AURELIO SERRAO CV

Aurelio Serrao, Co-Founder & CSO, BIOVECBLOK S.r.l.: Dr. Aurelio Serrao got his master's degrees in 2008 with 110 cum laude at the University of Perugia and he subsequently obtained two fellowships at Prof. Catteruccia's lab to study "*Anopheles* reproductive biology". He got his Ph.D. with a thesis discussing the role of mosquito neurotransmitters on their reproductive behaviour. During his Ph.D., in order to complete his project, he worked at Harvard School of Public Health (Boston) and Imperial College (London). In 2015, he joined the parasitology lab. of Prof. Favia in Camerino (Italy) to study the role of mosquito symbionts as possible candidates for paratransgenesis. In 2016, he founded Biovecblok S.r.l., an academic spin-off whose goal is to develop new strategies and tools to control and reduce mosquito vector population using natural and not toxic compounds for both humans and the environment.

WORK EXPERIENCE

Co-founder and Chief Strategy Officer, Biovecblok S.r.l., Camerino (MC), Italy. **2016 – Present**

- Founded a start-up whose goal is to use natural tools against mosquito-borne diseases.
- Developed innovative and alternative strategies able to overcome the limits of existing ones.
- 3rd place at Global Social Venture Competition, World Final 2017 (Berkley Haas), with the project Atlas, a possible alternative to the use of *Bacillus thuringiensis* against mosquitoes vectors of diseases (10.000$ prize).
- Winner E-Capital 2017 (20.000€ prize).
- Finalist at Startup BioinItaly 2017, with the project Atlas.
- 1st place at Global Social Venture Competition 2017, Italian round, with the project Atlas (10.000€ prize).
- Finalist at PNI 2016 with the project Atlas.
- Winner of special mention at Premio Marzotto 2016 (25.000€ prize).
- 1st place at Start Cup Marche 2016, with the project Atlas (10.000€ prize).
- 1st place at Industry 4.0 competition, Marketplace Ancona.
- Finalist at E-Capital 2016.
- 2nd place at Start Cup Marche 2015, with the project Biovecblok, innovative insecticides (8.000€ prize).

Fellowship, University of Camerino, Italy **2015 – Present**

- Fellowship winner of PRIN grant "Role of hormones in mosquito behaviour, possible target as novel insecticide compounds" Prof. Favia lab.

EDUCATION

University of Perugia, Ph.D. "Molecular Pathogenesis and immunology of the agents that cause Malaria, AIDS and Tuberculosis", Prof. Catteruccia lab, Perugia, Italy. **2011 – 2014**

- Molecular testing of mosquito modulators and analogues compounds on mosquito physiology for fertility and fecundity reduction at Harvard School of Public Health, Boston. (2013-2014)
- Genetic and cellular testing of mosquito hormones as a tool to control mosquito reproductive biology, Imperial College, London. (2012-2013)
- Workshop at CNRS Institut de Biologie Moléculaire et Cellulaire. Strasbourg, France. (2012)

University of Perugia, Fellowship "Role of mosquito male accessory glands on mosquito biology." Prof. Catteruccia lab. **2010 – 2011**

- Cellular analysis of mosquito male accessory glands, Imperial College, London. (2010)

University of Perugia, Fellowship "Cellular and molecular analysis of *Anopheles* female mosquito reproductive biology." Prof. Catteruccia lab. **2009 – 2010**

- Cellular and molecular analysis of female mosquito reproductive organs.

University of Perugia, Stage at Prof. Crisanti lab. **2008 – 2009**

- Cellular study of Toxoplasma biology, at Prof. Crisanti lab.

University of Perugia, master degree in Biomedical and Molecular Science, Perugia, Italy. **2006 – 2008**

- **Honors:** Summa cum laude
- **Thesis Project:** Homologue antibodies and cross reactivity induced after anti-influenzal vaccine compared to B virus from different strains in middle age individuals.
- Working at virology lab of Prof. Iorio on the diagnostic of Flu viruses in patients at different ages. **2007-2008**

University of Perugia, bachelor degree in Biological Science, Perugia, Italy. **2006 – 2008**

- **Thesis Project:** Effects of Cocaine on Central Nervous System.
- Stage at SERT of Crotone, Italy. **2008**
- Stage of diagnostic activity at transfusion center of Ospedale S.Giovanni di Dio, Crotone, Italy. **2004-2005**

PUBBLICATIONS

- **PNAS**-*Sexual transfer of the steroid hormone 20E induces the postmating switch in* Anopheles gambiae.
  Paolo Gabrieli, Evdoxia G. Kakani, Sara N. Mitchell, Enzo Mameli,a Elizabeth J. Want,d Ainhoa Mariezcurrena Anton, **Aurelio Serrao,** Francesco Baldini, and Flaminia Catteruccia.
- **BIOMEDCENTRAL**-*Molecular characterization and evolution of a gene family encoding for male-specific reproductive proteins in the African malaria vector* Anopheles gambiae.
  Emiliano Mancini, Francesco Baldini, Federica Tammaro, Maria Calzetta, **Aurelio Serrao,** Phillip George, Isabelle Morlais, Daniel Masiga, Igor V. Sharakhov, David W. Rogers, Flaminia Catteruccia, Alessandra della Torre.
- **ESA-DIA, ROCHE DIAGNOSTICS, VOL N.18**-*L'importanza dell' HBC-AB nello screaning degli emocomponenti.*
  A.Liguori, W.Geremicca, L.Proietto, A.Venturo, **A.Serrao.**

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).