Marie-Constance Corsi

INRIA RESEARCH SCIENTIST

NERV Lab, Paris Brain Institute (ICM)

Hôpital de la Pitié-Salpêtrière, 47, boulevard de l'Hôpital, 75013 Paris, France

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Academic Positions and work experience

Research scientist

Paris, France

ARAMIS & NERV PROJECT-TEAM, PARIS BRAIN INSTITUTE, INRIA, CNRS UMR 7225, INSERM U1127 — *2022 - now*

Postdoctoral researcher

Paris, France

ARAMIS PROJECT-TEAM, PARIS BRAIN INSTITUTE, INRIA, CNRS UMR 7225, INSERM U1127 — *2016 - 2022*

Advisor: Dr Fabrizio De Vico Fallani

Projects:

Modeling and Predicting Brain-Computer Interface Learning from Dynamic Networks

Brain Network Models of Motor Recovery After Stroke

Keywords: BCI training, EEG, MEG, fusion, functional connectivity, graph theory, markers

PhD student

Grenoble, France

LABORATOIRE DES CAPTEURS INNOVANTS, CEA-LETI — *2012 - 2015*

Supervisors: Prof. Gilles Cauffet, Dr. Etienne Labyt, Dr. Sophie Morales

Examiners: Prof. Gerald Vanzetto, Prof. Franck Vidal, Prof. Christophe Dolabdjian, Dr Claude Delpuech, Prof. Norbert Noury

Thesis: Helium 4 Optically-Pumped Magnetometers: Development and Proof of Concept in Magnetocardiography & Magnetoecephalography

Keywords: OPMs, Helium 4, MEG, MCG

Internship

Grenoble, France

LABORATOIRE DES CAPTEURS INNOVANTS, CEA-LETI — *2012 (6 mo)*

Project: Feasibility study of the use of 4He Optically-Pumped Magnetometers for Medical Applications

Internship

Brest, France

MORVAN HOSPITAL — *2011 (1 mo)*

Project: Image Guided Radiation Therapy of the prostate – bibliography study

Education

France Life Imaging

Lyon and Grenoble, France

TRAINING ON MAGNETOENCEPHALOGRAPHY - DATA ACQUISITION AND ANALYSIS — *2015*

Grenoble Alpes University

Grenoble, France

MASTER'S DEGREE IN NEUROPSYCHOLOGY AND CLINICAL NEUROSCIENCES — *2013-2015*

University of Montpellier II

Montpellier, France

ACADEMIC DIPLOMA - INFORMATION AND COMMUNICATION TECHNOLOGIES FOR HEALTH TRAINING — *2011-2012*

Escola Tècnica Superior d'Enginyeria de Telecomunicació de Barcelona (ETSETB)

Barcelona, Spain

ACADEMIC SEMESTER - BIOPHYSICS, SIGNAL PROCESSING, OPTICAL, AND MICROWAVE TRAININGS — *2011*

Institut Mines-Télécom (IMT) Atlantique

Brest, France

MASTER'S DIPLOMA IN ENGINEERING - SIGNAL PROCESSING, PHYSICS, COMPUTING, MANAGEMENT — *2009-2012*

Lycée Paul Cézanne

Aix-en-Provence, France

CLASSES PRÉPARATOIRES AUX GRANDES ÉCOLES - PHYSICS-CHEMISTRY (PC* SECTION) — *2006-2009*

Lycée La Nativité

Aix-en-Provence, France

BACCALAURÉAT - PHYSICS-CHEMISTRY SPECIALITY, FIRST CLASS WITH DISTINCTION — *2006*

Publications

1	Book chapter	*1 as first author*
20	International journal articles (accepted)	*9 as first/last author, 3 as second/second-last author*
10	Conferences with full-length peer-reviewed proceedings (accepted)	*3 as first/last author, 1 as second author*
47	Conferences abstracts (accepted)	*34 as first/last author, 1 as second author*
5	Patents	*2 released*

Fundings

2024	**H-Code**, Paris-Saclay University	*3.6 keuros*
2023	**Transatlantic Research Partnership**, FACE Foundation	*20 keuros*
2023	**Financial support for the CORTICO days organization**, DIM-C-Brains of the region Ile-de-France	*9.9 keuros*
2023	**Financial support for the CORTICO days organization**, Inria Paris	*2 keuros*

Awards

2022	**FORUM award**, Federation of European Neuroscience Societies (FENS)	*Paris, France*
2021	**Grand Challenge: Passive BCI Hackathon, ranked 3rd**, Neuroergonomics Conference - in collaboration with Q. Barthélemy, I. Hoxha, S. Chevallier and F. Yger	*Virtual event*
2021	**Best Oral Presentation Award & Student Award[1] - signal processing category**, International Conference on Brain-Computer Interface (vBCI)	*Virtual event*
2020	**Clinical BCI Challenge**, IEEE WCCI2020, ranked 1st in the Within-Subject category (RIGOLETTO team leader, collaboration with Florian Yger and Sylvain Chevallier)	*Virtual event*

Participation in colloquia

Invited talks at international conferences

IEEE International Symposium on Biomedical Imaging (ISBI) — ***Cartegena, Colombia***

Ensemble of Riemannian classifiers for multimodal data: FUCONE approach for M/EEG data — *April, 2023*

NeuroTechX 2022 — ***Paris and worldwide***

Alternative features and markers for better BCIs — *Oct, 2022*

Graz BCI conference workshop — ***Graz, Austria***

Spatiotemporal neural correlates of MI-based BCI training — *Sept, 2019*

Multiscale Brain Network analysis workshop — ***Naples Italy***

Looking for neurophysiological correlates of BCI learning — *Sept, 2019*

Conference talks

BIOMAG 2024 — ***Sydney, Australia***

Using models for classification: from clinical diagnosis to brain-computer interfaces applications — *August, 2024*

