



Lucia Frulloni

WORK EXPERIENCE

01/09/2020 – 24/02/2021 Florence, Italy

INTERN FOR THE MASTER'S THESIS (LM-6 IN BIOLOGY, CURRICULUM BIOSANITARY) DEPARTMENT OF NEUROSCIENCE, PSYCHOLOGY, DRUG RESEARCH AND CHILD HEALTH, UNIVERSITY OF FLORENCE

Laboratory of Neuropharmacology, head of lab Prof. Anna Maria Pugliese and Prof. Felicita Pedata.

Methodologies used:

- Preparation and maintenance of primary cell cultures especially glial cells, Oligodendrocytes progenitor cells, dorsal root ganglia neurons and fibroblast
- Preparation of solutions

In vivo **methods:**

- Induction of cerebral ischemia by middle cerebral artery occlusion in rodents (accompanying the experiments),

In vitro **methods:**

- Extracellular recording of potentials synapses from rat brain slices, patch clamp recordings and immunohisto/cytochemistry

Business or Sector Professional, scientific and technical activities

20/03/2017 – 22/11/2017 Florence, Italy

INTERN FOR THE BACHELOR'S THESIS (L-13 IN BIOLOGICAL SCIENCE) AOU MEYER HOSPITAL

Chemical-clinical and microbiological analysis laboratory, head of lab. Doc. Francesco Bambi

Methodologies used:

- Support in the management of biological samples (blood and urine)
- Reporting of laboratory tests (assistance)

EDUCATION AND TRAINING

01/11/2021 – 31/10/2024 Florence, Italy

TUSCAN PHD IN NEUROSCIENCES (CYCLE XXXVII) Department of Neuroscience, Psychology, Drug Research and Child Health, University of Florence

Laboratory of Neuropharmacology, head of lab Prof. Anna Maria Pugliese

In vitro **methods:**

- Whole cell patch clamp recordings performed on primary cultures especially on IMR-90 and characterization of potassium currents using adenosine ligands.
- Differentiation of IMR-90 into myofibroblasts and de-differentiation into lipofibroblasts.
- Immunocyto/histochemistry techniques performed on cell cultures and brain slices and image acquisition via confocal microscopy
- Electrophysiological recordings performed on primary cell cultures (DRG neurons and OPCs).
- Co-cultures techniques.
- Biochemical assays for the evaluation of oxidative stress
- Autonomy in the isolation of DRG neurons.

In vivo **methods:**

- Cuprizone model to study demyelination and remyelination induced after a myelin damage

- Autonomy in performing intraperitoneal injections, transcardiac perfusion, isolation and preservation of mouse brains, cryostat cutting and histological analysis using Luxol staining.
- Behavioural tests: Rotarod test and hole board test

Field of study Neuroscience |

Thesis Adenosine A2A and A2B receptors as new attractive targets involved in myelination processes: in vitro and in vivo models of myelin development or damage

14/06/2021 Florence, Italy

QUALIFICATION TO THE PROFESSION OF BIOLOGIST University of Florence

15/01/2018 – 24/02/2021 Florence, Italy

MASTER'S DEGREE IN BIOLOGY (LM-6) University of Florence

Advisor: **Anna Maria Pugliese**, Co-advisor: **Elisabetta Coppi** and **Ilaria Dettori**

Field of study Biology | **Final grade** 110/110 cum laude |

Thesis Carbonic anhydrase inhibitors as new neuroprotective agents in cerebral ischemia: an "in vivo" and "in vitro" study

10/10/2014 – 22/11/2017 Florence, Italy

BACHELOR'S DEGREE IN BIOLOGICAL SCIENCES (L-13) University of Florence

Advisor: **Eudes Lanciotti**, Co-advisor: **Laura Becciolini**

Field of study Biology | **Final grade** 94/110 | **Thesis** Thermolabile analytes and the turn around time (TAT)

12/09/2008 – 14/06/2013 Poppi, Italy

HIGH SCHOOL LEAVING IN SCIENTIFIC STUDIES Galileo Galilei

Final grade 77/100

● LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	B2	B2	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● DIGITAL SKILLS

