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

marie-constance.corsi@inria.fr | marieconstance-corsi.netlify.app | mccorsi | MConstanceCorsi | Marie-Constance Corsi

Academic Positions

Inria 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

Research Assistant — ***Grenoble, France***

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

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

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

Education

PhD in Biomedical Instrumentation — ***Grenoble, France***

GRENOBLE ALPES UNIVERSITY — *2015*

MSc in Neuropsychology and Clinical Neurosciences — ***Grenoble, France***

GRENOBLE ALPES UNIVERSITY — *2015*

Academic degree in Information and Communication Technologies for Health — ***Montpellier, France***

UNIVERSITY OF MONTPELLIER II — *2012*

MSc in Telecommunication Engineering — ***Brest, France***

INSTITUT MINES-TÉLÉCOM (IMT) ATLANTIQUE (PREVIOUSLY TELECOM BRETAGNE) — *2012*

Publications

3	Book chapters	*2 as first author*
26	International journal articles	*12 as first/last author, 3 as second/second-last author*
13	Conferences with full-length peer-reviewed proceedings	*3 as first/last author, 4 as second/second-last author*
56	Conferences abstracts	*40 as first/last author, 1 as second author*
5	Patents	*2 released*

Supervision

6	PhD students	*1 completed, 5 ongoing*
2	Research engineers working on HappyFeat	*ongoing*
11	Master students	*11 completed*
3	Bachelor students	*3 completed*

Fundings

2026-29	**MANET**, Agence Nationale de Recherche (ANR JCJC) - PI	*285 keuros*
2024	**H-Code**, Paris-Saclay University - co-PI	*3.6 keuros*
2023-25	**Transatlantic Research Partnership**, FACE Foundation - co-PI	*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

2025	**Early Career Award (ECA)**, International BCI Society	*Banff, Canada*
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*

Institutional Responsibilities

Data Referent Committee — ***Inria Paris***

Member — *2026-*

Course Council of the University Master's in Neural Engineering — ***University of Chieti-Pescara, Italy***

Member — *2026-*

Center Committee — ***Inria Paris***

Member (Collège A, deputy) — *2025-*

Doctoral Advisory Committee — ***Inria Paris***

Member — *2025-*

Participation in colloquia

Invited talks at international conferences and workshops

France-Taiwan STC workshop - AI & Health — ***Paris, France***

Electrophysiology for Health: Innovations & Applications — *Oct, 2025*

11th BCI meeting - plenary session — ***Banff, Canada***

Investigating brain interactions: A dual path to understanding and improving BCIs - Early Career Award — *June, 2025*

11th BCI meeting workshop — ***Banff, Canada***

Harnessing MOABB (AI-Data workshop) — *June, 2025*

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

IEEE MetroXRAINE - NxGenBCI workshop — ***Ancona, Italy***

Leveraging neuromarkers to inform and improve BCIs — *Oct, 2025*

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

Essex BCI-NE webinar — *Virtual*

Investigating neuronal avalanches: a dual path to understanding and improving BCIs — *Dec, 2025*

BIDS workshop — *Paris France*

NETBCI dataset...a BIDS journey — *Nov, 2025*

Institut de Neuromodulation (INM) seminar — *Paris, France*

Decoding Brain Interactions: Toward Understanding and Improving Brain-Computer Interfaces — *Nov, 2025*

Rice University workshop — *Paris, France*

Investigating neuronal avalanches: a dual path to understanding and improving BCIs...and more! — *Sept, 2025*

ICNA seminar, ONERA — *Salon de Provence, France*

Investigating brain interactions: a dual path to understanding and improving BCIs — *Aug, 2025*

ICM PI retreat — *Paris, France*

Neuronal avalanches for non-invasive Brain-Computer Interfaces — *Dec, 2024*

Journées Inria "Handicap, perte d'autonomie & numérique" — *Paris, France*

Network neuroscience for Brain-Computer Interfaces: practical examples — *March & Nov, 2024*

