

## PERSONAL INFORMATION Verena Pichler

Spoken languages Italian, German English, French

## WORK EXPERIENCES

October 2024- ongoing **Researcher Tenure Track**  
Saint Camillus International University of Health Science;  
Via di Sant' Alessandro n.8 – Roma (RM) cap 00131

December 2017- October 2024 **Post-doc researcher (Borsa di studio, Assegno di Ricerca, Researcher RTD-A)**  
Parasitology-Medical Entomology;  
Department of Public Health and Infectious Diseases Università degli studi di 'Sapienza'  
University of Rome  
Piazzale Aldo Moro, 5 Roma

- Genetic and population genomic studies of species of the *Anopheles gambiae* complex as well as species of the genera *Aedes* and *Culex* by application of molecular techniques such as PCR, RealTime-PCR, ddRAD-sequencing and MassArray-Genotyping.
- Study of insecticide resistance phenotypes by performing WHO-BioAssays
- investigation of genotypes underlying the resistance mechanisms by the application of different molecular techniques (RNA-seq, oligo- hybridization capture, PCR genotyping)
- Microscopic, cytological, genetic and genomic analysis species of the *Anopheles gambiae* complex.
- Management and organization of molecular biology, cytogenetics and microscopy laboratories and of insectariums for the breeding of Culicidae, vectors of human and zoonotic pathogens.
- Lecturing and tutoring within the degree courses "Tecnico di laboratorio biomedico," "Ecobiology", "Medicine and Surgery" and the PhD course "Advances In Infectious Diseases, Microbiology, Legal Medicine And Public Health Sciences"

November 2021- April 2022 **Technologist**  
Parasitology-Medical Entomology;  
Department of Public Health and Infectious Diseases Università degli studi di 'Sapienza'  
University of Rome  
Piazzale Aldo Moro, 5 Roma

- Genetic and population genomic studies of species of the *Anopheles gambiae* complex as well as species of the genera *Aedes* and *Culex* by application of molecular techniques such as PCR, RealTime-PCR, ddRAD-sequencing and MassArray-Genotyping.
- Study of insecticide resistance phenotypes by performing WHO-BioAssays
- investigation of genotypes underlying the resistance mechanisms by the application of different molecular techniques (RNA-seq, oligo- hybridization capture, PCR genotyping)
- Microscopic, cytological, genetic and genomic analysis species of the *Anopheles gambiae*

complex.

- Management and organization of molecular biology, cytogenetics and microscopy laboratories and of insectariums for the breeding of Culicidae, vectors of human and zoonotic pathogens.
- Tutoring within the degree courses "Tecnico di laboratorio biomedico", "Ecobiology"

November 2014 – November 2017

PhD in 'Malattie Infettive, Microbiologia e Sanità Pubblica' (Infectious Diseases, Microbiology and Public Health)

Parasitology-Medical Entomology;

Department of Public Health and Infectious Diseases Università degli studi di 'Sapienza' University of Rome

*Piazzale Aldo Moro, 5 Roma*

- Genetic and phenotypic characterization of malaria vectors of the *Anopheles gambiae* complex.
- Genetic and population genomic studies of species of the *Anopheles gambiae* complex as well as species of the genera *Aedes* and *Culex*.
- Analysis of genetic markers such as SNPs and microsatellites by PCR, RealTimePCR and MassArray-SNP-genotyping.
- Whole-genome-SNP-genotyping by double digest Restriction Site-associated DNA Sequencing (ddRAD-seq) and bioinformatic analysis of samples of *Aedes albopictus*
- Performance of WHO-BioAssays to evaluate levels of susceptibility of mosquitoes of the genera *Aedes* and *Culex* to pyrethroids.

1 September 2014 – 31 October 2014 e

Scholarship "Istituto Pasteur- Fondazione Cenci-Bolognetti"- 'Genetic and phenotypic characterization of species and molecular forms of the *Anopheles gambiae* complex (Diptera: Culicidae), afrotropical malaria vector.'

1 September 2012- 1 September 2013

Parasitology-Medical Entomology;

Department of Public Health and Infectious Diseases Università degli studi di 'Sapienza' University of Rome

*Piazzale Aldo Moro, 5 Roma*

- Genetic and phenotypic characterization of malaria vectors of the *Anopheles gambiae* complex (Diptera: Culicidae).

## EDUCATION AND TRAINING

---

19 March 2024 – 20 March 2024

GenEpi-BioTrain Virtual Training 7: Phylogenetics and alignments

European Center for Disease Prevention and Control - Virtual Academy

- Analysis of phylogenetic data and genomic sequence alignment techniques

November 2014 – November 2017

PhD in 'Malattie Infettive, Microbiologia e Sanità Pubblica' (Infectious Diseases, Microbiology and Public Health)

livello QEQ 8

Sapienza University of Rome

Piazzale Aldo Moro, 5 Roma , Italia

- Thesis title: “Genomic and functional study on the Tiger Mosquito, *Aedes albopictus*, in Italy”
- Genetic and population genomic studies of mosquitoes of the Anopheles gambiae complex and of the genera Aedes and Culex.
- Analysis of genetic markers, such as microsatellites and SNPs, by PCR, RealTimePCR, MassArray-SNP-genotyping.
- Whole-genome-SNP-genotyping by double digest Restriction Site-associated DNA Sequencing (ddRAD-seq) and bioinformatic analysis of data obtained.
- WHO-BioAssays to evaluate the susceptibility of mosquitoes to commonly used adulticides.