Image processing programs (ImageJ) | Clampfit/Clampex | GraphPad Prism, GraphPad Software Inc. | Video Conferencing (Zoom, Teams, Skype, Webex) - Advanced | Adobe Photoshop (basic elements) | Microsoft Office package: Microsoft Word, Excel, PowerPoint, Access

● PUBLICATIONS

Pharmacological characterization of P626, a novel dual adenosine A2A/A2B receptor antagonist, on synaptic plasticity and during an ischemic-like insult in CA1 rat hippocampus

Biomolecules, (IF. 6.064) 13(6),894

<https://doi.org/10.3390/biom13060894> - 2023

Venturini M., Cherchi F., Santalmasi C., **Fruilloni L.**, Dettori I., Catarzi D., Pedata F., Colotta V., Varano F., Coppi E. and Pugliese A.M., 2023.

Adenosine A2B receptors differently modulate oligodendroglialogenesis and myelination depending on their cellular localization.

Glia, (IF. 5.4) 72(11):1985-2000.

DOI: [10.1002/glia.24593](https://doi.org/10.1002/glia.24593) - 2024

Cherchi F., Venturini M., Magni G., **Frulloni L.**, Chieca M., Buonvicino D., Santalmasi C., Rossi F., De Logu F., Coppi E., Pugliese A.M.

● **MANUSCRIPTS IN PREPARATION**

The selective antagonism of adenosine A2A receptors enhances maturation of precursor oligodendroglial cells and myelination: new putative targets for demyelinating diseases.

Frulloni L., Cherchi F., Venturini M., Santalmasi C., Calenda S., Catarzi D., Varano F., Colotta V., Coppi E., Cencetti F. and Pugliese A.M.

Protective effects of the new dual A2A/A2B antagonists on myelin damage and neuroinflammation.

Cherchi F., Venturini M., **Frulloni L.**, Coppi E. and Pugliese A.M.

This work is in collaboration with the group of Professor Nicoletta Galeotti

Effects of adenosine A2A and A2B receptors on Cuprizone-Induced Demyelination and Remyelination: Challenges and Future Perspectives

Cherchi F., Venturini M., **Frulloni L.**, Santalmasi C., Coppi E. and Pugliese A.M.

● **CONFERENCES AND SEMINARS**

13/11/2024 – 16/11/2024 Sorrento (NA) - Italy

42° National congress of the Italian Society of Pharmacology (SIF)

(*poster presenter)

***Frulloni L.**, Cherchi F., Venturini M., Santalmasi C., Calenda S., Catarzi D., Varano F., Colotta V., Cencetti F., Coppi E. and Pugliese A.M.

The selective antagonism of adenosine A2A receptors enhances maturation of precursor oligodendroglial cells and myelination: new putative targets for demyelinating diseases.

13/11/2024 – 16/11/2024 Sorrento (NA) - Italy

42° National congress of the Italian Society of Pharmacology (SIF)

Santalmasi C., Venturini M., Cherchi F., **Frulloni L.**, Spinaci A., Lambertucci C., Dal Ben D., Volpini R., Coppi E. and Pugliese A.M.

Neuroprotective effects of new selective adenosine A3 receptor antagonists during an ischemic-like insult in the CA1 region of rat hippocampus.

03/09/2024 – 07/09/2024 Erlangen - Germany

15th Sphingolipid Club Meeting

Innocenti R., Giacomelli C., Coppi E., Pugliese A.M., **Frulloni L.**, Donati C., Bernacchioni C., Trincavelli M.L., Bruni P. and Cencetti F.

Sphingosine 1-phosphate signalling is involved in fibroblast plasticity responsible for pulmonary fibrosis.

04/09/2024 – 06/09/2024 Ferrara

2nd European Purine Meeting

(*poster presenter)

***Frulloni L.**, Calenda S., Cencetti F., Venturini M., Coppi E., Catarzi D., Varano F., Pugliese A.M., Colotta V. and Cherchi F.

Pharmacological blockade of adenosine A2A receptors increases myelination processes in vitro by regulating the maturation of precursor oligodendroglial cells

04/09/2024 – 06/09/2024 Ferrara

2nd European Purine Meeting



Ilaria Dettori, Martina Venturini, Federica Cherchi, **Lucia Frulloni**, Clara Santalmasi, Kenneth A. Jacobson, Hobin Lee, Felicita Pedata, Anna Maria Pugliese and Elisabetta Coppi.

