Gruppo 5

Andrea Chincarini

attività in chiusura

- Magnet technology
  - **LAPUTA**
    - RN R. Musenich
      - Magneti spaziali per schermatura di detectors su satellite

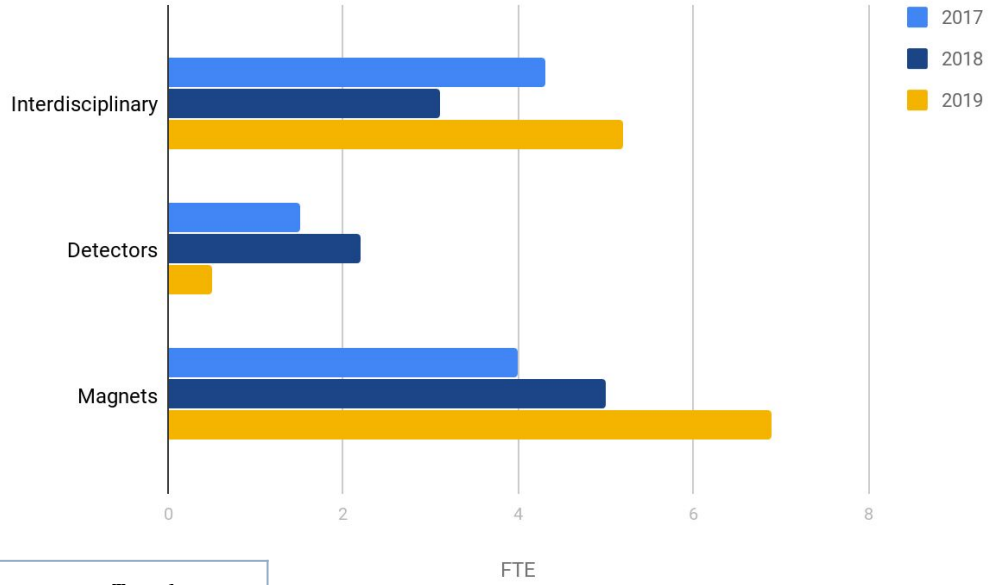
- Interdisciplinary & applied
  - **nextMR**
    - RN A. Chincarini
      - Data analisi applicata alla medicina (neuroimmagini)

attività 2019

- Magnet technology
  - **promoD2**
    - RN P. Fabbricatore
      - modello e prototipo di magnete per acceleratori ad alto campo
  - **EUROCIRCOL**
    - RL S. Farinon
      - progettazione dipolo a 16 T
  - **FALCON**
    - RN P. Fabbricatore
      - costruzione del modello di magnete EUROCIRCOL (sigla e collocazione ancora da definire)
  - **BISCOTTO**
    - RN R. Musenich
      - technologies and hi-T superconducting cables for tilted solenoids
- Detectors
  - **TIMESPOT** [call CSN5]
    - RL E. Robutti
      - dimostratore di tracciatore contenente 3 o più strati di rivelazione
  - **KIDS_RD**
    - RL S. Di Domizio
      - Microcalorimetri criogenici basati su sensori Kinetic Inductance
- Interdisciplinary & applied
  - **TRACCIA / EUROCHAMP**
    - RL D. Massabò
      - Areosol characterization
  - **AIM**
    - RL A. Chincarini
      - network of expertise in applied data analysis
  - **FLAGS** [call CSN5]
    - RN F. Sorrentino
      - gravimetric sensors with atomic fountains

personale

Buatier De Mongeot Francesco	Prof. Associato
Caiffi Barbara	Tecnologo
Chincarini Andrea	Ricercatore
Cirone Alessio	Dottorando
Di Domizio Sergio	Ricercatore Tempo Determinato Tipo B
Massabo' Dario	Ricercatore Tempo Determinato Tipo A
Musenich Riccardo	I Ric.
Prati Paolo	Prof. Associato
Ravera Fabio	Assegnista
Robutti Enrico	Ricercatore
Sorrentino Fiodor	Ricercatore