NeuroFrance meeting — ***Lyon France***

Measuring Neuronal Avalanches to inform Brain-Computer Interfaces — *May, 2023*

Brain criticality meeting — ***Bethesda, MD, USA & virtual***

Exploiting brain critical dynamics to inform Brain-Computer Interfaces performance — *Nov, 2022*

CNS, 31st Annual Computational Neuroscience Meeting — ***Melbourne, Australia***

Exploiting brain critical dynamics to inform Brain-Computer Interfaces performance — *July, 2022*

Networks 2021 — ***Virtual***

Core-periphery markers of longitudinal BCI from multiplex brain networks — *July, 2021*

8th International BCI Meeting — ***Virtual event***

Functional connectivity predicts MI-based BCI learning - Student award — *June, 2021*

IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) — ***Virtual event***

Riemannian geometry on connectivity for clinical BCI — *June, 2021*

Journées Jeunes Chercheurs en Interfaces Cerveau-Ordinateur et Neurofeedback (JJC-ICON) — ***Lille, France***

Looking for neurophysiological correlates of BCI learning — *March, 2019*

Seminars

Forum TERATEC — ***Paris, France***

The science of Brain-Computer Interface — *May, 2024*

MIND Seminar, Inria Saclay — ***Saclay, France***

Using non-invasive closed-loop systems: insights from machine and users-centrered approaches — *Feb, 2024*

TAU Seminar, Paris-Saclay University — ***Saclay, France***

Improving non-invasive Brain-Computer Interface (BCI) via multimodal and longitunal approaches — *June, 2023*

ICM Computational domain meeting, Paris Brain Institute — *Paris, France*
Multimodal integration in Brain-Computer Interfaces to improve neurological rehabilitation — *Feb, 2023*

Pyladies Paris event, Paris Brain Institute — *Paris, France*
Improving non-invasive Brain-Computer Interface (BCI): Contributions of open-source software tools — *Feb, 2023*

Laboratoire Bordelais de Recherche en Informatique (LaBRI, CNRS UMR 5800, Inria) — *Bordeaux, France*
Improving BCI: Insights from multimodal and longitudinal analysis! — *Feb, 2022*

Journée Jeunes Chercheurs en Interfaces Cerveau-Ordinateur et Neurofeedback (JJC-ICON'2021) — *Virtual event*
M/EEG data analysis: where it all begins! — *May, 2021*

Institut de Neurosciences des Systèmes (INS, UMR1106) — *Marseille, France*
Improving BCI: Insights from multimodal and longitudinal analysis…and OPMs! — *Sept, 2020*

Brain Dynamics and Cognition (DYCOG) team - Lyon Neuroscience Research Center (CRNL) — *Lyon, France*
Optically-pumped magnetometers: Hype or real opportunity for BCI? — *Nov, 2019*

Experimental neurosurgery lab, Paris Brain Institute — *Paris, France*
Looking for neurophysiological correlates of BCI learning — *Oct, 2019*

Lundis du CENIR, Paris Brain Institute — *Paris, France*
Presentation of the ongoing protocols — *Oct, 2019*

Athena project-team, Inria Sophia Antipolis — *Sophia Antipolis, France*
Improving BCI: Insights from multimodal and longitudinal analysis — *Feb, 2019*

Cafés de la neuroinformatique, Paris Brain Institute — *Paris, France*
What if you could write as fast as you think? — *Nov, 2018*

Developmental Neuroimaging Lab, CEA/SAC/DSV/DRM/NeuroSpin — *Saclay, France*
Helium 4 optically-pumped magnetometers : Development and proof of concept in magnetocardiography and magnetoencephalography — *Feb, 2016*

Conference chairing

BIOMAG 2024 — *Sydney, Australia*
Data analysis / informatics oral session — *Aug, 2024*

BCI Thursdays: Online Events — *Virtual events*
Next Generation: Trainee Spotlights — *Nov, 2021; May, 2022; Nov, 2022*

Cutting'EEG conference — *Aix-en-Provence, France*
Challenging setups for cutting edge EEG/MEG research — *Oct, 2021*

Journée CORTICO 2020 — *Virtual event*
Taking BCIs out of the lab – innovative paradigms and applications — *Oct, 2021*

Cutting'EEG conference — *Paris, France*
Outside the box — *June, 2018*

Scientific events organization

Conferences & symposia

BIOMAG 2024 — *Sydney, Australia*
Co-chair with Pierpaolo Sorrentino of the "Alternative functional connectivity estimators and their real-life application" symposium - official page — *August, 2024*

Neuroergonomics — *Bordeaux, France*
Member of the scientific committee - official page — *July, 2024*

CuttingGardens — *Multi-hub meeting, worldwide*
Member of the organization committee - official page & Organization of a BCI session - github page — *Oct, 2023*

Journées CORTICO 2023 — *Paris, France*
Co-organized with Sylvain Chevallier at Paris Brain Institute - 100 participants - official page — *May, 2023*

PracticalMEEG 2022 — *Aix-en-Provence, France*
Member of the organization committee - official page — *Dec, 2022*

Workshops

Designing Brain-Computer Interfaces, from theory to real-life scenarios — *Graz, Austria*
Co-organized with Arthur Desbois, Bruno Aristimunha, Pierre Guetschel, & Pierre Clisson - 9th Graz BCI conference — *Sept., 2024*

Virtual Brains: From data to modeling and back - official page — *Natal, Brazil*
Co-organized with Damien Depannemaecker, Leonardo L. Gollo, Spase Petkoski, & Pierpaolo Sorrentino - Computational Neuroscience Meeting 2024 — *July, 2024*

Designing Brain-Computer Interfaces, from theory to real-life scenarios — *Bordeaux, France*
Co-organized with Kalou Cabrera Castillos, Pierre Clisson, Frederic Dehais, & Arthur Desbois - Neuroergonomics 2024 — *July, 2024*

Challenges in BCI-based neurofeedback applications for neurological disorders — *Sonian Forest, Belgium*
Co-organized with Fabien Lotte, Camille Jeunet, Nathalie George, & Fabrizio De Vico Fallani - BCI meeting 2023 — *June, 2023*

