"Autorizzo la pubblicazione del mio curriculum vitae e il trattamento dei dati personali in esso contenuti in base all'art. 13 del D. Lgs. 196/2003 e all'art. 13 GDPR 679/16"

PERSONAL INFORMATIONS Marta Marzullo

WORK EXPIRIENCE

Dates (from – to)	**July 2023 – july 2024** ***Postdoc fellowship + pre-starting grant BE-FOR-ERC, Sapienza, University of Rome***
Name and address of employer	Department of Biology and Biotechnology "C. Darwin," Sapienza, University of Rome, p.le Aldo Moro, 5 00185 Rome, Italy
Type of business or sector	Research title: DysMyAge, Understanding the role of CNBP and polyamine metabolism in Myotonic Dystrophy Type 2 (DM2) and aging
Position held	Postdoctoral Researcher
Main activities and responsibilities	Project manager, planning and execution of experiments. Paper and Grant writing. Student co-supervision and training. Young scientist committee member. Techniques: general genetic, and molecular biology techniques, cell culture and transfection, biochemistry and cytology techniques using Drosophila melanogaster as a model system. Cytology, immunofluorescence and locomotion techniques for studying neuromuscular phenotypes. Dissection and analysis of Drosophila muscle fillet.

Dates (from – to)	**July 2019 – July 2023** ***Postdoc fellowship IBPM, Rome***
Name and address of employer	Instituto di Biologia Molecolare e Patologia (IBPM), CNR, Rome, p.le Aldo Moro, 5 00185 Roma, Italy.
Type of business or sector	Research title : "The role of the *pendolino* gene in epigenetic telomere maintenance and its interaction with PEV(Position Effect Veriegation) modifiers "
Position held	Postdoctoral Researcher
Main activities and responsibilities	Project manager, planning and execution of experiments. Paper writing. Student co-supervision and training. Techniques: general genetics, epigenetics and molecular biology techniques, cell culture and transfection, biochemistry and cytology techniques, using Drosophila melanogaster as a model system. Drosophila muscle fillet dissection and analysis.

Dates (from – to)	**January 2018-June 2019** **Postdoc fellowship IGC, Oeiras, PT**
Name and address of employer	Institute Gulbenkian de Ciência, Rua da Quinta Grande, 5, 2780-156, Oeiras, PT

Type of business or sector	Research title: "Age as a Carcinogen - are Telomeres the culprit?
Position held	Post-doctoral Researcher
Main activities and responsibilities	Responsible for design, planning and execution of experiments. Paper writing and Grant writing. Postdoc committee member. Techniques: general molecular biology techniques, biochemistry and cytology techniques, using Zebrafish as a model system.

Dates (from – to)	**November 2016 – November 2017** **Postdoc fellowship at IBPM, Rome**
Name and address of employer	Institute of Molecular Biology and Pathology (IBPM), CNR, Rome", p.le Aldo Moro, 5 00185 Roma, Italy
Type of business or sector	Research title: "Exploiting the Drosophila model system to investigate the function of human proteins involved in telomere maintenance"
Position held	Postdoctoral Researcher
Main activities and responsibilities	Responsible for project, planning and execution of experiments. Techniques: general genetics, epigenetics and molecular biology techniques, cell culture and transfection, biochemistry and cytology techniques, using Drosophila melanogaster as a model system.

EDUCATION AND TRAINING

Dates (from – to)	**24/02/2017 PhD in Genetics and Molecular Biology, University "La Sapienza", Rome**
Name and type of organization providing education and training	**University "La Sapienza", Roma**
Title of qualification awarded	PhD Classification: excellent Supervisor: Laura Ciapponi Thesis title: *pendolino* (*peo*), a *Drosophila* gene preferentially required for "heterochromatic telomeres" protection

Dates (from – to)	**25/07/2013: Laurea in Genetics and Molecular Biology (master degree), University "La Sapienza", Rome**
Name and type of organization providing education and training	**University "La Sapienza", Rome**
Title of qualification awarded	Laurea magistrale in Genetica e Biologia Molecolare
Level in National classification	110/110 cum laude Supervisor: Laura Ciapponi Thesis title: Role of *pendolino* gene in the heterochromatic telomere stability in *Drosophila melanogaster*