Bersani Andrea	Tecnologo
Fabbricatore Pasquale	Dir.Tecn.
Farinon Stefania	I Tecn.
Roberto Cereseto	CTER

Danelli Silvia Giulia	Assegno di ricerca
Pampaloni Alessandra	Assegno di ricerca

progetti legati ad attività / personale Gr5 (2019+)

- DORIAN [CNTT R4I]
  - Servizi per diagnostica avanzata su infrastruttura distribuita
    - GE / PI
    - RN A. Chincarini
- PAPAIA [PRIN]
  - Metodi di analisi basati su AI per astronomia con GW
    - INFN / UniPI / UniBO / UniSS
    - PI M. Punturo (PG)
- CUBISM [PRIN]
  - Progettazione e realizzazione di un magnete "tilted solenoid"
    - INFN / UniBO / UniMI / CNR
    - PI P. Fabbricatore
- TOPMED [H2020]
  - Infrastructure for personalized medicine
    - INFN GE-PI-CNAF / EU partners
    - PI INFN A. Retico / Chincarini
- ACTRIS [PON]
  - Aerosol Clouds and Traces gases.research infrastructure Network
    - CNR / INFN
- RHAPS [PRIN]
  - Redox activity and health effects of atmospheric primary and secondary areosol
    - CNR / INFN
- bando BIOUPPER Novartis/Cariplo
  - Quantificazione e report su imaging PET
    - GE / PI / MI
    - RN F. Sensi
- BRAMY [PRIN]
  - Quantification of amyloid PET
    - UniGE / UniPD / UniRM / UniPG / UniFI / INFN
- RicercaFinal. [MdS]
  - Remyelination of patients with Multiple Sclerosis
    - UniGE / IRCCS S. Martino / INFN

richieste a servizi

mesi-uomo

Esperimento	Progettazione	Officina	Elettronica	Calcolo
PROMOD2	2	3		
EUROCIRCOL	2	3		
TRACCIA/EUROCHAMP		3		
BISCOTTO/CUBISM [PRIN]	1	3		
AIM				1
FLAGS [CALL Gr5]	2	2	2	
DORIAN [CNTT]				2
ACTRIS [PON]		2		
RHAPS [PRIN]		1		
Totale	**4 (3)**	**9 (8)**	**(2)**	**(3)**

to be approved. Scale dei tempi non ovvie (per es. PRIN) → impatto su servizi solo indicativo

attivitá in chiusura

nextMR
LAPUTA

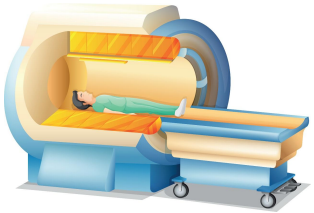
O.1: MRI techniques: disease-specific image enhancement through dedicated acquisition modality and instrumentation

O.2: Connectomics, brain network studies, lesion characterization

O.3: Enhanced MRI-driven biomarkers in the measure of the neurodegeneration process

Advancing Magnetic Resonance Imaging and Data Analysis

CSN5 2015 - 2017



WP1. Acquisition (0.1)
- PI
- AQ
- CA
- CT

WP2. Protocols (0.1, 0.2)
- TS
- CT
- PI

WP3. Data analysis (0.2,0.3)
- BA
- CT
- PI
- GE
- CA
- BO

Genova	(A. Chincarini, RN)
Pisa	(A. Retico)
Trieste	(R. Longo)
Bologna	(D. Remondini)
L'Aquila	(M. Alecci)
Cagliari	(P. Oliva)
Bari	(S. Tangaro)
Catania	(M. Marrale)