Protective effects of the chronic treatment with a dual adenosine A2A /A2B receptor agonist in a model of transient cerebral ischemia in the rat.

04/09/2024 – 06/09/2024 Ferrara - Italy

2nd European Purine Meeting

Cherchi F., Venturini M., Buonvicino D., MagnI G., **Frulloni L.**, Santalmasi C., Pugliese A.M., Coppi E. *Oligodendrocyte Differentiation and Myelination are modulated via Adenosine A2B Receptor Activation.*

04/09/2024 – 06/09/2024 Ferrara - Italy

2nd European Purine Meeting

Santalmasi C., Venturini M., Cherchi F., **Frulloni L.**, Spinaci A., Lambertucci C., Dal Ben D. ,Volpini R., Coppi E. and Pugliese A.M.

Pharmacological evaluation of novel selective adenosine A3 receptor antagonists during an ischemic-like insult in the CA1 region of rat hippocampus.

01/09/2024 – 05/09/2024 Rome - Italy

XXVIII EFMC International Symposium on Medicinal Chemistry

Calenda S., Catarzi D., Ceni C., Vagnoni G., Varano F., Cherchi F., Donati C., **Frulloni L.**, Galeotti N., Morozzi M., Pugliese A.M. and Colotta V.

Novel A2A and A2B adenosine receptor antagonists hybridized with edaravone: a multitarget approach for the treatment of multiple sclerosis.

01/09/2024 – 05/09/2024 Rome - Italy

XXVIII EFMC International Symposium on Medicinal Chemistry

Calenda S., Catarzi D., Ceni C., Vagnoni G., Varano F., Cherchi F., Donati C., **Frulloni L.**, Galeotti N., Morozzi M., Pugliese A.M. and Colotta V.

New multitarget agents for the treatment of demyelinating diseases: A2A and A2B adenosine receptor antagonists hybridized with antioxidants.

14/09/2023 – 17/09/2023 Turin - Italy

20th SINS National Congress

Cherchi F., **Frulloni L.**, Venturini M., Magni G., Santalmasi C., Dettori I., Coppi E. and Pugliese A.M.

Adenosine A2B receptor as emerging target in myelination: in vitro and in vivo studies.

14/09/2023 – 17/09/2023 Turin - Italy

20th SINS National Congress

Venturini M., Santalmasi C., Cherchi F., **Frulloni L.**, Dettori I., Catarzi D., Pedata F., Colotta V., Varano F., Coppi E. and Pugliese A.M.

Role of adenosine A2A/A2B receptors on CA1 synaptic plasticity or during an ischemic-like insult.

14/09/2023 – 17/09/2023 Turin - Italy

20th SINS National Congress

Dettori I., Bulli I., Coppi E., Cherchi F., Venturini M., **Frulloni L.**, Santalmasi C., Jacobson K.A., Lee H., Pugliese A.M., and Pedata F.

Effects of MRS3997, a dual adenosine A2A/A2B receptors agonist, in cerebral ischemia.

14/09/2023 Turin - Italy

National meeting of PhD Students in Neuroscience 2023

(*poster presenter)

***Frulloni L.**, Venturini M., Santalmasi C., Colotta V., Catarzi D., Varano F., Pedata F., Pugliese A.M., Coppi E. and Cherchi F.

Functional role of adenosine A2A and A2B receptors on potassium currents in cultured oligodendroglial cells: effects of a new multitarget adenosine A2A/A2B receptors antagonist.

14/09/2023 Turin - Italy

National meeting of PhD Students in Neuroscience 2023

Santalmasi C., Venturini M., Cherchi F., **Frulloni L.**, Dettori I., Spinaci A., Pedata F., Lambertucci C., Dal Ben D., Volpini R., Coppi E. and Pugliese A.M.

Functional characterization of new adenosine A3 receptor antagonists during oxygen and glucose deprivation in the CA1 region of rat hippocampal slices.