1^{st} EBRAINS France workshop — *Marseille, France*

Network neuroscience for Brain-Computer Interfaces — *October, 2024*

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

IEEE MetroXRAINE — *Ancona, Italy*
NxGenBCI special event — *Oct, 2025*

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

PracticalMEEG 2025 — *Aix-en-Provence, France*
Member of the organization committee - official page — *Oct, 2025*

MetroXRAINE — *Ancona, Italy*
Co-organizer of the "Next generation Brain-Computer Interfaces" workshop - official page — *Oct, 2025*

Journées Scientifiques Inria - Neuroinformatique & handicap: comprendre, diagnostiquer et accompagner — *Paris, France*
Co-organized with P. Maurel and C. Cury at Inria Paris — *June, 2025*

CuttingEEGX — *Virtual*
Chair of the "Evolving Methods" symposium - github page — *Oct, 2024*

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

Symposium on Brain models as a tool for a multimodal integration — *Virtual*
Co-chaired with Pierpaolo Sorrentino - 1st OHBM Satellite meeting — *Sept., 2025*

Special Session on Decoding the brain time series — *Istanbul, Turkey*
Co-organized with Bruno Aristimunha, florian Yger & Sylvain Chevallier - 35th IEEE International Workshop on Machine Learning for Signal Processing (IEEE MLSP 2025) — *August, 2025*

Exploring features to improve BCI: challenges and opportunities — *Banff, Canada*
Co-organized with Serafeim Perdikis & Tristan Venot - 11th BCI meeting — *June, 2025*

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

Giovanni Messuti — *Co-supervision with S. Scarpetta*

M2 in Physics (University of Salerno, Italy) — *Nov. 2025 - present*

Multimodal Integration to Improve and Inform Brain-Computer Interfaces (6-month research visit) [G.1]

Baptiste Fagué — *Co-supervision with E. Tartaglia*

M2 in "Bioengineering and Innovation in Neurosciences" (ESPCI-Univ, France) & MEng from Ecole Polytechnique — *Oct. 2025 - present*

Towards a Brain-Computer Interface for Vision Examination (PhD CIFRE)

Jules Gomel — *Co-supervision with F. Dehais*

M2 in Neuroengineering and Signal Processing (ISAE-Supaero, France) — *June 2025 - present*

Neurodecoding - Neuromarkers of Information Integration [G.3]

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 [D.1, C.3, D.5, D.8, D.2]

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 [G.2, G.6, D.4, C.2, C.2, C.6, D.16, D.17]

Sébastien Velut — *Co-superv. 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 [C.5, B.2]

Bruno Aristimunha — *Co-superv. w/ S. Chevallier & R. Camargo*

M2 in Computational neuroscience and Data mining (Univ. of ABC, Brazil) — *March 2023 - Feb. 2026*

Learning Structure In Electroencephalogram Using Deep Learning [B.7, D.14, D.27, D.26]

Engineers

Morgane Marzulli

Master's diploma in BioMedical Engineering (Université Paris Cité, ESPCI, ENSAM) — *Feb 2026 - present*

Real-time computation of functional connectivity estimators for BCIs

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 [B.12, D.24, D.31, D.40]

Master Theses

Pierre-Baptiste Mathieu de Carvalho — ***Co-supervised with L. Bougrain***

M2 in Cognitive Sciences (Univ. Lorraine) — *April. - Sept. 2025*

Identification of neurophysiological markers of attention and engagement [D.6]

Mario Roca

M2 in Computational Neurosciences and Neuroengineering (Univ. Paris-Saclay) — *Feb. - Aug. 2025*

Development of interpretable neurophysiological tools for differential diagnosis [G.1]

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 [D.23]

Linda Ek-Fliesberg

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

Neuronal avalanches as alternative features for BCI [D.22]

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

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 then as a PhD student to identify brain network-based BCI features [B.20, D.42, D.45, D.46]

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 [B.18, B.16, C.12, C.13]

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

Bachelor's thesis internship

Apurba Debnath — ***Co-supervised with P. Verma***

BSc in Computational Neuroscience (Indian Institute of Technology, Madras, India) — *Jan. - July 2025*

