Personal information

Name: Paola
Surname: Rebuzzini
Birth: Voghera (PV), 27/10/1976
Marital status: Married, 2 sons [maternity leaves Sept 2010-Febr 2011 (5 months); Gen 2017- June 2017 (5 months)]
E-mail: paola.rebuzzini@unipv.it

Education

July 2012. PhD in Bioengineering and Bioinformatics (Excellent) - University of Pavia, Italy. Research project: "*Effect of ionizing radiations on mouse embryonic stem cells*".

January 2004. Degree of the Advanced School of Integrated Education - University Institute of Advanced Studies, Pavia, Italy.

December 2003. Specialisation in Applied Genetics (50/50 cum laude) - University of Pavia, Italy. Research project: "*Gene amplification, telomeric end-to-end fusions and analysis of non-homologous end-joining repair junctions in mammal cell lines*".

July 2000. Degree in Biological Sciences - University of Pavia, Italy. Experimental thesis on: "*Analysis of gene amplification in immortalized rodent cell deficient for the DNA-dependent protein kinase catalytic subunit "*.

Positions and employment

Current position

August 2014-to date. Postdoctoral fellowship for project "Study of the differentiation of embryonic stem cells into cardiomyocytes, in the presence of xenobiotics". Laboratory of Developmental Biology, University of Pavia, Italy

Previous positions

2008 - 2014. Postdoctoral fellowship. Project on: "Radioresistance of mouse embryonic stem cell: analysis of the maintenance of their stemness and the ability to differentiate".

2006 - 2008. Postdoctoral fellowship. Project on: "Reprogramming of mouse fibroblasts into mouse stem cell-like by embryonic stem cell extract"

2005. Postdoctoral fellowship. Project on: "Analysis of the quantitative expression of pluripotency genes in reprogrammed mouse stem cell-like cell line and analysis of mesodermic, ectodermic and endodermic markers"

2004. Fellowship of the "Buzzati-Traverso Foundation" for a project on "Analysis of gene amplification in telomerase deficient immortalized mouse embryonic fibroblasts"

2003. Fellowship of the National Council Research for a project on "Analysis of junction formation after DNA double strand break induction in hamster cells detective in NHEJ using an episomic system"

2001. Fellowship of the "Buzzati-Traverso Foundation" for a project on "Analysis of DNA double strand breaks in specific hamster chromosome sites"

2001. Fellowship of the National Research Council for a project on "Analysis of mouse chromosome spreads with telomeric probe"

International collaborations

-2013 to date. Prof. Juan Arechaga, University of the Basque Country. Leioa (Vizcaya), Spain.
-2012 to date. Dr. Maria Susana Merani, Universidad de Buenos Aires (UBA), Argentina.
-2012 to date. Dr. Elisa Cebral, Universidad de Buenos Aires (UBA), Argentina.
-2012 to date. Dr. Irina Solovei, Ludwig-Maximilians Universität, München, Germany.
-2010-2013. Dr. Diana Pignalosa, GSI Helmholtzzentrum für Schwerionenforschung, Darmstadt, Germany.
-2010 to date. Dr. James Adjaye, Düsseldorf Institute for Stem Cell Research and Regenerative Medicine, Germany.

National collaborations

-2010 to date. Prof. Riccardo Bellazzi, University of Pavia, Italy.
-2010 to date. Prof. Paolo Magni, Università degli Studi di Pavia, Italy.
-2010 to date. Dr. Lorenzo Fassina, University of Pavia, Italy.
-2008 to date. Prof Alessandra Balduini, University of Pavia and Research Assistant Professor, Department of Biomedical Engineering, Tufts University, USA.
- 2009/2013. Dr. Riccardo Di Liberto, Fondazione I.R.C.C.S. Policlinico San Matteo, Pavia, Italy.
-2005/2008. Dr. Riccardo Castiglia, University of Rome.

Research projects

Participant in 3 successful grant applications in which I was in charge of specific research activities. (COFIN Anno 2005 - prot. 2005050350; MIUR Bando "idee progettuali" Anno 2006 - Protocollo: RBIP06FH7J_001; Cariplo Foundation 2006.0596/10.8485).

Grant application sent in the last 5 years

I participated to DBB/UNIPV selection for AXA Postdoctoral fellowship in 2013 and in 2015.
I applied for Scientific Independence of young Researchers (*SIR; MIUR*) in 2014.

