

Marie-Constance Corsi

INRIA RESEARCH SCIENTIST

NERV Lab, Paris Brain Institute (ICM)

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Academic Positions and work experience

Research scientist

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

Paris, France

2022 - now

Postdoctoral researcher

ARAMIS PROJECT-TEAM, PARIS BRAIN INSTITUTE, INRIA, CNRS UMR 7225, INSERM U1127

Paris, France

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

LABORATOIRE DES CAPTEURS INNOVANTS, CEA-LETI

Grenoble, France

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 & Magnetoencephalography

Keywords: OPMs, Helium 4, MEG, MCG

Internship

LABORATOIRE DES CAPTEURS INNOVANTS, CEA-LETI

Grenoble, France

2012 (6 mo)

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

Internship

MORVAN HOSPITAL

Brest, France

2011 (1 mo)

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

Education

France Life Imaging

TRAINING ON MAGNETOENCEPHALOGRAPHY - DATA ACQUISITION AND ANALYSIS

Lyon and Grenoble, France

2015

Grenoble Alpes University

MASTER'S DEGREE IN NEUROPSYCHOLOGY AND CLINICAL NEUROSCIENCES

Grenoble, France

2013-2015

University of Montpellier II

ACADEMIC DIPLOMA - INFORMATION AND COMMUNICATION TECHNOLOGIES FOR HEALTH TRAINING

Montpellier, France

2011-2012

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

ACADEMIC SEMESTER - BIOPHYSICS, SIGNAL PROCESSING, OPTICAL, AND MICROWAVE TRAININGS

Barcelona, Spain

2011

Institut Mines-Télécom (IMT) Atlantique

MASTER'S DIPLOMA IN ENGINEERING - SIGNAL PROCESSING, PHYSICS, COMPUTING, MANAGEMENT

Brest, France

2009-2012

Lycée Paul Cézanne

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

Aix-en-Provence, France

2006-2009

Lycée La Nativité

BACCALAURÉAT - PHYSICS-CHEMISTRY SPECIALITY, FIRST CLASS WITH DISTINCTION

Aix-en-Provence, France

2006

Publications

1	Book chapter	1 as first author
21	International journal articles (accepted)	10 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
48	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 Award¹ - signal processing category , International Conference on Brain-Computer Interface (vBCI)	Virtual event
2020	Clinical BCI Challenge , IEEE WCCI2020, ranked 1 st 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) ENSEMBLE OF RIEMANNIAN CLASSIFIERS FOR MULTIMODAL DATA: FUCONE APPROACH FOR M/EEG DATA	Cartegena, Colombia April, 2023
NeuroTechX 2022 ALTERNATIVE FEATURES AND MARKERS FOR BETTER BCIS	Paris and worldwide Oct, 2022
Graz BCI conference workshop SPATIOTEMPORAL NEURAL CORRELATES OF MI-BASED BCI TRAINING	Graz, Austria Sept, 2019
Multiscale Brain Network analysis workshop LOOKING FOR NEUROPHYSIOLOGICAL CORRELATES OF BCI LEARNING	Naples Italy Sept, 2019

Conference talks

BIOMAG 2024 USING MODELS FOR CLASSIFICATION: FROM CLINICAL DIAGNOSIS TO BRAIN-COMPUTER INTERFACES APPLICATIONS	Sydney, Australia August, 2024
NeuroFrance meeting MEASURING NEURONAL AVALANCHES TO INFORM BRAIN-COMPUTER INTERFACES	Lyon France May, 2023
Brain criticality meeting EXPLOITING BRAIN CRITICAL DYNAMICS TO INFORM BRAIN-COMPUTER INTERFACES PERFORMANCE	Bethesda, MD, USA & virtual Nov, 2022
CNS, 31st Annual Computational Neuroscience Meeting EXPLOITING BRAIN CRITICAL DYNAMICS TO INFORM BRAIN-COMPUTER INTERFACES PERFORMANCE	Melbourne, Australia July, 2022
Networks 2021 CORE-PERIPHERY MARKERS OF LONGITUDINAL BCI FROM MULTIPLEX BRAIN NETWORKS	Virtual July, 2021
8th International BCI Meeting FUNCTIONAL CONNECTIVITY PREDICTS MI-BASED BCI LEARNING - STUDENT AWARD	Virtual event June, 2021
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) RIEMANNIAN GEOMETRY ON CONNECTIVITY FOR CLINICAL BCI	Virtual event June, 2021
Journées Jeunes Chercheurs en Interfaces Cerveau-Ordinateur et Neurofeedback (JJC-ICON) LOOKING FOR NEUROPHYSIOLOGICAL CORRELATES OF BCI LEARNING	Lille, France March, 2019