Dates (from – to)	**28/10/2011 Laurea in Biology, University "La Sapienza", Rome**
Name and type of organisation providing education and training	University "La Sapienza", Rome
Title of qualification awarded	Laurea in Biology
Level in National classification	110/110 cum laude Thesis title: Identification of mutations in mitotic and telomere genes associated to *Drosophila melanogaster* chromosome II Supervisor: Laura Ciapponi

PUBLICATIONS

1. **Marzullo M.*,** Romano G.*, Pellacani C., Riccardi F., Ciapponi L., Feiguin F. Su(var)3-9 mediates age-dependent increase in H3K9 methylation on TDP-43 promoter triggering neurodegeneration. **Cell Death and Dis** 2023 doi: 10.1038/s41420-023-01643-3 ***equal contribution co-first author**;
2. **Marzullo M**.; Coni S.; De Simone A.; Canettieri G.; Ciapponi L. Modeling Myotonic Dystrophy Type 2 Using *Drosophila melanogaster*. ***Int J Mol Sci*** 2023, *24, 14182.* doi: 10.3390/ijms241814182;
3. D'Ercole C., D'Angelo P., Ruggieri V., Proietti D., Virtanen L., Parisi C., Riera CS., Renzini A., Macone A., **Marzullo M**., Ciapponi L., Bonvissuto D. Sette C., Giordani L., Madaro L. Spatially resolved transcriptomics reveals innervation-responsive functional clusters in skeletal muscle. **Cell Rep**. 2022 Dec 20;41(12):111861. doi: 10.1016/j.celrep.2022.111861.
4. **Marzullo M**.*, El Maï M.*, Ferreira M.G. Whole-mount Senescence-Associated Beta-Galactosidase (SA- β-GAL) activity detection protocol for adult zebrafish. **Bio Protoc** 2022 Jul 5;12(13):e4457. doi: 10.21769/BioProtoc.4457.***equal contribution and co-corresponding.**
5. Coni S.*, Falconio F.A.*, **Marzullo M**.*, Munafò M., Zuliani B., Mosti F., Fatica A., Ianniello Z., Bordone R., Macone A., Agostinelli E., Perna A., Matkovic T., Sigrist S., Silvestri G., Canettieri G., Ciapponi L. Translational control of polyamine metabolism by CNBP is required for *Drosophila* locomotor function. **Elife**. 2021 Sep 14;10:e69269. doi: 10.7554/eLife.69269. ***equal contribution**;
6. Lex K., Gil M., Lopes-Bastos B., Figueira M., **Marzullo M.**, Giannetti K., Carvalho T, Ferreira M.G. Telomere shortening produces an inflammatory environment that increases tumor incidence in zebrafish. **Proc Natl Acad Sci U S A**. 2020 Jun 17:201920049. doi: 10.1073/pnas.1920049117;
7. El Maï M.*, **Marzullo M.***, Pimenta de Castro I*. and Ferreira M.G. Opposing p53 and mTOR/AKT promote an in vivo switch from apoptosis to senescence upon telomere shortening in zebrafish. **Elife**. 2020 May 19;9:e54935. doi: 10.7554/eLife.54935. ***equal contribution;**
8. Strah N, Romano G, Introna C, Klima R, **Marzullo M**, Ciapponi L, Megighian A, Nizzardo M, Feiguin F. TDP-43 promotes the formation of neuromuscular synapses through the regulation of Disc-large expression in Drosophila skeletal muscles. BMC Biol. 2020 Mar 26;18(1):34. doi: 10.1186/s12915-020-00767-7;
9. Razzoli M., Dufe K., Gurney A., Erickson C., McCallum J., Spielman N., **Marzullo M.**, Patricelli J., Kurata M., Touma C., Palme R., Largaespada D., Allison D.B.,

Bartolomucci A. Social Stress Regulates Lifespan in Mice**. Aging Cell**. 2018 May 28:e12778. doi: 10.1111/acel.12778;