Offline and online tools for real-world BCI applications — *Sonian Forest, Belgium*
Co-organized with Sylvain Chevallier, Pierre Clisson, Pedro Rodrigues, & Arthur Desbois - BCI meeting 2023 — *June, 2023*

Next Generation: Trainee Spotlights- BCI Thursdays 2023 — *Virtual events*
In collaboration with the Postdoc and Students Committee of the BCI Society - official page — *Nov, 2021, May, 2021 & Nov, 2022*

How do we learn to use a BCI? - Graz conference — *Graz, Austria*
Co-organized with Fabien Lotte, Camille Jeunet, & Fabrizio De Vico Fallani - official page — *Sept, 2019*

Hands-on tutorials

Fieldtrip workshop tutor on iEEG data processing - WIRED — *Paris, France*
Tutorial led by Robert Oostenveld (3 hours) - official page — *March, 2024*

Fieldtrip workshop tutor on M/EEG data processing - Practical MEEG — *Aix-en-Provence, France & virtual*
Tutorial led by Robert Oostenveld (10 hours) - official page — *Dec, 2022*

BCI using OpenViBE, an open-source software platform — *Aix-en-Provence, France & virtual*
Co-organized with Arthur Desbois - PracticalMEEG — *Dec, 2022*

OpenViBE: an open-source software platform for Brain-Computer Interfaces — *Aix-en-Provence, France*
Co-organized with Arthur Desbois - CuttingEEG — *Oct, 2021*

Supervision

PhD Theses

Camilla Mannino — *Co-supervision with M. Chavez*
M2 in Bionics Engineering (Univ. of Pisa, Italy) — *Nov. 2023 - present*
Neuronal avalanches as a tool to improve Brain-Computer Interfaces

Cassandra Dumas — *Co-supervision with N. George*
MEng in Biotechnologies & Innovations in Neurosciences, (PSL, France) — *June 2024 - present*
Characterization of the spatial signatures of β sensorimotor rhythms for the neurofeedback

Bruno Aristimunha — *Co-supervision with S. Chevallier*
M2 in Computational neuroscience and Data mining (Univ. of ABC, Brazil) — *March 2023 - present*
Learning Structure In Electroencephalogram Using Deep Learning

Sébastien Velut — *Co-supervision with S. Chevallier & F. Dehais*
MEng in Aerospace, Aeronautical and Space Engineering (ISAE SUPAERO, France) — *Nov. 2023 - present*
Variability inter user in passive and active BCI

Engineers

Arthur Desbois
Master's diploma in engineering in signal procesing (ESIEE Paris, France) — *March 2020 - present*
Developer of HappyFeat - An interactive and efficient BCI framework for clinical applications

Master Theses

Rune Frateur
M2 in Computational Neurosciences and Neuroengineering (Univ. Paris-Saclay) — *Jan. - June 2023*
Optimization of classification algorithms for multimodal data from brain-computer interfaces

Linda Ek-Fliesberg

M2 in "Bioengineering and Innovation in Neurosciences" (ESPCI-Univ. Paris Descartes) *Feb.- June 2023*

Neuronal avalanches as alternative features for BCI

Camile Bousfiha

Medical student and Msc in "Bioengineering and Innovation in Neurosciences" - ESPCI-Univ. Paris Descartes *Feb.- Sept. 2022*

Identification of neurophysiological markers of post-stroke functional recovery: a longitudinal study for the design of innovative BCI

Cléo Perrin

L2 in "Frontières du Vivant" - Univ. Paris Descartes *June-July 2022*

Development of a pipeline to compare functional connectivity metrics from different processing toolboxes

Nessim Richard

Msc in "Bioengineering and Innovation in Neurosciences" - ESPCI-Univ. Paris Descartes *Feb. -July 2021*

Optimization of a pipeline dedicated to the preprocessing and the analysis of EEG data

Juliana Gonzalez-Astudillo

Msc in "Mechatronic systems for rehabilitation" - Sorbonne Université *Apr. - July 2018*

Software development for BCI and now as a PhD student to identify brain network-based BCI features

Thomas Campbell Arnold

Msc in Biomedical Engineering - Univ. of Pennsylvania, USA *May.-Sept. 2018*

Identification of graph theory metrics as potential BCI features - co-supervised with D. Bassett

Tiziana Cattai

Msc in Biomedical Engineering, Sapienza University, Rome, Italy *March.- June 2017*

Brain connectivity BCI - co-supervised with G. Scarano and F. De Vico Fallani

Oriana Peltzer and Alice Chavanne-Arod

Msc in Biomedical Engineering - resp. ENSAM and ENS Cachan *June - July 2017*

Protocol setup using a motor-imagery based BCI for parkinsonian patients - co-supervised with N. George, B. Lau and F. De Vico Fallani

Software development and management

HappyFeat

An interactive and efficient BCI framework for clinical applications — *Supervision*

Pyriemann

Biosignals classification with Riemannian geometry - tutorial page — *Contributor*

FUCONE

Functional connectivity ensemble method to enhance BCI performance — *Co-creator*

RIGOLETTO

Riemannian Geometry Learning application to connectivity in stroke — *Co-creator*

Scientific commitments

Participation to recruitment juries

2024	**Jury member**, Assistant professor competitive recruitment procedure - University of Paris-Saclay (COS, section 27)	*Saclay*
2024	**Admission jury member**, Permanent researcher competitive recruitment procedure of all the Inria centers (concours CRCN)	*Paris*

