CURRICULUM VITAE
Paola Vagnarelli

e-mail: Paola.Vagnarelli@brunel.ac.uk

Academic qualifications

1982	Liceo Scientifico "A.Omodeo" Mortara-Italy (Maturita' Scientifica)
1983 – 1992	University of Pavia - Italy
1986	Degree in Biological Sciences (Genetics) *summa cum laude*
1987	Specialization in Genetics (equivalent to a British master degree)
1992	PhD (Genetics and Molecular Biology)

Professional experience

1993-1996	Postdoctoral Research Fellow	Dipartimento di Genetica e Microbiologia Universita' di Pavia (Prof. Luigi de Carli)
1997	Visiting Scientist	MRC Human Genetics Unit Edinburgh
1998- 2012	Postdoctoral Research Fellow	Wellcome Trust Centre for Cell Biology Edinburgh (Prof WC Earnshaw)
2012 (September 1st)	Lecturer	School of Health Sciences and Social Care, Department of Biosciences, Brunel University
2015 (October 1st)	Senior Lecturer	College of Health and Life Sciences
2018 (September)	Professor of Cell Biology	College of Health and Life Sciences

Prizes, Awards and other Honours

1986	Degree in Biological Sciences *Summa cum laude*
1987	Italian Charter of Biologists exam (150/150)
2012	Faculty Travel Award ASCB 212

Fellowships

1988	Italian Association For Cancer Research (AIRC): three years Post-Graduate Fellowship
1993	University of Pavia: Two -year Postdoctoral Fellowship University of Pavia: "Cultore della Materia" in Genetics
1995	Fondazione "Adriano Buzzati-Traverso": Post-doctoral Fellowship
1998	CNR (National research Council): Senior Post-doctoral fellowship

1999	University of Pavia: winner of a two-years research contract (contratti di ricerca)

Funding

2012	BRIEF funding award, Brunel University London
2012	Breast Cancer Campaign PILOT grant
2013	BBSRC Responsive mode Grant (RM3) 3 Years
2017	IDEA Award, Brunel University London
2018	Wellcome Trust Investigator Awards in Science (5 years)
2013	Shortlisted for CRUK career development award

Membership of Grant giving bodies:

2013-2017 Breast Cancer Campaign (UK) Advisory Board Member

Editorial Board:

Since 2013 Editorial Board of Chromosoma
Since 2015 Editorial Board of Oncotarget

Teaching experience

1993 -	Nominated "Cultore della Materia" in Genetics by the Faculty of Sciences of the University of Pavia (Italian Equivalent of Higher Education teaching qualification)
1993-1997	Member of the examination committee for the Course of Genetics (Prof. Luigi De Carli), Cytogenetics (Prof. Elena Raimondi) and for the degree in Biological Sciences and Environmental Mutagenesis
1996 & 1997	Lecturer for the Course of Genetics for the degree in Natural Sciences
1996 & 1997	Organization and Teaching for the Course of Environmental Mutagenesis for the School of Specialization in Applied Genetics, University of Pavia
1993-1997	Contributor to the didactic activity at the Department of Genetics & Microbiology, University of Pavia
2012-present	-Module Coordinator for Analytical Biochemistry (L2) -Lecturer for the Module of Metabolic Regulations (L2)
2015-present	-Final Year Project Coordinator for Bioscience
2017-18	- Module coordinator for Cellular Pathologies (L3) - Developed a new Master Programme in "Disease Mechanisms and Therapeutics (http://www.brunel.ac.uk/study/postgraduate/Disease-Mechanisms-and-Therapeutics-MSc
2018-present	- Program Lead for the Master Programme in "Disease Mechanisms and Therapeutics

Collegial activities

Member of the SATS committee for the ATHENA SWAN bronze award submission. We obtained the Departmental Bronze award this year (2017).
I led the "early career assessment group" and currently leading the same group for the action plans.