Biophysical modeling approach to elucidate the underlying neural mechanisms in Brain-Computer Interface training [G.7, D.3]

Dmytro Klepachevskyi — ***Co-supervised with P. Sorrentino***

BSc in Computer Science (Vytautas Magnus University, Lithuania) — *Feb. - June 2024*

Development of a pipeline for automated differential diagnosis in neurodegenerative diseases [B.1, G.1]

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

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

2026	**Jury member**, Assistant professor competitive recruitment procedure - IMT Mines Alès	*Alès*
2025	**Jury member**, Permanent researcher competitive recruitment procedure of the Inria Bordeaux (CRCN)	*Talence*
2024	**Jury member**, Assistant professor competitive recruitment procedure - University of Paris-Saclay (COS 27)	*Saclay*
2024	**Admission jury member**, Permanent researcher competitive recruitment procedure at Inria (CRCN)	*Paris*

Participation to PhD juries

2025	**PhD jury member - Ambroise Heurtebise**, supervised by P. Ablin, & A. Gramfort	*Saclay*
2025	**PhD jury member - Hasnae Agouram**, supervised by E. Daucé, & P. Sorrentino	*Marseille*
2025	**PhD jury member - Edouard Ferrand**, supervised by L. Estebanez	*Saclay*
2025	**PhD jury member - Alix Lamouroux**, supervised by P. Maurel, J. Coloigner, G. Lioi & N. Farrugia	*Brest*
2025	**PhD jury member - Hanane Moumane**, supervised by M. Valderrama & M. Le Van Quyen	*Paris*
2025	**PhD jury member - Zaineb Ajra**, supervised by G. Dray, B. Xu, S. Perrey & J. Montmain	*Montpellier*
2024	**PhD jury member - Luna Angelini**, supervised by B. Rossion & J. Jonas	*Nancy*
2024	**PhD jury member - Juan Jesus Torre Tresols**, supervised by F. Dehais & C. P.C. Chanel	*Toulouse*
2024	**PhD jury member - Igor Carrara**, supervised by T. Papadopoulo	*Sophia Antipolis*
2023	**PhD jury member - Alexandre Bleuzé**, supervised by M. Congedo & Jérémie Mattout	*Grenoble*

Participation to Individual Monitoring Committees (CSI)

2026	**Jury member - Intermediate Defense - Yingqi Huang**, superv. by T. Ros & S. Vulliémoz	*Virtual*
2024-	**CSI member - Camille Des Lauriers**, superv. by J.-J. Aucouturier, M. Gavaret & A. Llorens	*Virtual*
2024-	**CSI member - Valérie Marissens Cueva**, superv. by L. Bougrain, S. Rimbert & F. Lotte	*Virtual*
2023-24	**CSI member - Laure Tabouy**, superv. by L. Coutellec & J.-P. Cobbaut	*Paris*
2023-25	**CSI member - Hafid Sid-Ahmed**, superv. by V. Brun & V. Auboiroux	*Grenoble*
2023-24	**CSI member - Alix Lamouroux**, superv. by N. Farrugia & P. Maurel - France	*Virtual*
2023	**CSI member - Apolline Mellot**, superv. by A. Gramfort & D. 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

Posture Managériale — ***Paris Brain Institute***

PI mentoring — *2026*

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), IEEE Reviews in Biomedical Engineering, Phychophysiology, Frontiers in Human Neuroscience, Frontiers in Neuroergonomics, Scientific Reports, PLOSONE, Sensors, Int. Journal of Neural Systems, Brain-Computer Interfaces, Epilepsy Open, IOP Biomed. Phys. Eng. Express, Electronics

Conferences - Graz BCI meeting (2026), NeurIPS (2025), MetroXRAINE (2025), Neuroergonomics (2024), BCI meeting (2025, 2023), CORTICO days (2022-)

