

## PERSONAL INFORMATION

E-MAIL(S)	simone.dipaola@cnr.it; s.dipaola@unina.it
MOBILE	081 544 91 111
NATIONALITY	Italian
DATE AND PLACE OF BIRTH	24/05/1996 - Naples (Italy)
LANGUAGE(S)	Italian (mother tongue); English (proficient)
CURRENT POSITION	Researcher at National Research Council (CNR) of Italy
WORK ADDRESS	Institute for Experimental Endocrinology and Oncology (IEOS) - Second Unit; Via Pietro Castellino 111, 80131, Napoli, Italy
WEBSITE	<a href="http://www.su.ieos.cnr.it/simone-di-paola">www.su.ieos.cnr.it/simone-di-paola</a>
ORCID iD	<a href="https://orcid.org/0000-0003-3753-5722">https://orcid.org/0000-0003-3753-5722</a>

## EDUCATION

09/2007–09/05/2012	<b>PhD in Life and Biomolecular Sciences</b> Department of Cell Biology and Oncology, Consorzio Mario Negri Sud, Chieti (Italy) Open University, Walton Hall, Kents Hill, Milton Keynes MK7 6AA (UK)
11/2004–27/09/2006	<b>Master Degree in Medical Biotechnology</b> (grade 110/110 summa cum laude) Università degli Studi di Napoli “Federico II”, Naples (Italy) Grade 110/110 Summa cum Laude
09/2001–26/10/2004	<b>Bachelor Degree in Biotechnological Sciences</b> (grade 110/110) Università degli studi di Napoli “Federico II”, Naples (Italy) Grade 110/110
1996–2001	<b>High School Diploma</b> (Marks: 92/100) Liceo Scientifico Statale “F. Sbordone”, Naples (Italy)

## WORK EXPERIENCE

09/2021-present	<b>Researcher</b> <b>CNR - Institute for Experimental Endocrinology and Oncology (IEOS) – Second Unit</b> <b>Via Pietro Castellino, 111, 80131 Napoli, Italy</b> <b>Research Scientist in Cell Biology, Intracellular Signaling and Disease Mechanisms</b> Research Activities: <ul style="list-style-type: none"><li>• Study of intracellular ADP-ribosylation reactions and related signaling pathways</li><li>• Set-up and development of cell-based assays, with special focus on the study of ADP-ribosylation.</li><li>• Identification of new druggable targets based on RNAi and drug screenings.</li></ul> <a href="#">Business or sector</a> Biomedical Research
07/2020-08/2021	<b>Researcher</b> <b>CNR - Institute of Biochemistry and Cell Biology (IBBC)</b> <b>Via Pietro Castellino, 111, 80131 Napoli, Italy</b> <a href="#">Business or sector</a> Biomedical Research
01/2013–06/2020	<b>Postdoctoral researcher</b> <b>Telethon Institute of Genetics and Medicine (TIGEM)</b> <b>Via Campi Flegrei, 34, 80078 Pozzuoli (Na), Italy</b> <a href="http://www.tigem.it">www.tigem.it</a> <b>Postdoctoral Research Scientist in Cell Biology and Disease Mechanisms</b> <b>High-Content Screening Facility</b>

Supervisor: Dr. Diego Luis Medina, Ph.D.

Research Activities:

- Set-up and development of cell-based High-Content Screening (HCS) assays, with special focus on the study of endo-lysosomal compartment and autophagy.
- Identification of new druggable targets based on RNAi and drug screenings.
- Study of lysosomal calcium signalling and autophagy.
- Characterization of the molecular mechanism regulating transcription factor EB (TFEB) activation.
- Study of transcriptional mechanisms regulating lysosomal positioning and intracellular trafficking.