Teaching activities

-2016-2017: Contract Professor of General Biology (24h; 3CFU) in MS degree in Biomedical Engineering (University of Pavia).
-2011 to date: Committee member for the examination in “Developmental Biology and Stem Cells” of Biotechnology Course, in “Biotechnology of the Reproduction” of Biological Sciences Course, University of Pavia.
-2011 to date: Graduation Committee member in quality of external supervisor, Biotechnology Course, Faculty of Sciences, University of Pavia.
-2011 to date. Designation to “Cultore della materia” (Expert) in “Developmental Biology and Biology of Stem Cells”; “Biotechnology of the Reproduction”, Faculty of Sciences, University of Pavia.
-2005 to date: Academic lessons and/or seminars in “Developmental Biology and Stem Cells”, Biological Sciences Course, Faculty of Sciences, University of Pavia.
-Course of Educational Practice of the Laboratory of Stem cell biology at University of Pavia, “Course on Biotechnology” 2013-2014. Supervisor S. Garagna
-Course of Educational Practice of the Laboratory of Molecular Biology at University of Pavia, Course on Biological Sciences 2002-2003. Supervisor E. Giulotto; 2001-2002. Supervisor M. Tanzi.

Supervision of students

Co-supervision of 6 master students, 14 bachelor students and of their thesis (9 students of "LT Biotecnologie"; 5 of "LT Scienze Biologiche"; 1 of "LS Scienze Genetiche e Biomolecolari"; 2 of "LM Biologia Sperimentale ed Applicata"; 1 of "LM Biotecnologie Industriali"; 2 of "LM Molecular Biology and Genetics")

Awards

2001; 2002; 2004. Winner of prizes of Advanced School of Integrated Education (University Institute of Advanced Studies).

Habilitation (ASN)

March 31, 2017. ASN2016: National Scientific Qualification as Associate Professor (05/B2, SSD BIO/06) (art. 16, comma 1, Legge 240/10)

Commissions of trust

2011-present. Referee for international journals: Toxicology research, The Open Biotechnology Journal, Journal of genetics, European Journal of histochemistry, BMC Cell biology.

2016-present. Regular member of "Associazione di Biologia Cellulare e del Differenziamento"

2016. Section Chairman for the Section "Pluripotent Stem Cells: characterization and application" at the 1st Young Scientist Workshop on "Stem cell niche: from basic sciences to clinical application". 8-10 May 2016, Palazzo Bellisomi-Vistarino, Pavia.

Foreign languages

Fluent English and French.

Communication/Organisational/Job-related skills

Excellent communication skills gained through my experience as student tutorial and teaching activities. Independency of planning, organisation and making of experiments.

Excellent knowledge of a wide range of molecular and cell biology techniques. Independency in writing up scientific manuscripts.

Publications

Author or co-author of 21 refereed publications in International Journals (7 without PhD supervisor, 2 as corresponding author, 12 as first author).

Also, she is authors of 4 book chapters.

Average impact factor: 3.956

Number of citations: 304

H-Index: 10

Academic age (intended as year of first publication): 2001

Chiara Mondello, **Paola Rebuzzini**, Manuela Dolzan, Scott Edmonson, Guillermo Taccioli and Elena Giulotto. (2001) Increased gene amplification in immortal rodent cells deficient for DNA-dependent protein kinase catalityc subunit. Cancer Res. Vol.61, 4520-4525

Chiara Mondello, Massimo Chiesa, **Paola Rebuzzini**, Samantha Zongaro, Annalisa Verri, Tina

Colombo, Elena Giulotto, Maurizio D'Incalci, Claudio Franceschi and Fiorella Nuzzo. (2003) Karyotype instability and anchorage indipendent growth in telomerase immortalized fibroblasts from two centenarian individuals. Biochem Biophys Res Commun. Vol. 308: 914-921

Paola Rebuzzini, Antonella Lisa, Elena Giulotto and Chiara Mondello. (2004) Chromosomal end-to-end fusions in immortalized mouse embryo fibroblasts deficient in the DNA-dependent protein kinase catalytic subunit. Cancer letters. Vol. 203: 79-86

Paola Rebuzzini, Lela Khoriauli, Claus M. Azzalin, Elisa Magnani, Chiara Mondello and Elena Giulotto. (2005) Mammalian cellular systems to study unfaithful repair of DNA double-strand breaks. DNA repair. Vol. 4: 546-555

Paola Rebuzzini, Paola Martinelli, Maria Blasco, Elena Giulotto and Chiara Mondello. (2007) Telomerase deficient immortalized mouse embryo fibroblasts show inhibition of gene amplification. Carcinogenesis. Vol. 28: 553-559

Tui Neri, Manuela Monti, **Paola Rebuzzini**, Valeria Merico, Garagna Silvia, Carlo Alberto Redi and Zuccotti Maurizio. (2007) Mouse fibroblasts are reprogrammed to Oct-4 and Rex-1 gene expression and alkaline phosphatase activity by embryonic stem cell extracts. Cloning and Stem Cells. Cloning and Stem Cells. Vol. 9: 394-406

Paola Rebuzzini, Tui Neri, Giuliano Mazzini, Maurizio Zuccotti, Carlo Alberto Redi and Silvia Garagna. (2008) The karyotype analysis of the euploid cell population of a mouse embryonic stem cell line revealed high incidence of chromosome abnormalities that varied during culture. Cytogenetic and Genome Res. Vol. 12: 18-24