Grants - Doctoral project for the LabEx GIMeD (2026), Data IA Institute: AI Modular Chairs (2025), Dutch Research Council (2025), ICM Carnot Tools/Maturation (2025-), Toulouse Initiative for Research's Impact on Society (2025), ANR PRME (2024), INCA grant for the clinical neuroscience institute of Rennes (2024), ANR PRCE (2023)

Societies

2025-	**CuttingEEG**, Scientific advisory board member	*Worldwide*
2019-	**CORTICO - French BCI Society**, Board member, formely Secretary general (2019-2023)	*France*
2022-23	**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

Paris Brain Institute — *Paris, France*

Becoming a PI at Inria — *Nov, 2025*

Institut de la gestion publique et du développement économique (IGPDE) — *Paris, France*

Interfaces cerveau-machine — *Oct, 2025*

Spring School 2025: How can emotionally intelligent AI transform society? — *AI Grid and SCAI*

Presentation of the current research on Brain-Computer Interfaces — *2025*

France Brain Bee — *Paris Brain Institute*

Organizing committee — *2025*

Les Mardis de la Sorbonne — *Sorbonne Université*

Les interfaces cerveau-machine — *Jan 2025*

USA/France FADEx 2025 - Neuro.AI — *Paris Brain Institute*

Network neuroscience for Brain-Computer Interfaces — *Jan 2025*

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*

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)

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

marie-constance.corsi@inria.fr | marieconstance-corsi.netlify.app | mccorsi | MConstanceCorsi | Marie-Constance Corsi

Contents

A. Book chapters

A.1. Vourvopoulos, A., Kostoglou, K., **Corsi, M.-C.**, Chevallier, S., Eder, M., Mattersberger, M., Žák, M.R., Grosse-Wentrup, M., Lotte, F., Daly, I., & Papadopoulo, T. (2026). Methods for brain–computer interfacing. In: "Brain–Computer Interfaces: An educational and research textbook" edited by A. Vourvopoulos & S. Perdikis. In Press - doi.org/10.1088/978-0-7503-5914-6ch4.

A.2. **Corsi, M.-C.**, Llorens, A. (2025). Signal processing for brain signals. In: "Neural Interfaces" edited by D. Valeriani & T. Vaughan. In Press - doi.org/10.1016/B978-0-443-24824-5.00016-8.

A.3. **Corsi, M.-C.**. (2023). Electroencephalography and Magnetoencephalography. In: "Machine learning for brain diseases" edited by O. Colliot. In Press - doi.org/10.1007/978-1-0716-3195-9_9.

B. International journal publications

*Co-first author or co-last author; names of collaborators I (co-)supervised are underlined.

B.1. 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.***, & Sorrentino, P.* (2026). Magnetoencephalography-based interpretable automated differential diagnosis in neurodegenerative diseases. Heliyon - doi.org/10.1016/j.heliyon.2026.e44559

B.2. Velut, S., Thielen, J., Chevalier, S., **Corsi, M.-C**, & Dehais, F. (2026). Neurophysiological screening of individual variability for robust decoding in c-VEP-based BCI. Imaging Neuroscience - doi.org/10.1162/IMAG.a.1172

B.3. Candia-Rivera, D., Chavez, M., De Vico Fallani, F., **Corsi, M.-C.** (2026). Motor imagery learning is signaled by a functional disconnection of a cardiac-cortico-cerebellar circuit. NeuroImage - doi.org/10.1016/j.neuroimage.2026.121804

B.4. Cattai, T., Scarano, G., **Corsi, M.-C.**, De Vico Fallani, F., Colonnese, S. (2025). Community Detection from Multiple Observations: from Product Graph Model to Brain Applications. IEEE Transactions on Signal and Information Processing over Networks - doi.org/10.1109/TSIPN.2025.3540702

B.5. Ben Messaoud, R., Le Du V, Bousfiha, C., **Corsi, M.-C.**, Gonzalez-Astudillo, J., Kaufmann, B., Venot, T., Couvy-Duchesne, B., Migliaccio, L., Rosso, C., Bartolomeo, P., Chavez, M., De Vico Fallani, F. (2025) Low-dimensional controllability of brain networks. PLOS Computational Biology - doi.org/10.1371/journal.pcbi.1012691

