in resilience research.	
4:40 p.m. - 5:00 p.m.	Conclusion Summary of key insights and closing discussion.	