Student Supervisions:

In Italy
Co-supervisor for the Theses for the degree in Biological Sciences of the students:
Sabrina Fiori, Dr Chiara Corso, Stefano Castagna, Chara Coelli

In Scotland
Co-supervisor of the PhD student Susana Ribeiro now post-doctoral fellow in Ron Vale'lab.
Supervisor of the Honour Students:
Toon Verheyen, Lilith Mannack, Aldona Kutkowska and Thomas William Monteiro. All the students have obtained a PhD student position.
Brunel University London
Supervisor of the PhD student Ezgi Goham (Completed February 2017),
Raquel Sales Gil (2nd year)
Thamineh Hadi-Toussi (1st year)

Invited speaker at the following international meetings:

- The Wilhelm Bernhard Workshop : 21st International Workshop on the cell nucleus. Ustron, Poland, 31august – 4 September 2009 "Repo-Man and condensin regulate chromosome structure and dynamics in mitosis"
- 15th International Chromosome Conference (ICC XV) London, UK, 5-10 September 2004 "Chromosome condensation without condensin"
- International miniconference chromosomes and mitosis, 16 December 2015, Novosibirsk, Russia
- "Phosphatases and Signalling in Health and Disease", Bath June 20-26th 2016
- The Pleiotropic Nuclear Envelope, 22—25 August 2017, Edinburgh.
- IC Genomics Symposium, London, Imperial college.27th November 2018.

Reviewer for the following journals:

Molecular Cell
Developmental Cell
Molecular and cellular biology
PLOS Biology
Journal of Cell Science
BMC Cell Biology
Nature Communications

PUBLICATIONS

I have authored **51 research articles** in international peer reviewed journals and **12 reviews and book chapters**. **H-Index**: 27; Hi-10 index 45; **Citations:** 4202.

51 Ines J de Castro, Raquel Sales Gil, Lorena Ligammari, Maria Laura Di Giacinto, **Paola Vagnarelli** (2017) CDK1 and PLK1 coordinate the disassembly and reassembly of the nuclear envelope in vertebrate mitosis Oncotarget 9(8): 7763–7773. Published online 2017 Dec 23. doi: 10.18632/oncotarget.23666

50 Zhiteneva A, Bonfiglio JJ, Makarov A, Colby T, **Vagnarelli P**, Scirmer EC, Earnshaw WC (2017) Mitotic post-translational modifications of histones promote chromatin compaction in vitro. Open Biol. 2017 Sep;7(9). pii: 170076. doi: 10.1098/rsob.170076.

49 I. de Castro, H. Amin, V. Vinciotti and **P. Vagnarelli** (2017). Network of phosphatases and HDAC complexes at repressed chromatin. *Cell Cycle,* 14:1-7. doi: 10.1080/15384101.2017.1371883

48 Ines J. de Castro, James Budzak, Maria L. Di Giacinto, Lorena Ligammari, EzgiGokhan, Christos Spanos, Daniela Moralli, Christine Richardson, Jose I. de las Heras, Silvia Salatino, Eric C. Schirmer, Katharine Ullman, Wendy Bickmore, Catherine Green, Juri Rappsilber, Sarah Lamble, Martin W. Goldberg, Veronica Vinciotti & **Paola Vagnarelli** (2017) Repo-Man/PP1 regulates heterochromatin formation in interphase. Nature Communications DOI: 10.1038/ncomms14048

47 Gabriele Corda, Gianluca Sala, Rossano Lattanzio, Manuela Iezzi, Michele Sallese, Giorgia Fragassi, Alessia Lamolinara, Hasan Mirza, Daniela Barcaroli, Sibylle Ermler, Elisabete Silva, Hemad Yasaei, Robert F. Newbold, **Paola Vagnarelli**, Marcella Mottolese, Pier Giorgio Natali, Letizia Perracchio, Jelmar Quist, Anita Grigoriadis, Pierfrancesco Marra, Andrew N Tutt, Mauro Piantelli, Stefano Iacobelli, Vincenzo De Laurenzi, Arturo Sala (2016). Functional and prognostic significance of the genomic amplification of frizzled receptor 6 (*FZD6*) in breast cancer. The Journal of pathology, DOI: 10.1002/path.4841

46 Martin CA, Murray JE, Carroll P, Leitch A, Mackenzie KJ, Halachev M, Fetit AE, Keith C, Bicknell LS, Fluteau A, Gautier P, Hall EA, Joss S, Soares G, Silva J, Bober MB, Duker A, Wise CA, Quigley AJ, Phadke SR; Deciphering Developmental Disorders Study., Wood AJ, **Vagnarelli P**, Jackson AP. (2016) Mutations in genes encoding condensin complex proteins cause microcephaly through decatenation failure at mitosis. Genes Dev. 2016 Oct 1;30(19):2158-2172.