Participation to PhD committees and juries

2023	**PhD jury member - Alexandre Bleuzé**, supervised by Marco Congedo & Jérémie Mattout	*Grenoble*
2024-	**Mid-thesis committee member - Camille Des Lauriers**, supervised by J.J. Aucouturier, M. Gavaret & A. Llorens	*Virtual*
2024-	**Mid-thesis committee member - Valérie Marissens Cueva**, supervised by L. Bougrain, S. Rimbert & F. Lotte	*Virtual*
2023-2024	**Mid-thesis committee member - Laure Tabouy**, supervised by Léo Coutellec & Jean-Philippe Cobbaut	*Paris*
2023-	**Mid-thesis committee member - Hafid Sid-Ahmed**, supervised by Virginie Brun & Vincent Auboiroux	*Grenoble*
2023-	**Mid-thesis committee member - Alix Lamouroux**, supervised by Nicolas Farrugia & Pierre Maurel - France	*Virtual*
2023	**Mid-thesis committee member - Apolline Mellot**, supervised by Alexandre Gramfort & Denis Engemann	*Virtual*

Students mentorship

2024	**Designated teacher for MSc internships**, T. de Charrin, N. Cecchi, B. Lhopitallier	*Saclay*

Teaching

Imagerie fonctionnelle cérébrale et interface cerveau machine (12h) — ***ENS Paris-Saclay***

Master Mathématiques Vision Apprentissage (MVA) — *2024-*

Introduction to Brain-Computer Interfaces (1h) — ***Univ. Paris-Cité***

DU IA-Santé — *2021-*

Network science for understanding Brain-Computer Interfaces (3h) — ***Univ. Paris-Saclay***

Master Computational Neuroscience and Neuroengineering — *2021-*

69 - Neurosciences section

MCF Qualification - 20269341499 — *2020*

Introduction to BCI (2h) — ***Paris Brain Institute***

Cours du CENIR — *2017-*

Professional training followed

Intégrité scientifique — ***Paris Brain Institute***

PI Mentoring — *2023*

Management/les bases du Management — ***Paris Brain Institute***

PI Mentoring — *2023*

Gestion de projets & Encadrement de thèse — ***Paris Brain Institute***

PI Mentoring — *2023*

Data Management Plan — ***Paris Brain Institute***

PI Mentoring — *2023*

Statut des fonctionnaires — ***Inria Paris***

PI Mentoring — *2023*

Editorial activities

Journals - PLOS ONE (Academic Editor)

Reviewing

Journals - eNeuro, NeuroImage: Clinical, Brain Topography, Brain Connectivity, Journal of Neural Engineering, IEEE Transactions on Biomedical Engineering (TBME), Frontiers in Human Neuroscience, Frontiers in Neuroergonomics, Scientific Reports, PLOSONE, Sensors, Int. Journal of Neural Systems, Brain-Computer Interfaces, IOP Biomed. Phys. Eng. Express, Electronics

Conferences - Neuroergonomics (2024), BCI meeting (2023), CORTICO days (2022-)

Grants - ANR PRME (2024), INCA grant for the clinical neuroscience institute of Rennes (2024), ANR PRCE (2023)

Societies

2019-	**CORTICO - French BCI Society**, Board member, formely Secretary general (2019-2023)	*France*
2022	**Postdocs and Students committee of the BCI Society**, Co-chair	*Worldwide*
2018-	**BCI Society**, Member	*Worldwide*
2022-	**Organization for Computational Neuroscience - OCNS**, Member	*Worldwide*
2019-	**Organization for Human Brain Mapping - OHBM**, Member	*Worldwide*
2022-	**Federation of European Neuroscience Societies - FENS**, Member	*Worldwide*
2022-	**Société des Neurosciences**, Member	*France*

Outreaching

Olympiades de Neurosciences — ***Paris Brain Institute***

Presentation of my career path and my research projects to high school students — *March 2024*

Roundtable on "the way forward for neurotechnology governance" — ***Univ. of Milano-Bicocca***

Event in line with "The risks and challenges of neurotechnologies for human rights", co-edited with UNESCO — *Dec 2022*

STARE program — ***Paris Brain Institute***

16 h. of medical students mentoring — *2021*

Participation to "La Parisienne" — ***Paris***

Race in support of Breast Cancer research — *Sept. 2021*

Aramis group meeting organizer — ***Paris Brain Institute***

Weekly event, >30 participants — *2018-2021*

RDV des Jeunes Mathématiciennes et Informaticiennes 2021 — ***Virtual***

Presentation of careers in computering and mathematics — *2021*

Fête de la science — ***Paris***

Presentation of the Aramis team-project & neuroimaging platform activities — *2016 & 2017*

Semaine du cerveau — ***Paris Brain Institute***

BCI workshop organization for high school students — *2017*

Salon Jeux et mathématiques — ***Paris***

Presentation of the Aramis team-project activities — *2016*

Marie-Constance Corsi

List of publications

NERV Lab, Paris Brain Institute (ICM)

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A. Book chapters

A.1. **Corsi, M.-C.**, Electroencephalography and Magnetoencephalography. In: "Machine learning for brain diseases" edited by O. Colliot. In Press - https://doi.org/10.1007/978-1-0716-3195-9_9.

B. International journal publications

B.1. Carrara, I., Aristimunha, B., **Corsi, M.-C.**, de Camargo, R., Chevallier, S., Papadopoulo, T. (2024). Geometric Neural Network based on Phase Space for BCI decoding. JNE - in press - http://arxiv.org/abs/2403.05645

B.2. **Corsi, M.-C.***, Troisi-Lopez, E.* Sorrentino, P., Danieli, A., Cuozzo, S., Bonanni, P., Duma, G.M. (2024). Neuronal avalanches in temporal lobe epilepsy as a noninvasive diagnostic tool investigating large scale brain dynamics. Scientific Reports - https://doi.org/10.1038/s41598-024-64870-3

B.3. Venot, T., Desbois, A., **Corsi, M.-C.**, Saint-Bauzel, L., De Vico Fallani, F., (2024). Intentional binding enhances hybrid BCI control. Journal of Neural Engineering - https://doi.org/10.1088/1741-2552/ad628c

B.4. Presigny, C., **Corsi, M.-C.**, & De Vico Fallani, F. (2024). Topological duality of multilayer networks. Nature Communications - https://doi.org/10.1038/s41467-024-50176-5