10. Blum J.A., Bonaccorsi S., **Marzullo M.**, Palumbo V., Barbash D.A. and Gatti M. The Lhr-Hmr complex is required for sister chromatid separation during anaphase but not for centromere/kinetochore function**.** Genetics. 2017;207: 1457–1472. doi:10.1534/genetics.117.300390;
11. **Marzullo M.**, Gatti M. Telomere fusion in *Drosophila*: The role of subtelomeric chromatin. Fly (Austin). 2015 Jul 3;9(3):121-5. doi:10.1080/19336934.2015.1131882. *Review*;
12. Cenci G., Ciapponi L., **Marzullo M.**, Raffa G.D., Morciano P., Raimondo D., Burla R., Saggio I., Gatti M. The Analysis of Pendolino (peo) Mutants Reveals Differences in the Fusigenic Potential among Drosophila Telomeres. PLoS Genet. 2015 Jun 25;11(6):e1005260. doi: 10.1371/journal.pgen.1005260. eCollection 2015 Jun;

TECNICHAL SKILLS

Lab Techniques

Genetics, cytology and movement:

- **Zebrafish -->** Maintaining Zebrafish stock (stocks maintenance, genotyping, crosses, mutant analysis). Genetic screening. Fish organs dissection and fixation. Histopathological analysis of specific tissues and cells (Beta-Gal assay, H&E, IF, etc). Induction of enterocolitis (through anal injection or oral gavage). Analysis of the main inflammatory pathways. Analysis of the consequences of telomere shortening. Life spam and aging/senescence essays.
- **Drosophila -->** Genetic screening. Culturing of *Drosophila* stocks, formal genetics analysis (stocks maintenance, mutant analysis, recombination, mutation induction). Mitotic and Polytene Chromosome analysis, direct and indirect immunofluorescence on fixed, squashed and whole mount tissues. Mitosis and Meiosis analysis. Life spam and senescence assays.
  Analysis of neuromuscular phenotypes through:
  - - Movement assays (larval peristalsis analysis, adult climbing activity)
  - - Dissection of muscle fillet from L3 larvae for immunofluorescence analysis
  - - Analysis of muscle morphology in larval body wall and adult thoracic muscles
  - - Analysis of Neuromuscular Junction (NMJ) morphology and synaptic markers

Cell biology:

- *Drosophila* cell cultures maintenance, transfection and manipulation.
- Human cell cultures (HeLa, Hap1, HaCat, 293T) maintenance, transfection and manipulation for molecular biology, biochemical and cytological techniques.

Molecular Biology and Biochemistry:

Standard molecular biology techniques to analyze nucleic acids and proteins; DNA and RNA extraction, PCR, RT-PCR, Real-Time PCR, cloning, sequencing analysis, western blotting, protein purification, Co-Immunoprecipitation, GST-pulldown, Chromatin-IP, RNA-IP, induction of CRISPR-Cas9 mutation.

HONORS AND AWARDS

2022 Contributi premiali per i ricercatori e assegnisti di ricerca per rafforzarne la condizione professionale e potenziare il sistema della ricerca del Lazio, by Regione Lazio. Prize: 2000€

2021 "**Vitamina G Bando delle Idee**"- Call for under 35 young innovators, awarded by Regione Lazio. Project name: Molecole, exposition of scientific images. Prize: 26.000 €.

2017 Best PhD thesis prize "Ferruccio Ritossa" for the years 2015-2017, awarded by AGI (Associazione Genetica Italiana). Thesis title: *pendolino* (*peo*), a *Drosophila* gene preferentially required for "heterochromatic telomeres" protection. Prize: 1000€

2015 Best poster prize awarded by VI BEMM (Biology and Molecular Medicine PhD School) symposium, Rome 30th November 2015 (Annual meeting)

ORAL COMMUNICATIONS

Selected speaker in national/international conferences

2023 **Joint meeting AGI – SIMAG,** Cortona (IT) 14th-16th September 2023 Title: Epigenetic of aging: a new role of Suv39 in the regulation of TDP-43 and locomotor senescence. *National conference.*

