



BRANDY

Brain Network Dynamics

Referente unico del progetto

Albrecht Haase (DF/CIMeC)

Altri partecipanti

UNITN partners

- Center for Mind/Brain Sciences (CIMeC)
Unit leader: Jorge Jovicich
Project members: Daniel Baldauf, Ludovico Minati, Carlo Miniussi
- Department of Physics (DF)
Unit leader: Lorenzo Pavesi
Project members: Renzo Antolini, Paolo Bettotti, Leonardo Ricci
- Department of Information Engineering and Computer Sciences (DISI)
Unit Leader: Lorenzo Bruzzone
Project member: Nicu Sebe
- Centre for Integrative Biology (CIBIO)
Unit Leader: Marco Canossa

External partners

- Fondazione Bruno Kessler (FBK)
Paolo Avesani, Emanuele Olivetti
- Italian Institute of Technology (IIT)
Angelo Bifone, Alessandro Gozzi, Stefano Panzeri
- University of Palermo
Luca Faes (received a call there from next year)

Dettaglio attività

The project is structured into actions to be taken at the different levels of the University's educational program, namely the MSc programs (Action 1) and the PhD programs/PostDoc supervision (Action 2). An International summer school (Action 3) will benefit young researchers at all levels of experience. The Networking Infrastructure (Action 4) will provide support for all members of the involved workgroups from Interns to PIs.

Action 1: Connecting Master's programs

- Partners will develop a program of teaching activities that will form the basis for training students with different backgrounds for future research on brain network dynamics



- Targeted topics will cover neurobiology, neuroimaging, neurophysics, photonic neuromorphic computing, network analysis, connectomics, network modelling, machine learning, deep learning, big data approaches etc.
- This program will be implemented step-by-step, embedding common lectures into the partner's MSc programs
- This stepwise overlap of teaching activities will be constantly evaluated and improved by collecting feedback from students and lectures to assess students interest, their existing background, and missing skills
- At the end of the project we expect strong bridges across partners' MSc programs which will be actively advertised among students
- Moreover, the organization of a new MSc program centred on Brain Network Dynamics will be evaluated

Action 2: Interdisciplinary PhD training/ Postdoc supervision

- Partners will restructure and synchronize their teaching activities to develop lecture series, workshops, and seminars aiming at PhD students and PostDocs in the partner institutions
- Partners will try to win candidates within the PhD programs of the participating institutions for co-supervised interdisciplinary projects
- 48 person-month of Postdoc fellowships (Assegni di ricerca) will be distributed among partners for collaborative efforts
- During the projects proposals will be developed to apply for funding of joint PhD / Postdoc scholarships

Action 3: International Summer School

- An international summer school will be planned, organized, and held yearly. All partners will contribute by presenting shared activities and by inviting prominent, internationally renowned experts from their field of expertise as speakers
- This school will aim at young researches at the MSc-, PhD-, and junior PostDoc level, it will have a duration of about 5 days and will accept about 50 participants

Action 4: Networking

- All actions will be initialized via a kick-off workshop, in yearly workshop results will be summarized, presented, and evaluated
- Common colloquia will be organized on a trimester basis, to which a top-ranking scientist will be invited and which will additionally serve as a regular instance to meet and exchange among the partners
- These regular meetings will be used to propose and develop plans for common project proposals to be submitted to big international calls
- A website of the Strategic Unit will be created with the following goals:
 - 1) to present the interdisciplinary teaching program to UNITN students,



- 2) to reach out to any interested student abroad featuring the educational program including the summer school,
- 3) to communicate obtained research results to the scientific community
- Outreach activities will be synchronized within the Strategic Units, which will allow to obtain higher visibility not only to scientific colleagues, but also to funding agencies, and to possible partners in clinics or industry to apply obtained results
- Research on Brain Network Dynamics will be presented to the general public at Open University events, Researchers nights, within the high school lecturing program to spark interest in future students, etc.

Cronoprogramma attività

	2018				2019				2020			
	gen-mar	apr-giu	lug-set	ott-dic	gen-mar	apr-giu	lug-set	ott-dic	gen-mar	apr-giu	lug-set	ott-dic
Action 1: Connecting Master's programs												
A1.1: Planning, preparation common lecture plan												
A1.2: Feedback analysis, adaptation, extension												
A1.3: Final lecture program/ New MSc program proposal												
Action 2: Interdisciplinary PhD training												
A2.1: Training program development												
A2.2: Recruitment of Co-supervised PhD students/ PostDocs												
A2.3: Project proposal for continued fellowships												
Action 3: International Summer School												
A3.1: School planning and preparation												
A3.2: School organization												
A3.3: Concept for continued organization financing												
Action 4: Networking												
A4.1: Incontro di programmazione attività e stato di avanzamento	x				x					x		



annuale												
A4.2: Colloquia/ Internal meetings												
A4.3: Common research project proposals												
A4.4: Strategic Unit webpage/ Outreach activities												

Budget

	2018	2019	2020	TOTALE
Assegni ricerca: 48 person-month of PostDoc fellowships for collaborative projects	22.000	44.000	22.000	88.000
Eventuale supporto amministrativo ¹ : 3 students for the organization of summer school and workshop	4.500	4.500	4.500	12.500
Attrezzatura: Consumables for common research projects connected to the Assegni di ricerca	1.500	1.500		3.000
Altri costi: Summer school (Invited speakers reimbursement, Local organization, catering, Travel grants)	12.100	12.100	12.100	36.300
Altri costi: Networking activities (Workshop organizations, Reimbursement of colloquium speakers, Organisation/Publication costs for outreach activities)	3.900	3.900	3.900	11.700
TOTALE	44.000	66.000	42.500	152.500

¹ Sarà possibile avvalersi unicamente di "collaborazioni studenti 150 ore" fino ad un massimo di 450 ore annue (costo massimo 10 €/hr)