45 Kumar GS, Gokhan E, De Munter S, Bollen M, **Vagnarelli P**, Peti W, Page R. (2016) The Ki-67 and RepoMan mitotic phosphatases assemble via an identical, yet novel mechanism. Elife. 2016 Aug 30;5. pii: e16539. doi: 10.7554/eLife.16539.

44 Booth DG, Takagi M, Sanchez-Pulido L, Petfalski E, Vargiu G, Samejima K, Imamoto N, Ponting CP, Tollervey D, Earnshaw WC, **Vagnarelli P**. Ki-67 is a PP1-interacting protein that organises the mitotic chromosome periphery.(2014) Elife. 27;3:e01641. doi: 10.7554/eLife.01641.

43 Ribeiro SA, **Vagnarelli P**, Earnshaw WC. DNA content of a functioning chicken kinetochore.(2014) Chromosome Res. 22(1):7-13. doi: 10.1007/s10577-014-9410-3.

42 **Vagnarelli P**. Chromatin reorganization through mitosis. (2013) Adv Protein Chem Struct Biol. 2013;90:179-224. doi: 10.1016/B978-0-12-410523-2.00006-7.

41 Samejima K, Samejima I, **Vagnarelli P**, Ogawa H, Vargiu G, Kelly DA, de Lima Alves F, Kerr A, Green LC, Hudson DF, Ohta S, Cooke CA, Farr CJ, Rappsilber J, Earnshaw WC. (2012) Mitotic chromosomes are compacted laterally by KIF4 and condensin and axially by topoisomerase II. J Cell Biol. 199(5):755-70. doi: 10.1083/jcb.201202155.

40 **Vagnarelli P** and Earnshaw WC. (2012) Repo-Man/PP1: a link between chromatin remodeling and nuclear envelope reassembly. Nucleus, 3:1-5. C**orresponding Author**

39 Lydia C Green, Paul Kalitsis, Tsz M Chang, Miri Cipetic, Ji Hun Kim, Owen Marshall, Lynne Turnbull, Cynthia B Whitchurch, Paola Vagnarelli, Kumiko Samejima, William C Earnshaw, K H Andy Choo, Damien F Hudson (2011) **Contrasting roles of condensin I and II in mitotic chromosome formation. Journal of Cell Science, in press.**

38 **Vagnarelli P***, Ribeiro S, Sennels L, Sanchez-Pulido L, de Lima Alves F, Verheyen T, Kelly DA, Ponting CP, Rappsilber J, Earnshaw WC. (2011) Repo-Man Coordinates Chromosomal Reorganization with Nuclear Envelope Reassembly during Mitotic Exit. Dev Cell. 21(2):328-42.
***Co-corresponding Author**

37 Zhenjie Xu, **Paola Vagnarelli**, Hiromi Ogawa, Kumiko Samejima, and William C. Earnshaw (2010) Gradient of Increasing Aurora B Kinase Activity Is Required for Cells to Execute Mitosis J. Biol. Chem. 2010 285: 40163-40170. *(Journal Cover by P.Vagnarelli*)

36 S.Ribeiro, **P.Vagnarelli,** Y.Dond, T.Hori, B.McEwen, T. Fukagawa, C.Flors and W. Earnshaw (2010). A super-resolution map of the vertebrate kinetochore. PNAS, 107(23):10484-9

35 A.Mocciaro, E.Berdougo , E.Black, **P.Vagnarelli**, W.Earnshaw, D.Gillespie, P.Jallepalli, and E.Schiebel (2010) Cells deficient for Cdc14A or Cdc14B retain DNA damage checkpoint proficiency but are impaired for DNA repair. JCB, 17;189(4):631-9.