B.6. 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 - doi.org/10.1016/j.isci.2024.111497

B.7. 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 - doi.org/10.1088/1741-2552/ad88a2

B.8. **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 - doi.org/10.1038/s41598-024-64870-3

B.9. 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 - doi.org/10.1088/1741-2552/ad628c

B.10. Presigny, C., **Corsi, M.-C.**, & De Vico Fallani, F. (2024). Topological duality of multilayer networks. Nature Communications - doi.org/10.1038/s41467-024-50176-5

B.11. **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 - doi.org/10.1016/j.isci.2023.108734

B.12. Desbois, A., Venot, T., De Vico Fallani, F., **Corsi, M.-C.** (2023). HappyFeat – An interactive and efficient BCI framework for clinical applications. Software Impacts - doi.org/10.1016/j.simpa.2023.100610

B.13. 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 - doi.org/10.1016/j.neuroimage.2023.120260

B.14. **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 - doi.org/10.1109/TBME.2022.3154885

B.15. 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 - doi.org/10.1016/j.simpa.2022.100254.

B.16. 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 - doi.org/10.1109/TSIPN.2021.3100302

B.17. 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. - doi.org/10.1016/j.neurobiolaging.2021.04.024

B.18. 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 - doi.org/10.1109/TNSRE.2021.3088637

B.19. **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 - doi.org/10.1088/1741-2552/abef39

B.20. 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 - doi.org/10.1088/1741-2552/abc760

B.21. 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 - doi.org/10.1088/1741-2552/ab9064

B.22. **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 - doi.org/10.1016/j.neuroimage.2019.116500

B.23. 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 - doi.org/10.1093/brain/awz150

B.24. **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 - doi.org/10.1142/S0129065718500144

B.25. 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 - doi.org/10.1109/TMI.2018.2856367

B.26. 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 - doi.org/10.1088/1361-6560/aa6459

C. Conferences with full-length peer-reviewed proceedings

*Co-first author or co-last author; names of collaborators I (co-)supervised are underlined.

C.1. De Surrel De Saint Julien, T., Venot, T, **Corsi, M.-C**, Yger, F. Interpretability of Riemannian tools used in Brain Computer Interfaces. 2025. 35th IEEE International Workshop on Machine Learning for Signal Processing (IEEE MLSP 2025) - Decoding the brain time series special session - hal.science/hal-05245110/document

C.2. Marissens Cueva, V., Mannino, C., **Corsi, M.-C**, Lotte, F., Rimbert, S., Bougrain, L. Riemannian fusions of EEG-based Features for Motor Imagery Detection under Propofol Sedation. 2025. 35th IEEE International Workshop on Machine Learning for Signal Processing (IEEE MLSP 2025) - Decoding the brain time series special session

C.3. Dumas, C., **Corsi, M.-C**, Dussard, C., Grosselin, F. & George, N. Automatic Ocular Artifact Correction in Electroencephalography for Neurofeedback. 2025. 18th International Conference on Bio-inspired systems and signal processing (BioSignals) - hal.science/ICM/hal-04975734v1

C.4. 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) - inria.hal.science/hal-04895016

C.5. 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) - hal.science/hal-04720928/document

C.6. Mannino, C., Sorrentino, P., Chavez, M., & **Corsi, M.-C**. Neuronal avalanches for EEG-based motor imagery BCI. 9th Graz Brain-Computer Interface Conference 2024 - cstb.hal.science/INS/hal-04698548v1

C.7. 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 - doi.org/10.1109/MetroXRAINE54828.2022.9967624

C.8. 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) - ieeexplore.ieee.org/document/9909871

C.9. 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). - doi.org/10.1109/EMBC46164.2021.9630021

C.10. **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 - doi.org/10.1109/ICASSP39728.2021.9414790 (2021 acceptance rate: 48%)

C.11. **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 2019 - doi.org/10.3217/978-3-85125-682-6-04

C.12. 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 2019 - doi.org/10.3217/978-3-85125-682-6-32

C.13. 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) 2018, 1377–1381 - doi.org/10.23919/EUSIPCO.2018.8553000

D. Conference abstracts (accepted)

*Co-first author or co-last author; names of collaborators I (co-)supervised are underlined.