B.5. **Corsi, M.-C.***, Sorrentino, P.*, Chavez, M., Schwartz, D., George, N., Gollo, L., Chevallier, S., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., Jirsa, V., & De Vico Fallani, F. (2023). Measuring Neuronal Avalanches to inform Brain-Computer Interfaces. iScience - https://doi.org/10.1016/j.isci.2023.108734

B.6. Desbois, A., Venot, T., De Vico Fallani, F., **Corsi, M.-C.** (2023). HappyFeat – An interactive and efficient BCI framework for clinical applications. Software Impacts - https://doi.org/10.1016/j.simpa.2023.100610

B.7. Sorrentino, P., Troisi Lopez, E., Romano, A., Granata, C., **Corsi, M.-C.**, Sorrentino, G., & Jirsa, V. (2023) Brain fingerprint is based on the aperiodic, scale-free, neuronal activity. NeuroImage - https://doi.org/10.1016/j.neuroimage.2023.120260 (Impact factor: 7.40)

B.8. **Corsi, M.-C.** , Chevallier, S., De Vico Fallani, F. & Yger, F. (2022) Functional connectivity ensemble method to enhance BCI performance (FUCONE). IEEE Transactions on Biomedical Engineering - https://doi.org/10.1109/TBME.2022.3154885. (Impact factor: 5.20)

B.9. Chevallier, S., **Corsi, M.-C.** , Yger, F., & De Vico Fallani, F. (2022) Riemannian geometry for combining functional connectivity metrics and covariance in BCI. Software Impacts - https://doi.org/10.1016/j.simpa.2022.100254.

B.10. Cattai, T., Scarano, G., **Corsi, M.-C.**, Bassett, D. S., De Vico Fallani, F & Colonnese, S. (2021). Improving J-divergence of brain connectivity states by graph Laplacian denoising. IEEE Transactions on Signal and Information Processing over Networks - https://doi.org/10.1109/TSIPN.2021.3100302 (Impact factor: 3.66)

B.11. Gaubert, S., Houot, M., Raimondo, F., Ansart, M., **Corsi, M.-C.**, Naccache, L., Sitt, J.D., Habert, M.-O., Dubois, B., De Vico Fallani, F. Durrleman, S., & Epelbaum, S (2021).A machine learning approach to screen for preclinical Alzheimer's disease. Neurobiology of Aging. - https://doi.org/10.1016/j.neurobiolaging.2021.04.024 (Impact factor: 4.68)

B.12. Cattai, T., Colonnese, S., **Corsi, M.-C.**, Bassett, D. S., Scarano, G., & De Vico Fallani, F (2021). Phase/amplitude synchronization of brain signals during motor imagery BCI tasks. IEEE Transactions on Neural Systems and Rehabilitation Engineering - https://doi.org/10.1109/TNSRE.2021.3088637 (Impact factor: 3.80)

B.13. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. (2021) BCI learning induces core-periphery reorganization in M/EEG multiplex brain networks. Journal of Neural Engineering - https://doi.org/10.1088/1741-2552/abef39 (Impact factor: 5.38)

B.14. Gonzalez-Astudillo, J, Cattai, T., Bassignana, G., **Corsi, M.-C.**, & De Vico Fallani, F. Network-based brain computer interfaces: principles and applications. (2020) Journal of Neural Engineering - https://doi.org/10.1088/1741-2552/abc760 (Impact factor: 5.38)

B.15. Stiso, J., **Corsi, M.-C.**, Garcia, J. O., Vettel, J. M., De Vico Fallani, F., Lucas, T. H., & Bassett, D. S. (2020) Learning in brain-computer interface control evidenced by joint decomposition of brain and behavior. Journal of Neural Engineering - https://doi.org/10.1088/1741-2552/ab9064 (2019 Impact factor: 5.38)

B.16. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F., (2020) Functional disconnection of associative cortical areas predicts performance during BCI training. NeuroImage - https://doi.org/10.1016/j.neuroimage.2019.116500 (2019 Impact factor: 6.56)

B.17. Gaubert, S., Raimondo, F., Houot, M., **Corsi, M.-C.**, Naccache, L., Diego Sitt, J., … & Younsi, N. (2019) EEG evidence of compensatory mechanisms in preclinical Alzheimer's disease. Brain - https://doi.org/10.1093/brain/awz150 (Impact factor: 13.50)

B.18. **Corsi, M.-C.**, Chavez, M., Schwartz, D., Hugueville, L., Khambhati, A. N., Bassett, D. S., & De Vico Fallani, F. Integrating EEG and MEG signals to improve motor imagery classification in brain-computer interface. (2018) International Journal of Neural Systems - https://doi.org/10.1142/S0129065718500144 (Impact factor: 5.87)

B.19. Labyt, E.*, **Corsi, M.-C***, Fourcault, W., Palacios Laloy, A., Bertrand, F., Lenouvel, F., Cauffet, G., Le Prado, M., Berger, F., & Morales, S. Magnetoencephalography with optically pumped 4He magnetometers at ambient temperature. (2018) IEEE Transactions on Medical Imaging - https://doi.org/10.1109/TMI.2018.2856367 (Impact factor: 10.05)

B.20. Morales*, S., **Corsi, M.-C***, Fourcault, W., Bertrand, F., Cauffet, G., Gobbo, C. F., Alcouffe, F., Lenouvel, F., Le Prado, M., Berger, F., Vanzetto, G., & Labyt, E. Magnetocardiography measurements with 4He vector optically pumped magnetometers at room temperature. (2017) IOP Physics in Medicine and Biology - https://doi.org/10.1088/1361-6560/aa6459 (Impact factor: 3.61)

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C. Conferences with full-length peer-reviewed proceedings

C.1. Cattai, T., Caporali, C., **Corsi, M.-C**, & Colonnese, S. Introducing the modularity graph: an application to brain functional networks. 2024 32th European Signal Processing Conference (EUSIPCO) - https://eurasip.org/Proceedings/Eusipco/Eusipco2024/pdfs/0001611.pdf

