Alessio Saviane

Curriculum Vitae

Via Eulero, 6A
35143 Padova (PD), Italy
☎ *+39 049 620 205*
FAX *+39 049 623 119*
✉ *alessio.saviane@crea.gov.it*

General information

Date and place of birth: 13th February, 1976; Belluno (Italy)

Residential address: Via Decorati al Valor Civile n°17 C 35142 Padova (PD), Italy

Present professional position and skills

Technician, permanent position

Over the years, I have gained extensive experience about *Morus* spp. cultivation and about *Bombyx mori* breeding, both on mulberry leaf and artificial diets because at CREA (Council for Agricultural Research and Economics) where I am currently employed, as a germ-plasm bank, we maintain a collection of 60 mulberry varieties and 200 silkworm strains. At CREA we developed our own artificial diet recipe suitable for both traditional laboratory activity and germ-free rearing systems and I collaborated to all developmental steps. Furthermore, I participated at the implementation of a micro-injection system designed to produce transgenic silkworms. Other fields of interest are microbiology of the silkworm and the selection of strains used to produce poly-hybrids. While working with other research groups, I developed also a teamwork attitude and the capability to face different needs compared to ours. I am author and co-author of peer reviewed papers, two patents and other scientific texts and manuals.

Education

2011-2013 **Doctorate school in crop science**, *University of Padua*

Experimental activity has been focused on the selection of *B. mori* strains characterized by high nutritional efficiency. Selection was carried out according to nutritional indexes on both artificial diet and mulberry leaves over a period of three years. Title of the dissertation was "Selection of high nutritional efficiency silkworm strains".

1997-2002 **Master's degree in biology**, *University of Padua*

Experimental activity has been carried out in a laboratory belonging to the genetics department. The title of dissertation was "Effects induced by knock down of the *period* clock gene in *Bombyx mori*".

Computer skills

Operating systems: Windows and Linux

Software: Office suites, STATISTICA (StatSoft), SPSS, R, LaTeX

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Experience

Professional experience

01/07/2020 **Technician**, *CREA-Research Centre for Agriculture and Environment*, Padua.
28/02/2021 Application of *Bombyx mori* as a model in the circadian modulated immune response through infection experiments with pathogens in germ-free conditions and creation of knock-out lines for genes involved in the molecular clock with the CRISPR technology.

28/07/2008 **Researcher**, *CREA-Research Centre for Agriculture and Environment*, Padua.
30/06/2020 Selective infection of silkworms with pathogens in germ-free conditions and statistical analysis of the experiments. Creation of new transgenic silkworm lines and their management. Supply of biological samples to research groups working on the silkworm as model organism or on silk as a bio-material. Training courses on sericulture.

01/08/2006 **Project contract**, *E. Mach Foundation*, Trento.
31/12/2007 Characterisation, selection and production of new small fruit varieties in the framework of the InterBerry project born to promote and develop the soft fruit market. Laboratory and field activity on small fruits.

01/11/2003 **Project contracts**, *University of Padua and CREA-Research Centre for Agriculture and*
01/03/2006 *Environment* , Padua.
Laboratory activity on *B. mori* and *Drosophila melanogaster* using molecular techniques. Management of silkworm wild-type pure strains, hybrids and transgenic strains. Development of new artificial diet recipes for silkworms

Teaching experience

2006-2019 Teaching experience concerns training courses on sericulture for farmers and veterinaries funded by the Veneto region. I also held a course on the same topic at the Hawassa University (Ethiopia) in the framework of the MAINBIOSYS project (University of Molise) and lessons at the Kyushu University and at the NARO institute (formerly NIAS, Japan) during a training sessions dedicated to silkworm transgenesis and artificial insemination which I took part to. These lessons were focused on silkworm microbiology and germ-free rearing conditions. I have also been engaged as co-supervisor in writing degree thesis.

Languages

Italian Mother tongue

English Fluent. As a scientist, I read and write in English on a regular base because this is the main language used to present the results of experimental work. Moreover, our institution has different collaborations with international partners (labs and companies) and we communicate in English regularly.

German Basic knowledge. Although I have not spoken German in the last years, I learned it as a young boy since, until the age of fifteen, I have spent part of my life in Germany.