[Business or sector](#) Biomedical Research

09/2007–05/2012

PhD student

**Department of Cell Biology and Oncology, Consorzio Mario Negri Sud, Chieti, Italy**

**Open University, Walton Hall, Kents Hill, Milton Keynes MK7 6AA, UK**

Director of Studies: Dr. Maria Di Girolamo

Research Project: Study of the mammalian ADP-ribosyl proteome and characterisation of novel putative intracellular mono-ADP-ribosyl transferases

[Business or sector](#) Biomedical Research

01/2005–12/2006

Master Degree Student

**Laboratory of Proteomics, CEINGE s.c.a.r.l. and Department of Biology and Medical Biotechnology (DBBM), Università di Napoli “Federico II”, Napoli, Italy**

Supervisor: Prof. Margherita Ruoppolo

Research Project: Development of Differential Proteomics Techniques in Molecular Medicine.

[Business or sector](#) University

03/2004–07/2004

Bachelor Degree Student

**Department of Cellular and Molecular Biology and Pathology “L.Califano”, Università degli Studi di Napoli “Federico II”, Napoli, Italy**

Supervisor: Prof. Roberto Di Lauro; Co-supervisor: Dr. Pasquale De Luca

Research Project: Oligonucleotide microarray data analysis

[Business or sector](#) University

## GRANTS

2023-2025

**Principal Investigator** - PRIN (Progetti di Rilevante Interesse Nazionale) PNRR 2022 (P2022FY5Y): ER-MOnoART regulaTION in proteostasis networks (EMOTION) - granted by Italian Ministry of University and Research (MUR)

2023-2025

**Research Unit Coordinator** - PRIN (Progetti di Rilevante Interesse Nazionale) 2022 (2022JFKF8A): MITOchondrial dynamic modulators from the SEAs (MITOSEAs) - granted by Italian Ministry of University and Research (MUR)

## STUDENTS SUPERVISOR

2023

**Master Degree Thesis Co-Supervisor** – Francesco Mangia; Master Degree Student in Biological Sciences at “Università degli Studi di Napoli “Federico II”, Napoli, Italy. Thesis title: “Analysis of the role of the mono-ADP-ribosyl transferase PARP16 in a cellular model of osteosarcoma”

