Curriculum vitae

PERSONAL INFORMATION

Marco Piangerelli, Ph.D.

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https://www.researchgate.net/profile/Marco_Piangerelli

https://www.linkedin.com/in/marco-piangerelli-08392768/

Gender Male | Date of birth 30 January 1984 | Nationality Italian

WORKING POSITIONS

1 February 2018 - Present

Postdoctoral Researcher

Mathematics Division , School of Sciences and Technologies, University of Camerino
Activity:
Study and development of algorithms for the monitoring and prediction of changes in the psycho-physical state of patients in rehabilitation for spinal injuries.
Research-group leader: Prof. Renato De Leone

1 June 2017- 31 January 2018

Postdoctoral Researcher

BioShape and Data Science Lab, Computer Science Division, School of Sciences and Technologies, University of Camerino
Activity:
Study and development of algorithms and methods for the analysis of streaming and / or batch data for prediction, classification and clustering.
Research-group leader: Prof.ssa Emanuela Merelli

EDUCATION

25 July 2017

PhD in Computer Science — QEQ 8

Thesis Title: “A topological classifier for detecting the emergence of anomalous synchronization in brain activity”

School of Sciences and Technologies, Computer Science Division, University of Camerino, Camerino, Italia

21 March 2013

Master Degree in Biomedical Engineering — QEQ 7

Thesis Title: “The effects of hypocalcemia on spatial alternans and ventricular fibrillation studied with optical mapping technique”

Alma Mater Studiorum- University di Bologna, Bologna, Italia

24 February 2009

Bachelor Degree in Biomedical Engineering — QEQ 6

Thesis Title: “Definizione di un protocollo per lo studio della deformazione delle labbra”

Politecnico di Milano, Milano, Italia

2 July 2003

Diploma di Istruzione superiore — QEQ 5

Liceo "G. Leopardi", Recanati, Italia

EDUCATION (ADDITIONAL CERTIFICATIONS)

July 2018

PF24

Progettazione, valutazione e ricerca educativa, M-PED/03, M-PED/03

Processi congnitivi, di apprendimento e di sviluppo, M-PSI/01, M-PSI/04

Processi congnitivi, di apprendimento e di sviluppo, M-PSI/01, M-PSI/04

Metofologie e tecnologie didattiche, M-PDE/03

PUBLICATIONS

- Anti-Inflammatory, Anti-Arthritic and Anti-Nociceptive Activities of Nigella sativa Oil in a Rat Model of Arthritis. Nasuti, C.; Fedeli, D.; Bordoni, L.; Piangerelli, M.; Servili, M.; Selvaggini, R.; Gabbianelli, R. Antioxidants 2019, 8, 342.
- Predicting multidrug resistant urinary tract infections using DSaaS a user-friendly machine learning platform, Mancini, A.; Vito, L.; , Marcelli, E.; Piangerelli, M.; De Leone, R.; Pucciarelli , S.; Merelli, E.; *submitted*
- Stationary Wavelet Transform for Automatic Epileptic Seizure Detection, Shiferaw, G.; Mamuye, A.; Piangerelli, M., *ICT4DA 2019 Proceedings*
- New Compression Algorithm for Multichannel Biomedical Devices, Marinelli, A.; Bartolini, M.; Durazzi , V,; Burattini, L.; Piangerelli, M., *submitted)*
- Handbook of Machine Learning (book). Da.Re. Consortium. Free download at http://dare-project.eu/download/
- HTR2C gene variant and salivary cortisol levels after endurance physical activity: a pilot study, Bordoni, L.; Fedeli, D.; Piangerelli, M.; Gabbianelli, R., *Lifestyle Genomics, 2019 (in press)*
- Persistent Entropy Automaton for the Dow Jones, Piangerelli, M.; Tesei, L.; Merelli, E. , FSEN Post-Proceedings, *LNCS , Springer Verlag (submitted)*
- Big data: business, technology, education, and science. Johnson, J.; Tesei, L.; Piangerelli, M.; Merelli, E.; Paci, R.; Stojanovic, N.; ... and Amador, M. *Ubiquity, 2018(July), 2.*
- Topological classifier for detecting the emergence of epileptic seizures. Piangerelli, M.; Rucco, M.; Tesei, L.; Merelli, E. *BMC research notes, 2018*
- A novel neural prosthesis providing long-term electrocorticography recording and cortical stimulation for epilepsy and brain-computer interface. Romanelli, P.; Piangerelli, M.; Ratel, D.; Gaude, C.; Costecalde, T.; Puttilli, C.; Picciafuoco, M.; Benabid, A.; and Torres, N. *JNS, 2018*
- Obesity-related genetic polymorphisms and adiposity indices in a young Italian population. Bordoni, L., Marchegiani, F.; Piangerelli, M.; Napolioni, V.; Gabbianelli, R. *IUBMB Life, 2017*
- Hair Microelement Profile as a Prognostic Tool in Parkinson's Disease. Ferraro, S.; Nasuti, C.; Piangerelli, M.; Giovannetti, R.; G., Guidi, M.; Ferri, A.; and Gabbianelli, R. *Toxics, 2016.*
- Pyrethroid Pesticide Metabolite in Urine and Microelements in Hair of Children Affected by Autism Spectrum Disorders: A Preliminary Investigation. Domingues, V.F.; Nasuti, C.; Piangerelli, M.; Correia-Sá, L.; Ghezzo, A.; Marini, M.; Abruzzo, P.M.; Visconti, P.; Giustozzi, M.; Rossi, G.; Gabbianelli, R. *Int. J. Environ. Res. Public Health 2016, 13, 388.*
- Metal and Microelement Biomarkers of Neurodegeneration in Early Life Permethrin-Treated Rats. Nasuti, C.; Ferraro, S.; Giovannetti, R.; Piangerelli, M.; Gabbianelli, R. *Toxics 2016*
- A fully integrated wireless system for intracranial direct cortical stimulation, real-time electrocorticography data transmission, and smart cage for wireless battery recharge. Piangerelli, M.; Ciavarro, M.; Paris, A.; and Marchetti, S.; Cristiani, P.; and Puttilli, C.; and Torres, N.; and Benabid, A.L.; and Romanelli, P. *Frontiers in neurology, 2014*
- A topological approach for multivariate time series characterization: the epileptic brain. Merelli, E.; Piangerelli, M.; Rucco, M.; Toller, D. *EAI Endorsed Transaction on Self-Adaptive Systems, 2016*
- Survey of TopDrim applications of Topological Data Analysis. Merelli E.; Rucco, M,; Tesei, L.; Piangerelli, M.; Mamuye, A.; and Quadrini, M. *Proceedings of the 2nd International Workshop on Knowledge Discovery on the WEB, KDWeb, 2016*
- Cyberbrain: a preliminary experience on non-human primate. Piangerelli, M.; Paris, A.; Romanelli P. *Neurotechnix 2014 Proceedings* .
- RNN-based model for self-adaptive system- The emergence of epilepsy in the human brain. Merelli, E.; Piangerelli, M. *NIJCCI 2014 Proceedings.*