34 Z.Xu, H.Ogawa, **P.Vagnarelli**, J.Bergmann, D.F.Hudson, S.Ruchaud, T.Fukagawa, W.C.Earnshaw and K.Samejima (2009) INCENP-Aurora B interactions modulate kinase activity and chrmosome passenger complex localisation. J. Cell Biol.187:637-53

33 Ribeiro SA, Gatlin JC, Dong Y, Joglekar A, Cameron L, Hudson DF, Farr CJ, McEwen BF, Salmon ED, Earnshaw WC, and **Vagnarelli P**. (2009) Condensin regulates the stiffness of vertebrate centromeres. Mol Biol Cell. 20(9):2371-80**.**

Last Author and Corresponding Author

32 Y.Dong, **P.Vagnarelli**, X.Meng, S.Ribeiro, W.C.Earnshaw and B.F.McEwen (2008) Localizing kinetochores in Condensin deficient DT40 cells using same cel correlative confocal light microscopy/electron tomography. Microsc Microanal 1070-71.

31 Nakano M, Cardinale S, Noskov VN, Gassmann R, **Vagnarelli P**, Kandels-Lewis S, Larionov V, Earnshaw WC, Masumoto H. (2008) Inactivation of a human kinetochore by specific targeting of chromatin modifiers. Dev Cell. 14(4):507-22.

30 Samejima K., Ogawa H., Cooke C.A., Hudson D.F., MacIsaac F., Ribeiro S.A, **Vagnarelli P.,** Cardinale S., Kerr A.,Lai F., Ruchaud S., Yue Z. and Earnshaw W.C.(2008). A novel promoter-hijack strategy for conditional knockouts of multiple spliced essential cell cycle genes. PNAS, 105 (7):2457-62

29 Griffith E., Walker S.,Martin C.A., **Vagnarelli P.,** Stiff T., Vernay B.,Al Sanna N, Saggar A, Hamel B, Earnshaw W.C, Jego P.A, Jackson A.P. and O'Driscoll M. (2007) Mutations in pericentrin cause Seckel syndrome with defective ATR-dependent DNA damage signaling. Nature Genetics, 40 2):232-6

28 Zachos G, Black EJ, Walker M, Scott MT, **Vagnarelli P**, Earnshaw WC, Gillespie DA.(2007) Chk1 is required for spindle checkpoint function. Dev Cell. 12(2):247-60.

27 **Vagnarelli P**, Hudson DF, Ribeiro SA, Trinkle-Mulcahy L, Spence JM, Lai F, Farr CJ, Lamond AI, Earnshaw WC (2006) Condensin and RepoMan-PP1 co-operate in the regulation of chromosome architecture during mitosis. Nat Cell Biol. 2006 Oct;8(10):1133-42.

26 Regnier V., **Vagnarelli P.**, Fukagawa T., Zerjal T., Burns E., Trouche D., Earnshaw W.C. and Brown W. (2005) CENP-A is required for accurate chromosome segregation and sustained kinetochore association of BubR1. Mol.Cell Biol 25:3967-81.

25 Dodson H, Bourke E, Jeffers LJ, **Vagnarelli P**, Sonoda E, Takeda S, Earnshaw WC, Merdes A, Morrison C. (2004). Centrosome amplification induced by DNA damage occurs during a prolonged G2 phase and involves ATM. EMBO J., 23: 3864-73.

24 **Vagnarelli P**, Morrison C, Dodson H, Sonoda E, Takeda S, Earnshaw WC (2004). Analysis of Scc1-deficient cells defines a key metaphase role of vertebrate cohesin in linking sister kinetochores. EMBO Rep.,5:167-71.

23 Regnier V, Novelli J, Fukagawa T, **Vagnarelli P**, Brown W. (2003) Characterization of chicken CENP-A and comparative sequence analysis of vertebrate centromere-specific histone H3-like proteins. Gene;316: 39-46.

22 Hudson D*,**Vagnarelli P.***, Gassmann R. and William C. Earnshaw (2003) ScII/SMC2 is required for normal scaffold formation and structural integrity of vertebrate mitotic chromosomes. Dev Cell 5:323-336**.* equal first authors**

21 Morrison C., **Vagnarelli P.**, Sonoda E, Takeda S, Earnshaw WC (2003) Sister chromatid cohesion and genome stability in vertebrate cells. Biochem Soc Trans 31:263-5

20 Jullien D., **Vagnarelli P.**, Earnshaw W.C. and Adachi Y. (2002) Kinetochore localisation of the DNA damage response component 53BP during mitosis. Journal of cell science 115:71-79

19 Moralli D., **Vagnarelli P.**, Bensi M., De Carli L. and Raimondi E. (2001) Insertion of a loxP site in a size-reduced human accessory chromosome. Cytogenet. And Cell Genet 94:113-120.