D.1. Dumas, C., Dussard, C., George, N.*, & **Corsi, M.-C***. "Physiological Relevance and Temporal Stability of Common Spatial Patterns in Motor Imagery Neurofeedback". 1st EBRAINS Student Conference on Interdisciplinary Brain Research - Nice, France, 2026 - https://hal.science/hal-05567808 (oral & poster presentation)

D.2. Dumas, C., Dussard, C., George, N.*, & **Corsi, M.-C***. "Characterization and Usability of Common Spatial Pattern Features in Motor Imagery Neurofeedback". Journées "Brain Insights into Memory and Consciousness" - Société de Psychophysiologie et Neurosciences Cognitives - SPNC 2025, Paris, France, 2025 - hal.sorbonne-universite.fr/ICM/hal-05366284v1 (oral presentation)

D.3. Debnath, A., **Corsi, M.-C.***, & Verma, P.* "A biophysical model to infer neural mechanisms of Motor Imagery in Brain-computer Interface training", Annual Meeting of the Organization for Human Brain Mapping (OHBM), Brisbane, Australia, 2025 (poster presentation)

D.4. Mannino, C., Sorrentino, P., Chavez, M., & **Corsi, M.-C**."Neurophysiologically-guided optimization of neuronal avalanches for BCI", 11th BCI meeting, Banff, Canada, 2025 (poster presentation & oral presentation during a master class)

D.5. Dumas, C., George, N.*, & **Corsi, M.-C***. "Challenges in Common Spatial Pattern Reliability for Neurofeedback". 11th BCI meeting, Banff, Canada, 2025 - hal.science/hal-05085596v1/file/Poster_BCI_Meeting_2025_Cassandra_Dumas.pdf (poster presentation & oral presentation during a master class)

D.6. Mathieu de Carvalho, P.B., **Corsi, M.-C** & Bougrain, L. "A Protocol for Measuring Learner Attention and Engagement". CORTICO Days, Lyon, France, 2025 - hal.science/LORIA-AIS/hal-05125580v1 (poster presentation)

D.7. de Surrel, T., Venot, T., **Corsi, M.-C**, & Yger, F., "Interpretability of Riemannian tools used in Brain-Computer Interfaces". CORTICO Days, Lyon, France, 2025 - univ-paris-dauphine.hal.science/hal-05245110v1 (poster presentation)

D.8. Dumas, C., George, N.*, & **Corsi, M.-C***. Exploring the Variability of Common Spatial Patterns in Motor Imagery Neurofeedback. CORTICO Days, Lyon, France, 2025 - hal.science/ICM/hal-05078067v1 (oral presentation)

D.9. Venot, T., Bousfiha, C., De Vico Fallani, F., & **Corsi, M.-C**, "Investigating evolution of features in Brain Computer Interface experimentation for robustness", SFN 2024 - Annual meeting of the Society for Neuroscience, Chicago, United States, 2024 - hal.science/hal-04890567v1

D.10. 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 - www.sciencedirect.com/science/article/pii/S096663622400590

D.11. Verma, P., & **Corsi, M.-C**, "Biophysical modeling to inform performance in motor imagery-based Brain-Computer Interfaces", BIOMAG, Sydney, Australia, 2024 - inria.hal.science/hal-04701082 (poster & lightning talk presentation)

D.12. 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.13. Verma, P., & **Corsi, M.-C**, "Biophysical modeling to inform performance in motor imagery-based Brain-Computer Interfaces", Computational Neuroscience meeting, Natal, Brazil, 2024 - inria.hal.science/hal-04701021 (poster presentation)

D.14. 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 - inria.hal.science/hal-04743845v1 (poster presentation)

D.15. **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 - inria.hal.science/hal-04701010 (poster presentation)

