CURRICULUM VITAE ET STUDIORUM

Personal information

Surname, name	Alessandra Franceschini
Place and date of birth	Prato (PO), Italy, July 6th 1990
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Citizenship	Italian

Current position

2021-present Postdoc, European Laboratory for Non-linear Spectroscopy (LENS), Sesto Fiorentinto, Florence, Italy.

Previous positions

2020-2021 Post-doctoral research fellow, DSS Department of Health Science, Florence, Italy

2017-2020 PhD student, European Laboratory for Non-linear Spectroscopy (LENS), Sesto Fiorentinto, Florence, Italy

Education

2017-2020 **Ph.D. in Atomic and Molecular Spectroscopy (Doctor Europaeus)**, University of Florence, Italy. Ph.D. Thesis: "*Brain-wide activation mapping at cellular resolution during learning and retrieval of aversive memory*", advisor Dr. Ludovico Silvestri.

2020 (3 months) **PhD student/ Erasmus Traineeship 2020-2021** ICM Institute for Brain and Spinal Cord, Paris, France. Supervisor Dr. Nicolas Renier

2016 **M.Sc in Pharmacy** University of Florence, Italy. Thesis: "Mixture process variable and quality by design in the development of a Capillary electrophoresis method for the analysis of Diclofenac and its impurities", advisor Prof. Sandra Furlanetto. Grade 108/110

2015 (3 months) **Erasmus student**, *Erasmus traineeship mobility* university internship. Madrid, Spain

Research activities

2016-2017 **Guest Researcher. University of Florence (Italy), Pharmaceutical Department.** Project title "the interaction between the histaminegic system and omega-3 pufa/vitamin-A supplemented diet or the fat sensing molecule oleoylethanolamide in stress-induced cognitive impairments". I collaborated in this project with a group that is interested in the physiological role of histamine as a central neurotransmitter involved in cognitive and homeostatic processes and brain inflammation. Our studies contributed to the understanding of if and how brain histamine may **Pharmaceutical Department** have a prospective role in the therapy of neurological and psychiatric disorders using murine models.

2017-2020 **University of Florence (Italy), Biophotonics Laboratory of LENS.** During my Ph.D. I developed a pipeline for mapping neuronal activation at micron resolution, combining transgenic approach, clearing protocol, high-resolution light-sheet microscopy, and automated 3D image analysis. This method allowed to visually capture the engram of aversive memory, visualizing all activated neurons of a specific phase of memory, in a sort of quantitative snapshot photo. The combination of high-resolution imaging and 3D analysis for processing sub-cellular information became the key point of this pipeline, enabling robust quantitative analysis of the whole brain

2021-2022 **University of Florence (Italy), Pharmaceutical Department.** In this period, I used the pipeline, developed during my PhD, to understand how neuronal patterns, involved in formation and storage of fear memory, change with a histamine depletion using whole brain mapping of c-fos expression.

Active collaborations

- Prof. Paolo Frasconi, University of Florence, Italy
- Prof. Rob Leurs, University of Amsterdam, Netherlands
- Prof. Guillame Ferreira, University of Bordeaux, France
- Dr. Pierre Trifilieff, INRAE, France
- Prof. Alessandro Pini, University of Florence, Italy
- Prof. Guido Mannaioni, University of Florence, Italy
- Prof. Patrizio Blandina, University of Florence, Italy
- Prof. Beatrice Passani, University of Florence, Italy
- Dr. Alessio Masi, University of Florence, Italy
- Dr. Bianca Silva, National Research Council, Milan, Italy

Teaching activities

Student

Bachelor thesis supervision

- Alessandra Paterni, Bachelor of Science in Biology, University of Florence

Service

Reviewer

I served as reviewer for the following Journals:

- Progress in Biophysics and Molecular Biology

Memberships

- Society for Neuroscience (SfN)
- Società Italiana di Neuroscienze
- European Histamine Research Society