C.2. Velut, S., Chevalier, S., **Corsi, M.-C**, & Dehais, F. Deep Riemannian Neural Architectures for Domain Adaptation in Burst cVEP-based Brain Computer Interface. 2024 32th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN) -

C.3. Mannino, C., Sorrentino, P., Chavez, M., & **Corsi, M.-C**. Neuronal avalanches for EEG-based motor imagery BCI. 9th Graz Brain-Computer Interface Conference 2024 - https://cstb.hal.science/INS/hal-04698548v1

C.4. Venot, T., Desbois, A., **Corsi, M.-C.**, Hugueville, L., Saint-Bauzel, L., & De Vico Fallani, F., Exploring Strategies for Multimodal BCIs in an Enriched Environment, 2022 IEEE International Workshop on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering - IEEE MetroXRAINE 2022 - https://doi.org/10.1109/MetroXRAINE54828.2022.9967624

C.5. Cattai, T., Scarano, G., **Corsi, M.-C**, De Vico Fallani, F., & Colonnese, S. EEG as Signal on Graph: a Multilayer Network model for BCI applications. 2022 30th European Signal Processing Conference (EUSIPCO) - https://ieeexplore.ieee.org/document/9909871

C.6. Venot, T., **Corsi, M.-C.**, Saint-Bauzel, L., De Vico Fallani, F., Towards multimodal BCIs: the impact of peripheral control on motor cortex activity and sense of agency, 2021 IEEE Engineering in Medicine & Biology Society (EMBC). - https://doi.org/10.1109/EMBC46164.2021.9630021

C.7. **Corsi, M.-C.**, Yger, F., Chevallier,S., & Noûs, C., Riemannian geometry on connectivity for clinical BCI, IEEE International Conference on Acoustics, Speech and Signal Processing 2021 - https://doi.org/10.1109/ICASSP39728.2021.9414790 (2021 acceptance rate: 48%)

C.8. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F., Looking for cortical patterns of successful motor imagery-based BCI learning, 8th Graz BCI Conference - https://doi.org/10.3217/978-3-85125-682-6-04

C.9. Cattai, T., Colonnese, S., **Corsi, M.-C**, Bassett, D. S., Scarano, G., & De Vico Fallani, F., Combination of connectivity and spectral features for motor-imagery BCI, 8th Graz BCI Conference - https://doi.org/10.3217/978-3-85125-682-6-32

C.10. Cattai, T., Colonnese, S., **Corsi, M.-C**, Bassett, D. S., Scarano, G., & De Vico Fallani, F. Characterization of Mental States through Node Connectivity between Brain Signals. 2018 26th European Signal Processing Conference (EUSIPCO), 1377–1381 - https://doi.org/10.23919/EUSIPCO.2018.8553000

D. Conferences abstracts (accepted)

D.1. Verma, P., & **Corsi, M.-C**, "Biophysical modeling to inform performance in motor imagery-based Brain-Computer Interfaces", BIOMAG, Sydney, Australia, 2024 (poster & lightning talk presentation)

D.2. Mannino, C., Sorrentino, P., Chavez, M., & **Corsi, M.-C**."Neuronal avalanches for EEG-based motor imagery BCI", 9th Graz Brain-Computer Interface Conference 2024, Graz, Austria, 2024 (oral presentation)

D.3. Verma, P., & **Corsi, M.-C**, "Biophysical modeling to inform performance in motor imagery-based Brain-Computer Interfaces", Computational Neuroscience meeting, Natal, Brazil, 2024 (poster presentation)

D.4. Aristimunha, B., de Camargo, R., Moreau, T., Chevallier, S., & **Corsi, M.-C**., "What is the best model for decoding neurophysiological signals? Depends on how you evaluate", Computational Neuroscience meeting, Natal, Brazil, 2024 (poster presentation)

D.5. **Corsi, M.-C.***, Sorrentino, P.*, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., Jirsa, V., & De Vico Fallani, F. "Neuronal avalanches as potential features for Brain-Computer Interfaces", Annual Meeting of the Organization for Human Brain Mapping (OHBM), Seoul, South Korea, 2024 (poster presentation)

D.6. Mannino, C., Sorrentino, P., Chavez, M., **Corsi, M.-C.**,"Neuronal avalanches for EEG-based motor imagery BCI: robustness of classification performance & validity of feature selection", CORTICO Days, Nancy, France, 2024 (poster presentation)

D.7. Mannino, C., Sorrentino, P., Chavez, M., **Corsi, M.-C.**,"The potential of neural avalanches to design innovative sensorimotor-based brain-computer interface", 33rd Annual Meeting of the Society for the Neural Control of Movement (NMC), Dubrovnik, Croatia, 2024 (poster presentation)

D.8. **Corsi, M.-C.***, Sorrentino, P.*, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., Jirsa, V., & De Vico Fallani, F. "Neuronal avalanches differentiate Parkinson disease patients and healthy controls", Annual Meeting of the Organization for Human Brain Mapping (OHBM), Montréal, Canada, 2023 (poster presentation)

D.9. **Corsi, M.-C.**, Chevallier,S., De Vico Fallani, F., & Yger, F. , "Empirical evaluation on multiple BCI datasets of the functional connectivity ensemble (FUCONE) method", BCI meeting 2023, Sonian Forest, Belgium, 2023 (poster presentation)

D.10. Venot, T., Desbois, A., **Corsi, M.-C**, Hugueville, L., Saint-Bauzel, L., De Vico Fallani, F. "Investigating the proper time to perform the motor imagery task in a multimodal BCI", BCI meeting 2023, Sonian Forest, Belgium, 2023 (poster presentation)

D.11. **Corsi, M.-C.***, Sorrentino, P.*, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., Jirsa, V., & De Vico Fallani, F. "Measuring Neuronal Avalanches to inform Brain-Computer Interfaces", NeuroFrance meeting, Lyon, France, 2023 (oral presentation)