Peer reviewed papers, books & posters

Peer reviewed papers

2021 **Brady D., Saviane A., Cappellozza S., Sandrelli F.**, *Protocols*, *4(1)4*, *https* : *//doi.org*/10.3390/*mps*4010004.
An efficient work-flow for screening and stabilizing CRISPR/Cas9-mediated mutant lines in *Bombyx mori*

2020 **Montali A., Berini F., Brivio M. F., Mastore M., Saviane A., Cappellozza S., Marinelli F., Tettamanti G.**, *Antibiotics*, *https* : *//doi.org*/10.3390/*antibiotics*9060300.
A silkworm infection model for in vivo study of glycopeptide antibiotics.

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2019 **Lamberti C., Gai F., Cirrincione S., Giribaldi M., Purrotti M., Manfredi M., Marengo E., Sicuro B., Saviane A., Cappellozza S., Giuffrida M. G., Cavallarin L.**, *PeerJ*, *https* : *//doi* : 10.7717/*peerj*.6723.
Investigation of the protein profile of silkworm (*Bombyx mori*) pupae reared on a well-calibrated artificial diet compared to mulberry leaf diet.

2019 **Cappellozza S., Leonardi M. G., Savoldelli S., Carminati., Rizzolo A., Cortellino G., Terova G., Moretto E., Badaile A., Concheri G., Saviane A., Bruno D., Bonelli M., Caccia S., Casartelli M., Tettamanti G.**, *Animals*, *24;9(5):*.
A first attempt to produce proteins from insects by means of a circular economy.

2019 **Chieco C., Morrone L., Bertazza G., Cappellozza S., Saviane A., Gai F., Di Virgilio N., Rossi F.**, *Animals*, *9(3):103*.
The effect of strain and rearing medium on the chemical composition, fatty acid profile and carotenoid content in silkworm (*Bombyx mori*) pupae.

2019 **Assirelli A., Stagno F., Cocchi A., Sirri S., Saviane A., Giovannini D., Cappellozza S.**, *Journal of berry research*, *9(4):615-630*.
Innovative system for mulberry fruit harvesting.

2019 **Abidalla M., Cosi E., Cappellozza S., Saviane A., Pagano J., Battaglia D., Roversi P. F.**, *Bulletin of Insectology*, *72(2):287-296*.
Rearing of monovoltine strains of *Bombyx mori* by alternating artificial diet and mulberry leaf accelerates selection for higher food conversion efficiency and silk productivity.

2018 **Saviane A., Romoli O., Bozzato A., Freddi G., Cappelletti C., Rosini E., Cappellozza S., Tettamanti G., Sandrelli F.**, *Transgenic Research*, *27(1):87-101*.
Intrinsic antimicrobial properties of silk spun by genetically modified silkworm strains.

2018 **de Diego-Diaz B., Treu L., Campanaro S., da Silva Duarte V., Saviane A., Cappellozza S., Squartini A.**, *Genome Announcements*, *6(3):e01495-17*.
Genome sequence of *Enterococcus mundtii* EM01, isolated from *Bombyx mori* midgut and responsible for flacherie disease in silkworms reared on an artificial diet.

2017 **Romoli O., Saviane A., Bozzato A., D'Antona P., Tettamanti G., Squartini A., Cappellozza S., Sandrelli F.,**, *Scientific Reports*, *21;7(1):1048*.
Differential sensitivity to infections and antimicrobial peptide-mediated immune response in four silkworm strains with different geographical origin.

2014 **Saviane A., Toso L., Righi C., Pavanello C., Crivellaro V., Cappellozza S.**, *Bulletin of Insectology*, *67(2):67-174*.
Rearing of monovoltine strains of Bombyx mori by alternating artificial diet and mulberry leaf accelerates selection for higher food conversion efficiency and silk productivity.

2014 **Woltje M., Bobbel M., Rheinecker M., Tettamanti G., Franzetti E., Saviane A., Cappellozza S.**, *Applied microbiology and biotechnology*, *98(10):4571-4580*.
Transgenic protein production in silkworm silk glands requires cathepsin and chitinase of Autographa californica multicapsid nucleopolyhedrovirus.

2010 **Cappellozza S., Saviane A., Tettamanti G., Squadrin M., Vendramin E., Paolucci P., Franzetti E., Squartini A.**, *J. Invertebr. Pathol.*, *106(3):386-393*.
Identification of Enteroccus mundtii as a pathogenic agent involved in the "flacherie" disease in Bombyx mori L. larvae reared on artificial diet.