18 Sonoda E., Matsusaka T., Morrison C., **Vagnarelli P.**, Hoshi O., Usihiki T., Nojima K., Fukagawa T., Waizenegger I.C., Peters J.M., Earnshaw W.C. and Takeda S. (2001) Scc1/Rad21/Mcd1 is required for sister chromatid cohesion and kinetochore function in Vertebrate cells. Dev Cell 1:759-770. *(Journal Cover by P.Vagnarelli*)

17 **Vagnarelli P.** and Earnshaw W.C. (2001) INCENP loss from an inactive centromere correlates with the loss of sister chromatid cohesion. Chromosoma 110:393-401.

16 Adams R., Eckley D.M., **Vagnarelli P.**, Wheatley S.P., Gerloff D.L., Mackay A.M., Svingen P.A., Kaufmann S.H. and Earnshaw W.C (2001) Human INCENP colocalizes with the Auora-B/AIRK2 kinase on chromosomes and is overexpressed in tumor cells. Chromosoma 110:65-74

15 Wheatly S.P., Carvalho A., **Vagnarelli P.** and Earnshaw W.C. (2001) INCENP is required for proper targeting of Survivin to the centromeres and the anaphase spindle during mitosis. Current Biology 11:886-890.

14 Raimondi E., Balzaretti M., Moralli D.,**Vagnarelli P.**,Tredici F., Bensi M. and De Carli L. (1996). Gene targeting to the centromere of a human minichromosome. Human Gene Therapy, 7: 1103-1109

13 **Vagnarelli P.**, Raimondi E., Coelli C., Fattorini P., Dorigo E. and De Carli L. (1996) DNA fingerprint analysis for the detection of induced mutations in mammalian cells in culture. Cytotechnology, 19: 137-142.

12 Raimondi, E**.**, Moralli, D., **Vagnarelli, P**., Balzaretti, M and De Carli, L.(1994): Human minichromosomes as potential vectors for gene therapy. J. Exp. Clin. Cancer Res., 14: 207-209.

11 Mazzieri, R., Høyer-Hansen, G., Rønne, E., Løber, D., **Vagnarelli, P**., Raimondi, E**.**, De Carli, L., Danø, K. and Mignatti, P.(1994): Urokinase and urokinase receptor expression in somatic cell hybrids. Fibrinolysis 8: 344-352.

10 **Vagnarelli P.**, Giulotto E., Fattorini P., Mucciolo E., Bensi M., Tessera L. and De Carli L. (1993) Variation of minisatellites in chemically induced mutagenesis and in gene amplification. In "DNA fingerprinting: State of the Science" S.D.J.Pena, R.Chakraborty, J.T.Epplen and A.J.Jeffreys Eds., Birkhauser Verlag Basel, Switzerland, pp72-77.

9 Casati A., Giorgi R., Lanza A., Raimondi E., **Vagnarelli P.**, Mondello C., Ghetti P., Piazzi G. and Nuzzo F.. (1992) Trisomy 21 mosaicism in two subjects from two generations. Annales de Genetique 35: 245-250.

8 **Vagnarelli P.**, Raimondi E., Mazzieri R., De Carli L. and Mignatti P. (1992) Assignment of the Human Urokinase Receptor (PLAUR) gene to 19q13. Cytogenet. Cell Genet. 60: 197-199.

7 **Vagnarelli P.**, De Sario A., Cuzzoni M.T., Mazza P.G. and De Carli L.. (1991). Cytotoxicity and clastogenic activity of Ribose-lysine browning model system. J. Agricultural and food chemistry 39: 2237-2239

6 **Vagnarelli P.**, De Sario A. and De Carli L. (1990) Aneuploidy induced by chloral hydrate detected on human lymphocytes with the Y97 probe. Mutagenesis, 5: 591-592.