2018 **EMBO Workshop** "Telomeres in Health and Human disease" Troia (PT) 1st-6th May 2018.
Title: Interactions between *pendolino* and histone modifiers reveal an epigenetic regulation of *Drosophila* telomere stability. *International conference.*

2016 **I EMBL-SAPIENZA PhD meeting** "Chromatin and Epigenetics", Rome (IT) 26th-27th September 2016. Title: The role of *pendolino* in epigenetic regulation of *Drosophila* telomere capping. *International conference.*

2016 **XVIII Italian Drosophila Research Conference** (IDRC), Bologna (IT) 14th-16th September 2016. Title: Functional characterization of *pendolino*, a *Drosophila* gene required for telomere protection and DNA replication**.** *National conference.*

FUNDING INFORMATION

Grants as Principal Investigator (PI)

Year	Title	Program	Grant value
2024	SuvAGE, Dissecting the epigenetic control of TDP-43 expression during aging	International Trampoline Grant funded by AFM Téléthon #28731	49.900€
2022	DysMyAge, Understanding the role of CNBP and polyamine metabolism in Myotonic Dystrophy Type 2 (DM2) and aging	Be-For-ERC funded by Sapienza, University of Rome n. 54/2023 Prot. n. 0001949	50.000€
2016	*pendolino* (*peo*), a *Drosophila* gene preferentially required for heterochromatic telomeres protection	Avvio alla ricerca 2016. Funded by Sapienza, University of Rome	1.000€
2015	Functional characterization of *pendolino* a *Drosophila* gene required for both telomere protection and DNA replication	Avvio alla ricerca 2015. Funded by Sapienza, University of Rome	1.000€

Grants as Investigator (I)

2023	Understanding the role of CNBP-eIF5Apolyamine metabolism in DM2 pathogenesis. Principal Investigator: Gianluca Canettieri	Funded by Fondazione Telethon #GMR22T1027	159.940€
2019	The gut as an aging initiator organ of zebrafish. Principal Investigator: Miguel Godinho Ferreira.	Funded by Fondation pour la Recherche Médicale (FRM) #EQU201903007804	400.000 €
2017	Exploiting the *Drosophila* model system to investigate the function of human proteins involved in telomere maintenance. Principal Investigator: Maurizio Gatti	Funded by AIRC IG #20528	702.975€

2015	Protein ubiquitination is required for *Drosophila* telomere maintenance. Principal Investigator: Laura Ciapponi	Progetti Medi Funded by Sapienza, University of Rome	20.000 €

Travel Grant

1. **SIBBM Travel Grant** to attend the ABCAM meeting *"Chromatin and Epigenetics: from mechanism to function"*, 5-7 April 2017, Munich, Germany.

2. **SIBBM Travel Grant** to attend the EMBO lecture Course: "Chromatin and the environment", 8 – 14 August 2016, Spetses, Greece

COMPETENZE PERSONALI

Mother tongue: Italian

Other languages

	COMPRISING		SPEAKING		WRITING
	Listening	Reading	Interaction	Oral production	
English	B2	C1	B2	B2	B2
Portuguese	A1	A1	A1	A1	A1

Levels: A1/A2: Basic User - B1/B2: Intermediate User - C1/C2: Advanced User
Common European Framework of Reference for Languages

Communication skills: I possess excellent communication skills acquired during my experience as a postdoc researcher

Organizational and management skills:
- strong aptitude for teamwork
- good ability to adapt to multicultural environments
- good communication skills
- good ability to write a project proposal
- good competence in teaching and supervising students +
- good aptitude for problem solving

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Security	Troubleshooting
Advanced User	Advanced User	Advanced User	Advanced User	Advanced User

Levels: Basic User - Intermediate User - Advanced User
Digital skills - Self-assessment form

Word, PowerPoint, Excel, Photoshop, Image J, FIJI, Image Lab, Sequencer, Prism, SnapGene

Driver Licence: B

Dati personali Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

_la sottoscritta dichiara di essere consapevole che il presente *curriculum vitae* sarà pubblicato sul sito istituzionale dell'Ateneo, nella Sezione "Amministrazione trasparente", nelle modalità e per la durata prevista dal d.lgs. n. 33/2013, art. 15.

Data
02/10/2024