FEDERICA CORDELLA

PERSONAL INFORMATION

Name	**CORDELLA, FEDERICA**
Address	//
Telephone	**N/A** Mobile //
Fax	
E-mail	//

Nationality	Italian
Date of Birth	//
Gender	Female

WORK EXPERIENCE

• Dates	**from 11/2018 – ongoing (end date 01/2022)**
• Name and address of the employer	Center for Life Nano- & Neuro-Science, Rome, Italy
• Occupation or position held	Ph.D. student, Stem cells and Organoids facility
• Main activities and responsibilities	Cell biology, electrophysiology, confocal microscopy, molecular biology and in vivo models

EDUCATION

• Dates	**from 11/2018 – 10/2021**
• Name and type of organisation providing education and training	University of Rome "Sapienza", Istituto Italiano di Tecnologia, Italy
• Principal subjects/occupational skills covered	Ph.D. Project: "iPSCs-derived cortical organoids: an in vitro model to mimic and investigate neurodegenerative diseases". Study of iPSCs-derived cortical organoids through the development of specific study protocols in order to investigate the onset and progression of the neurodegenerative diseases. The project has been carried out using different technologies such as cell models (cell lines, stem cells and derived-organoids), several technics like confocal microscopy, electrophysiology, calcium imaging, molecular biology and in vivo models. The Ph.D. experience allowed to obtain a development from a scientific and personal one, improving both capability to develop a structural project able to be result-driven and to develop a collaborative way of working. Collaboration with CREST optics facility, CLNS Sapienza and IIT research groups has been developed in order to obtain the expected results.
• Title of qualification awarded	Ph.D. Life Science – Curriculum in Molecular and Cellular Biology and Genetics of Eukaryotic cells

• Dates	**from 10/2016 - 07/2018**
• Name and type of organisation providing education and training	University of Rome "Sapienza", Italy
• Principal subjects/occupational skills covered	Master degree (DM. 270/04) of Neurobiology (CLASSE LM-6). Master degree project: "Systemic antibiotics treatment modulates microglia-synapses interaction through CX3CL1/CX3CR1 axis".

The project was focused on the impact of a systemic antibiotic treatment on microglia function and synaptic signaling and has been carried out through the use of cell biology, electrophysiology and in vivo models methods.

• Vote 110/110 summa cum laude

• Dates **from 10/2006 - 11/2009**

• Name and type of organisation providing education and training University of Rome "Sapienza", Italy

• Principal subjects/occupational skills covered Bechelor Degree (DM. 270/04) of Biology (CLASSE L-13).
Bechelor Degree project: "Characterization of PTSJ from Salmonella Typhimurium: a new transcriptional regulator of the recycling pathway of vitamin B6".
Evaluation of the structure and activity mechanisms of PTSJ using electrophoresis techniques, chromatography and spectrophotometry.

• Vote 106/110

TRAINING

• Dates **from 22/11/2018 – to 23/11/2018**

• Name and type of organisation providing education and training University of Rome "Sapienza", " 3rd Synanet workshop in Rome", Italy

• Principal subjects/occupational skills covered Animal welfare in neuroscience research

• Dates **5/12/2019**

• Name and type of organisation providing education and training CERC, Rome, Italy

• Principal subjects/occupational skills covered Workshop di aggiornamento conforme al modulo 2.13- attuazione del principio delle 3R " La tecnologia nella ricerca scientifica, un contributo alla Reduction"

• Dates **from 27/04/2020 - to 28/04/2020**

• Name and type of organisation providing education and training University of Rome "Sapienza", Italy

• Dates **29/06/2021**

• Name and type of organisation providing education and training Corso di formazione "vedere per credere: tecniche di microscopia in campo biomedico", Fondazione Golinelli, Italy

• Dates **14/04/2021-15/04/21**

• Name and type of organisation providing education and training Scientific volume imaging – Virtual svi Huygens workshop

• Dates **16/09/2020**

• Name and type of organisation providing education and training Fondazione italiana scienze della vita – FISV symposium " SARS- COV2 biology and COVID-19 : current research perspective "

PUBLICATIONS

1. **Cordella, F.;** Sanchini, C.; Rosito, M.; Ferrucci, L.; Pediconi, N.; Cortese, B.; Guerrieri, F.; Pascucci, G.R.; Antonangeli, F.; Peruzzi, G.; Giubettini, M.; Basilico, B.; Pagani, F.; Grimaldi, A.; D'Alessandro, G.; Limatola, C.; Ragozzino, D.; Di Angelantonio, S. Antibiotics Treatment Modulates Microglia–Synapses Interaction. *Cells* **2021**, *10*, 2648.

2. Latina V, Giacovazzo G, **Cordella F**, Balzamino BO, Micera A, Varano M, Marchetti C, Malerba F, Florio R, Ercole BB, La Regina F, Atlante A, Coccurello R, Di Angelantonio S, Calissano P, Amadoro G. Systemic delivery of a specific antibody targeting the pathological N-terminal truncated tau peptide reduces retinal degeneration in a mouse model of Alzheimer's Disease. Acta Neuropathol Commun. 2021 Mar 9;9(1):38. doi: 10.1186/s40478-021-01138-1. PMID: 33750467; PMCID: PMC7942014.

3. Brighi C, **Cordella F**, Chiriatti L, Soloperto A, Di Angelantonio S. Retinal and Brain Organoids: Bridging the Gap Between in vivo Physiology and in vitro Micro-Physiology for the Study of Alzheimer's Diseases. Front Neurosci. 2020 Jun 17;14:655. doi: 10.3389/fnins.2020.00655. PMID: 32625060; PMCID: PMC7311765.

