

**Curriculum Vitae et Studiorum**  
**Valeria SPECCHIA**

**CURRENT POSITION:** Assistant Professor of Genetics at University of Salento-Lecce, Italy

Adress: Department of Biological and Environmental Sciences and Technologies  
University of Salento Ecotekne, SP Lecce - Monteroni, 73100 Lecce, Italy

e-mail: [valeria.specchia@unisalento.it](mailto:valeria.specchia@unisalento.it)

**Biography**

**Degree in Biological Sciences (1999)** cum laude with a special mention of the Committee, at the University of Lecce with a thesis in Genetics

**PhD school in “Biology and Biotechnology” (2000-2004)** at the University of Lecce, with a thesis in Genetics “Characterization of two genes, hsp83/scratch and aubergine/sting, the *crystal-Stellate* system modifiers in *D. melanogaster*”

**Post doc fellowship (2005-2009)** on the project “The genetic and molecular characterization of genes involved in RNAi pathways in *Drosophila melanogaster*” at the University of Lecce

**EMBO short term fellowship (2010)** on the project “Studies on the distribution of FMRP in testes of *D. melanogaster*” at the laboratory of prof. A. Giangrande at the IGBMC, CNRS, INSERM, University of Strasbourg

**Department Head’s Delegate** for internationalization actions **(2016)** at the University of Salento-Lecce

**SCIENTIFIC COMMITTEE MEMBERSHIP**

**AGI** (Associazione Genetica Italiana)

**EDITORIAL BOARD MEMBER of**

**Journal of RNAi and Gene Silencing**, Oxford

### **Reviewer activity**

Genome Biology and Evolution; Genetics; Journal of Heredity; Molecular Reproduction and Development

### **PROJECTS:**

**Principal investigator: Futuro in ricerca 2010** from Italian Ministry of Education, University and Research

Title: Environmental stress, transposable elements and genome evolution

**Research unit member: CUIS 2015** from Inter-provincial University Consortium of Salento-Lecce

Title: Ecological characterization, analysis of biodiversity and strategies for conservation and management of a temporary lake

**Research unit member: Telethon 2014.**

Title: *Drosophila melanogaster* as a model to study the role of the Fragile-X Mental retardation Protein in the genome stability pathway mediated by piRNAs

**Research unit member: PRIN 2004-2006** from Italian Ministry of Education, University and Research

Title: "Genetic and molecular characterization of genes involved in RNAi in *D. melanogaster* "

**Research unit member: PRIN 2007-2009** from Italian Ministry of Education, University and Research

Title: "Genetic and molecular analysis of crystal-Stellate modifiers with respect to the RNAi process in *D. melanogaster*

### **INTERNATIONAL AND NATIONAL COLLABORATIONS**

Dr. Giangrande A. IGBMC, CNR Strasbourg (France)

Prof. Del Sal G. LNCIB, University of Trieste

Prof. Pimpinelli S., University of Rome "La Sapienza"

Prof. Piccolo S., University of Padova

Prof. Costa R., University of Padova

### **ORGANIZATION OF INTERNATIONAL AND NATIONAL CONFERENCES**

**2000** Organization of X Italian Drosophila Meeting, Lecce 6-8 September

**2010** Organization of XV Italian Drosophila Meeting, Lecce 28-30 June. 2010

**2013** XI International Conference on Drosophila Heterochromatin, Lecce

**2017** XIII International Conference on Drosophila Heterochromatin, Cagliari

### **SPEAKER AT INTERNATIONAL AND NATIONAL MEETINGS**

- 17th International Fragile X and other Early-Onset Cognitive Disorders Workshop, 2015 (
- Eleventh International conference on Drosophila Heterochromatin, 2013
- Italian FISV congress (2003 ,2004, 2005)
- Italian Drosophila congress (2003, 2006, 2008, 2010, 2014, 2016)

### **Research interests**

Molecular Genetics, Cancer Genetics, Genome Evolution, Modeling of neurodevelopmental human diseases and intellectual disability (Fragile X syndrome).

