Neurophysiological activity linked to Aβ and tau relate to MCI progression
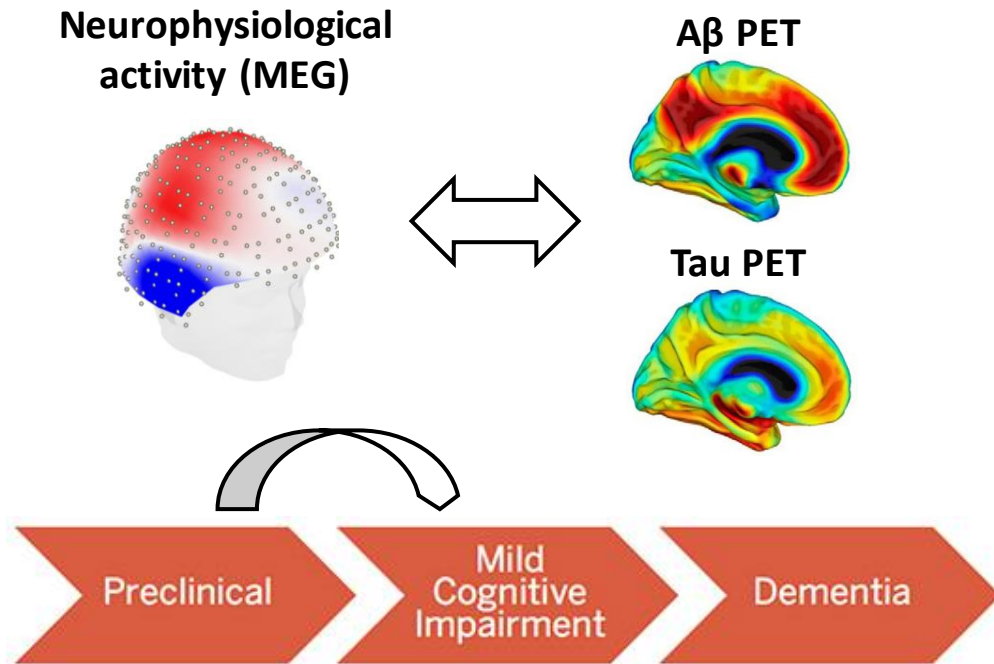
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Background

Neurophysiological activity (MEG)

Aβ PET

Tau PET

Preclinical → Mild Cognitive Impairment → Dementia

Aim

To test the value of neurophysiological activity features to predict progression to an MCI classification

Methods

PREVENT-AD

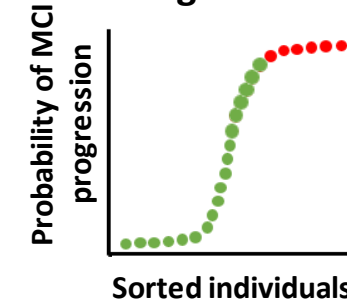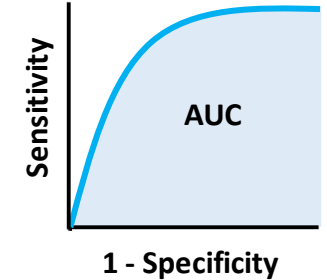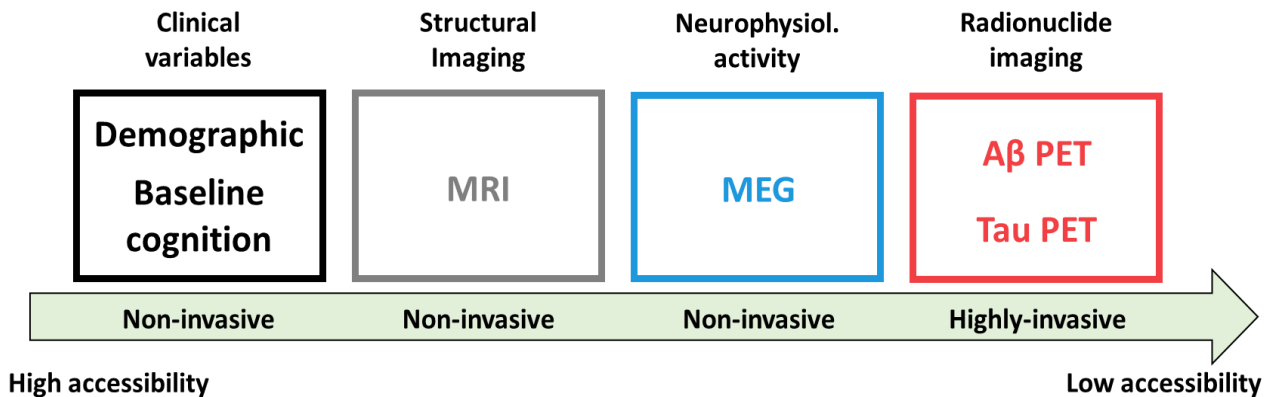**True label of participants**

MCI progressors (n=14)

Non-progressors (n=89)