5 De Sario A., **Vagnarelli P.** and De Carli L. (1990). Aneuploidy assay on diethylstilbestrol by means of in situ hybridization of radioactive and biotinylated probes on interphase nuclei. Mutation research 243:127-131.

4 **Vagnarelli P.,** De Sario A., Raimondi E., Scariolo S. and De Carli L. (1989) Use of interphase analysis to detect chemically induced aneuploidy in cultured cells. Environmental and molecular mutagenesis 14:204-205.

3 Raimondi E., **Vagnarelli P.**, Bensi M. and De Carli L. (1989). Characterisation of an X-X translocation by cytological analysis and in situ hybridisation. Cytogenetics and Cell Genetics. 50:123-124.

2 E.Raimondi, S.Scariolo, **P.Vagnarelli,** A.De Sario and L.De Carli (1987). Detection of chromosome variation in interphase by *in situ* hybridization with repetitive DNA probes: potential applications to cytogenetic analysis and mutagenicity testing. Cytotechnology 1:13-17.

1 G.Gazzani, **P.Vagnarelli**, M.T.Cuzzoni and P.G.Mazza (1987). Mutagenic activity of the Maillard reaction products of Ribose with different amino acids. Journal of Food Science. 52 (3): 757-760

Reviews and Book chapters:

12 **Vagnarelli P**, Alessi DR. (2018) PP1 Phosphatase Complexes: Undruggable No Longer. Cell. Aug 23;174(5):1049-1051. doi: 10.1016/j.cell.2018.08.007.

11 Sales Gil R, **Vagnarelli P.** (2018) Ki-67: More Hidden behind a 'Classic Proliferation Marker'. Trends Biochem Sci. 2018 Aug 18. pii: S0968-0004(18)30152-X. doi: 10.1016/j.tibs.2018.08.004.

10 Raquel Sales Gil and **Paola Vagnarelli** (2018). Protein Phosphatases in chromatin structure and function. Biochim Biophys Acta Mol Cell Res. 2018 Jul 20. pii: S0167-4889(18)30200-3. doi: 10.1016/j.bbamcr.2018.07.016

9 Raquel Sales Gil, Ines J. de Castro, Jerusalem Berihun, **Paola Vagnarelli** (2018). Protein phosphatases at the nuclear envelope Biochem Soc Trans. 46(1): 173–182. doi: 10.1042/BST20170139.

8 de Castro IJ, Gokhan E, **Vagnarelli P**. (2016). Resetting a functional G1 nucleus after mitosis. Chromosoma. DOI 10.1007/s00412-015-0561-6

7 **Vagnarelli P**. Repo-man at the intersection of chromatin remodelling, DNA repair, nuclear envelope organization, and cancer progression. (2014) Adv Exp Med Biol. 773:401-14. doi: 10.1007/978-1-4899-8032-8_18.

6 Meadows JC, Graumann K, Platani M, Schweizer N, Shimi T, **Vagnarelli P**, Gatlin JC. Meeting report: mitosis and nuclear structure. (2013) J Cell Sci. 2013 126(Pt 22):5087-90. doi: 10.1242/jcs.142950.

5 **Vagnarelli P.** (2012). Chromosome Condensation in vertebrates. Experimental Cell Research, In Press.

4 Paulson J.R. and **Vagnarelli P.** (2011) Chromosomes and Chromatin in Encyclopedia of Life Sciences.

3 **Vagnarelli P**, Ribeiro SA, Earnshaw WC. (2008) Centromeres: old tales and new tools. FEBS Lett. 582(14):1950-9. **Corresponding Author**

28 Gassmann R, **Vagnarelli P**, Hudson D, Earnshaw WC. (2004). Mitotic chromosome formation and the condensin paradox. Exp Cell Res,15: 35-42.

2 **Vagnarelli P**, Earnshaw WC. (2004). Chromosomal passengers: the four-dimensional regulation of mitotic events. Chromosoma. 2004:211-22.

1 Craig J.M., Earnshaw W.C. and **Vagnarelli P.** (1999) Mammalian centromeres: DNA sequences, protein composition and role in cell cycle progression. Experimental Cell research, review 246:249-262.