### **TEACHING ACTIVITY**

Genetics teaching for Degree in Biotechnology, University of Salento Italy

Tutor of post-doctoral researchers

Tutor of PhD students, graduate and undergraduate students (over 50 degree theses)

### **SCIENTIFIC COMMITTEE MEMBER**

Master's Degree in "Biology of Reproduction and assisted reproduction techniques", University of Salento

### **SELECTED PUBLICATIONS IN INTERNATIONAL JOURNALS WITH IMPACT FACTOR**

1. Sahin HB, Karatas OF, **Specchia V**, Di Tommaso S, Diebold C, Bozzetti MP, Giangrande A. Novel mutants of the aubergine gene **Fly**. 2016 Apr 2;10(2):81-90.
2. Delle Side D, **Specchia V**, D'Attis S, Giuffreda E, Quarta G, Calcagnile L, Bozzetti M, Nassisi V. Stressing biological samples with pulsed magnetic fields: physical aspects and experimental results. **Journal of Instrumentation** 2016 vol. 11, p. C05007
3. Bozzetti MP, **Specchia V**, Cattenoz PB, Laneve P, Geusa A, Sahin HB, Di Tommaso S, Friscini A, Massari S, Diebold C, Giangrande A. The Drosophila Fragile X mental retardation protein participates in the piRNA pathway **Journal of Cell Science** 2015 Jun 1;128(11):2070-84.
4. Tritto P, Palumbo V, Micale L, Marzulli M, Bozzetti MP, **Specchia V**, Palumbo G, Pimpinelli S, Berloco M. Loss of Pol32 in Drosophila melanogaster causes chromosome instability and suppresses variegation **PLoS One**. 2015 Mar 31;10(3) :e0120859.
5. Piacentini L, Fanti L, **Specchia V**, Bozzetti MP, Berloco M, Palumbo G, Pimpinelli S. Transposons, environmental changes and heritable induced phenotypic variability **Chromosoma**. 2014 Aug;123(4):345-54.
6. Sorrentino G, Ruggeri N, **Specchia V**, Cordenonsi M, Mano M, Dupont S, Manfrin A, Ingallina E, Sommaggio R, Piazza S, Rosato A, Piccolo S, Del Sal G. Metabolic control of YAP and TAZ by the mevalonate pathway **Nature Cell Biology** 2014 Apr;16(4):357-66.
7. Delle Side D, Bozzetti M, Friscini A, Giuffreda E, Nassisi V, **Specchia V**, Velardi L (2014). A pulsed magnetic stress applied to Drosophila melanogaster flies. **Journal of Physics** 2014 vol. 508, p. 012031

8. Palazzo A, Marconi S, **Specchia V**, Bozzetti MP, Ivics Z, Caizzi R, Marsano RM. Functional characterization of the Bari1 transposition system **PLoS One**. 2013 Nov 14;8(11):e79385
9. Bozzetti MP, Fanti L, Di Tommaso S, Piacentini L, Berloco M, Tritto P, **Specchia V**. The "Special" crystal-Stellate System in *Drosophila melanogaster* Reveals Mechanisms Underlying piRNA Pathway-Mediated Canalization. **Genetics Research International** 2012; 2012:324293.
10. **Specchia V**, Piacentini L, Tritto P, Fanti L, D'Alessandro R, Palumbo G, Pimpinelli S, Bozzetti MP. Hsp90 prevents phenotypic variation by suppressing the mutagenic activity of transposons. **Nature**. 2010 Feb 4;463(7281):662-5.
11. **Specchia V**, Bozzetti MP. Different aubergine alleles confirm the specificity of different RNAi pathways in *Drosophila melanogaster* **Fly**. 2009 Apr-Jun;3(2):170-2.
12. **Specchia V**, Benna C, Mazzotta G, Piccin A, Zordan MA, Costa R and Bozzetti MP. **Genetics** 2008, 178: 1271-1282
13. **Specchia V**, Guarino F, Messina A, Bozzetti MP and De Pinto V. **Journal of Bioenergetics and Biomembranes** 2008, 40: 219-226
14. Guarino F, Messina A, Guarnera A, Puglia G, Bellia F, Reina S, De Pinto V, **Specchia V**, Bozzetti MP (2007). The voltage dependent anion selective channel family in *Drosophila melanogaster*, *Italian Journal of Biochemistry*, vol. 56, p. 279-284
15. Guarino F, **Specchia V**, Zapparoli G, Messina A, Aiello R, Bozzetti MP, De Pinto V. **Biochemical and Biophysical Research Communication** 2006, 346:665-670

