

CURRICULUM VITAE ET STUDIORUM di Federica Polverino

Education

20-02-2019 PhD in Genetics and Molecular Biology, Sapienza University of Rome, Italy
30-10-2015 Master's of Science in Medical Biotechnology, Sapienza University of Rome, Italy
24-10-2013 Bachelor's of Science in Biotechnology, Tor Vergata University of Rome, Italy
2010 High School Diploma, (Science) Scientific High School Giuseppe Peano, Rome, Italy

Training

Apr2020 –Aug 2020 Fellow, Institute of Molecular Biology and Pathology-CNR c/o Department of Biology and Biotechnology “Charles Darwin”, Sapienza University of Rome, Italy. Fellowship by Torno Subito, DiSco Regione Lazio.

Nov 2019 – Apr 2020 Fellow, Department of Experimental Oncology (hosting lab: Dr Marina Mapelli), European Institute of Oncology, Milan, Italy.

Nov 2016 – Oct 2019 PhD Fellow, Institute of Molecular Biology and Pathology-CNR c/o Department of Biology and Biotechnology “Charles Darwin”, Sapienza University of Rome, Italy (Project title: Role of the Aurora-A kinase and its regulator TPX2 in control of spindle orientation in human cells; supervisor: Dr. Giulia Guarguaglini; external tutor: Dr Marina Mapelli).

Lug 2018 Visiting PhD fellow at the Department of Experimental Oncology (hosting lab: Dr Marina Mapelli), European Institute of Oncology, Milan, Italy.

Feb – Aug 2016 Traineeship, Department of Cytochine Signaling, Institut Pasteur, Paris, France (Fellowship by Unipharma Graduates, Project title: Study of the mechanism of the therapeutic action of IFN- α on JAK2-V617F HSCs; lab head: Dr. Sandra Pellegrini).

Oct 2013 – Feb 2016 Internship (Master of Science), Department of Hematology, Oncology and Molecular Medicine, National Institute of Health, Rome, Italy (Thesis title: Essential role of Interferon Regulatory Factor 1 in governing Treg depletion, Th1 polarization inflammasome activation and antitumor efficacy of Cyclophosphamide; supervisor: Dr Federica Moschella).

Feb – Jun 2013 Internship (Bachelor of Science), Department of Biology, Tor Vergata University of Rome, Italy.

Courses

Handling Laboratory Animals (ISS, 17/07/2014);

Laboratory Safety Training (ISS 26/02/2014-28/04/ 2014);

Corso di microscopia in campo chiaro e fluorescenza(CNR 14-15/12/2017).

Technical Skills

Cellular biology: isolation of PBMC; cell culture; cryopreservation of cells; cell transfection with plasmid or SiRNA; isolation of transfected clones by selective medium; cell cycle synchronization; fundamentals of flow cytometry; immunofluorescence; *in situ* proximity ligation assay.

Molecular biology and biochemistry: cell lysis; tissue homogenization; plasmid and cosmid DNA purification, transformation and amplification; RNA and protein purification from tissues and cells; quantification of DNA, RNA and protein; reverse transcription; real-time PCR; PCR; gel electrophoresis; capillary electrophoresis; western blot; ELISA assays; site-direct mutagenesis.

Animal model (mice): tumor growth measurements with caliper, intraperitoneal inoculation, subcutaneous inoculation, gavage, removal and processing of the spleen and bone marrow.

Microscopy: High resolution imaging analysis; time lapse video recording analysis.

Data analysis: graphical representation of data (excel, prism, graphpad), basic statistical analyses, image analysis(photoshop, Illustrator, Nis Element).

Fellowships and awards

Nov 2019-July 2020 Fellowship award from Torno Subito to work at IEO and IBPM institutes.

April-2018 Best poster award at the National Ph.D. Meeting (Poster: “Role of the Aurora-A kinase and its regulator TPX2 in control of spindle orientation in human cells” by Polverino et al.).

Feb-aug 2016 Fellowship award from Unipharma Graduates to work at Pasteur Institut of Paris.