05/09/2023 – 08/09/2023 Urbino - Italy

XXV Conference of Young SIF Pharmacologists

(*poster presenter)

***Frulloni L.**, Cherchi F., Venturini M., Santalmasi C., Spinaci A., Lambertucci C., Dal Ben D., Volpini R., Pugliese A.M., Coppi E..

Pharmacological characterisation of new highly selective adenosine A3 receptor antagonists.

05/09/2023 – 08/09/2023 Urbino - Italy

XXV Conference of Young SIF Pharmacologists

Santalmasi C., Venturini M., Cherchi F., **Frulloni L.**, Dettori I., Catarzi D., Pedata F., Colotta V., Varano F., Coppi E. and Pugliese A.M.

Pharmacological evaluation of a new dual adenosine A2A/A2B receptors antagonist on neurotransmission during paired pulse facilitation and oxygen and glucose deprivation in the CA1 region of rat hippocampal slices.

05/09/2023 – 08/09/2023 Urbino - Italy

XXV Conference of Young SIF Pharmacologists

Cherchi F., Venturini M., **Frulloni L.**, Santalmasi C., Colotta V., Catarzi D., Varano F., Coppi E. and Pugliese A.M.

Effects of a new dual adenosine A2A/A2B antagonist on oligodendroglialogenesis and potassium conductances in cultured rat OPCs.

09/06/2023 Pisa - Italy

Italian Purine Club meeting

Dettori I., Bulli I., Coppi E., Cherchi F., Venturini M., **Frulloni L.**, Santalmasi C., Jacobson K.A., Lee H., Pugliese A.M. and Pedata F. *MRS3997, a dual adenosine A2A/A2B receptor agonist, significantly reduces brain damage in a rat model of transient brain ischemia.*

09/06/2023 Pisa - Italy

Italian Purine Club meeting

Cherchi F., Venturini M., Magni G., **Frulloni L.**, Santalmasi C., Dettori I., Rossi F., Pedata F., Coppi E. and Pugliese A.M..

New insights into the functional role of adenosine A2B receptors in oligodendroglialogenesis and myelination in vitro.

16/11/2022 – 19/11/2022 Rome - Italy

41° Congresso Nazionale della Società Italiana di Farmacologia

Santalmasi C., **Frulloni L.**, Cherchi F., Venturini M., Magni G., Dettori I., Rossi F., Colotta V., Catarzi D., Varano F., Pedata F., Coppi E. and Pugliese A.M.

Role of A2A and A2B adenosine receptors in myelination processes and ionic conductances in neuronal and oligodendroglial cells.

12/11/2022 – 16/11/2022 San Diego (CA) - USA

Neuroscience 2022

Cherchi F., Venturini M., Magni G., **Frulloni L.**, Santalmasi C., Rossi F., Coppi E. and Pugliese A.M.

Oligodendrocyte Differentiation and Myelination are modulated via Adenosine "A2" Receptor Activation.

12/11/2022 – 16/11/2022 San Diego (CA) - USA

Neuroscience 2022

Venturini M., Cherchi F., Magni G., Dettori I., **Frulloni L.**, Santalmasi C., Jacobson K.A., Lee H., Pedata F., Corradetti R., Pugliese A.M. and Coppi E.

The new mixed agonist of adenosine A_{2A}/A_{2B} receptors, MRS3997, affects CA1 hippocampal synaptic plasticity and myelination processes in OPC/DRG co-culture.

13/09/2022 – 16/09/2022 Búzios/Rio de Janeiro - Brazil

XI Brazilian Purine Club Meeting

Coppi E., Cherchi F., Venturini M., Magni G., **Frulloni L.**, Santalmasi C., Rossi F., Jacobson K. A., Lee H. and Pugliese A.M.
Role of A_{2A} and A_{2B} adenosine receptors in oligodendroglialogenesis and Myelination in vitro.

09/06/2022 – 13/06/2022 Paris - France

Fens Forum 2022

Venturini M., Cherchi F., Santalmasi C., **Frulloni L.**, Catarzi D., Colotta V., Varano F., Pedata F., Coppi E. and Pugliese A.M.

Functional characterization of a novel dual A_{2A}/A_{2B} adenosine receptor antagonist on CA1 synaptic plasticity or during oxygen glucose deprivation.

