PERSONAL INFORMATION

Silvia Tommasin

WORK EXPERIENCE

PRESENT POSITION
from April 2017

Postdoctoral fellow

Human Neuroscience Department, **Sapienza University of Rome** – Italy

Assegnista di ricerca

Optimization of advanced magnetic resonance imaging techniques. Study of the consequent impact on multiple sclerosis diagnosis and study.

Business or Sector Data analysis, statistics, graph theory, machine learning, computer coding.

January-February 2017

Consultant

"Enrico Fermi" Centre MARBILab, c/o Fondazione Santa Lucia Roma – Italy

Business or Sector Data analysis, statistics, computer coding.

January 2015-December 2016

Postdoctoral fellow

Enrico Fermi Centre MARBILab, c/o Fondazione Santa Lucia Roma - Italy

Assegnista di ricerca

Preprocessing of neuroimages affected by physiological noise. Processing of the resulting images, statistical and network analysis of cerebral patterns alterations induced by diseases or cognitive load. Simultaneous EEG-fMRI processing and analysis of the mutual (electrical signals/functional images) influences before and during mild sedation.

Business or Sector Data analysis, multimodal analysis, statistics, graph theory, basic machine learning, computer coding.

January-December 2014

Postdoctoral fellow

Fellowship awarded by Italian Ministry for Foroeign Affairs

Weizmann Institute of Science, Rehovot, Israel

Images preparation, preprocessing, physiological noise correction, processing and statistical analysis based on descriptive and inferential statistic, machine learning, statistical mechanics tools of functional magnetic resonance images to evaluate connectivity patterns in the brain to foreseen connectivity disorders.

Business or Sector Data analysis, statistics, network analysis, computer coding.

February-December 2013

Postdoctoral fellow

Edmund & Lili Safra Center for Brain Science at the Interdisciplinary Center for Neural Computation - Hebrew University of Jerusalem, Israel

Preparation, preprocessing and statistical processing of signal as neuron spiking in the brain, descriptive and inferential statistical analysis, machine learning and statistical mechanics of the firing rate of single neurons to find the neural correlates to the behavior and in the light of these new neural/ behavior connections to investigate how recent history effects the present.

Business or Sector Data analysis, statistics, computer coding.

September 2010-August 2012	**Postdoctoral fellow**

Beverly Sackler School of Astronomy, Tel Aviv University, Israel

Statistical analysis of spectroscopic and photometric data obtained by Herschel/PACS, mathematical computational modeling of AGN and starburst emission processes in LINERs to investigate the reciprocal influence on evolution. Preparation, preprocessing and processing of the data.

Business or Sector Data analysis, statistics, analytical modelling, computer coding.

EDUCATION AND TRAINING

July 2019	Affiliation to Professional register of Physicists, Lazio, Italy.

January 2019-	Medical Physics residency program (Scuola di Specializzazione in Fisica Medica) at **Sapienza University of Rome,** Italy.

November 2006-January 2010	**Doctor of Philosophy**

Dottorato di Ricerca in Astrofisica (PhD). XXII Cycle at **Sapienza University of Rome, dept. of Physics,** Italy. Supervisor Dr Luigi Spinoglio, National Institute of Astrophysics / Institute of Space Astrophysics and Planetology.
3-year fellowship awarded by Italian Space Agency (ASI) to work at the Institute of Physics of Interplanetary Space and cover the PhD studies. **Assegnista di ricerca**

August-November 2008: Visiting Division of Astronomy and Astrophysics at University of
Spectroscopic signal processing, descriptive statistical analysis and mathematical computational modeling of a complete sample of Seyfert galaxies.

October 2000-May 2006	**Master of Science**

Laurea (M. Sc.) in Physics at **Sapienza University of Rome, dept. of Physics**, Italy.

Project and realization of an optical photometer based on lock-in amplification.

