

CURRICULUM VITAE ET STUDIORUM

Nome Cognome: **Karolina Armonaite**

Nata a Klaipeda, Lituania, il 16/02/1993

Research interests: statistical methods for neurophysiological time series analysis, self-organized criticality, complex networks, fractals, machine learning, artificial intelligence

Education

- 2019 – 2022 PhD in “Minds and Technologies in Digital Society”, Ciclo XXXV, Uninettuno University, Rome, Italy. Winner of PhD fellowship.
Title of the PhD thesis: “Assessment of spectral and fractal properties of neurodynamics: from statistics to machine learning”.
 SSD (Settori Scientifico Disciplinari) of the PhD thesis: ING-INF/05, M-PSI/02, FIS/02
Supervisors: Prof. Livio Conti, Faculty of Engineering, Uninettuno University and INFN – Istituto Nazionale di Fisica Nucleare, Sezione Roma Tor Vergata, Italy.
Prof. Franca Tecchio, ISTC – CNR, Institute of Cognitive Science and Technology at the Italian National Research Council, CNR, Rome, Italy.
- 2017 – 2019 Master degree in “Health Policy and Management”, Mykolas Romeris University, Vilnius, Lithuania. Date of issue 30 May 2019.
- 2016 – 2017 Master post-lauream in Health Management, Klaipeda University, Klaipeda, Lithuania.
- 2012 – 2015 Bachelor in Health Sciences, Klaipeda’s State College, Klaipeda, Lithuania.
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Teaching activities

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| A.Y. 2022 – 2023 | Tutor of the course of “ <i>Platforms for Big Data</i> ” in the Master degree course (Laurea magistrale) of “Informatics Engineering, study path Big data”, Faculty of Engineering, Uninettuno University, Rome, Italy |
| A.Y. 2022 – 2023 | Tutor of the course “ <i>Cognitive Ergonomics and Human Factor</i> ” |
| A.Y. 2021 – 2022 | in the Master degree course (Laurea magistrale) of “Cognitive Processes and Technologies, study path |
| A.Y. 2020 – 2021 | Cyber-psychology”, Faculty of Psychology, Uninettuno University, Rome, Italy. |
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Training and Skills

- 2020 – 2021 Information Technology internship, Faculty of Engineering, Uninettuno University, Italy.
Certified acquired competences: analytical and computational mathematical methods, advanced statistics, object-oriented programming (Python), artificial intelligence development, machine learning & deep-learning, electromagnetic signals processing, spectral analysis, fractal features extraction, in cloud data analysis and processing (big-data platforms, EEG-MNI database, etc.)
- June 2019 ERASMUS+ scholarship for internship at Uninettuno University, Rome, Italy.
Responsibilities: European projects management and data processing.
- 2015 – 2019 Full-time employee at International Affairs Unit, UAB Interlog Lietuva (private equity company), Klaipeda, Lithuania.
Responsibilities: Big-data analytics and visualization.
- Jan. 2015 – June 2015 Internship at Neurological Disease and Rehabilitation Department, Klaipeda University Hospital, Klaipeda, Lithuania.
Responsibilities: Assisting to the medical team in the rehabilitation process of patients with neurological diseases as well as traumatic brain or spinal cord injuries.
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Publications

1. Karolina Armonaite, Massimo Bertoli, Luca Paulon, Eugenia Gianni, Marco Balsi, Livio Conti, and Franca Tecchio, “Neuronal Electrical Ongoing Activity as Cortical Areas Signature: An Insight from MNI Intracerebral Recording Atlas”, *Cerebral Cortex*, 2021, Published: 2 November 2021, <https://doi.org/10.1093/cercor/bhab389>
2. Teresa L’Abbate, Karolina Armonaite, Eugenia Gianni, Massimo Bertoli, Livio Conti, Joy Grifoni, Andrea Cancelli, Carlo Cottone, Elisabetta Trombetta, Matteo Padalino, Camillo Porcaro, Franca Tecchio, “Corticomuscular coherence dependence on body side and visual feedback”, 2022, *Neuroscience*, <https://pubmed.ncbi.nlm.nih.gov/35288177/>
3. Karolina Armonaite, Eugenia Gianni, Joy Grifoni, Lino Nobili, Luca Paulon, Marco Balsi, Livio Conti, Franca Tecchio, “Local neurodynamics as a signature of cortical areas: new insights from sleep”, 2022, *Cerebral Cortex*, <https://pubmed.ncbi.nlm.nih.gov/35858209/>
4. Annalisa Pascarella, Eugenia Gianni, Matteo Abbondanza, Francesca Pitolli, Karolina Armonaite, Massimo Bertoli, Teresa L’Abbate, Joy Grifoni, Livio Conti, Luca Paulon, Franca Tecchio, “Normalized compression distance to measure cortico-muscular synchronization”, Accepted for publication in *Frontiers in Neuroscience*; 19, October, 2022, doi:10.3389/fnins.2022.933391, <https://www.frontiersin.org/articles/10.3389/fnins.2022.933391/abstract>
5. Karolina Armonaite, Livio Conti, Franca Tecchio, “Book Review: “The fractal geometry of the brain”, by Antonio Di Ieva, Accepted for publication in *Frontiers in Neuroscience*, Sec. Neuroprosthetics, on 4 November 2022, doi: 10.3389/fnins.2022.1078376, <https://www.frontiersin.org/articles/10.3389/fnins.2022.1078376/full>
6. Karolina Armonaite, Livio Conti and Franca Tecchio, “Fractal nature of the ongoing neuronal electrical activity”, In “Fractal Geometry of the Brain”, Editor Antonio Di Ieva, Accepted, To be published, 2022.