Logistic regression

Probability of MCI progression

Sorted individuals

Model accuracy

Sensitivity

AUC

1 - Specificity

Comparison of pre-defined models
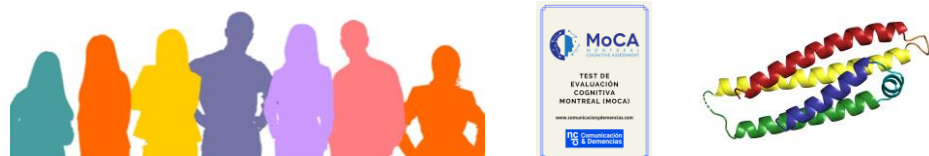
Clinical variables	Structural Imaging	Neurophysiol. activity	Radionuclide imaging
Demographic Baseline cognition	MRI	MEG	Aβ PET Tau PET
Non-invasive	Non-invasive	Non-invasive	Highly-invasive

High accessibility → Low accessibility

Results
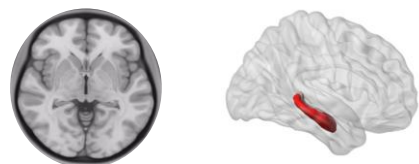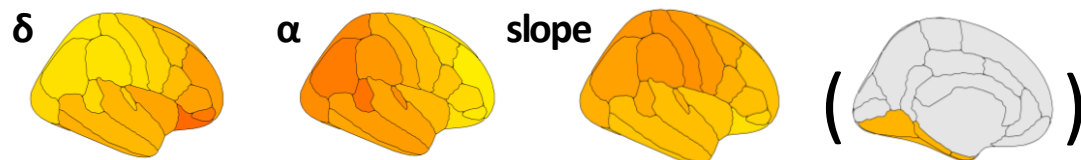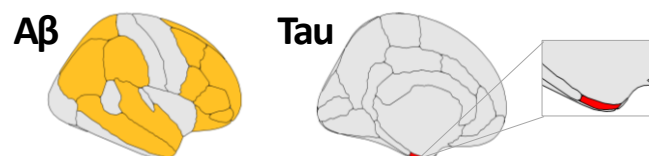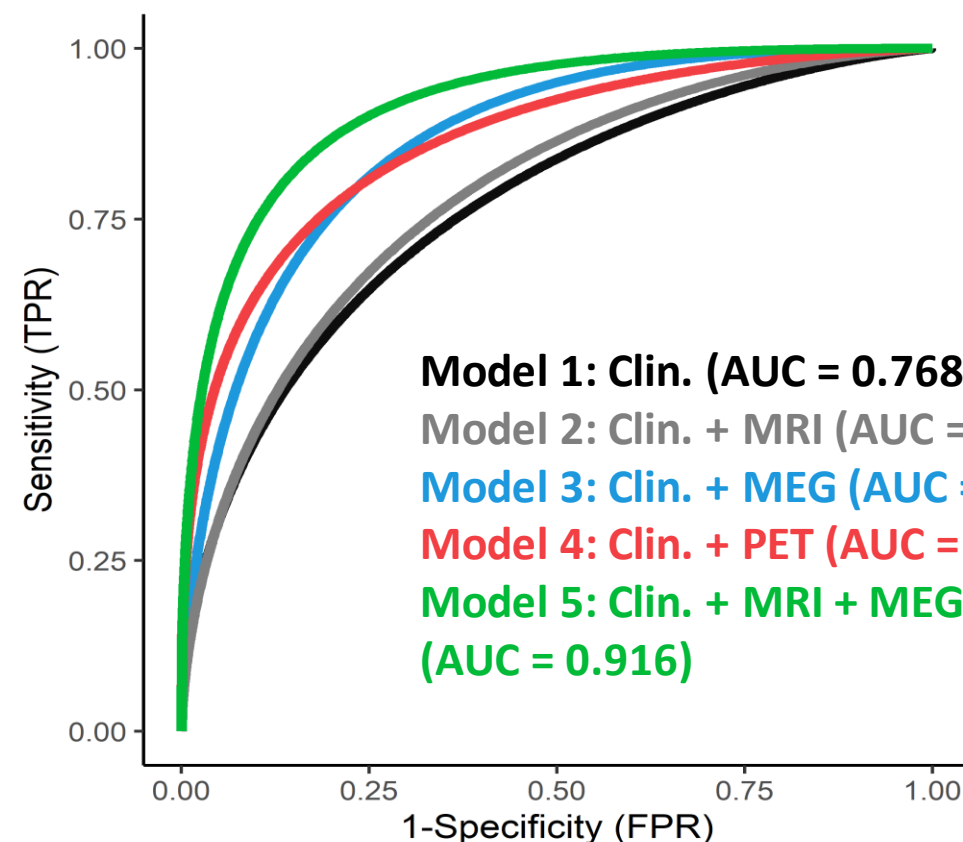
Take home and acknowledgements

- **Neurophysiological activity** spectral features provide good accuracy identifying people progressing to MCI, adding valuable information beyond clinical/demographic and structural MRI measures and matching the accuracy of Aβ and tau PET.

Thanks to: