

# Curriculum Vitae

Tommaso Gili

## WORK HISTORY REPORT

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- 2017 – 2022**      **IMT School for Advanced Studies, Lucca**  
**Job Title:**      *Assistant Professor (RTD-A)*  
**Main Duties:**      Graph theory, statistical physics and fundamental network science. Advanced methods of brain functional connectivity (fMRI, EEG, MEG) analysis at rest and during task execution. Advanced time series preprocessing and null models for networks. Structural brain networks from anatomical covariance to axonal architecture. Validation and statistical inference on networks, advanced machine learning and AI methods. Dynamics on networks. Network Materials and chemical spaces. Food Networks and sustainability. Cybersecurity for critical infrastructures.
- 2015 – 2017**      **Enrico Fermi Centre, Rome**  
**Job Title:**      *Research Fellow – Principal Investigator*  
**Main Duties:**      Advanced fMRI analysis development: graph theory analysis of functional connectivity at rest including noise modeling and analysis of complex network topography, fMRI advanced image analysis including subject level segmentation of cortical and subcortical brain regions, advanced time series preprocessing and complex network analysis of perfusion data. Realization of a multimodal integrated system for advanced diagnosis in neurological disorders and for a better estimation of the rehabilitation outcomes.
- 2012 to 2015**      **IRCCS Santa Lucia Foundation, Rome**  
**Job Title:**      *Research Fellow*  
**Main Duties:**      fMRI system setup (sequences optimization, stimulation system setup). Functional and structural MRI investigation of the neural correlates of rehabilitation treatment outcomes in neurological (stroke, MS, Parkinson's disease and dementia) and psychiatric (obsessive compulsive disorder, schizophrenia and bipolar mood disorder) disorders.
- 2010 to 2012**      **Cardiff University Brain Research Imaging Centre**  
**Job Title:**      *Marie Curie Research Fellow*  
**Main Duties:**      Acquisition and analysis of EEG-fMRI data. Functional MRI investigation of the mild sedated condition in adult humans both at rest and during multisensory stimulation (auditory, visual and electric median nerve stimulation).
- 2005 to 2010**      **Enrico Fermi Centre**  
**Job Title:**      *Postdoctoral Fellow*  
**Main Duties:**      Setup of a resting state fMRI line of research: MRI sequence optimization, data preprocessing optimization, data analysis implementation. Resting state fMRI data, task-based fMRI data (continuous working memory tasks) and structural MRI data acquisition and analysis both in patients (Alzheimer's disease patients) and in healthy volunteers.

**2001 to 2002**      **National Institute for the Physics of Matter**  
**Job Title:**      *Research Assistant*  
**Main Duties:**    Quantum modelling of long-range dipolar interactions in liquid NMR. Setup of a vertical MR 7T system: hardware setup and sequence development.

## **RELEVANT EDUCATION**

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**2002 - 2005**      **PhD, 60/60**

Department of Physics, University of Rome La Sapienza

Advanced Courses Attended: Quantum Field Theory, Advanced Theory of Probability, Advanced Methods for the Investigation of Radiation-Matter Interaction.

Thesis: "NMR Multiple Quantum Spectroscopy: application to the study of materials and of biological systems".

**1994 - 2000**      **MSc, 110/110**

Department of Physics, University of Rome La Sapienza

Characterizing Courses Attended: Biophysics, Disordered Systems Physics, Dynamical Systems Physics, Statistical Mechanics, Experimental Biological Physics

Thesis: "Erythrocytes plasma membrane alterations induced by biomaterials: a radiowave dielectric spectroscopic study".

## **ABILITAZIONE SCIENTIFICA NAZIONALE (ASN)**

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In 2018 Tommaso Gili got the National Scientific Habilitation functions for associate professor in the 02/D1 sector (FIS/07 scientific sector, Applied Physics)

From: 12-09-2018

To: 12-09-2024

## **TEACHING EXPERIENCE**

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**2017 - today**      **Brain Networks**

PhD, IMT School for Advanced Studies Lucca

Brain physiology and sources of signals. Methods for the measurement of brain functional signals. Methods for the measurement of brain structural

architecture. Networks of the brain. FMRI, EEG and MEG functional networks, structural networks form tractography. Temporal networks in the brain. Application to the evaluation of neurological diseases and psychiatric disorders.

**2016 - today**

**Applied Physics**

Bachelor's Degree in Physiotherapy, School of Medicine and Surgery, University of Rome Tor Vergata

Mechanics, Thermodynamics, Electricity, Magnetism, Electromagnetic waves.

**2007 - 2010**

**Medical Physics: MRI and MRS physics**

Master Degree in Physics, Department of Physics, University of Rome La Sapienza

Nuclear magnetism; macroscopic and microscopic magnetization; spin precession and Larmor frequency; spin-lattice relaxation; transverse relaxation; NMR spectroscopy; spin-1/2 systems; quadrupolar nuclei; principles of magnetic resonance imaging; imaging physiology: BOLD imaging; imaging physiology: perfusion imaging; principles of diffusion weighted imaging; diffusion tensor imaging; phase MR imaging.

**2004 - 2007**

**Physics of Atoms and Molecules**

Bachelor's Degree in Physics, Department of Physics, University of Rome La Sapienza

One-electron atoms; interaction of one-electron atoms with electromagnetic radiation; one-electron atoms: fine structure, hyperfine structure and interaction with external electric and magnetic fields; two-electron atoms; many-electron atoms; interaction of many-electron atoms with electromagnetic radiation; molecular structure; molecular spectra.

**2004 - 2007**

**Condensed Matter Physics**

Master Degree in Physics, Department of Physics, University of Rome La Sapienza

Molecular structure; molecular spectra; crystalline solids: symmetry and bonding; experimental determination of crystal structures; electronic band structure of solids; crystal lattice vibrations: phonons; thermal properties of crystal lattices; semi-classical electron transport.

**SUPERVISING ACTIVITY**

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Two graduate students:

*Paolo Barucca (2008/2009, Sapienza University)*

*Vittorio Iacovella (2007/2008, Sapienza University)*

Four PhD students:

*Francesca Santucci (2020 – Today, IMT)*

*Mirko Hu (2019 – Today, IMT)*

*Adrian Onicas (2018 – Today, IMT)*

*Ibrahim Eid (2009/2012, Sapienza University)*

Four Postdoctoral fellows:

*Pablo Villegas (2020 - 2022, IMT)*

*Rossana Mastrandrea (2015 - 2018, IMT)*

*Ying-Chia Lin (2014 - 2016, IMT)*

*Silvia Tommasin (2013 - 2014, Enrico Fermi Center)*

## GRANTS

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2018-2020	<b>Progetto ad Attività Integrata (PAI 2018), IMT</b> , “Chain the Brain: The Endophenotype of Serotonin Dysfunction in Violent Offenders and Psychopaths” Applicants: Luca Cecchetti & Tommaso Gili, <b>€ 50,000</b>
2015-2017	<b>Lazio Government Funding Scheme</b> , (Lr 13/2008), “Integrated multimedia platform for data analysis in applied neuroscience”. Applicant: Federico Giove, CoApplicant: Tommaso Gili, <b>€ 862,000</b>
2010-2012	<b>Marie Curie Inter-European Fellowship</b> , “Routes to sedation: a simultaneous EEG-fMRI investigation of pharmacological sedation in humans”. Applicants: Richard Wise, Research Fellow: Tommaso Gili. <b>€ 181,000</b>

## BOOKS

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Brain Morphometry, Spalletta G, Piras F, Gili T Eds. Neuromethods, Springer Protocols 2018

## Publications in Peer Reviewed Journals

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CITATION REPORT (SCOPUS+WEB OF SCIENCE):

50 articles in refereed international journals

Sum of Times Cited 1051 (996 without self-citations)  
Citing Articles 893 (865 without self-citation)  
Average Citation per item: 18.1

H-INDEX (12/2021): 16

- 1) Gili T, Di Carlo G, Capuani S, Auconi P, Caldarelli G, Polimeni A. Complexity and data mining in dental research: A network medicine perspective on interceptive orthodontics. *Orthodontics & Craniofacial Research* 2021; 00, 1-10.
- 2) Mastrandrea R, Piras F, Gabrielli A, Banaj N, Caldarelli G, Spalletta G, Gili T. The unbalanced reorganization of weaker functional connections induces the altered brain network topology in schizophrenia. *Scientific reports* 2021; 11 (1), 1-14.
- 3) Villegas P, Gili T, Caldarelli G. Emergent spatial patterns of coexistence in species-rich plant communities. *Phys. Rev. E* 2021; 104, 034305.
- 4) Di Carlo G, Gili T, Caldarelli G, Polimeni A, Cattaneo. A Community detection analysis of malocclusion classes from orthodontics and upper airway data. *Orthodontics & Craniofacial Research* 2021; doi: 10.1111/ocr.12490.
- 5) Gili T, Benelli G, Buscarini E, Canetta C, La Piana G, Merli G, Scartabellati A, Viganò G, Sfogliarini R, Melilli G, Assandri R, Cazzato D, Rossi DS, Usai S, Caldarelli G, Tramacere I, Pellegata G and Lauria G. SARS-COV-2 comorbidity network and outcome in hospitalized patients in Crema, Italy. *Plos One* 16 (3), e0248498.
- 6) Mascali D, Moraschi M, DiNuzzo M, Tommasin S, Fratini M, Gili T, Wise RG, Mangia S, Macaluso E and Giove F. Evaluation of denoising strategies for task-based functional connectivity: Equalizing residual motion artifacts between rest and cognitively demanding tasks. *Hum Brain Mapp. Early Access Feb 2021.*
- 7) Tramontano M, Cerritelli F, Piras F, Spanò B, Tamburella F, Piras F, Caltagirone C and Gili T. Brain connectivity changes after osteopathic manipulative treatment: A randomized manual Placebo-Controlled trial. *Brain Sci.* 2020 Dec 1; 10(12): 969.
- 8) Vernocchi P, Gili T, Conte F, Del Chierico F, G Conta, Miccheli A, Botticelli A, Paci P, G Caldarelli, Nuti M, Marchetti P and Putignani L. Network analysis of gut microbiome and metabolome to discover Microbiota-Linked biomarkers in patients affected by non-small cell lung cancer. *Int J Mol Sci.* 2020 Oct 1; 21(22): 8730.
- 9) Piras F, Vecchio D, Ciullo V, Gili T, Banaj N, Piras F, Spalletta G. Sense of external agency is sustained by multisensory functional integration in the somatosensory cortex. *Hum Brain Map.* 2020 Oct 1; 41: 4024-4040.
- 10) Moraschi M, Mascali D, Tommasin S, Gili T, Hassan IE, Fratini M, DiNuzzo M, Wise RG, Mangia S, Macaluso E, Giove F. Brain Network Modularity During a Sustained Working-Memory Task. *Front Physiology.* 2020 May 8; 11: 422.
- 11) Marangolo P, Fiori V, Caltagirone C, Incoccia C, Gili T. Stairways to the brain: Transcutaneous spinal direct current stimulation (tsDCS) modulates a cerebellar-cortical network enhancing verb recovery. *Brain Res.* 2020 Jan 15;1727:146564.

- 12) Saxena N, Gili T, Diukova A, Huckle D, Hall JE, Wise RG: Mild Propofol Sedation Reduces Frontal Lobe and Thalamic Cerebral Blood Flow: An Arterial Spin Labeling Study. *Front Physiol.* 2019 Dec 18;10:15.
- 13) Tamburella F, Piras F, Piras F, Spanò B, Tramontano M, Gili T. Cerebral Perfusion Changes After Osteopathic Manipulative Treatment: A Randomized Manual Placebo-Controlled Trial. *Front Physiol.* 2019 Apr 5;10:403.
- 14) Tommasin S, Mascali D, Moraschi M, Gili T, Hassan IE, Fratini M, DiNuzzo M, Wise RG, Mangia S, Macaluso E, Giove F. Scale-invariant rearrangement of resting state networks in the human brain under sustained stimulation. *Neuroimage.* 2018 Oct 1;179:570-581.
- 15) Gili T, Ciullo V, Spalletta G. Metastable States of Multiscale Brain Networks Are Keys to Crack the Timing Problem. *Front Comput Neurosci.* 2018 Sep 11;12:75.
- 16) Ciullo V, Vecchio D, Gili T, Spalletta G, Piras F. Segregation of Brain Structural Networks Supports Spatio-Temporal Predictive Processing. *Front Hum Neurosci.* 2018 May 24;12:212.
- 17) Squartini T, Gabrielli A, Garlaschelli D, Gili T, Bifone A, Caccioli F. Complexity in Neural and Financial Systems: From Time-Series to Networks. *COMPLEXITY.* 2018, Article Number: 132940.
- 18) Gili T, Fiori V, De Pasquale G, Sabatini U, Caltagirone C, Marangolo P: Right sensory-motor functional networks subserve action observation therapy in aphasia. *Brain Imag Behav.* 11(5) Oct 2017: 1397-1411.
- 19) Marangolo P, Fiori V, Shofany J, Gili T, Caltagirone C, Cucuzza G, Priori A. Moving Beyond the Brain: Transcutaneous Spinal Direct Current Stimulation in Post-Stroke Aphasia. *Front Neurol.* 2017 Aug 8;8:400.
- 20) Tommasin S, Mascali D, Gili T, Hassan IE, Moraschi M, Fratini M, Wise RG, Macaluso E, Mangia S, Giove F. Task-Related Modulations of BOLD Low-Frequency Fluctuations within the Default Mode Network. *Front Phys.* 2017 Jul;5.
- 21) Mastrandrea R, Gabrielli A, Piras F, Spalletta G, Caldarelli G, Gili T. Organization and hierarchy of the human functional brain network lead to a chain-like core. *Sci Rep.* 2017 Jul 7;7(1):4888
- 22) Punzi M, Gili T, Petrosini L, Caltagirone C, Spalletta G, Sensi SL: Modafinil-Induced Changes in Functional Connectivity in the Cortex and Cerebellum of Healthy Elderly Subjects. *Front Aging Neurosci.* 9, 2017: 85.
- 23) Marangolo P, Fiori V, Sabatini U, De Pasquale G, Razzano C, Caltagirone C, Gili T: Bilateral transcranial direct current stimulation language treatment enhances functional connectivity in the left hemisphere: preliminary data from aphasia. *J Cogn Neurosci.* 28(5) May 2016: 724-738.
- 24) Cacciari C, Pellicano C, Cravello L, Assogna F, Piras F, Paravia P, Gili T, Iorio M, Stefani A, Pierantozzi M: Unraveling predictors affecting compliance to MRI in Parkinson's disease. *Parkinsonism Relat Disord.* 21(8), Aug 2015: 964-7.
- 25) Mascali D, DiNuzzo M, Gili T, Moraschi M, Fratini M, Maraviglia B, Serra L, Bozzali M, Giove F: Intrinsic patterns of coupling between correlation and amplitude of low-frequency

fMRI fluctuations are disrupted in degenerative dementia mainly due to functional disconnection. *PLoS One*. 10(4), Apr 2015: e0120988.

