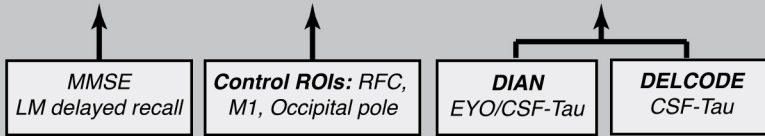


1) Main analysis: Linear mixed effects models

Cognition ~ gLFC-connectivity x AD severity + Cov



2) Comparison of model fit (Aikaike Information Criterion)

Full model: Cognition ~ gLFC-connectivity x AD severity + Cov
Reduced model: Cognition ~ gLFC-connectivity + AD severity + Cov

3) Projection of cognitive & biomarker trajectories:

Fitting polynomial mixed models e.g.

standard: $Cognition \sim (gLFC-connectivity)^1 \times AD\ severity + Cov$
quadratic: $Cognition \sim (gLFC-connectivity)^2 \times AD\ severity + Cov$
cubic: $Cognition \sim (gLFC-connectivity)^3 \times AD\ severity + Cov$

Model selection based on Aikaike Information Criterion

$$DIAN: \text{Standardized difference} = \frac{\text{Predicted value in MC} - \text{Predicted value in NC}}{\text{Standard deviation in MC \& NC}}$$
$$DELCODE: \text{Standardized difference} = \frac{\text{Predicted value in } A\beta^+ - \text{Predicted value in } A\beta^-}{\text{Standard deviation in } A\beta^+ \& A\beta^-}$$