Paola Rebuzzini, Tui Neri, Maurizio Zuccotti, Carlo Alberto Redi and Silvia Garagna. (2008) Chromosome number variation in three mouse embryonic stem cell lines during culture. Cytotechnology. Special Issue. Cytotechnology. Vol. 58: 17-23

Paola Rebuzzini, Riccardo Castiglia, Solomon G. Nergadze, George Mitsainas, Pavel Munclinger, Maurizio Zuccotti, Ernesto Capanna, Carlo Alberto Redi and Silvia Garagna. (2009) Quantitative variation of LINE-1 sequences in five species and three subspecies of the subgenus *Mus* and in five Robertsonian races of *Mus musculus domesticus*. Chromosome res. Vol. 17: 65-76

Malara Alessandro, Gruppi Christian, **Rebuzzini Paola**, Visai Livia, Perotti Cesare, Moratti Remigio, Balduini Cesare, Tira Maria Enrica, Balduini Alessandra. (2011) Megakaryocyte-matrix interaction within bone marrow: new roles for fibronectin and factor XIII-A. Blood. 117:2476-83

Neri Tui, Merico Valeria, Fiordaliso Fabio, Salio Monica, **Rebuzzini Paola**, Sacchi Lucia, Bellazzi Riccardo, Redi Carlo Alberto, Zuccotti Maurizio, Garagna Silvia. (2011) The differentiation of cardiomyocytes from mouse embryonic stem cells is altered by dioxin. Toxicol Lett. 202:226-36

Zuccotti Maurizio, Merico Valeria, Bellone Michele, Mulas Francesca, Sacchi Lucia, **Rebuzzini Paola**, Prigione Alessandro, Redi Carlo Alberto, Bellazzi Riccardo, Adjaye James, Garagna Silvia. (2011) Gatekeeper of pluripotency: A common Oct4 transcriptional network operates in mouse eggs and embryonic stem cells. BMC Genomics. 5, 12:1-13

Rebuzzini Paola, Pignalosa Diana, Mazzini Giuliano, Di Liberto Riccardo, Coppola Antonia, Terranova Nadia, Magni Paolo, Redi Carlo Alberto, Zuccotti Maurizio, Garagna Silvia. (2011) Mouse embryonic stem cells that survive γ-rays exposure maintain pluripotent differentiation potential and genome stability. J Cell Physiol. 227:1242-9

Balduini A, Di Buduo CA, Malara A, Lecchi A, **Rebuzzini P**, Currao M, Pallotta I, Jakubowski JA, Cattaneo M. (2012) Constitutively released adenosine diphosphate regulates proplatelet formation by human megakaryocytes. Haematologica. 97:1657-65

Rebuzzini P, Fassina L, Mulas F, Bellazzi R, Redi CA, Di Liberto R, Magenes G, Adjaye J, Zuccotti M, Garagna S. (2013) Mouse embryonic stem cells irradiated with γ-rays differentiate into cardiomyocytes but with altered contractile properties. Mutat Res. 756:37-45

Luaces JP, Rossi LF, Sciurano RB, **Rebuzzini P**, Merico V, Zuccotti M, Merani MS, Garagna S. (2014) Loss of Sertoli-germ cell adhesion determines the rapid germ cell elimination during the seasonal regression of the seminiferous epithelium of the large hairy armadillo Chaetophractus villosus. Biol Reprod. 90:48

Terranova N*, **Rebuzzini P***, Mazzini G, Borella E, Redi CA, Zuccotti M, Garagna S, Magni P. (2014) Mathematical modeling of growth and death dynamics of mouse embryonic stem cells irradiated with γ-rays. J Theor Biol. 363:374-80. * Co-first author

Rebuzzini P, Cebral E, Fassina L, Alberto Redi C, Zuccotti M, Garagna S. (2015) Arsenic trioxide alters the differentiation of mouse embryonic stem cell into cardiomyocytes. Sci Rep. 5:14993.
Zuccotti M, Merico V, **Rebuzzini P**, Belli M, Vigone G, Mulas F, Fassina L, Wruck W, Adjaye J, Bellazzi R, Garagna S. (2015) 3D culture of ovarian follicles: a system towards their engineering? Int J Dev Biol. 59:211-216

Rebuzzini P, Zuccotti M, Redi CA, Garagna S. (2015) Chromosomal Abnormalities in Embryonic and Somatic Stem Cells. Cytogenet Genome Res. 147:1-9

Rebuzzini P, Zuccotti M, Redi CA, Garagna S. (2016) Achilles' heel of pluripotent stem cells: genetic, genomic and epigenetic variations during prolonged culture. Cell Mol Life Sci. 73:2453-66

Congress and symposia
She participated to 20 international congresses, and in 5 of them, as invited speaker.