Seminars

1st EBRAINS France workshop NETWORK NEUROSCIENCE FOR BRAIN-COMPUTER INTERFACES	Marseille, France October, 2024
Forum TERATEC THE SCIENCE OF BRAIN-COMPUTER INTERFACE	Paris, France May, 2024
MIND Seminar, Inria Saclay USING NON-INVASIVE CLOSED-LOOP SYSTEMS: INSIGHTS FROM MACHINE AND USERS-CENTRERED APPROACHES	Saclay, France Feb, 2024

TAU Seminar, Paris-Saclay University

IMPROVING NON-INVASIVE BRAIN-COMPUTER INTERFACE (BCI) VIA MULTIMODAL AND LONGITUNAL APPROACHES

Saclay, France

June, 2023

ICM Computational domain meeting, Paris Brain Institute

MULTIMODAL INTEGRATION IN BRAIN-COMPUTER INTERFACES TO IMPROVE NEUROLOGICAL REHABILITATION

Paris, France

Feb, 2023

Pyladies Paris event, Paris Brain Institute

IMPROVING NON-INVASIVE BRAIN-COMPUTER INTERFACE (BCI): CONTRIBUTIONS OF OPEN-SOURCE SOFTWARE TOOLS

Paris, France

Feb, 2023

Laboratoire Bordelais de Recherche en Informatique (LaBRI, CNRS UMR 5800, Inria)

IMPROVING BCI: INSIGHTS FROM MULTIMODAL AND LONGITUDINAL ANALYSIS!

Bordeaux, France

Feb, 2022

Journée Jeunes Chercheurs en Interfaces Cerveau-Ordinateur et Neurofeedback (JJC-ICON'2021)

M/EEG DATA ANALYSIS: WHERE IT ALL BEGINS!

Virtual event

May, 2021

Institut de Neurosciences des Systèmes (INS, UMR1106)

IMPROVING BCI: INSIGHTS FROM MULTIMODAL AND LONGITUDINAL ANALYSIS...AND OPMs!

Marseille, France

Sept, 2020

Brain Dynamics and Cognition (DYCOG) team - Lyon Neuroscience Research Center (CRNL)

OPTICALLY-PUMPED MAGNETOMETERS: HYPE OR REAL OPPORTUNITY FOR BCI?

Lyon, France

Nov, 2019

Experimental neurosurgery lab, Paris Brain Institute

LOOKING FOR NEUROPHYSIOLOGICAL CORRELATES OF BCI LEARNING

Paris, France

Oct, 2019

Lundis du CENIR, Paris Brain Institute

PRESENTATION OF THE ONGOING PROTOCOLS

Paris, France

Oct, 2019

Athena project-team, Inria Sophia Antipolis

IMPROVING BCI: INSIGHTS FROM MULTIMODAL AND LONGITUDINAL ANALYSIS

Sophia Antipolis, France

Feb, 2019

Cafés de la neuroinformatique, Paris Brain Institute

WHAT IF YOU COULD WRITE AS FAST AS YOU THINK?

Paris, France

Nov, 2018

Developmental Neuroimaging Lab, CEA/SAC/DSV/DRM/NeuroSpin

HELIUM 4 OPTICALLY-PUMPED MAGNETOMETERS : DEVELOPMENT AND PROOF OF CONCEPT IN MAGNETOCARDIOGRAPHY AND MAGNETOENCEPHALOGRAPHY

Saclay, France

Feb, 2016

Conference chairing

BIOMAG 2024

DATA ANALYSIS / INFORMATICS ORAL SESSION

Sydney, Australia

Aug, 2024

BCI Thursdays: Online Events

NEXT GENERATION: TRAINEE SPOTLIGHTS

Virtual events

Nov, 2021; May, 2022; Nov, 2022

Cutting'EEG conference

CHALLENGING SETUPS FOR CUTTING EDGE EEG/MEG RESEARCH

Aix-en-Provence, France

Oct, 2021

Journée CORTICO 2020

TAKING BCIs OUT OF THE LAB – INNOVATIVE PARADIGMS AND APPLICATIONS

Virtual event

Oct, 2021

Cutting'EEG conference

OUTSIDE THE BOX

Paris, France

June, 2018

Scientific events organization

Conferences & symposia


CuttingEEGX

CHAIR OF THE "EVOLVING METHODS" SYMPOSIUM - GITHUB PAGE 

Virtual

Oct, 2024

BIOMAG 2024

CO-CHAIR WITH PIERPAOLO SORRENTINO OF THE "ALTERNATIVE FUNCTIONAL CONNECTIVITY ESTIMATORS AND THEIR REAL-LIFE APPLICATION" SYMPOSIUM - OFFICIAL PAGE 