09/06/2022 – 13/06/2022 Paris - France

Fens Forum 2022

Cherchi F., Venturini M., Magni G., **Frulloni L.**, Santalmasi C., Pedata F., Rossi F., Pugliese A.M. and Coppi E.
Role of adenosine A_{2B} receptors in myelination processes: new challenge in treating multiple sclerosis.

11/06/2022 Brescia - Italy

National Meeting of PhD Students in Neuroscience

(*poster presenter)

***Frulloni L.**, Santalmasi C., Cherchi F., Venturini M., Magni G., Rossi F., Pedata F., Cencetti F., Coppi E. and Pugliese A.M.
Adenosine A_{2B} receptor activation regulates oligodendroglial differentiation and myelination: an in vitro study.

11/06/2022 Brescia - Italy

National Meeting of PhD Students in Neuroscience

Venturini M., Santalmasi C., Cherchi F., **Frulloni L.**, Catarzi D., Colotta V., Varano F., Pedata F., Coppi E. and Pugliese A.M.

Functional effects of a new dual adenosine A_{2A}/A_{2B} receptor antagonist on CA1 hippocampal synaptic plasticity or during oxygen glucose deprivation.

24/05/2022 – 26/05/2022 Rome - Italy

Annual Scientific Congress, Italian MS Society and its Foundation.

Cherchi F., Venturini M., **Frulloni L.**, Santalmasi C., Cencetti F., Bruni P., Donati C., Magni G., Rossi F., Colotta V., Pedata F., Coppi E. and Pugliese A.M.

New insights for remyelinating therapies: oligodendrogenic role of adenosine A_{2B} receptors and their putative interplay with sphingosine-1-phosphate axis.

07/03/2021 – 11/03/2021 Webinar

40° Congresso Nazionale della Società Italiana di Farmacologia

Coppi E., Cherchi F., Dettori I., Venturini M., Cencetti F., **Frulloni L.**, Donati C., Bruni P., Pedata F., Pugliese A.M.
Adenosine orchestrates oligodendroglialogenesis and myelination in vitro: focus on A_{2A} and A_{2B} receptors.

04/02/2021 – 05/02/2021 Webinar

Annual Meeting of the Italian Purine Club

Venturini M., Bulli I., Cherchi F., Dettori I., **Frulloni L.**, Catarzi D., Colotta V., Varano F., Pedata F., Pugliese A.M., Coppi E.
Electrophysiological investigation of a novel dual A_{2A}/A_{2B} adenosine receptor antagonist on in vitro short-term plasticity and ischemic-like insults in the rat CA1 hippocampus.

VOLUNTEERING

10/01/2020 – CURRENT VENERABLE CONFRATERNITY OF MERCY OF STIA (AR)

EMERGENCY-URGENCY ADVANCED RESCUER



Assistance of patients in ambulance and transport to the hospital, preparation of documents relating patients data, equipment control and checklist, management of telephone calls with the 118 operation centre

● **EXPERIENCES ABROAD**

20/07/2009 – 05/08/2009

STUDY TRIP TO EDINBURGH

Study of the English language with final exams and achievement of the relevant certificate.

20/07/2011 – 05/08/2011

STUDY TRIP TO DUBLIN

Insight on the English language with final exams and achievement of the relevant certificate.

20/07/2012 – 05/08/2012

STUDY TRIP TO NEW YORK

Insight on the English language with final exams and achievement of the relevant certificate.

● **DRIVING LICENCE**

Driving Licence: B

● **ORGANISATIONAL SKILLS**

Good ability to work both in a group and independently.

Proactivity towards new projects

Good in organizing and managing time.

According to law n°196/03 informed about the purposes of the treatment and the procedures of the use on protected computer files, as well as about the subjects responsible for the same I AUTHORIZE your firm to the treatment of the personal data mentioned in my Curriculum Vitae to allow a fair evaluation of my employment application

Florence , 03/01/2025

Lucia Frulloni

Firma autografa sostituita a mezzo stampa, ai sensi dell'art. 3, comma 2, del D.Lgs.n. 39/1993.

L'originale della presente dichiarazione è conservato presso il Dipartimento di Neuroscienze, Psicologia, Area del Farmaco e Salute del Bambino (NEUROFARBA).