## SCIENTIFIC PRODUCTION AND DISSEMINATION

**N. of Publications: 14**

**H-index: 10**

**Total citations: 4986**

#### List of publications

- 1) Marchesan E., Nardin A., Mauri S., Bernardo G., Chander V., **Di Paola S.**, Chinellato M., von Stockum S., Chakraborty J., Herkenne S., Basso V., Schrepfer E., Marin O., Cendron L., Medina DL., Scorrano L., Ziviani E. (2024). Activation of Ca<sup>2+</sup> phosphatase Calcineurin regulates Parkin translocation to mitochondria and mitophagy in flies. *Cell Death Differ.* 2024 Feb;31(2):217-238
- 2) **Di Paola S.**, Matarese M., Barretta M.L., Dathan N., Colanzi A., Corda D., Grimaldi G. (2022). PARP10 Mediates Mono-ADP-Ribosylation of Aurora-A Regulating G2/M Transition of the Cell Cycle. *Cancers (Basel)* 14, 5210.
- 3) Scotto Rosato A.\*, Montefusco S.\*, Soldati C., **Di Paola S.**, A Capuozzo A., Monfregola J., Polishchuk E., Amabile A., Grimm C., Lombardo A., De Matteis MA., Ballabio A., Medina DL. (2019). TRPML1 Links Lysosomal Calcium to Autophagosome Biogenesis Through the Activation of the CaMKK $\beta$ /VPS34 Pathway. *Nat Commun*, 10 (1), 5630; 2019 Dec 10.
- 4) **Di Paola S.** and Medina DL. (2019). Ca<sup>2+</sup>-Dependent Regulation of TFEB and Lysosomal Function. *Methods Mol Biol.* 2019; 1925:145-155.
- 5) **Di Paola S.** and Medina DL. (2019). TRPML1/TFEB-Dependent Regulation of Lysosomal Exocytosis. *Methods Mol Biol.* 2019; 1925:143-144.
- 6) Al-Ramahi I., Lu B., **Di Paola S.**, Pang K., de Haro M., Peluso I., Gallego-Flores T., Malik NT., Erikson K., Bleiberg BA., Avalos M., Fan G., Rivers LE., Laitman AM., Diaz-García JR., Hild M., Palacino J., Liu Z., Medina DL., Botas J. (2018). High-Throughput Functional Analysis Distinguishes Pathogenic, Nonpathogenic, and Compensatory Transcriptional Changes in Neurodegeneration. *Cell Syst.* 2018 Jul 25;7(1):28-40.e4.
- 7) **Di Paola S.**, Scotto-Rosato A. and Medina DL. (2017). TRPML1: The Ca<sup>2+</sup>-retaker of the lysosome. *Cell Calcium.* 2017 Jun 24. Review.
- 8) Klionsky D. et al. (2016). Guidelines for the use and interpretation of assays for monitoring autophagy (3rd edition). *Autophagy* 2016 12(1):1-222.
- 9) Medina DL., **Di Paola S.**, Peluso I., Armani A., De Stefani D., Venditti R., Montefusco S., Scotto-Rosato A., Prezioso C., Forrester A., Settembre C., Wang W., Gao Q., Xu H., Sandri M., Rizzuto R., De Matteis MA., Ballabio A. (2015). Lysosomal calcium signalling regulates autophagy through calcineurin and TFEB. *Nat Cell Biol.* 2015 Mar;17(3):288-99.
- 10) Fabrizio G.\*, **Di Paola S.\***, Stilla A., Giannotta M., Ruggiero C., Menzel S., Koch-Nolte F., Sallase M., Di Girolamo M. (2015). ARTC1-mediated ADP-ribosylation of GRP78/BiP: a new player in endoplasmic-reticulum stress responses. *Cell Mol Life Sci.* 2015 Mar;72(6):1209-25 (\*co-first author).
- 11) Di Girolamo M., Fabrizio G., Scarpa ES and **Di Paola S.** (2013). NAD<sup>+</sup>-dependent enzymes at the endoplasmic reticulum. *Curr. Top. Med. Chem.* 2013; 13(23):3001-10. Review.
- 12) **Di Paola, S.**, Micaroni, M., Di Tullio, G., Buccione, R., and Di Girolamo, M. (2012). PARP16/ARTD15 Is a novel endoplasmic-reticulum-associated mono-ADP-ribosyl transferase that interacts with, and modifies Karyopherin- $\beta$ 1. *PLoS ONE* 2012; 7(6):e37352.
- 13) Stilla, A., **Di Paola, S.**, Dani, N., Krebs, C., Arrizza, A., Corda, D., Haag, F., Koch-Nolte, F., and Di Girolamo, M. (2011). Characterisation of a novel glycosylphosphatidylinositol-anchored mono-ADP-ribosyltransferase isoform in ovary cells. *Eur J Cell Biol* 2011; 90, 665-677.
- 14) Dani, N., Mayo, E., Stilla, A., Marchegiani, A., **Di Paola, S.**, Corda, D., and Di Girolamo, M. (2011). Mono-ADP-ribosylation of the G protein betagamma dimer is modulated by hormones and inhibited by Arf6. *J Biol Chem* 2011; 286, 5995-6005.

#### Participation to meetings and courses

- September 14-17, 2008; "NAD 2008" International congress, Hamburg, Germany (poster presentation)
- March 26-27, 2009; "PARPRegio 2009" European congress, Medical School RWTH Aachen University, Aachen, Germany (oral presentation)
- August 18-21, 2010; "PARP 2010" International congress, 18th International Conference on ADP-ribose metabolism, Zurich, Switzerland (oral presentation)
- September 23-24, 2010; XXIII Meeting on ADP-ribosylation, Rome, Italy (oral presentation)
- October 1-4, 2015; European Study Group on Lysosomal Diseases (ESGLD), Pozzuoli, Italy (oral presentation)
- May 26-28, 2016; Tigem, Tiget, DTI Tri-Retreat, Rome, Italy (poster presentation)
- June 19-21, 2016; MLIV Scientific Meeting, Mucopolipidosis type IV Foundation, Atlanta, GA, USA (oral presentation)