Mother tongue(s)	Italian				

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
German	C1	C1	C1	C1	C1
Spanish	B1	B1	B1	B1	B1
Hebrew	B1	B1	B1	B1	A1

I gained compentence in mastering English through several experiences abroad, such as working periods in scientific laboratories or study trips during teenagehood and early twenties.
I learned German at school, from 11 to 19, and later improved it trough study trips and short visits. I attended Spanish classes while living in Barcelona and later in my hometown.
I attended Hebrew classes while living in Tel Aviv.

PERSONAL SKILLS

Communication skills	Good communication skills gained through my experience in many laboratories in several countries.
Organizational / managerial skills	▪ Independence - I worked on selected parts within major projects.
	▪ Flexibility - I worked in several environments and on multiple kinds of dataset.
	▪ Event organization - I organized the **Post Doc's Seminars in the Edmund & Lily Safra Center for Brain Studies** – Hebrew University of Jerusalem and helped in the organization of the "**International School on Magnetic Resonance and Brain Function - XII Workshop**" in Erice, Italy.
Job-related skills	Good attitude in teaching:
	▪ 1st Semester academic year 2007/2008. **Collaborating in the teaching activity** of Prof. Andrea Nigro, full professor at "La Sapienza" University of Rome, in the course "Systems and Signals Laboratory";
	▪November 5th-7th 2015 – **Teacher at Medical Physics School** "Quality check in advanced MR procedures", Fondazione Fatebenefratelli Roma.
Computer skills	▪ Programming:
	- Very good knowledge of scripting language Unix shell;
	- Very good experience in coding language Matlab;
	- Knowledge of Python;
	- Experience in coding language LabView, IDL, SciLab;
	- Basic knowledge of R;
	- Experience in data analysis tools (neuroscience: AFNI, FSL, SPM, EEGLAB, astronomy: IRAF, SMART, ISAP);
	- Experience in data modeling (e.g. photoionization processes with code Cloudy08);
	- Experience in using languages HTML e CSS.
	▪ Applications:
	- Very good knowledge and experience of Mac OS, Linux and Windows systems;
	- Very good experience in Microsoft Office Word, Excel, PowerPoint.;
	- Very good experience of test writing applications LaTeX;
Other skills	▪ Photography – 1st and 2nd level certificate at "Officine Fotografiche, Roma";
	▪ Good attitude to assimilate and use IT tools.
Driving license	B

Selected Publications on Refereed Journals

Tommasin, S.; De Luca, F.; Ferrante, I.; Gurreri, F.; Castelli, L.; Ruggieri, S.; Prosperini, L.; Pantano, P.; Pozzilli, C.; De Giglio, L.. Cognitive Fatigability is a quantifiable distinct phenomenon in multiple sclerosis. J Neuropsychol. doi:10.1111/jnp.12197 (Journal IF 2.46)

Tommasin S.; De Giglio L.; Ruggieri S.; Petsas N.; Giannì C.; Pozzilli C.; Pantano P. Relation between functional connectivity and disability in multiple sclerosis: a non-linear model. J Neurol, 2018, **https://doi: 10.1007/s00415-018-9075-5** (Journal IF 4.204)

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, https://doi.org/10.1016/j.neuroimage.2018.06.006 (Journal IF 7.079)

Tommasin, S.; Gili, T.; Mascali, D.; Eid Assan I.; Moraschi M.; Fratini M.; Wise R.G.; Macaluso E.; Giove, F. Task-Related Modulations of BOLD Low-Frequency Fluctuations within the Default Mode Network. Frontiers in Physics, 2017, https://doi.org/10.3389/fphy.2017.00031 (Journal IF 2.579)

Tommasin, S.; Giannì, C.; De Giglio, L.; Pantano P. Neuroimaging techniques to assess inflammation in multiple sclerosis. Neuroscience, 2017, https://doi.org/10.1016/j.neuroscience.2017.07.055 (Journal IF 3.42)

De Giglio L.; **Tommasin S.;** Petsas N.; Pantano P. The role of fMRI in the assessment of neuroplasticity in MS: a systematic review. Neural Plast. 2018 Dec 31;2018:3419871. doi: 10.1155/2018/3419871 (Journal IF 3.161)

