

## **ISTAART Immersives: Basics of Genetic Analysis**

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

Aurora Ballroom 2, 3, 5, 6 — InterContinental — London, United Kingdom

All times are in British Summer Time

*In-person attendance only*

### **Overview**

The workshop will provide an immersive introduction to the fundamentals of genetic analysis within the framework of brain imaging genetics research. Tailored for participants interested in exploring the interplay between genetic data and imaging-based studies, the sessions will integrate theoretical concepts with hands-on practice to provide a comprehensive learning experience. The fast paced session will start with an introduction of experiment design, data organization and quality control, emphasizing the unique considerations of integrating genetic and imaging datasets. Participants will gain practical experience in analyzing genetic data, from single SNP analyses to genome-wide approaches and polygenic risk score (PRS) calculation, with a focus on their application to imaging genetics research. The program will include sessions on 'Designing your genetics experiment' (Session 1), 'How to get data, QC and imputation' (Session 2), 'Single nucleotide polymorphisms (SNP) association analysis' (Session 3), 'Genome Wide Association Studies (GWAS)' (Session 4), and 'Polygenic risk score (PRS) calculation' (Session 5). These sessions include a short presentation followed by a practical task to allow participants to apply the knowledge directly, with the aid of experts in the room. The final time will be utilized for discussion and to answer any remaining questions (as requested following feedback from last year).

### **Organizing Committee**

- Tavia Evans
- Natalia Vilor-Tejedor, PhD
- Emma S. Lockett, PhD
- David Cash, PhD

### **Target Audience**

### **Learning Objectives**

- Perform basic genetic analyses, including single SNP analysis, genome-wide association studies (GWAS), and polygenic risk score (PRS) calculations, using large datasets.

- Differentiate between various genetic analyses techniques and understand their appropriate applications in imaging genetics research.
- Interpret outputs from genetic analyses, with a focus on understanding their relevance within imaging genetics studies.

## 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](http://alz.org/AAIC).

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

Time	Session Details	Speakers and Moderator
8:15 a.m. - 8:30 a.m.	Session 1. - Designing your genetics experiment (theory)	Eugenia Domingo
8:30 a.m. - 9:15 a.m.	Session 2. How to get data, QC and imputation	Da Ma
9:15 a.m. - 10:00 a.m.	Session 3. Single nucleotide polymorphisms (SNP) association analysis	Derek Archer
<b>10:00AM - 10:15AM</b>		
10:15 a.m. - 11:00 a.m.	Session 4. Genome Wide Association Studies (GWAS)	Gerard Temprano
11:00 a.m. - 11:40 a.m.	Session 5. Polygenic risk score (PRS) calculation with PRSice	Emma S. Lockett
11:40 a.m. - 11:55 a.m.	Session round up: Open discussion and Q&A -Recap key concepts, discuss applications, and address participant questions.	Natalia Vilor-Tejedor
11:55 a.m. - 12:00 p.m.	End/review and wrap-up	Tavia Evans/ Emma S. Lockett