- 26) Gili T, Saxena N, Dukova A, Murphy K, Hall JE, Wise RG: The thalamus and brainstem act as key hubs in alterations of human brain network connectivity induced by mild propofol sedation. *J. Neurosci.* 33(9), Feb 2013: 4024-4031.
- 27) Dinuzzo M, Gili T, Maraviglia B, Giove F: Modeling the contribution of neuron-astrocyte cross-talk to slow oxygenation level-dependent signal oscillations. *J. Neurophysiol.* 106(6), Sep 2011: 30130-3018.
- 28) Bozzali M, Parker GJ, Serra L, Embleton K, Gili T, Perri R, Caltagirone C, Cercignani M: Anatomical connectivity mapping: a new tool to assess brain disconnection in Alzheimer's disease. *Neuroimage* 54(3), Feb 2011: 2045-51.
- 29) Gili T, Cercignani M, Serra L, Perri R, Giove F, Maraviglia B, Caltagirone C, Bozzali M: Regional brain atrophy and functional disconnection across Alzheimer's disease evolution. *J. Neurol. Neurosurg. Psychiatry* 82(1), Jan 2011: 58-66.
- 30) Basoli A, Cametti C, Faraglia V, Gili T, Rizzo L, Taurino M: Hemocompatibility of carotid artery stents: alterations of the electrical parameters of erythrocyte cell membrane -- a word of caution. *Vasc. Endovascular Surg.* 44(3), Apr 2010: 190-7.
- 31) Giove F, Gili T, Iacovella V, Macaluso E, Maraviglia B: Images-based suppression of unwanted global signals in resting-state functional connectivity studies. *Magn. Reson. Imaging* 27(8), Oct 2009: 1058-64.
- 32) Capuani S, Gili T, Bozzali M et al: Bronophenylalanine uptake in C6 glioma model is dramatically increased by L-DOPA preloading. *Appl. Radiat. Isot.* 67(7-8 Suppl), Mar 2009: S34-6.
- 33) Capuani S, Gili T, Bozzali M et al: L-DOPA preloading increases the uptake of borophenylalanine in C6 glioma rat model: a new strategy to improve BNCT efficacy. *Int. J. Radiation Oncology Biol. Phys.* 72(2), June 2008: 562.
- 34) Gili T, Capuani S, Maraviglia B Nonergodic arrested state in diluted clay suspensions monitored by triple-quantum  $^{23}\text{Na}$  nuclear magnetic resonance. *J. Phys. Chem.B* 111(25), June, 2007: 7092.
- 35) Basoli A, Bordi F, Cametti C, Faraglia V, Gili T, Rizzo L, Taurino M Are aortic endograft prostheses fully hemo-compatible? A dielectric spectroscopy investigation of the electrical alterations induced on erythrocyte cell membranes. *Biomed Mater* 2(1), January, 2007: 26.
- 36) Bordi F, Cametti C, Gili T, Sennato S, Zuzzi S, Dou S, Colby R H Solvent quality influence on the dielectric properties of polyelectrolyte solutions: A scaling approach. *Phys Rev E* 72(3), September, 2005: 1.
- 37) Bordi F, Cametti C, Gili T, Sennato S, Zuzzi S, Dou S, Colby R H Conductometric properties of linear polyelectrolytes in poor-solvent condition: The necklace model. *J Chem Phys* 122, April, 2005: 234906.
- 38) Nosel W, Gili T, Capuani S, Maraviglia B Dipolar field effects described by boson operators techniques: The case of intermolecular multiple-quantum coherences in liquids. *Chem Phys Lett* (406), March, 2005: 452-456.