Sydney, Australia

August, 2024

Neuroergonomics

MEMBER OF THE SCIENTIFIC COMMITTEE - OFFICIAL PAGE 

Bordeaux, France

July, 2024

CuttingGardens

MEMBER OF THE ORGANIZATION COMMITTEE - OFFICIAL PAGE  & ORGANIZATION OF A BCI SESSION - GITHUB PAGE 

Multi-hub meeting, worldwide

Oct, 2023

Journées CORTICO 2023

CO-ORGANIZED WITH SYLVAIN CHEVALLIER AT PARIS BRAIN INSTITUTE - 100 PARTICIPANTS - OFFICIAL PAGE 

Paris, France

May, 2023

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.

MENG IN AEROSPACE, AEORONAUTICAL AND SPACE ENGINEERING (ISAE SUPAERO, FRANCE)

Dehais

Variability inter user in passive and active BCI

Nov. 2023 - present

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)
Optimization of classification algorithms for multimodal data from brain-computer interfaces

Jan. - June 2023

Linda Ek-Fliesberg

M2 IN "BIOENGINEERING AND INNOVATION IN NEUROSCIENCES" (ESPCI-UNIV. PARIS DESCARTES)
Neuronal avalanches as alternative features for BCI

Feb. - June 2023

Camile Bousfiha

MEDICAL STUDENT AND MSC IN "BIOENGINEERING AND INNOVATION IN NEUROSCIENCES" - ESPCI-UNIV. PARIS DESCARTES
Identification of neurophysiological markers of post-stroke functional recovery: a longitudinal study for the design of innovative BCI

Feb. - Sept. 2022

Cléo Perrin

L2 IN "FRONTIÈRES DU VIVANT" - UNIV. PARIS DESCARTES
Development of a pipeline to compare functional connectivity metrics from different processing toolboxes

June-July 2022

Nessim Richard

MSC IN "BIOENGINEERING AND INNOVATION IN NEUROSCIENCES" - ESPCI-UNIV. PARIS DESCARTES
Optimization of a pipeline dedicated to the preprocessing and the analysis of EEG data

Feb. - July 2021

Juliana Gonzalez-Astudillo

MSC IN "MECHATRONIC SYSTEMS FOR REHABILITATION" - SORBONNE UNIVERSITÉ
Software development for BCI and now as a PhD student to identify brain network-based BCI features

Apr. - July 2018

Thomas Campbell Arnold

MSC IN BIOMEDICAL ENGINEERING - UNIV. OF PENNSYLVANIA, USA
Identification of graph theory metrics as potential BCI features - co-supervised with D. Bassett

May-Sept. 2018

Tiziana Cattai

MSC IN BIOMEDICAL ENGINEERING, SAPIENZA UNIVERSITY, ROME, ITALY
Brain connectivity BCI - co-supervised with G. Scarano and F. De Vico Fallani

March - June 2017

Oriana Peltzer and Alice Chavanne-Arod

MSC IN BIOMEDICAL ENGINEERING - RESP. ENSAM AND ENS CACHAN
Protocol setup using a motor-imagery based BCI for parkinsonian patients - co-supervised with N. George, B. Lau and F. De Vico Fallani

June - July 2017

Software development and management

HappyFeat

AN INTERACTIVE AND EFFICIENT BCI FRAMEWORK FOR CLINICAL APPLICATIONS

Supervision

Pyriemann

BIO SIGNALS 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

2024	PhD jury member - Luna Angelini , supervised by Bruno Rossion & Jacques Jonas	Nancy
2024	PhD jury member - Juan Jesus Torre Tresols , supervised by Frédéric Dehais & Caroline P.C. Chanel	Toulouse
2024	PhD jury member - Igor Carrara , supervised by Théodore Papadopoulo	Sophia Antipolis
2023	PhD jury member - Alexandre Bleuzé , supervised by Marco Congedo & Jérémie Mattout	Grenoble
2024-	Mid-thesis committee member - Camille Des Lauriers , supervised by Jean-Julien Aucouturier, Martine Gavaret & Anaïs Llorens	Virtual
2024-	Mid-thesis committee member - Valérie Marissens Cueva , supervised by L. Bougrain, S. Rimbert & F. Lotte	Virtual
2023-24	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 Auboiron	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
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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, PLOS ONE, Sensors, Int. Journal of Neural Systems, Brain-Computer Interfaces, Epilepsy Open, 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, formerly 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