Dec 2015 Best Italian MSc thesis in all fields, Banca di Credito Cooperativo in 2015

Articles in peer reviewed journals

Polverino, F., Naso, F.D., Palmerini, V., Singh, D., Bird, A., Rosa, A., Mapelli, M., and Guarguaglini, G. (2020). The Aurora-A/TPX2 Axis Directs Spindle Orientation by Regulating NuMA and Microtubule Dynamics. *CURRENT-BIOLOGY-D-20-00771*. Available at SSRN: <https://ssrn.com/abstract=3588889>. (Under revision).

Faienza, **F. Polverino**, Z. Hu, S. Rizza, M. Antonioli, F. Strappazzon, V. Cianfanelli, B. Colella, G. M. Fimia, G. Guarguaglini, J. Dengjel, G. Filomeni, S. Di Bartolomeo and F. Cecconi (2020). AMBRA1 phosphorylation by CDK1 and PLK1 regulates mitotic spindle orientation. *PNAS MS#2020-04055*. (Under revision).

C. Buccione, A. Fragale, **F. Polverino**, G. Ziccheddu, Aricò E, F. Belardelli, E. Proietti, A. Battistini and F. Moschella (2017). Role of interferon regulatory factor 1 in governing Treg depletion, Th1 polarization, inflammasome activation and antitumor efficacy of cyclophosphamide. *Int J Cancer*. 2018 Mar 1;142(5):976-987. doi: 10.1002/ijc.31083. Epub 2017 Oct 16.

Posters and communications in international meeting and conferences

F. Polverino, F.D. Naso, A. Paiardini, M. Mapelli, G. Guarguaglini, Spindle orientation is regulated by the Aurora-A/TPX2 axis and contributes to faithful chromosome segregation. (ABCD, Bologna, Italy, 18-21 September 2019.)

F. Polverino, V. Palmerini, A. Paiardini, A.W. Bird, M. Mapelli, G. Guarguaglini. Spindle orientation is regulated by the Aurora-A/TPX2 axis and contributes to faithful chromosome segregation. “Chromosome segregation and aneuploidy” (Cascais, Portugal 11-15 May 2019).

F. Polverino, V. Palmerini, A. Paiardini, A.W. Bird, M. Mapelli, G. Guarguaglini. Spindle orientation is regulated by the Aurora-A/TPX2 axis and contributes to faithful chromosome segregation. “IBPM Annual Meeting: from model system to therapy” (Rome, Italy, 9 May 2018)

F. Polverino, V. Palmerini, A. Paiardini, A.W. Bird, M. Mapelli, G. Guarguaglini. Spindle orientation is regulated by the Aurora-A/TPX2 axis and contributes to faithful chromosome segregation. “Mitotic and Meiotic cell cycle control and execution”. (Roscoff, France 8-12 April 2019)

F. Polverino, F.D. Naso, A. Paiardini, M. Mapelli, G. Guarguaglini, Role of the Aurora-A kinase and its regulator TPX2 in control of spindle orientation in human cells. “Winter school of Molecular mechanism in mitosis” (Heidelberg, Germany 04-08 February 2019)

F. Polverino, V. Palmerini, A. Paiardini, M. Mapelli, G. Guarguaglini, Role of the Aurora-A kinase and its regulator TPX2 in control of spindle orientation in human cells. “XV FISV Congress 2018” (Rome, Italy 18-21 September 2018).

I. A. Asteriti, F. D. Naso, V. Sterbini, E. Crecca, **F. Polverino**, A. Rosa, G. Colotti, A. Paiardini, G. Guarguaglini. Investigation of the Aurora-A/TPX2 complex in cell division and cancer. “IBPM Annual Meeting: Health, disease and environmental research: biology, tools and applications” (Rome, Italy, 8 May 2018)

F. Polverino, A. Paiardini, M. Mapelli, G. Guarguaglini. Role of the Aurora-A kinase and its regulator TPX2 in control of spindle orientation in human cells. “National Ph.D. Meeting” (Salerno, Italy, 22-24 March 2018).