2007 **Sandrelli F., Cappellozza S., Benna C., Saviane A., Mastella A., Mazzotta G. M., Moreau S., Pegoraro M., Piccin A., Zordan A.M., Cappellozza L., Kyriacou C.P., Costa R.**, *Genetical Research*, *89(2):73-84*.
Phenotipic effects induced by knock-down of the period clock gene in *Bombyx mori*.

2007 **Cappellozza L., Cappellozza S., Saviane A. and Sbrenna G.**, *Appl. Entomol. Zool., 40(3):405–412.*
Artificial diet rearing system for the silkwworm Bombyx mori (Lepidoptera: Bobycidae): effect of vitamin C deprivation on larval growth and cocoon production.

Books

2020 **Brady D., Saviane A., Romoli O., Tettamanti G., Sandrelli F., Cappellozza S.**, *Oral Infection in a Germ-Free Bombyx mori Model*, In: Sandrelli F., Tettamanti G., (eds) Immunity in Insects, Springer Protocols Handbooks.
*DOI : https : //doi.org/*10.1007/978 − 1 − 0716 − 0259 − $1_1$4

2015 **Cappellozza S., Saviane A.**, *Atti Accademia Nazionale Italiana di Entomologia, LXIII(83-87).*
Insect mass-rearing and production chains (In Italian).

2009 **Giongo L., Grisenti M., Saviane A., Mattivi F., Vrhovsek U., Camin F., Bontempo L., Perini M., Eccher M., Kroll K., Zuin N., Mazzalai M., Mladin P., Danek J.**, *351 pp.*, ISBN 978-88-7843-030-3 (Italia).
A berries varieties handbook: phenotyping for the fresh market use.

Posters

2015 **Romoli O., Bozzato A., Saviane A., Alberghini S., D'Antona P., Tettamanti G., Squartini A., Cappellozza S., Sandrelli F.**, *Gordon Conference-Basic and Traslational Aspects*, Lucca (Italy), 3^{th}-8^{th} *May.*
Antimicrobial peptide-mediated immune response in four *Bombyx mori* strains infected with Gram positive and negative pathogens.

2012 **Woeltje M., Boebel M., Rheinnecker M., Tettamanti G., Franzetti E., Saviane A., Cappellozza S.**, *XI National Biotechnology Congress* , Università dell'Insubria (Italy), 27^{th}-29^{th} *June.*
Viral cathepsin and chitinase are essential for silk gland infection by AcMNPV in permissive *Bombyx mori* (Lepidoptera, Bombycidae) strains.

2012 **Cappellozza S., Saviane A., Toso L.**, *Emerging companies-Meet the innovation*, Roma (Italy), *May.*
Insect based food production: new technologies.

2008 **Cappellozza S., A. Mastella, A. Saviane, E. Schiavon, F. Mutinelli, L. Cappellozza**, *Conferenza internazionale "Sericulture — From tradition to modern biotechnology"*, Cluj-Napoca (Romania), 17^{th}-18^{th} *April.*
Sterilisation physical methods and antibacterial addition to artificial diet for *Bombyx mori* L. (Lepidoptera Bombycidae) affect silk production.

2008 **Palmieri L., Saviane A., Sordo M., Grando S., L. Giongo**, *First Symposium in Horticulture in Europe*, Vienna (Austria), 17^{th}-20^{th} *February.*
The development of SNP markers in *Fragaria vesca* and *Rubus ideaus* and their transferability between the two species.

2008 **Palmieri L., Saviane A., Sordo M., Grando S., L. Giongo**, *First Symposium in Horticulture in Europe*, Wien (Austria), 17^{th}-20^{th} *February.*
The development of SNP markers in *Fragaria vesca* and *Rubus ideaus* and their transferability between the two species.

2008 **Palmieri L., Saviane A., Sordo M., Virzì M., Grando S., L. Giongo**, *VI Strawberry International Symposium*, Huelva (Spagna), 3^{th}-7^{th} *March.*
Characterization of *Fragaria vesca* L. genotypes through phenotyping and through the use of SSR, SCAR, and SNP markers.

2007 **Saviane A., Palmieri L., Sordo M., Grando S., L. Giongo**, *51° SIGA Conference*, Riva del Garda (Italy), *23th-26th September*.
A useful method for the identification of plant genera in fresh fruit juices.

Padua, 28/02/2021

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