Barthi K., Suppa A., **Tommasin S.**, Zampogna A., Pietracupa S., Berardelli A., Pantano P., Neuroimaging Advances in Parkinson's Disease with Freezing of Gait:A Systematic Review. Neuroimage: Clinical. 2019. 9 Nov 2019; 102059. https://doi.org/10.1016/j.nicl.2019.102059

Storelli L, Rocca MA, Pantano P, Pagani E, De Stefano N, Tedeschi G, Zaratin P, Filippi M; INNI Network (Valsasina P, Sibilia M, Preziosa P, Gallo A, Bisecco A, Docimo R, Petsas N, Ruggieri S, **Tommasin S**, Stromillo ML, Brocci RT.) MRI quality control for the Italian Neuroimaging Network Initiative: moving towards big data in multiple sclerosis.J Neurol. 2019 Nov;266(11):2848-2858. doi: 10.1007/s00415-019-09509-4 (Journal IF 4.204)

Pietracupa, S.; Bologna, M.; Barthi, K.; Pasqua G.; **Tommasin,** S.; Elifani, F.; PAparella, G.; Petsas, N.; Grillea, G.; Berardelli, A.; Pantano, P. White matter rather then gray matter characterizes essential tremor. Eur Radiol. 2019 May 28. doi: 10.1007/s00330-019-06267-9. (Journal IF 4.027)

Tommasin, S; Netzer, H.; Sternberg, A.; Nordon, R.; Lutz, D.; Bongiorno, A.; Berta, S.; Magnelli, B.; Le Floc'h, E.; Riguccini, L.; Pozzi, F. Star formation in LINER host galaxies at z~0.3. 2012, ApJ, 753, 155. 10.1088/0004-637X/753/2/155 (Journal IF 5.551)

Tommasin, S; Spinoglio, L.; Malkan, M. A.; Fazio, G. Spitzer IRS High Resolution Spectroscopy of the 12μm Seyfert Galaxies. II. Results for the Complete Dataset. 2010, ApJ, 709, 1257. 10.1088/0004-637X/709/2/1257 (Journal IF 5.551)

Tommasin, S; Spinoglio, L.; Malkan, M. A.; Smith, H.; Gonzàlez-Alfonso, E.; Charmandaris, V. Spitzer IRS High Resolution Spectroscopy of the 12μm Seyfert Galaxies. I. First Results. 2008, ApJ, 676, 836. 10.1086/527290 (Journal IF 5.551)

Wu, Y.; Charmandaris, V.; Huang, J.; Spinoglio, L.; **Tommasin, S.** Spitzer/IRS 5-35 μm Lowresolution Spectroscopy of the 12 μm Seyfert Sample. 2009, ApJ, 701, 658. 10.1088/0004-637X/701/1/658 (Journal IF 5.551)

Spinoglio, L.; Pereira-Santaella, M.; Dasyra, K. M.; Calzoletti, L.; Malkan, M. A.; **Tommasin, S.**; Busquet, G. Far-infrared Line Spectra of Seyfert Galaxies from the Herschel-PACS Spectrometer. 2015, 2015ApJ,799,21S. 10.1088/0004-637X/799/1/21 (Journal IF 5.551)

Seminars 2011 to present

Seminars: Max Planck Institute for Extraterrestrial Physics – Munich; Technion – Haifa; Hebrew University – Jerusalem; Institut d'Astrophysique de Paris; Laboratory of Galaxies Stars Physics and Instrumentation (G.E.P.I.) – Meudon; Infrared Processing and Analysis Center, Caltech – Pasadena; University of California Los Angeles; The Carnagie Observatories – Pasadena.
Oral contributions: AINR 2017; SIN 2018; BIOPHYSICS@ROME; AINR2019.
Poster presentations: ISMRM 2016, ECTRIMS 2017, 2018, 2019, 25th World Congress on Neurology and Neurodisorders 2018.
25th World Congress on Neurology and Neurodisorders 2018 **Moderator**, **Best Poster.**

I authorise the use of my personal data in compliance with Legislative Decree 196/03.

Rome, Nov 26th 2019