D.16. 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 - hal.science/hal-04621936v1 (poster presentation)

D.17. 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 - inria.hal.science/hal-04621883 (poster presentation)

D.18. **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.19. **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.20. 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.21. **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.22. 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.23. 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.24. 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.25. 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.26. 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.27. 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.28. **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.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. "Informing motor imagery-based brain-computer interface via neuronal avalanches", IEEE ISBI, Cartegena, Colombia, 2023 (poster presentation)

D.30. 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.31. 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.32. **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.33. **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.34. 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.35. **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.36. **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.37. **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.38. 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.39. **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.40. 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.41. **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.42. 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.43. **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.44. **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.45. 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.46. 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.47. 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.48. **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.49. **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.50. **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.51. **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.52. **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.53. 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.54. **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.55. **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.56. **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.57. **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 magnétocardiographie et en magnétoencéphalographie. Grenoble Alpes (2015) - 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 publications

*Co-first author or co-last author; names of collaborators I (co-)supervised are underlined.

G.1. Roca, M., Messuti, G., Klepachevskyi, D., Angiolelli, M., Bonavita, S., Trojsi, F., Demuru, M., Troisi-Lopez, E., Chevallier, S., Yger, F., Saudargiene, A., Sorrentino, P. & **Corsi, M.-C.** (2026). REDDI: A Riemannian Ensemble Learning Framework for Interpretable Differential Diagnosis of Neurodegenerative Diseases. medRxiv - https://www.medrxiv.org/content/10.64898/2026.04.10.26350617v1

G.2. Mannino, C., Sorrentino, P., Angiolelli, M., Demuru, M., Trojsi, F., Chavez, M., **Corsi, M.-C.** (2026). Weighted-stochastic Avalanche Transition Matrix (ws-ATM): a tool to investigate brain dynamic and its neuropathological alterations. medRxiv - https://medrxiv.org/cgi/content/short/2026.01.08.26343631v1

G.3. Gomel, J., **Corsi, M.-C.**, Dehais, F. (2025). Low-Frequency Textured Gabor Flicker Enhances SSVEP Entrainment and Visual Comfort for BCI Control. biorXiv - www.biorxiv.org/content/10.64898/2025.12.12.693875v1

G.4. **Corsi, M.-C.**, Gitton, C., Gonzalez-Astudillo, J., Chavez, M., Schwartz, D., George, N., Hugueville, L., Kahn, A., Dupont, S., Bassett, D. S., & De Vico Fallani, F. (2025). Understanding Brain-Computer Interfaces training: a longitudinal and multimodal dataset.

G.5. Aristimunha, B., Truong, D., Guetschel, P., Shirazi, S.Y., Guyon, I., Franco, A.R., Milham, M.P., Dotan, A., Makeig, S., Gramfort, A., King, J.R., **Corsi, M.-C.**, Valdés-Sosa, P.A., Majumdar, A., Evans, A., Sejnowski, T.J., Shriki, O., Chevallier, S., Delorme, A. (2025). EEG Foundation Challenge: From Cross-Task to Cross-Subject EEG Decoding. arXiv - http://arxiv.org/abs/2506.19141

G.6. Mannino, C., Sorrentino, P., Chavez, M., **Corsi, M.-C.** (2025). Neuronal avalanches as a predictive biomarker of BCI performance: towards a tool to guide tailored training program. bioRxiv - www.biorxiv.org/content/10.1101/2025.05.31.657206v1

G.7. Debnath, A., Venot, T., **Corsi, M.-C.***, & Verma, P.* (2025). Neural mechanisms of training in Brain-Computer Interface: A Biophysical modeling approach. bioRxiv - www.biorxiv.org/content/10.1101/2025.06.21.660834v1

G.8. Troisi Lopez, E., Minino, R., De Luca, M., Tafuri, F., Sorrentio, G., Sorrentino, P., & **Corsi, M.-C.** (2025). Artificial Intelligence for automatic movement recognition: a network-based approach. bioRxiv - www.biorxiv.org/content/10.1101/2025.02.27.640538v1

G.9. 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