14 March 2017 – 13 April 2017 [Training regarding ddRAD-sequencing data analysis](#)

Department of Ecology & Evolutionary Biology, Yale University, USA

- Analysis of genomic data obtained via double digest Restriction Site-associated DNA Sequencing (ddRAD-seq)

2-6 May 2016 [NGS for evolutionary biologists: from basic scripting to variant calling](#)

Istituto Italiano di Bioinformatica & Elixir Italy

- NGS data analysis

08-13 May 2016 [Training on MassArray-SNP-genotyping](#)

Wellcome Trust Centre for Human Genetics

University of Oxford, UK

- Training on MASSARRAY-SNP-genotyping

15-29 July 2015 [Formazione e training pratico su saggi TaqMan in RealTime-PCR](#)

Liverpool School of Tropical Medicine

Liverpool, UK

- Formazione e training pratico su saggi TaqMan in RealTime-PCR nell’ambito del progetto AvecNet.

24-26 March 2015 [Practical Course on Molecular Phylogeny and Population Genetics](#)

Dipartimento di Scienza - Università di Roma TRE

Roma , Italia

- Notions on phylogenesis and molecular evolution
- Interpretation and analysis of chromatograms.
- Population genetics and analysis of genetic data

July 2014 [Laurea Magistrale \(Master’s degree\) in ‘Genetica e Biologia Molecolare nella Ricerca di Base e Biomedica’ \(Genetics and Molecular Biology applied to Basic and Biomedical Research\), 110 e lode/110 \(magna cum laude\)](#)

[livello QEQ 7](#)

Sapienza University of Rome

Piazzale Aldo Moro, 5 Roma , Italia

- Thesis: ‘Analisi di divergenza genetica di Anopheles gambiae e Anopheles coluzzii (Diptera: Culicidae) in una zona geografica di contatto ed ibridazione.

July 2012 Laurea Triennale (Bachelor’s degree) in ‘Scienze Biologiche’ (Biology), 110 e lode/110 (magna cum laude) livello QEQ 6  
 Sapienza University of Rome  
 Piazzale Aldo Moro, 5 Roma , Italia  
 ▪ Thesis: Speciation and hybridization within *Anopheles gambiae* s.s. (Diptera: Culicidae) in Guinea Bissau s.s. .

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE (S) German, Italian

Altre lingue

Inglese  
 Francese

UNDERSTANDING		SPEAKING		WRITING
hearing	reading	interaction	talking	
C2	C2	C2	C2	C2
B1	B1	B1	B1	A1

Altre competenze personali

- Good communication skills acquired during scientific collaborations, in the laboratory and during training activities with students
- Excellent organizational and management skills acquired during the years of work in the laboratory.
- Independent organization of the laboratory and the activities that take place there.
- Good ability to work independently.
- Driving license: B

SCIENTIFIC ACTIVITIES:

Papers [international] 21 ( SCOPUS; 2016-2024)  
 Total Impact factor (in relazione all’anno di pubblicazione) 84,12  
 Impact factor medio (in relazione all’anno di pubblicazione) 4  
 Total citations 339  
 Mean number of citations 16,1  
 Hirsch (H) index 10  
 Normalized H index\* 1,25  
 (\*H index divided by the academic seniority)

**Publications:** - The last bastion? X-chromosome genotyping of *Anopheles gambiae* species-pair males from a hybrid zone reveals complex recombination within the major candidate ‘genomic island of speciation’  
 Molecular Ecology (2016) 25, 5719–5731 ; doi: 10.1111/mec.13840

B. Caputo, V. Pichler, E. Mancini, M. Pombi, J. L. Vicente, J. Dinis, K. Steen, V. Petrarca, A. Rodrigues, J. Pinto, A. della Torre, D. Weetman.

Population genomics of the Asian tiger mosquito, *Aedes albopictus*: insights into the recent worldwide invasion

Ecology and Evolution (2017) 1–15.; doi: 10.1002/ece3.3514

P. Kotsakiozi, J. B. Richardson, V. Pichler, G. Favia, A. J. Martins, S. Urbanelli, P.A. Armbruster, A. Caccone.

First evidence of resistance to pyrethroid insecticides in Italian *Aedes albopictus* populations 26 years after invasion

Pest Management Science (2017) doi: 10.1002/ps.4840

V. Pichler, R. Bellini, R. Veronesi, D. Arnoldi, A. Rizzoli, R. P. Lia, D. Otranto, F. Montarsi, S. Carlin, M. Ballardini, E. Antognini, M. Salvemini, E. Brianti, G. Gaglio, M. Manica, P. Cobre, P. Serini, E. Velo, J. Vontas, I.Kiououlos, J. Pinto, A. della Torre, B. Caputo

Unexpectedly high Plasmodium sporozoite rate associated with low human blood index in *Anopheles coluzzii* from a LLIN-protected village in Burkina Faso.

