



PERSONAL INFORMATION Serrao Aurelio

WORKING EXPERIENCES

Visiting Professor of Immunology and Parasitology and Clinical Diagnostics and molecular applications, Jilin Agricultural University, China
2018- Present

Partner & Advisor, Chemicare Ltd, Novara, Italy. **2017- Present**

- Partner of a start up committed in orphan drugs development against rare genetically diseases.
Co-founder & CEO, Biovecblok Ltd, Camerino (MC), Italy. **2016 - Present**
- Founded the start-up whose goal is to develop natural products against mosquitos' vector of diseases.
- Developed new and innovative strategies able to overcome the limits of currently applied approaches.
Post Doc Fellowship, University of Camerino, Italy. **2015 - Present**
- Winner of a PRIN scholarship for a research project entitled "Role of hormones in mosquito behavior".

EDUCATION

University of Perugia, Ph.D. "Molecular Pathogenesis and immunology of the agents that cause Malaria, AIDS and Tuberculosis" titled "REGULATION OF THE OVIPOSITION BEHAVIOUR IN ANOPHELES GAMBIAE MOSQUITOES", Perugia, Italy. (Prof. Catteruccia laboratory) **2011 – 2014**

- Biomolecular tests to evaluate the role of mosquito neurotransmitters on physiology of the insect, Harvard School of Public Health, Boston. (Prof. Catteruccia laboratory)
2013 - 2014
- Genetic and cellular tests on mosquito hormones, Imperial College, London. (Prof. Catteruccia laboratory) **2012 - 2013**
- Workshop at the CNRS Institut de Biologie Moléculaire et Cellulaire. Strasbourg, France.

2012

University of Perugia, scholarship for a project entitled "Role of mosquito male accessory glands on mosquito biology. (Prof. Catteruccia laboratory) **2010 – 2011**

- Cellular analysis of the accessory glands of the mosquito male, Imperial College, London
2010
University of Perugia, scholarship for a project entitled "Cellular and molecular analysis of *Anopheles* female mosquito reproductive biology". (Prof. Catteruccia laboratory) **2009 – 2010**
- Cellular and molecular analysis of the reproductive apparatus of mosquito females.

University of Perugia, Master's Degree in Biomedical and Molecular Sciences, Perugia, Italy.
2006 –

2008

- **HONORS:** Summa cum laude.

University of Perugia, first-class honours degree in Biological Sciences, Perugia, Italy.

2006 –

2008

PUBLICATIONS

- Mancini M V, Damiani C, Short S M, Cappelli A, Ulissi U, Capone A, Serrao A, Rossi P, Amici A, Kalogris C, Dimopoulos C, Ricci I, Favia G. **2020** *Inhibition of Asaia in Adult Mosquitoes Causes Male-Specific Mortality and Diverse Transcriptome Changes*. **Pathogens-9(5):380. doi: 10.3390/pathogens9050380.**
- Alessia Cappelli, Claudia Damiani, Maria Vittoria Mancini, Matteo Valzano, Paolo Rossi, Aurelio Serrao, Irene Ricci, Guido Favia. *Interactions between Asaia and mosquito immune system: implications in malaria control*. **Frontiers Genetics- accepted DOI:10.3389/fgene.2019.00836.**
- Mancini M V, Damiani C, Accoti A, Tallarita M, Nunzi E, Cappelli A, Bozic J, Catanzani R, Rossi P, Valzano M, **Serrao A**, Ricci I, Spaccapelo R, Favia G. **2018** Estimating bacteria diversity in different organs of nine species of mosquito by next generation sequencing. **BMC Microbiol.- 18(1):126.**
- Gabrieli P, Kakani E G, Mitchell S N, Mameli E, Want E G, Anton A M, **Serrao A**, Baldini F, and Catteruccia F. **2014** *Sexual transfer of the steroid hormone 20E induces the postmating switch in Anopheles gambiae*. **PNAS- 111(46):16353-8.**
- Mancini E, Baldini F, Tammaro F, Calzetta M, **Serrao A**, George P, Morlais I, Masiga D, Sharakhov I V., Rogers D W, Catteruccia F, della Torre A. **2011** *Molecular characterization and evolution of a gene family encoding for male-specific reproductive proteins in the African malaria vector Anopheles gambiae*. **BIOMEDCENTRAL- 11:292. doi: 10.1186/1471-2148-11-292.**
- W.Geremicca, L.Proietto, A.Venturo, **A.Serrao**. *-L'importanza dell' HBC-AB nello screening degli emocomponenti*. **ESA-DIA, ROCHE DIAGNOSTICS, VOL N.18** Liguori A

PATENTS

- **(US10264787)** Natural mosquito larvicide. Damiani Claudia, **Aurelio Serrao**, Matteo Valzano, Vincenzo Cuteri, Riccardo Arigoni (2019)
- **(US20190159466)** Natural mosquito repellent. Matteo Valzano, **Aurelio Serrao**, Claudia Damiani (2019)

SKILLS AND INTERESTS

Skills:-Manual DNA and RNA extraction; PCR; RT-PCR; PCR-RLFP; NESTED-PCR; real-time PCR; synthesis of cDNA; acid nucleic electrophoresis in agarose gel; direct sequencing; purification of PCR and sequencing products; cloning with traditional and expression vectors (GFP), electroporation.

-Excellent use NanoDrop, Stereomicroscope, optical microscope, fluorescence microscope.

-Cell culture in selective culture medium; counting cells using a microscope-counting chamber.

-Protein electrophoresis in acrylamide gel; Western Blot; killer activity assay of toxic proteins; using of monoclonal and polyclonal antibodies.

-Insectary competences: maintenance of several mosquito strains (*Anopheles stephensi*, *An.gambiae*, *Aedes albopictus*, *Ae. aegypti*, *Culex quinquefasciatus* and *Cx.pipiens*), colonization of mosquitoes using wild type and genetically modified bacteria and yeasts.

-Mosquitoes dissection.

-Mosquitoes macro and micro-injections.

-Mosquito in vivo organs transplant operations.

-Embryo injections for transgenic mosquito production.

-Excellent use of Vectorbase, Mozatlas, Flybase, Blast.

-Develop sales planning for own area of responsibility.

-Collaborative enterprise thinking.

-Excellent communication.

-Ability to develop and champion new ideas and approaches and to identify and drive resolution of issues.

-Monitor, measure and report progress against defined execution goals.

Languages:-Italian (native), English (bilingual), Portuguese (basic).