Honors and Awards

Awards

2018 EDMUND OPTICS EDUCATIONAL AWARD
2019 POSTER AWARD AT EHRS
2020 FENS GRANT FOR THE FENS 2020 VIRTUAL FORUM

Fellowship

2015 ERASMUS Placement mobility, (ERASMUS TRAINEESHIP)
2020 ERASMUS TRAINEESHIP

National and International Meetings attended

1. International Conference on Bio Sensing and Imaging (ICOBSI), Florence , Italy (17-19 December 2018). **Attender.**
2. SINS National Meetings of PhD Students in Neuroscience, Napoli, Italy (1 March 2019). "Whole-brain mapping of neuronal activation in active neurons during aversive memory consolidation". **Poster presentation**.
3. 48th Annual Meeting of the European Histamine Research Society. Krakow, Poland (15-18 May 2019). "Whole-brain mapping of neuronal activation in histaminergic neurons during aversive memory". **Poster presentation and Flash Oral presentation**.
4. Neuroscience 2019, Chicago, Illinois, USA (19-23 October 2019). "Whole-brain mapping of neuronal activation during formation, consolidation and retrieval of aversive memories". **Poster presentation**.
5. 39° Congresso Nazione SIF, Società italiana di Farmacologia, Firenze, Italy (20-23 November 2019). **Attender**.
6. Percezione pubblica della scienza, (27-28 April 2020). Virtual Conference. **Oral presentation**.

7. FENS 2020, Virtual Forum (11-15 July 2020). “3D reconstruction of brain wide neuronal circuits involved in aversive memory”. **Poster presentation**.
8. EHRS Festive Virtual Poster Event Abstract. (2 December 2021). “3D reconstruction of brain wide neuronal circuits involved in aversive memory following α-fluoromethylhistidine”. **Poster presentation**.
9. FOM Focused on Micorscopy (10-13 April 2022). Virtual Conference. “deciphering brain circuits underlying aversive memory”. **Oral presentation**.
10. Macrogiovani 2022 (16-17 June 2022). “The role of polymeric hydrogel for biological tissue clearing”. **Oral presentation**.
11. Neuroscience 2022 (12-16 November 2022). “A resource to decipher brain circuits underlying aversive memory”. **Poster presentation.**

Journal Articles

1. A.P. Di Giovanna, C. Credi, **A. Franceschini**, L. Silvestri, F.S. Pavone, “Tailored sample mounting for light-sheet fluorescence microscopy of clarified specimens by polydimethylsiloxane casting” Frontiers in Neuroanat., 2018. 4 citations

2. P. Ricci, G. Sancataldo, V. Gavvryusev, **A. Franceschini**, M.C. Mullenbroich, L. Silvestri, F.S. Pavone, “Fast multi-directional DSLM for confocal detection without striping artifacts” Biomedical Optics Express, 2020. 10 citations

3. **A. Franceschini**, I. Costantini, F. S. Pavone, and L. Silvestri, “Dissecting neuronal activation on a brain-wide scale with immediate early genes” Frontiers in Neuroscience, 2020. 8 citations

4. L. Silvestri, M. C. Müllenbroich, I. Costantini, A. P. Di Giovanna, G. Mazzamuto, **A. Franceschini**, D. Kutra, A. Kreshuk, C. Checcucci, L. O. Toresano, P. Frasconi, L. Sacconi, and F. S. Pavone, “Universal autofocus for quantitative volumetric microscopy of whole mouse brains”, Nature methods, 2021. 8 citations

5. **A. Franceschini**, G. Mazzamuto, C. Checcucci, L. Chicci, D. Fanelli, F. S. Pavone, L. Silvestri “BRAin-wide Neuron quantification Tool reveals strong sexual dimorphism in the evolution of fear memory”, BiorXiv, 2022.

6. C. Capitini, L. Pesce, G. Fani, G. Mazzamuto,M. Genovese, **A.Franceschini**, P. Paoli, G. Pieraccini, M.l Zasloff, F. Chiti, F. S. Pavone, M. Calamai, “Studying the trafficking of labeled trodusquemine and its application as nerve marker for light-sheet and expansion microscopy”, FASEB J, 2022.

Total citations: 30
h-index: 4
(source: Scopus, June 2022)