- 16.** Tritto P, **Specchia V**, Fanti L, Berloco M, D'Alessandro R, Pimpinelli S, Palumbo, G and Bozzetti MP. **Genetica** **2003**, 117: 247-257
- 17. Specchia Valeria**, Cattenoz Pierre, Diebold Celine, Bozzetti Maria, Giangrande Angela. The Drosophila Fragile X Mental Retardation Protein participates in the piRNA pathway. ATTI : 17th International Fragile X and other Early-Onset Cognitive Disorders Workshop, 27-30 Settembre 2015, Strasbourg (France) pag. 36
- 18. Specchia V**, D'Attis S, Puricella A, Cattenoz P, Giangrande A, Bozzetti MP. Genetic and physical interaction of dfmr1, the Drosophila homolog of the gene involved in the Fragile X mental retardation syndrome. ATTI: IDRC, 14-16 Settembre 2016 Bologna
- 19. Specchia V**, Giangrande A, Pimpinelli S, Bozzetti MP (2015). New modifiers of the *Stellate* sequence regulation shed light on the piRNA-related silencing of transposons in gonads  
24<sup>th</sup> European Drosophila Research Conference Heidelberg 9-12 Settembre 2015
- 20. Specchia V**, Giangrande A, Massari S, Bozzetti MP (2015). dFmr1, a protein with a known role in the nervous system, belongs to the piRNA pathway active in the Drosophila melanogaster gonads for the silencing of transposons  
Convegno AGI/SIMA Cortona 28-30 Settembre 2015
- 21. Specchia V**, Laneve P. Massari S, Diebold C, Giangrande A, Bozzetti MP (2015). *Drosophila melanogaster* as a model to study the role of the Fragile X Mental Retardation Protein in the genome stability pathway mediated by piRNA  
Convention Telethon 2015, Riva del Garda Marzo 2015
- 22. Specchia V**, Laneve P. Massari S, Diebold C, Giangrande A, Bozzetti MP (2015)  
Searching for members of the piRNA-mediated transposon silencing in the gonads looking at the modifiers of the *crystal-Stellate* regulation

12th International Conference on Drosophila Heterochromatin, Palermo 24-30 Maggio 2015

**23. Specchia Valeria**, Sergio Pimpinelli, Angela Giangrande and Maria Pia Bozzetti (2013). Searching for new members of the piRNA-mediated transposon silencing in the gonads looking at the modifiers of the crystal-Stellate regulation . 23<sup>th</sup> European Drosophila Research Conference 2013, Barcellona 13-19 Ottobre 2013

**24. Specchia V**, Laneve P, Massari S, Di Tommaso S, Pimpinelli S, Giangrande A, Bozzetti MP (2013). dFMR1, the Drosophila ortholog of the Fragile-X gene in humans, has a role in the piRNA-mediated silencing of repetitive sequences. In: Eleventh International Conference on Drosophila Heterochromatin. p. 29, Lecce:International Conference on Drosophila Heterochromatin, 23-29 June 2013

**25. V Specchia**, A Friscini, D Dell'Isola, D Delle Side, L Velardi, V Nassisi, S Pimpinelli, MP Bozzetti

Stress da radiazione RF a 900 MHz ed attivazione di elementi trasponibili in tessuti germinali di *Drosophila melanogaster*

3rd Workshop-Plasmi, Sorgenti, Biofisica ed Applicazioni 2013, 101-105

**26. V Specchia**, L Giordano, MP Bozzetti, V Nassisi, D Delle Side

Effetti della radiazione RF a 900MHz sulla regolazione di elementi ripetuti in *Drosophila melanogaster*

2nd Workshop-Plasmi, Sorgenti, Biofisica ed Applicazioni 2010 (1), 112-115

**27. Bozzetti M.P., Specchia V.**, Berloco M., Tritto P., Micale L., Marzulli M., Merla G., Palumbo G., Piacentini L., Onorati M.C., Fanti L., Pimpinelli S. (2008). Dissezione genetica della biogenesi dei piRNA in *Drosophila melanogaster*. In: -. Atti XIV Convegno della Drosophila Italiana 2008. Ponzano Romano, 2-4 Luglio 2008, p. 25, Roma:Convegno Drosophila Italiana

