

PERSONAL DATA

NAME AND SURNAME: Annalisa Manuela Roberti

NATIONALITY: Italian

DATE AND PLACE OF BIRTH: 19th September 1988, Mazara del Vallo (TP), Italia

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EDUCATION AND QUALIFICATIONS

- October 2016- Present: PhD student in Genetics, Molecular and Cellular Biology, Laboratory of molecular cytogenetics, Department of Biology and Biotechnology, University of Pavia (Pavia, Italy). Principle Investigator: Professor Elena Raimondi
- 2016-2014: Master's degree in "Experimental and Applied Biology" – *curriculum* Biomedical and Molecular Sciences, University of Pavia (Pavia, Italy) with voting of 110/100 *cum laude* - Title of thesis: "Study of the mitotic stability of horse chromosome 11 with DNA satellite-free centromere"; Supervisor: Professor Elena Raimondi, co-supervisor: Doctor Alice Mazzagatti
- 2008– 2013: Bachelor's degree in Biology – Biosanitary *curriculum*, University of Palermo (Palermo, Italy) with voting of 110/110 - Title of thesis: "Molecular investigations on *Staphylococcus aureus* stocks"; Supervisor: Professor Maria Antonietta Ragusa, co-supervisor Doctor Maria Vitale
- 2002–2007: Secondary school : Classical Lyceum "G.Pantaleo" Castelvetrano (TP, Italy) - with voting 100/100

PROFESSIONAL EXPERIENCE

- July-September 2016: Erasmus traineeship at "Medical school" (University of Birmingham, UK) – field of research: "Defining histone modifications dynamics through the cell cycle"
- January 2016 (15 days): Tutor in cellular methodologies laboratory, University of Pavia (Italy)
- November 2014-June 2016: Internship for experimental thesis in the Cytogenetic Laboratory (Professor: Elena Raimondi), Department of Biology and Biotechnology, University of Pavia (PV, Italy)
- April-July 2013: Internship in Experimental Zooprophyllactic Institute of Sicily, molecular biology area (PA, Italy)

PRACTICAL SKILLS

- Mammalian cellular culture
- Chromosome preparation, chromosome banding, karyotype analysis
- Molecular Cytogenetics Techniques - Fluorescent *In Situ* Hybridization (FISH), ImmunoFISH, Fibre FISH and Combing DNA
- Use of the optical microscope and fluorescence microscope. Image analysis and processing.
- Bacterial culture
- Molecular Biology Techniques - DNA extraction, plasmid and BAC purification, PCR, agarose gel electrophoresis, RFLP
- Biochemical Techniques – Flow cytometry, acid extraction of histone protein, polyacrylamide gel electrophoresis, protein derivatisation and digestion in preparation for mass spectrometry, mass spectrometry and analysis of results

COMPUTER SKILLS AND COMPETENCES

- Good command of scientific database (NCBI, UCSC, UNIPROT, ChEMBL, REACTOME, STRING)
- Excellent knowledge of Microsoft Office™ tools (Word™, Excel™, PowerPoint™, Access™ and Publisher™)
- Basic knowledge of graphic design applications (Adobe Illustrator®, Photoshop®)
- Good command of internet browsers

LANGUAGE SKILLS

- Italian: mother tongue.
- English: intermediate level
- French: basic level

RESEARCH PROJECT

The epigenetic landscape of mammalian centromeres: a cytogenetic approach

The aim of my work, carried out in collaboration with the Laboratory of Molecular and Cellular Biology (directed by Prof. Elena Giulotto) is to study the centromere biology. The centromere is the chromosomal *locus* necessary for a faithful segregation of genetic material during cell division. Despite the centromeric function is clear and evolutionarily conserved, the centromeric sequence is extremely variable. In addition to the function, even the centromeric and pericentromeric histone modifications are evolutionarily conserved and they are supposed to determine the identity of centromere, as proof that the centromere function does not depend on the sequence. Given the important role that epigenetics plays in the biology of the centromere, the research project will focus on the study of epigenetic environment of mammalian centromeres, using the genus *Equus* as a model.

Abstracts

Mazzagatti A, Langella A, Roberti A, Bensi M, Piras F. M., Cappelletti E., Gamba R, Giulotto E and Raimondi E “The epigenetic landscape of equid centromeres: a cytogenetic approach” Department of Biology and Biotechnology “L. Spallanzani” - Via Ferrata, 9 – 27100, Pavia, Italy; FISV conference-September 2016