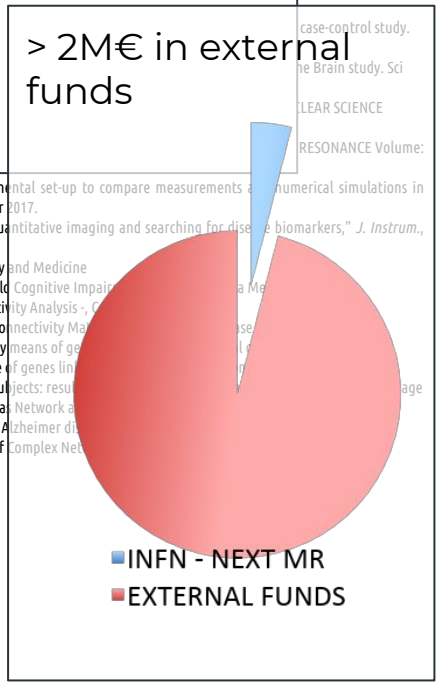
56 persone 22.2 FTE

67 papers on peer-reviewed journals

106 participation to international conferences (27 invited)

1 patent (INFN-GE)

10 degree thesis / 6 PhD



1. EMERGING TOPICS AND PRACTICAL ASPECTS FOR AN APPROPRIATE USE OF AMYLOID PET (J Nucl Med Molec Imaging)
2. Metabolic Correlates of Reserve and Resilience in MCI due to Alzheimer's Disease (Alzheimer's Research & Therapy
3. Presynaptic dopaminergic imaging in REM sleep behavior disorder: a systematic review and meta-analysis. (Sleep Medicine Reviews)
4. Morbelli, …, Chincarini, et al. ' 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.
5. Pagani, …, Chincarini, A., et al., 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.
6. Bosco, …, Chincarini, A., et al., The impact of automated hippocampal volumetry on diagnostic confidence in patients with suspected Alzheimer's disease: A European Alzheimer's

f 18F-FDG PET data

duals Across the

diol. 2018

us. 2017

case-control study.

he Brain study. Sci

CLEAR SCIENCE

RESONANCE Volume:

16. Michele Borsero , Domenico Giordano , Luca Zilberti , Francesca Maggiorelli , Gianluigi Tiberi "Experimental set-up to compare measurements a numerical simulations in Magnetic Resonance Imaging RF dosimetry", IEEE Transaction on Instrumentation and Measurements, Mar 2017.
19. A. Retico, "Technological challenges in Magnetic Resonance Imaging: enhancing sensitivity, moving to quantitative imaging and searching for disease biomarkers," *J. Instrum.*, vol. 13, no. 2, pp. C02007–C02007, Feb. 2018.
20. T. Maggipinto, R. Bellotti, …, S. Tangaro DTI measurements for Alzheimer classification – Physics in Biology and Medicine
21. S. Tangaro, A. Fanizzi, N. Amoroso, R. Bellotti A fuzzy-based system reveals Alzheimer's Disease onset in Mild Cognitive Impai
22. A. Lombardi, S. Tangaro, R. Bellotti, et al., A Novel Synchronization-based Approach for Functional Connectivity Analysis -
23. J. Rasero, …, Sabina Tangaro, Roberto Bellotti, et al.- Multivariate Regression Analysis of Structural MRI Connectivity Ma
24. - P Da Pelo; …; Bellotti, Roberto; Tangaro, S. Trial latencies estimation of event-related potentials in EEG by means of ge
25. A Monaco,…, Sabina Tangaro, Roberto Bellotti- A complex network approach reveals a pivotal substructure of genes lin
26. N. Amoroso, …, Roberto Bellotti, Sabina Tangaro Deep learning reveals Alzheimer's disease onset in MCI subjects: resu age
27. N. Amoroso,…, Sabina Tangaro, Alzheimer's disease diagnosis based on the Hippocampal Unified Multi-Atla Network a
28. N, Amoroso, D, Diacono, M. La Rocca, R, Bellotti, S. Tangaro, Salient networks: a novel application to study A lzheimer di
29. E. Lella, …, S. Tangaro Communicability disruption in Alzheimer's disease connectivity networks, Journal of Complex Net

attività in corso:

KIDS_RD / TRACCIA / TIMESPOT / PROMOD2 / EUROCIRCOL

nuove proposte (in CSN5):

AIM / BISCOTTO / FLAGS