4. **Cordella F**, Brighi C, Soloperto A, Di Angelantonio S. Stem cell-based 3D brain organoids for mimicking, investigating, and challenging Alzheimer's diseases. Neural Regen Res. 2022 Feb;17(2):330-332. doi: 10.4103/1673-5374.317976. PMID: 34269204.

5. Brighi C, Salaris F, Soloperto A, **Cordella F**, Ghirga S, de Turris V, Rosito M, Porceddu PF, D'Antoni C, Reggiani A, Rosa A, Di Angelantonio S. Novel fragile X syndrome 2D and 3D brain models based on human isogenic FMRP-KO iPSCs. Cell Death Dis. 2021 May 15;12(5):498. doi: 10.1038/s41419-021-03776-8. PMID: 33993189; PMCID: PMC8124071.

PERSONAL SKILLS AND COMPETENCES

Acquired in the course of life and career but not necessarily covered by formal certificates and diplomas..

MADRELINGUA **ITALIAN**

ALTRE LINGUA

ENGLISH (WALL STREET ENGLISH -B2 FROM 04/2021-ONGOING)

• Capacità di lettura	GOOD
• Capacità di scrittura	GOOD
• Capacità di espressione orale	GOOD

SOCIAL SKILLS AND COMPETENCES

ABILITY TO ORGANIZE INDEPENDENTLY OR IN GROUP THE WORK AND TO COOPERATE WITH OTHER FIGURES MANAGING THE PRIORITY EVEN IN STRESSFUL SITUATIONS IN ORDER TO MEET DEADLINES AND TARGETS. ABILITY TO WORK EVEN IN INTERDISCIPLINARY PROJECTS AND ALWAYS WILLING TO INCREASE AND INTEGRATE THE EXPERIENCE AND KNOWLEDGE WITH A SENSE OF INITIATIVE. AVAILABILITY TO DISCUSSION AND SCIENTIFIC DEBATE, CONSIDERED EXCELLENT TOOLS TO INCREASE KNOWLEDGE AND TO ENSURE A BETTER JOB. GOOD SCIENTIFIC WRITING SKILLS AND ORAL COMMUNICATION.

TECHNICAL SKILLS AND COMPETENCES		Autonomy tested in the laboratory as regards the cell biology, electrophysiology, confocal microscopy (spinning disk, laser scanning, two photons), molecular biology and in vivo models

Istituto Italiano di Tecnologia		(mice) in the fields of neurodegenerative diseases and microbiota-microglia neurons interaction in physiological conditions. Excellent ability to manipulate primary cell cultures, immortalized and cancer stem cells from patients, assessing cellular response to drugs and cellular interactions in order to study specific biological behaviors Use of induced pluripotent stem cells (iPSCs) in order to both develop a cortical organoids as a new in vitro tool to investigate functional neuronal network in both physiological and pathological conditions and microglial population, to assess their role in the functional maturation of neurons. Use of animal models to both assess the microbiota-microglia-neurons crosstalk in both physiological and pathological condition, and to evaluate pathological AD markers into mouse retina. Excellent application of electrophysiological techniques, immunofluorescence methods, PCR, real time PCR, Western blot. Experience in electrophoresis techniques. **Confocal Microscopy**: Preparation of samples for confocal microscope analysis and staining starting from cellular models and both mouse and retina slices obtained from mouse models. Nikon Eclipse Ti equipped with X-Light V2 spinning disk (CrestOptics), LDI laser source (89 North) and Prime BSI Scientific CMOS (sCMOS) camera, 6.5 µm pixels (Photometrics) with a 10x/0.25 Plan E air objective and a 60x/1.4 PlanApo I oil objective. Confocal microscope FV10i (Olympus), monophoton configuration, equipped with 10x/0.40 air objective and a 60x/1.35 water objective. Metamorph software version 7.10.2 (Molecular Devices) was used to acquire immunofluorescence images. Data analysis through ImageJ software, Metamorph software, Huygens software. **Cell Culture**: Use of immortalized cancer cell lines (U251; GL15); Use of induced-pluripotent stem cell (iPSCs) (iPS28 and IVS10+16 cell lines). Cell viability using Trypan blue assay. **RNA and cDNA:** RNA extraction from iPSCs samples by the use of E.Z.N.A.® Total RNA Kit I | Omega Bio-tek. Use of PCR techniques in order to obtain cDNA from iPSCs samples. Quantitative PCR (qPCR) in order to confirm the gene expression of neuronal and microglial markers. **Histopathology**: Tissue processing and preparation of histological preparations: fixation, paraffin embedding, freezing in liquid nitrogen, microtome cut, cut to the cryostat, the hematoxylin-eosin staining, histochemical staining, immunohistochemistry, immunofluorescence.
Sapienza, università di Roma		**Electrophysiology:** In vitro and in vivo electrophysiological recordings. Mouse derived-brain/retina processing and preparation for electrophysiological recordings of both neurons and microglial cells using patch clamp techniques. Use of both current clamp and voltage clamp configuration to assess cell functionality in both physiological and pathological condition.
Dipartimento di Chirurgia Pietro Valdoni, University of Rome "Sapienza"		

DRIVING LICENCE(S) **B**

This Curriculum Vitae of Dr. Federica Cordella consists of 4 pages.

21/01/2022

The undersigned acknowledges that, pursuant to art. 26 of Law 15/68, false statements, falsified acts and use of false acts are punishable under the Penal Code and special laws. I hereby authorize the use of my personal details solely for circulation within the company in relation to the Italian Legislative Decree n° 196/2003.

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