- 28. Specchia V.**, Fanti L., Piacentini L., Di Tommaso S., Tritto P., Palumbo G., Pimpinelli S., Bozzetti M.P. (2008). I modificatori del sistema crystal-Stellate alterano il silenziamento degli elementi trasponibili attraverso differenti pathways di RNAi. In: -. Atti XIV Convegno della Drosophila Italiana 2008. Ponzano Romano, 2-4 Luglio 2008, p. 41, Roma:Convegno Drosophila Italiana
- 29. Bozzetti M.P., Specchia V.**, Fanti L., Piacentini L., Di Tommaso S., Tritto P., Palumbo G., Pimpinelli S. (2008). The crystal-Stellate system revealed different RNAi pathways in *Drosophila melanogaster*. In: -. ATTI X Convegno FISV. Riva del Garda, 24-27 Settembre 2008, p. D01.03, Roma:Federazione Italiana Scienze della Vita
- 30. Bozzetti. M.P., Specchia V.**, Fanti L., Piacentini L., Di Tommaso S., Tritto P., Benna C., Costa R., Palumbo G., Pimpinelli S. (2007). The “unique” crystal-Stellate system revealed different RNAi pathways. In: Eighth International Conference on *Drosophila Heterochromatin* 2007. Gubbio, June, 3-9 2007, p. 38, Roma:Conference of *Drosophila Heterochromatin*
- 31. Specchia V.**, Geusa A., Sahin B., Palumbo G., Pimpinelli S., Giangrande A., Bozzetti M.P. (2007). aubergine and dfmr1, the *Drosophila* homolog of the human fragile X mental retardation gene, genetically interact in the RNAi pathway. In: Eighth International Conference on *Drosophila Heterochromatin* 2007. Gubbio, June, 3-9 2007, p. 37, Roma:International Conference on *Drosophila Heterochromatin*
- 32. Specchia V.**, Geusa A., Sahin B., Palumbo G., Pimpinelli S., Giangrande A., Bozzetti M.P. (2007). aubergine and dfmr1, the *Drosophila* homolog of the human fragile X mental retardation gene, interact in the RNAi pathway. In: 9° Convegno FISV 2007. Riva del Garda, 26-29 Settembre 2007, p. D01.06, Roma:Federazione Italiana Scienze della Vita
- 33. Specchia V.**, Guarino F., Messina A., Aiello A., Bozzetti M.P., De Pinto V. (2006). Expression and localization of porin (VDAC) isoforms in germinal tissues of *Drosophila melanogaster*. In: Atti XIII Convegno della *Drosophila*



Italiana 2006. p. 14-15, Bologna:Convegno Drosophila Italiana, Bologna, Giugno 2006

**34.** Bozzetti M.P., **Specchia V.**, Fanti L., Piacentini L., Tritto P., Monteduro F., Palumbo G., Pimpinelli S. (2006). Genetic and molecular characterization of crystal-Stellate modifiers and their relationship with RNA interference. In: Atti XIII Convegno della Drosophila Italiana 2006. p. 8-9, Bologna:Convegno Drosophila Italiana, Bologna, Giugno 2006

**35.** **Specchia V.**, Zapparoli G., Guarino F., Aiello R., Messina A., Bozzetti M.P., De Pinto V. (2005). Immunological characterization of porin homologues in *Drosophila melanogaster*. Specific expression in germinal tissues.. In: -. Atti 7° Convegno FISV 2005. Riva del Garda, 22-25 Settembre 2005, p. D12.4, Roma:Federazione Italiana Scienze della Vita

**36.** **Specchia V.**, Benna C., Mazzotta M.G., Costa R., Micale L., Monteduro F., Fanti L., Palumbo G., Pimpinelli S., Bozzetti M.P. (2005). RNA interference is impaired in somatic tissues of *auberginesting* mutants. In: Seventh International Conference on *Drosophila* Heterochromatin 2005. Gubbio, June, 5-11 2005, p. 15, Roma:International Conference on *Drosophila* Heterochromatin

**37.** **Specchia V.**, Fanti L., Micale L., Monteduro F., Berloco M., Palumbo G., Pimpinelli S., Bozzetti M.P. (2005). crystal-Stellate system allows identification of RNAi involved genes in *Drosophila melanogaster*. In: -. Atti 7° Convegno FISV 2005. Riva del Garda, 22-25 Settembre 2005, p. D1.2, Roma:Federazione Italiana Scienze della Vita

**38.** **Specchia V.**, Piccin A., Monteduro F., Mazzotta M.G., Benna C., Zordan M., Costa R., Bozzetti M.P. (2004). Il gene *auberginesting* di *Drosophila melanogaster* ha un ruolo fondamentale nell' "RNA interference". In: Atti 6° Convegno FISV 2004. p. 199-200, Roma:Federazione Italiana Scienze della Vita, Riva del Garda, 30 Settembre-3 Ottobre 2004

**39. Specchia V., Piacentini L., Fanti L., Palumbo G., Pimpinelli S., Bozzetti M.P. (2004).** Un gene funzionale per l'HSP83 è richiesto per il silenziamento di sequenze ripetute mediante "RNA interference" in *Drosophila melanogaster*. In: Atti XII Convegno della *Drosophila Italiana* 2006. p. 20, Napoli:Convegno *Drosophila Italiana*, Napoli, 18-21 Ottobre 2004