PRESENTATION OF MY CAREER PATH AND MY RESEARCH PROJECTS TO HIGH SCHOOL STUDENTS

Paris Brain Institute

March 2024

Roundtable on "the way forward for neurotechnology governance"

EVENT IN LINE WITH "THE RISKS AND CHALLENGES OF NEUROTECHNOLOGIES FOR HUMAN RIGHTS", CO-EDITED WITH UNESCO

Univ. of Milano-Bicocca

Dec 2022

STARE program

16 H. OF MEDICAL STUDENTS MENTORING

Paris Brain Institute

2021

Participation to "La Parisienne"

RACE IN SUPPORT OF BREAST CANCER RESEARCH

Paris

Sept. 2021

Aramis group meeting organizer

WEEKLY EVENT, >30 PARTICIPANTS

Paris Brain Institute

2018-2021

RDV des Jeunes Mathématiciennes et Informatiennes 2021

PRESENTATION OF CAREERS IN COMPUTERING AND MATHEMATICS

Virtual

2021

Fête de la science

PRESENTATION OF THE ARAMIS TEAM-PROJECT & NEUROIMAGING PLATFORM ACTIVITIES

Paris

2016 & 2017

Semaine du cerveau

BCI WORKSHOP ORGANIZATION FOR HIGH SCHOOL STUDENTS

Paris Brain Institute

2017

Salon Jeux et mathématiques

PRESENTATION OF THE ARAMIS TEAM-PROJECT ACTIVITIES

Paris

2016

Marie-Constance Corsi

LIST OF PUBLICATIONS

NERV Lab, Paris Brain Institute (ICM)

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

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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. 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. *iScience* - <https://doi.org/10.1016/j.isci.2024.111497>
- B.2. 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* - <https://doi.org/10.1088/1741-2552/ad88a2>
- B.3. **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.4. 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.5. 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.6. **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.7. 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.8. 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.9. **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.10. 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.11. 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.12. 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.13. 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.14. **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.15. 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.16. 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.17. **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.18. 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.19. **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.20. 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.21. 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) - <https://hal.science/hal-04720928/document>
- 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. Troisi-Lopez, E., Minino, R., Romano, A., **Corsi, M.-C.**, Sorrentino, P., Sorrentino, G., "One step towards gait-based Parkinson's disease classification", 24th National Congress of SIAMOC, Stresa, Italy, October 2024 - <https://www.sciencedirect.com/science/article/pii/S096663622400590>
- D.2. 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.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, Graz, Austria, 2024 (oral presentation)
- D.4. 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.5. 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.6. **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.7. 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.8. 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.9. **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.10. **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.11. 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.12. **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.13. 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.14. 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.15. 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.16. 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.17. 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.18. 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.19. **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, Cartagena, Colombia, 2023 (oral and poster presentation)
- D.20. **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, Cartagena, Colombia, 2023 (poster presentation)
- D.21. 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 MetroXRINE 2022.
- D.22. Desbois, A., Venot, T., **Corsi, M.-C.**, & De Vico Fallani, F. "HappyFeat, an interactive and efficient BCI Framework for clinical applications", MetroXRINE 2022 - IEEE International conference on metrology for extended reality, artificial intelligence and neural engineering, Rome, Italy, 2022 (demonstration 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", Brain criticality meeting, Bethesda, MD, USA & virtual, 2022 (oral presentation)
- D.24. **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, 31st Annual Computational Neuroscience Meeting, Melbourne, 2022 (oral presentation)
- D.25. 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.26. **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.27. **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.28. **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.29. 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.30. **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.31. 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.32. **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.33. 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.34. **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.35. **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.36. 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.37. 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.38. 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.39. **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.40. **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.41. **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.42. **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.43. **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.44. 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.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", Cutting'EEG, Paris, France, 2018 (poster presentation)
- D.46. **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.47. **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.48. **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 magnéto-car-diographie et en magnéto-encéphalographie. 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. Klepachevskiy, 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.2. 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.3. 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>