CONFERENCES, WORKSHOPS, SEMINARS AND INTERNATIONAL EXPERIENCES

May 2019 Topological Data Analysis: from data to knowledge , IMT, Lucca (Italy), Invited Speaker

May 2019	FSEN 2019 - 8th IPM International Conference on Fundamentals of Software Engineering, IPM, Tehran (Iran), Accepted Speaker
December 2018	Neurotop 2018 - workshop on Topology and Neuroscience, EPFL , Lausanne (Switzerland)
September 2018	VI scientific day – Camerino
September 2016	KDWeb 2016, Cagliari (Italy),Tutorial on Topological data analysis, Invited Speaker
June 2016	V scientific day – Camerino
July 2015	TopDrim summer school and Workshop, Camerino (Italy)
June 2015	INS 12th World Congress, Montreal (Canada), Poster Presentation\Accepted Speaker
October 2014	Conference NEUROTECHNIX, Rome (Italy), Accepted Speaker
October 2014	Conference IJCCI-NCTA, Rome (IT), Poster presentation
September 2014	European Conference on Complex Systems (ECCS), Lucca (Italy), Accepted Speaker
June 2014	IV scientific day – Camerino
June 2014	Conference CS2BIO, Berlin (Germany)
March 2014	Bertinoro International Spring School (BISS), Bertinoro (Italy),
August 2012	NBCR Summer School at UCSD, San Diego, California, USA.
March 2012 - August 2012	International student at Biomedical Sciences department at Cornell University, Ithaca, NY, USA. Project about the effect of hypocalcaemia on cardiac dynamic (advisors: Prof. Robert Gilmour and Dr. Flavio Fenton).

PROJECTS

1 February 2018 – Present	Tailored Rehabilitation for the Engagement and Empowerment of chronically disabled people (T.R.E.E.), Fondo europeo di sviluppo regionale (FESR)
1 June 2017– Present	Data science Pathways for Reimagine Education (Da.Re.), EU Erasmus+ , dare-project.eu)
2017 – Present	Doctoral Candidates Research Grant (DRG) “Nutrigenomics role of bioactive compounds extracted from legumes: new insights on lignans”
2015	Topology Driven Methods for Complex Systems (TOPDRIM) Project, FET-FP7
2015 – 2017	Fondo di Ateneo per la Ricerca (FAR) “Materials and Technologies for improving the use of Renewable Energy in the Districts of smart city (MATREND).”