- March 4-10, 2017; Lysosomal Disease Gordon Research Conference & Seminar, Barga, Italy (poster presentation)
- September 9-13, 2018; ECS 2018 - European Calcium Society Symposium, Hamburg, Germany (oral presentation)
- December 3-4, 2018; Lysocil kick-off meeting, Lisbona, Portugal (oral presentation)
- September 7-10 2021; FEBS PARP2021, Barcelona, Spain (oral presentation)
- November 8-13 2021; FEBS Advanced Lecture Course “Cellular Stress and ADP-ribosylation”, Castellammare di Stabia (Na), Italy (oral presentation)
- November 6-11 2023; FEBS Advanced Lecture Course “Cellular Stress and ADP-ribosylation”, Castellammare di Stabia (Na), Italy (poster presentation)
- June 29-July 3; FEBS Congress “Mining biochemistry for human health and well-being”, Milan, Italy (poster presentation)

## PARTICIPATION IN TENDERS COMMISSIONS

- GARA EUROPEA A PROCEDURA APERTA CON MODALITÀ TELEMATICA SU PIATTAFORMA ASP CONSIP PER L’AFFIDAMENTO DI FORNITURE ED INSTALLAZIONI DI STRUMENTI SCIENTIFICI, CPV 38630000-0 NELL’AMBITO DEL PROGETTO “IMPARA, COD. PIR01\_00023” SUDDIVISA IN 6 LOTTI FUNZIONALI IMPORTO COMPLESSIVO € 779.098,36 GARA ASP CONSIP N. 2924756 CUP: B27E19000050006 CPV 38630000-0

## ACQUIRED METHODOLOGIES

### Imaging procedures:

- Cell immunostaining techniques
- Confocal microscopy, super-resolution microscopy, fluorescence microscopy, live cell imaging

### High-Content Imaging and High-Content Screening procedures:

- Set up of cell-based High-Content Screening assays
- High-Content Screening Assay analysis
- Use of PerkinElmer High-Content Imaging instrumentation (Opera Fenix and Operetta CLS systems)
- Use of PerkinElmer High-Content Screening image analysis tools (Harmony and Columbus softwares)

### Biochemistry procedures:

- SDS-PAGE
- Western Blotting
- Far-Western Blotting
- Immunoprecipitation and pull-down techniques
- Purification of recombinant proteins from bacteria
- Cell fractionation
- Protein ADP-ribosylation reactions
- Proximity Ligation Assay (PLA)
- Phosphatase and kinase assays
- Two-dimensional gel electrophoresis (2D-PAGE)

### Cell biology procedures:

- Mammalian cells culture
- DNA transfection
- DNA transformation
- Gene knock-down by siRNA transfection
- Generation of knock-out cell lines by CRISPr/Cas9 technology
- Cell synchronization

### Molecular biology procedures:

- Gene cloning from genomic DNA and cDNA

- Polymerase Chain Reaction (PCR)
- qPCR
- Site-directed mutagenesis

## PERSONAL SKILLS

**Critical thinking:** curiosity, desire to learn, innovative thinking, creativity.

**Problem-solving:** ability to make decision and teamwork, use of intuition and logic to find the best solution.

**Flexibility:** easy to adapt to several environmental situations, adaptation to change, ability to carry on project outside their scope, highly dependable

**Interpersonal abilities:** good listener, respectful and collaborative, confident and charismatic public speaker.

**Motivated:** hardworking, ambitious and ready to reach the goal, positive person

## DIGITAL COMPETENCE

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Proficient user	Basic user	Independent user	Independent user

Proficient with the following softwares and tools:

**Writing, datasheets and presentations:** Microsoft 365 package (Word, Excel, Powerpoint)

**Data analysis:** Fiji, GraphPad Prism

**Photo editing and graphic design:** Affinity Designer; Affinity Photo; Adobe Photoshop; Adobe Illustrator

**Bibliography and references:** EndNote; Zotero

**Tools and databases for the analysis of biological data:** Enrichr, STRING, DAVID, Uniprot, NCBI; DepMap; cBioPortal