D.12. Ek-Fliesberg, L., Sorrentino, P., & **Corsi, M.-C.**, "Neuronal avalanches as alternative features for motor imagery-based brain-computer interface", Journées CORTICO 2023, Paris, France (poster presentation)

D.13. Frateur, R., Chevallier, S., Yger, F., & **Corsi, M.-C.**, "Dimensionality Reduction and Frequency Bin Optimization To Improve a Riemannian-based Classification Pipeline", Journées CORTICO 2023, Paris, France (poster presentation)

D.14. Desbois, A., Venot, T., **Corsi, M.-C.**, & De Vico Fallani, F., "HappyFeat: A Python-based framework for the efficient handling of MI BCI protocols", Journées CORTICO 2023, Paris, France (poster presentation)

D.15. Venot, T., Desbois, A., **Corsi, M.-C**, Hugueville, L., Saint-Bauzel, L., & De Vico Fallani, F. "Investigating the proper time to perform the motor imagery task in a multimodal BCI", Journées CORTICO 2023, Paris, France (poster presentation)

D.16. Carrara, I., Aristimunha B., Chevallier, S., **Corsi, M.-C**, & Papadopoulo, T., "Holographic EEG: multi-view deep learning for BCI", Journées CORTICO 2023, Paris, France (poster presentation)

D.17. Bruno Aristimunha, B., de Camargo, R.Y., Pinaya, W.H.L., Yger, F., **Corsi, M.-C**, & Chevallier, S., "CONCERTO: Coherence Functional Connectivity Graph Network", Journées CORTICO 2023, Paris, France (poster presentation)

D.18. **Corsi, M.-C.**, Chevallier,S., De Vico Fallani, & Yger, F. , "Ensemble of Riemannian classifiers for multimodal data: FUCONE approach for M/EEG data", IEEE ISBI, Cartegena, Colombia, 2023 (oral and poster presentation)

D.19. **Corsi, M.-C.***, Sorrentino, P.*, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., Jirsa, V., & De Vico Fallani, F. "Informing motor imagery-based brain-computer interface via neuronal avalanches", IEEE ISBI, Cartegena, Colombia, 2023 (poster presentation)

D.20. Venot, T., Desbois, A., **Corsi, M.-C.**, Hugueville, L., Saint-Bauzel, L., & De Vico Fallani, F., Exploring Strategies for Multimodal BCIs in an Enriched Environment, 2022 IEEE International Workshop on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering - IEEE MetroXRAINE 2022.

D.21. Desbois, A., Venot, T., **Corsi, M.-C.**, & De Vico Fallani, F. "HappyFeat, an interactive and efficient BCI Framework for clinical applications", MetroXRAINE 2022 - IEEE International conference on metrology for extended reality, artificial intelligence and neural engineering, Rome, Italy, 2022 (demonstration presentation)

D.22. **Corsi, M.-C.***, Sorrentino, P.*, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., Jirsa, V., & De Vico Fallani, F. "Exploiting brain critical dynamics to inform Brain-Computer Interfaces performance", Brain criticality meeting, Bethesda, MD, USA & virtual, 2022 (oral presentation)

D.23. **Corsi, M.-C.***, Sorrentino, P.*, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., Jirsa, V., & De Vico Fallani, F. "Exploiting brain critical dynamics to inform Brain-Computer Interfaces performance", CNS, 31^{st} Annual Computational Neuroscience Meeting, Melbourne, 2022 (oral presentation)

D.24. Sorrentino, P.*, **Corsi, M.-C.***, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., De Vico Fallani, F., & Jirsa, V. "Exploiting brain critical dynamics to inform Brain-Computer Interfaces", BIOMAG, Birmingham, United Kingdom, 2022 (poster presentation)

D.25. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. "M/EEG networks integration to elicit patterns of motor imagery-based BCI training", BIOMAG, Birmingham, United Kingdom, 2022 (poster presentation)

D.26. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. "Functional connectivity predicts MI-based BCI learning", BIOMAG, Birmingham, United Kingdom, 2022 (poster presentation)

D.27. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. "M/EEG networks integration to elicit patterns of motor imagery-based BCI training", Federation of European Neuroscience Societies (FENS) meeting 2022, Paris, 2022 (poster presentation) -

D.28. Sorrentino, P.*, **Corsi, M.-C.***, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., Jirsa, V*, & De Vico Fallani, F.*, "Neuronal avalanches differentiate resting-state and task conditions in Brain-Computer Interfaces", Federation of European Neuroscience Societies (FENS) meeting 2022, Paris, 2022 (poster presentation)

D.29. **Corsi, M.-C.***, Sorrentino, P.*, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., Jirsa, V*, & De Vico Fallani, F.*, "Neuronal avalanches differentiate resting-state and task conditions in Brain-Computer Interfaces", Annual Meeting of the Organization for Human Brain Mapping (OHBM), Glasgow, 2022 (poster presentation)

D.30. Desbois, A., Cattai, T., **Corsi, M.-C.**, & De Vico Fallani, F. "An OpenViBE Python-based framework for the efficient handling of MI BCI protocols", Journées CORTICO, Autrans, France, 2022 (poster presentation)

D.31. **Corsi, M.-C.**, Chevallier, S., Quentin Barthélemy, Q., Hoxha, I., & Yger, F. "Ensemble learning based on functional connectivity and Riemannian geometry for robust workload estimation", Neuroergonomics conference 2021, Virtual event, Germany, 2021

D.32. Gonzalez-Astudillo, J.,Ceballos-Dominguez, E.G., Cattai, T., **Corsi, M.-C.**, & De Vico Fallani, F. "Spatial network metrics for characterizing brain-computer interface mental states", NetSci 2021 - International School and Conference on Network Science, Virtual, United States, 2021

D.33. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. "Core-periphery markers of longitudinal BCI from multiplex brain networks", Networks2021, virtual event, 2021 (oral presentation)

D.34. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. "Functional connectivity predicts MI-based learning", International Conference on Brain-Computer Interface (vBCI), virtual event, 2021 - Best Oral Presentation Award