Sci Reports (2018)doi: 10.1038/s41598-018-31117-x.

Pombi M, Calzetta M, Guelbeogo WM, Manica M, Perugini E, Pichler V, Mancini E, Sagnon N, Ranson H, Della Torre A.

- First detection of a Vssc allele V1016G conferring a high level of insecticide resistance in *Aedes albopictus* collected from Europe (Italy) and Asia (Vietnam), 2016: a new emerging threat to controlling arboviral diseases.

Euro Surveillance (2019) doi: 10.2807/1560-7917

Kasai S, Caputo B, Tsunoda T, Cuong TC, Maekawa Y, Lam-Phua SG, Pichler V, Itokawa K, Murota K, Komagata O, Yoshida C, Chung HH, Bellini R, Tsuda Y, Teng HJ, Filho JLL, Alves LC, Ng LC, Minakawa N, Yen NT, Phong TV, Sawabe K, Tomita T.

- Phenotypic and genotypic pyrethroid resistance of *Aedes albopictus*, with focus on the 2017 chikungunya outbreak in Italy.

Pest Management Science (2019) doi: 10.1002/ps.5369

Pichler V, Malandrucolo C, Serini P, Bellini R, Severini F, Toma L, Di Luca M, Montarsi F, Ballardini M, Manica M, Petrarca V, Vontas J, Kasai S, Della Torre A, Caputo B.

- Complex interplay of evolutionary forces shaping population genomic structure of invasive *Aedes albopictus* in southern Europe.

PLoS Neglected Tropical Diseases (2019) doi: 10.1371/journal.pntd.0007554

Pichler V, Kotsakiozi P, Caputo B, Serini P, Caccone A, Della Torre A.

- A bacterium against the tiger: preliminary evidence of fertility reduction after release of *Aedes albopictus* males with manipulated Wolbachia infection in an Italian urban area.

Pest Management Science (2020) doi:10.1002/ps.5643.

Caputo B, Moretti R, Manica M, Serini P, Lampazzi E, Bonanni M, Fabbri G, Pichler V, Della Torre A, Calvitti M.

- Highly specific PCR-RFLP assays for karyotyping the widespread 2Rb inversion in malaria vectors of the *Anopheles gambiae* complex.

Parasite & Vectors (2020) doi: 10.1186/s13071-019-3877-x.

Montanez-Gonzalez R, Pichler V, Calzetta M, Love RR, Vallera A, Schaecher L, Caputo B, Pombi M, Petrarca V, Della Torre A, Besansky NJ.

- Behavioural plasticity of *Anopheles coluzzii* and *Anopheles arabiensis* undermines LLIN

- community protective effect in a Sudanese-savannah village in Burkina Faso.  
*Parasite & Vectors* (2020) doi: 10.1186/s13071-020-04142-x.  
Perugini E, Guelbeogo WM, Calzetta M, Manzi S, Virgillito C, Caputo B, Pichler V, Ranson H, Sagnon N, Della Torre A, Pombi M.
- A novel Allele Specific polymerase chain reaction (AS-PCR) assay to detect the V1016G knockdown resistance mutation confirms its widespread presence in *Aedes albopictus* populations from Italy. *Insects* (2021) doi: 10.3390/insects12010079.  
Pichler V, Mancini E, Micocci M, Calzetta M, Arnoldi D, Rizzoli A, Lencioni V, Paoli F, Bellini R, Veronesi R, Martini S, Drago A, De Liberato C, Ermenegildi A, Pinto J, Della Torre A, Caputo B.
- Novel genotyping approaches to easily detect genomic admixture between the major Afrotropical malaria vector species, *Anopheles coluzzii* and *An. gambiae*.  
*Molecular Ecology Resources* (2021) doi: 10.1111/1755-0998.13359.  
Caputo B, Pichler V, Bottà G, De Marco C, Hubbart C, Perugini E, Pinto J, Rockett KA, Miles A, Della Torre A.
- A PCR-RFLP method for genotyping of inversion 2Rc in *Anopheles coluzzii*  
*Parasite & Vectors* (2021) doi: 10.1186/s13071-021-04657-x  
N Besansky; R Montanez-Gonzalez; A C Vallera; M Calzetta; V Pichler; R R. Love; M W. Guelbeogo; R K. Dabire; M Pombi; C Costantini; F Simard; A della Torre
- Entomological Survey Confirms Changes in Mosquito Composition and Abundance in Senegal and Reveals Discrepancies among Results by Different Host-Seeking Female Traps.  
*Insects* (2021) doi: 10.3390/insects12080692.  
Ngom EHM, Virgillito C, Manica M, Rosà R, Pichler V, Sarleti N, Kassé I, Diallo M, Della Torre A, