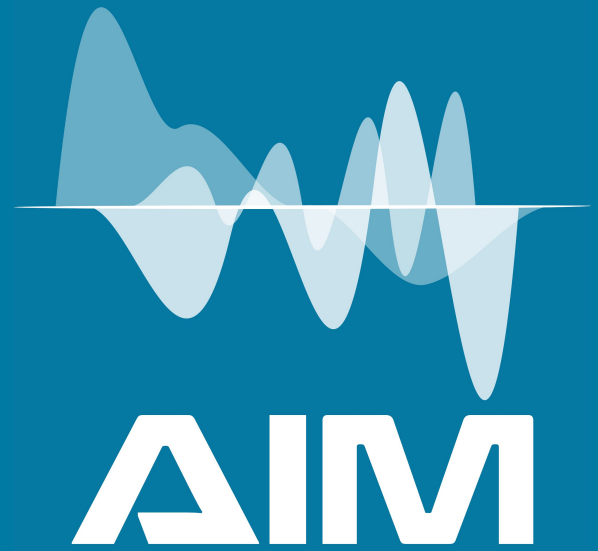# Artificial Intelligence in Medicine

UO Genova

People

Mirko
- IT Security
- Computing System

Andrea
- Data analysis
- Machine learning
- Neuroscientist
- PhD (INFN)

Senior PhD
- Software engineer
- Image processing
- PhD

Nicola
- PhD student
- Data analysis

Enrico
- PhD student
- Programmer
- Image processsing

Matteo
- Neurology Resident (DINOGMI, Unige)

+ Master's candidate: Gloria Pedemonte (Physics)

AIM 2: Quantification

AIM2.T1 - Quantification models in PET (GE, BO)

Currently working on:

- amyloid-PET
  - semi-quantification methods & ranking
  - predictive models of amyloidosis vs. clinics
  - pattern analysis & network approaches (incidental amyloidosis, CAA, ...)
  - EADC dataset management
- FDG-PET
  - DLB & Parkinsonism
  - EDLB dataset management
- Clinical models
  - REM behavioural disorder
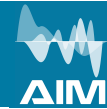
some recent works

Presynaptic dopaminergic neuroimaging in REM sleep behavior disorder: A systematic review and meta-analysis

(2018) Sleep Medicine Reviews, 41, pp. 266-274.

Metabolic correlates of reserve and resilience in MCI due to Alzheimer's Disease (AD)

(2018) Alzheimer's Research and Therapy, 10 (1), art. no. 35,

Accuracy and generalization capability of an automatic method for the detection of typical brain hypometabolism in prodromal Alzheimer disease

(2018) European Journal of Nuclear Medicine and Molecular Imaging, 46(2), 334-347

Early identification of MCI converting to AD: a FDG PET study

(2017) European Journal of Nuclear Medicine and Molecular Imaging, 44 (12), pp. 2042-2052

18F−FDG PET diagnostic and prognostic patterns do not overlap in Alzheimer's disease (AD) patients at the mild cognitive impairment (MCI) stage

(2017) European Journal of Nuclear Medicine and Molecular Imaging, 44 (12), pp. 2073-2083.

ongoing....

[Title]

Semi-quantification and grading of amyloid PET.

A kinetics-based approach to amyloid PET semi-quantification

[Authors]
A.Chincarini[1], E.Pei
Arnaldi [x], U.P. Gue
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...

[Manuscript]

1. Introduc

The recent NIA-AA dia
PET imaging technolog
abnormal deposit of bra
Disease (AD) spectrum

Metabolic Patterns across clinical core features in patients with Dementia with Lewy Bodies: a project of the European Consortium for Dementia with Lewy Bodies (E-DLB)

[1,2] Silvia Morbelli, [3] Andrea Chincarini, [4] Matthias Brendel, [4] Axel Rominger, [5] Rose Bruffaerts, Rik Vandenberghe, [6] Milica G. Kramberger, [6] Maja Trost, [7] Valentina Garibotto, [8] Nicolas Nicastro, [9] Giovanni B. Frisoni, [10] Afina W. Lemstra, [10] Jessica van der Zande, [11] Andrea Pilotto, [11] Alessandro Padovani, [12] Sara Garcia-Ptacek, [13] Irina Savitcheva, [14,15] Miguel A Ochoa-Figueroa, [14] Annette Davidsson, [16] Valle Camacho, [3] Enrico Peira, [1,17] Dario Arnaldi, [1,2] Matteo Bauckneht, Matteo Pardini, [1,2] Gianmario Sambuceti, [18,19] DagAarsland, [1,17] Flavio Nobili. [1] IRCCS Ospedale

a slight detour ….

due to R4I + VERTIS POC...

- ● amyloid-PET
  - ○ semi-quantification methods & ranking
  - ○ predictive models of amyloidosis vs. clinics
  - ○ pattern analysis & network approaches (incidental amyloidosis, CAA, ...)
  - ○ EADC dataset management
- ● FDG-PET
  - ○ DLB & Parkinsonism
  - ○ EDLB dataset management
- ● Clinical models
  - ○ REM behavioural disorder