- 39) Bordi F., Cametti C., Diociaiuti M., Gaudino D., Gili T., Sennato S. Complexation of anionic polyelectrolytes with cationic liposomes: Evidence of reentrant condensation and lipoplex formation. *Langmuir* 20, 2004: 5214-5222.
- 40) Bordi F, Cametti C, Gili T Electrical conductivity of polyelectrolyte solutions in the presence of added salt: The role of the solvent quality factor in light of a scaling approach. *Phys Rev E*, 68, July, 2003:011805.
- 41) Bordi F, Cametti C, Gili T et al. Time evolution of the formation of different size cationic liposome-polyelectrolyte complexes. *Bioelectrochemistry* 59, April, 2003: 99-106.
- 42) Bordi F, Cametti C, Gili T et al. Charged lipid monolayers at the air-solution interface: Coupling to polyelectrolytes. *Colloids Surfaces B*, 29, June 2003: 149-157.
- 43) Bordi F, Cametti C, Gili T. Electrical conductivity of aqueous polyelectrolyte solutions in the presence of counterion condensation: The scaling approach revisited. *Phys Rev E* 66, August, 2002: 021803.  
(Selected for the September 1, 2002 issue of the Virtual Journal of Biological Physics Research)
- 44) Capuani S, Gili T, Cametti C, Maraviglia B et al. Radiowave dielectric investigation of boron compounds distribution in cultured tumour cells: Relevance to boron neutron capture therapy. *Chem Phys Lett* 360 (1-2), July, 2002: 79-84.
- 45) Bordi F, Cametti C, Gili T, Colby RH. Dielectric relaxations in aqueous polyelectrolyte solutions: A scaling approach and the role of the solvent quality parameter. *Langmuir* 18 (16), July, 2002:6404-6409.
- 46) Bordi F, Cametti C, Gili T. Dielectric spectroscopy of erythrocyte cell suspensions. A comparison between Looyenga and Maxwell-Wagner-Hanai effective medium theory formulations. *J Non-Cryst Solid* 305 (1-3), July, 2002: 278-284
- 47) Bordi F, Cametti C, Gili T, Colby RH, De Lorenzo L. Electrical conductivity of polyelectrolyte solutions in the semidilute and concentrated regime: The role of counterion condensation. *J Phys Chem B* 106 (27), June, 2002: 6887-6893.
- 48) Bordi F, Cametti C, Gili T, Basoli A. Structural alteration of erythrocyte cell membrane in presence of artificial prostheses: A radiowave dielectric spectroscopy study. *J Biomed Mater Res* 59 (1), January, 2002: 100-109.
- 49) Bordi F, Cametti C, Gili T. Reduction of the contribution of electrode polarization effects in the radiowave dielectric measurements of highly conductive biological cell suspensions. *Bioelectrochemistry* 54 (1), August, 2001: 53-61.
- 50) Bordi F, Cametti C, Gili T et al. Structural alteration of erythrocyte membrane during storage: a combined electrical conductometric and flow-cytometric study. *Z Naturforsch C* 56 (1), May, 2001: 857-864.



- 1) Spalletta G, Gili T, Piras F. Brain Morphometry Preface. BRAIN MORPHOMETRY. 2018, Book Series: Neuromethods Volume: 136 Pages: VII-IX.
- 2) Piras F, Iorio M, Vecchio D, Gili T, Piras F, Spalletta G. Multicenter Studies of Brain Morphometry. BRAIN MORPHOMETRY. 2018, Book Series: Neuromethods Volume: 136 Pages: 203-214 .
- 3) Chiapponi C, De Rossi P, Piras F, Gili T, Spalletta G. Brain Morphometry: Schizophrenia. BRAIN MORPHOMETRY. 2018, Book Series: Neuromethods Volume: 136 Pages: 323-338.

### **Publications in Conference Books**

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- 1) Guidotti D, Cicala G, Gili T, Tacchella A. Telling faults from cyber-attacks in a multi-modal logistic system with complex network analysis. Communications of the ECMS, Volume 35, Issue 1: 2021.
- 2) Gabrielli F, De Leo R, Ranieri A et al: TOPEM: a Multimodality Probe (PET TOF, MRI, and MRS) for Diagnosis and Follow Up of Prostate Cancer. In: 2010 IEEE NUCLEAR SCIENCE SYMPOSIUM CONFERENCE RECORD (NSS/MIC), Book Series: IEEE Nuclear Science Symposium Conference Record, 2010: 2442-2444.
- 3) Bordi F, Cametti C, Gaudino D, Gili T, Sennato S, Di Biasio A Polyelectrolyte coupling to charged lipid monolayers and to cationic liposomes. In: Trends in Colloid and Interface Science XVII, Book Series: Prog Coll Polym Sci 126, Novembre, 2004:47-50