RESEARCH COLLABORATIONS

Prof. Andrea Danani, SUPSI, Lugano (CHE)

Prof. Jeff Johnson, The Open University, Milton Keynes (UK)

Prof. Flavio Fenton, Georgia Institute of Technology, Atlanta (USA)

Dr. Adane Mamuye University of Gondar, Gondar (ETH)

Prof. Sayed Mohammad Sadegh Movahed, Shahid Beheshti University, Tehran (IRN)

Dr. Michele Bellesi, university of Bristol, Bristol (UK)

Prof.ssa Emanuela Merelli, University of Camerino, Camerino (ITA)

Prof. Renato De Leone, University of Camerino, Camerino (ITA)

Dr. Tiziano Squartini, IMT, Lucca (ITA)

Prof.ssa Rosita Gabbianelli, University of Camerino, Camerino (ITA)

Prof. Mario Compiani, University of Camerino, Camerino (ITA)

Loccioni Group, Angeli di Rosora (ITA)

PROGRAMME COMMITTEE MEMBER

2019	ATDA2019 - International Workshop on Applications of Topological Data Analysis, Würzuburg (GER), 16-20 September 2019
2018	WOA 2018 -19th Workshop From Objects to Agents, Palermo (ITA), 28-29 June 2018

REFEREES FOR

EPJ Data Science, IEEE Transaction on Information Theory, Iranian Journal of Science and Technology-Transactions of Electrical Engineering

TEACHINGS

2018 – Present

Professor

Machine Learning (3 cfu), Master Degree in Computer Science, Università di Camerino

2016 – Present

Assistant Professor

Distributed Calculus and Coordination (6 cfu), Master Degree in Computer Science, Università di Camerino

2017 – 2018

Professor

Algoritmi e strutture Dati- Lab (6 cfu), Bachelor Degree in Informatica, Università di Camerino

2014 – 2015

Professor

Distributed Calculus and Coordination (DCC) (3 cfu), Master Degree in Computer Science, Università di Camerino

2014 –2015

Tutor

Reti Logiche, Laurea Triennale in Informatica, Università di Camerino

SUPERVISOR / CO-SUPERVISOR

PhD

2020 Leonardo Vito (on going)

Bachelor Degree

2018-2019 Alberto Pompei - Title: To be defined

2018-2019 Maria Curcio - Title: Algoritmi di ricerca informata - Applicazione nel Gioco del 15 di A* in Lua

2018-2019 Giacomo Rocchetti - Title: To be defined

2018-2019 Alessandro Liscio - Title: To be defined

2017-2018 Michael Vasquez Otazu - Title: CHoleR - Holes Researcher (C++ Tool for the Analysis of Persistent Homology on Undirected Weighted Graphs)

2017-2018 Simone Morettini - Title: Reti HTM per il riconoscimento di Pattern

2017-2018 Silvio Colaci - Title: MotionHunt -A motion detection system

2017-2018 Matteo Imperato- Title: MotionHunt - A motion detection system

MENTORING

Curricular Group Project

2018-2019 Emilio Silvestri - Manuel Cretone, title: Rete neurale per analisi di segnali unidimensionali

2018-2019 Matteo Belenchia - Sebastiano Verdolini, title: Pipeline automatizzata per analisi topologica

2018-2019 Alessandro Liscio - Giacomo Rocchetti, title: Stay Healthy

2017-2018 Simone Morettini - Alessandra Renieri, title: Studio delle CNNs per la predizione di crisi epilettiche (seizures)

2017-2018 Matteo Imperato- Silvio Colaci, title: Monitoraggio del sonno attraverso il rilevamento del movimento nei roditori

PERSONAL SKILLS

Mother tongue Italiano

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Inglese	B2	B2	B2	B2	B2
	IELTS B2				

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages

Digital competences

SELF-ASSESSMENT				
Information Processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Digital competences - Self-assessment grid

Technical Skills

- R (very good)
- Python (very good)
- MATLAB (very good)
- C \C++ (good)
- Latex
- Expert user / Developer of CHOLER (Software for topological data analysis)
- Java (basic)
- Office (No ACCESS)

Driving licence B

SCHOLARSHIPS AND AWARDS

January 2017 Fondi DRG - School af advanced Studies, Università di Camerino

June 2014 4th Scientific Day della Scuola di Scienze e Tecnologie, BEST POSTER in Computer Science

August 2012 Scholarship University of California - San Diego (UCSD): Poster presentation :“Effects of hypocalcemia on spatial alternans and ventricular fibrillation.” NBCR summer school.

OTHER INTEREST

- History
- Philosophy (of Science)
- Music
- Football