D.35. Gonzalez-Astudillo, J., Cattai, T., **Corsi, M.-C.**, & De Vico Fallani, F. "On the classification of mental states by means of network-based features", NetSci 2020 - International School and Conference on Network Science, Rome / Virtual, Italy, 2020

D.36. Gonzalez-Astudillo, J., Cattai, T., **Corsi, M.-C.**, & De Vico Fallani, F. "Towards the use of spatial network metrics for characterizing brain mental states", Analysis and Modelling of Spatial Complex Systems, Satellite of the Conference on Complex Systems, 2020 (oral presentation)

D.37. Chevallier, S., **Corsi, M.-C.**, Yger, F.,& Noûs, C, "Extending Riemannian Brain-Computer Interface to Functional Connectivity Estimators", IROS Workshop on Bringing geometric methods to robot learning, optimization and control, Las Vegas, United States, 2020 (oral and poster presentation)

D.38. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. "Neurophysiological patterns of a successful BCI learning", Graz BCI Meeting, Graz, Austria, 2019 (oral and poster presentation)

D.39. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. "Looking for neurophysiological correlates of BCI learning", Annual Meeting of the Organization for Human Brain Mapping (OHBM), Rome, Italy, 2019 (poster presentation)

D.40. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. "Neurophysiological patterns of BCI learning", NeuroFrance, Marseille, France, 2019 (poster presentation)

D.41. **Corsi, M.-C.**, Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. "Looking for neurophysiological correlates of BCI learning", Journées CORTICO, Lille, France, 2019 (oral presentation)

D.42. **Corsi, M.-C.**, Chavez, M., Schwartz, D., Hugueville, L., Khambhati, A. N., Bassett, D. S., & De Vico Fallani, F. "M/EEG integration to enhance motor-imagery-based brain-computer interface performances", BIOMAG, Philadelphia, United States, 2018 (poster presentation)

D.43. Labyt, E., Palacios-Laloy, A., **Corsi, M.-C.**, Fourcault, W., Bertrand, F., Lenouvel, F., Cauffet, G., Berger, F., Morales, S., & Le Prado, M., "First MEG recordings with an optically pumped 4He magnetometer at ambient temperature", BIOMAG, Philadelphia, United States, 2018 (poster presentation)

D.44. **Corsi, M.-C.**, Chavez, M., Schwartz, D., Hugueville, L., Khambhati, A. N., Bassett, D. S., & De Vico Fallani, F. "Integrating EEG and MEG information to enhance motor imagery classification in brain-computer interface", Cutting'EEG, Paris, France, 2018 (poster presentation)

D.45. **Corsi, M.-C.**, Chavez, M., Schwartz, D., Hugueville, L., Khambhati, A. N., Bassett, D. S., & De Vico Fallani, F. "Integrating EEG and MEG information to enhance motor imagery classification in brain-computer interface", BCI Society conference, Asilomar, United States, 2018 (poster presentation)

D.46. **Corsi, M.-C.**, Chavez, M., Schwartz, D., Hugueville, L., Khambhati, A. N., Bassett, D. S., & De Vico Fallani, F. "Looking for predictors in motor imagery-based BCI", Journées CORTICO, Bordeaux, France, 2017 (poster presentation)

D.47. **Corsi, M.-C.**, Labyt, E., Fourcault, W., Gobbo, G., Bertrand, F., Alcouffe, F., Cauffet, G., Le Prado, M., & Morales, S. "Detecting MCG signals from a phantom with a 4He magnetometer", BIOMAG, Halifax, 2014 (poster presentation during the OPMs workshop and the conference, participation to the best PhD poster contest)

E. Thesis

E.1. **Corsi, M.-C.** Magnétomètres à pompage optique à Hélium 4: développement et preuve de concept en magnétocar-diographie et en magnétoencéphalographie. Grenoble Alpes (2015) - https://www.theses.fr/2015GREAT082

F. Patents

F.1. Le Prado, M., Morales, S., **Corsi, M.-C.** & Viana, A., Magnetic shielding. 20160157394, 2015.

F.2. Le Prado, M., Bertrand, F., **Corsi, M.-C.**, Delevoye, E., & Morales, S., Method and device for measuring a magnetic field by synchronised excitations, 20150008916, 2013.

G. Submitted journal articles & conference peer-reviewed proceedings

G.1. Venot, T., Bousfiha, C., De Vico Fallani, F., & **Corsi, M.-C.** (2024). Exploring spatio-temporal variations of neurophysiological estimators in Brain-Computer Interfaces to inform intra-subject variabilties

G.2. Klepachevskyi, D., Romano, A., Aristimunha, B., Angiolelli, M., Trojsi, F., Sorrentino, G., Andreone, V., Minino, R., Troisi Lopez, E., Polverino, A., Jirsa, V., Saudargiene, A., **Corsi, M.-C.***, P., & Sorrentino, P.* (2024). Magnetoencephalography-based interpretable automated differential diagnosis in neurodegenerative diseases. medRxiv - https://www.medrxiv.org/content/10.1101/2024.06.17.24309023v1

G.3. Troisi-Lopez, E.*, **Corsi, M.-C.***, Danieli, A., Antoniazzi, L., Angiolelli, M., Bonanni, P., Sorrentino, P., & Duma, G.M. (2024). Dynamic reconfiguration of aperiodic brain activity supports cognitive functioning in epilepsy: a neural fingerprint identification. medRxiv - https://www.medrxiv.org/content/10.1101/2024.04.19.24305881v1

G.4. Cattai, T., Caporali, C., **Corsi, M.-C.**, Colonnese, S. (2024). Introducing the modularity graph: an application to brain functional networks. arXiv - http://arxiv.org/abs/2406.15155

G.5. Cattai, T., Scarano, G., **Corsi, M.-C.**, De Vico Fallani, F., Colonnese, S. (2023). Community Detection from Multiple Observations: from Product Graph Model to Brain Applications. arXiv - http://arxiv.org/abs/2406.15142