### **Publications in Conference Proceedings**

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- 1) Saxena N, Gili T, Huckle D, Bell S, Hall J, Wise R. (2016) Mild propofol sedation reduces frontal lobe and thalamic cerebral blood flow: an arterial spin labelling study. Br J Anaesthesia. 116(6): E841.
- 2) Saxena N, Diukova A, Venzi M, Gili T, Huckle D, Bell S, Wise RG, Hall JE. (2012) Endogenous brain oscillations during sedation: initial results of a magnetoencephalography and functional magnetic resonance imaging study. Br J Anaesth. 108(4): 721.
- 3) Gili T, Wise RG. (2014) Estimating fluctuations in the rate of cerebral oxygen consumption associated with resting state networks. Proc. Intl. Soc. Mag. Reson. Med 22, 4209.
- 4) Gili T, Eid I, Murphy K, Harris A, Caldarelli G, Maraviglia B, Wise RG.(2011) A random-walk driven segmentation of resting state fMRI data: evaluation of visual cortex sub-communities is enhanced by physiological noise correction. Proc. Intl. Soc. Mag. Reson. Med 19, 3626.
- 5) Gili T, Barucca P, De Santis F, Caldarelli G, Macaluso E, Maraviglia B. (2011) A graph-theory approach to study the effect of cognitive load on resting state networks. Proc. Intl. Soc. Mag. Reson. Med 19, 1601.
- 6) Gruber CE, Capuani S, Giuliotti G, Gili T, Maraviglia B. (2010) High-resolution DTI to study articular cartilage dehydration.Proc. Intl. Soc. Mag. Reson. Med 18, 846.

- 7) Gili T, Giove F, Iacovella V, Macaluso E, Maraviglia B. (2009) The intrinsic activity of the brain can be modulated by cognitive load. *Proc. Intl. Soc. Mag. Reson. Med* 17, 3687.

## **EDITORIAL ACTIVITY**

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### REFEREE:

PNAS, Neuroimage, Human Brain Mapping, Magnetic Resonance in Medicine, Magnetic Resonance Imaging, Scientific Reports, Physical Review Letters, Physical Review E, Frontiers in Physics (Review Editor in Biomedical Physics), Frontiers in Psychology, Frontiers in Physiology, Frontiers in Neurology (Stroke), Plos ONE, The Journal of Physical Chemistry B, Physica A.

### ASSOCIATE EDITOR:

Frontiers in Psychiatry (Aging Psychiatry)

## **GRANTS REVIEW ACTIVITY**

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ERC-Synergy Grant

## **CONFERENCE INVITED TALKS**

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APS March Meeting, Nashville (USA), March 2021  
"Construction, Filtration and Dynamics of Functional Brain Networks"

APS March Meeting, Denver (USA), March 2020  
"A network view on brain functional dynamics: timeseries, behavior and beyond"

Complex networks: from socio-economic systems to biology and brain, Lipari (Italy), July 2018  
"A comparison of functional brain networks in schizophrenic patients and healthy individuals"

II School on New Trends in statistical physics, Lipari (Italy), July 2018  
"Functional Brain Networks"

I School on New Trends in statistical physics, Corfù (Greece), July 2017  
"Functional Brain Networks"

Complex networks: from socio-economic systems to biology and brain, Lipari (Italy), Sept 2016  
"Brain recovery after stroke: a complex network analysis of new active and passive language rehabilitation strategies."

Brain Networks satellite of NetSci, Zaragoza (Spain), June 2015  
"Routes to adaptation in functional brain networks".

International School on Magnetic Resonance and Brain Function, Erice (Italy), May 2008

“Cognitive Modulation of The Default Mode Network”.

CNR-INFM SOFT Conference, L’Aquila, (Italy), November 2005

“Nonergodic arrested state in colloidal glasses monitored by triple-quantum  $^{23}\text{Na}$  NMR”.

EENC/AMPERE joint meeting Lille (France), September 2004

“Boson Operator Approach To Describe NMR Signal”.

AMPERE XII NMR SCHOOL, Zakopane (Poland), June 2004

“Intermolecular Multiple-Quantum Relaxation Times in Heterogeneous Systems”.

## **CONFERENCE PRESENTATION**

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NetSci-X Tokyo (Japan), January, 2020, Contributed Talk

“Functional brain network topology maps the dysfunctional substrate of schizophrenia”

ISMRM, Melbourne (Australia), May 2012 Selected E-Poster

“Mapping of cortico-cortical and cortico-subcortical alterations in functional connectivity induced by light sedation with propofol”.

ISMRM, Montreal (Canada), May 2011 Selected E-Poster

“A Random-Walk Driven Segmentation of Resting State fMRI Data: Evaluation of Visual Cortex Sub-Communities is Enhanced by Physiological Noise Correction”.

ISMRM, Honolulu (Hawaii), April 2009 Selected E-Poster

“The intrinsic activity of the brain can be modulated by cognitive load”.

ISMRM, Toronto (Canada), May 2008 Selected E-Poster

“Resting State fMRI of the early stages of Alzheimer’s Disease”.

## **CONFERENCES AND WORKSHOPS ORGANIZATION**

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NETSCI 2020, Rome, Italy, General Co-Chair

Complex networks: from socio-economic systems to biology and brain, Lipari (Italy), July 2019

Complex networks: from socio-economic systems to biology and brain, Lipari (Italy), July 2017

## **INSTITUTIONAL AND ORGANISATIONAL ACTIVITIES**

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2020 - 2023 Member of the Council of the Complex Systems Society.

2020 - 2023 Member of the Steering Committee of the Complex Systems Society.

2020 Selection Committee for a Postdoctoral Fellowship , Enrico Fermi Center, Rome.

2020 - PhD Selection Committee, IMT School for Advanced Studies Lucca, Lucca.

2019 PhD Selection Committee, IMT School for Advanced Studies Lucca, Lucca.

2018 Selection Committee for a Scholarship , IMT School for Advanced Studies Lucca, Lucca.

2018 Selection Committee for a Postdoctoral Fellowship , Enrico Fermi Center, Rome.

2017 Selection Committee for a Postdoctoral Fellowship , Enrico Fermi Center, Rome.

2016 Selection Committee for a Postdoctoral Fellowship , Enrico Fermi Center, Rome.

#### AUTODICHIARAZIONE AI SENSI DEGLI ARTT. 46 E 47 D.P.R. N. 445/2000

Il sottoscritto Tommaso, nato il \_\_\_\_\_ a \_\_\_\_\_, residente in \_\_\_\_\_  
domiciliato in \_\_\_\_\_ identificato a  
mezzo carta di identità nr. \_\_\_\_\_ rilasciato da \_\_\_\_\_  
. 2017 , utenza telefonica \_\_\_\_\_ consapevole delle conseguenze penali previste in caso di  
dichiarazioni mendaci a pubblico ufficiale (art. 495 c.p.)

#### DICHIARA SOTTO LA PROPRIA RESPONSABILITÀ

- che le informazioni e le dichiarazioni contenute nel presente curriculum vitae corrispondono al vero;
- di essere in possesso di tutti i titoli riportati nel presente curriculum vitae;
- che ogni contenuto relativo a titoli, pubblicazioni e attività svolte riportate nel presente curriculum vitae corrisponde al vero;
- che le copie delle pubblicazioni presentate ai fini della valutazione analitica sono conformi all'originale.

Luogo e data

Roma, 18-02-2022

Firmato

T. GILLI