Presentations at meetings & Schools

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| 14 July, 2021 | K. Armonaite, “Spectral and Fractal Analysis of Electromagnetic Signals”, talk at “Uninettuno – Tor Vergata joint meeting on artificial intelligence and big data analysis”, Rome, Italy. |
| 2-3 December, 2021 | K. Armonaite, “My path to STEM”, talk at “International Leadership Summit IEEE Woman in Engineering”, Genoa, Italy. |
| 16-24 July, 2022 | L. Conti, M. Onofrio, D. Antonini, K. Armonaite, I. Bettarini, G. Renna, “Study of particle precipitation induced by natural electromagnetic sources measured by the HEPD detector”.
Talk at Session C1.3, 44 th COSPAR-Assembly, Athens, Greece. |
| 9-13 July, 2022 | K. Armonaite, L. Conti, F. Tecchio “The spectral and fractal neurodynamical features as a signature of cortical areas: an insight from Montreal Neurological Institute intracranial sEEG”.
Presentation at the Federation of European Neuroscience Societies (FENS) forum 2022, Paris, France. |
| 18-25 June, 2022 | Neural Circuit Dynamics NSAS School 2022 (NSAS - Neuroscience School of Advanced Studies Advanced Courses), Isola di San Servolo, Venice, Italy, Director: Gyorgy Buzsaki (USA) |
| 4-8 September, 2022 | K. Armonaite, M. Balsi, L. Conti, F. Tecchio, “Neuronal Electrical Ongoing Activity as Cortical Areas Signature: An Insight from MNI Intracerebral Recording Atlas”,
ICCN - International Congress of Clinical Neurophysiology, Geneva, Switzerland. |
| 18-22 September, 2022 | K. Armonaite, L. Conti, M. Balsi, and F. Tecchio, “How spectral and fractal analyses of neurodynamics reveal the signature of cortical areas in waking and sleeping states: a study of Montreal Neurological Institute intracranial sEEGs”, Talk given at the:
ACAIN 2022 (2nd Adv. Course & Symposium on Artificial Intelligence & Neuroscience) and
LOD 2022 (8th Int. Conference on Machine Learning, Optimization, and Data Science), Siena, Italy. |
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Awards & memberships

2019 – 2022	Winner of the call for a three-year full-time fellowship on neuroscience & technologies, granted by Uninettuno university on behalf of the Italian Ministry of University and Research (MIUR).
March 2022 – present	A member of SINS - Italian Society for Neuroscience
September 2022 – present	Affiliated to the LET* - Laboratory of Electrophysiology for Translational neuroscience of the ISTC - CNR (Institute of Cognitive Sciences and Technologies, Department of Human and Social Sciences, Cultural Heritage, National Research Council), Rome, Italy

Projects

2021 - 2022	ComplExplore The project is an interdisciplinary lab of Uninettuno consisting of seminars and interactive meetings, in which experienced researchers, young researchers and students can discuss issues of complexity. <ul style="list-style-type: none">• Participation in design and development of the series of 35 seminars on complex systems.
2022 - 2023	Provide project Call: Erasmus + The project aims to train OPMs (Online Proctoring Managers), support the digital transition of higher education institutions to high-quality online education, and develop methodologies of supervised distance examinations, ensuring the best integrity. <ul style="list-style-type: none">• Participation to the development of Module 7 – “Change management in HEI for adopting proctoring online exams”
2022 - present	Green Scent project - Smart Citizen Education for a Green Future Call: Horizon 2020 project GreenScent aims at supporting the implementation of EU policies related to the Green Deal. <ul style="list-style-type: none">• Participation to the project to the development of the Work Package 1, working group Biodiversity
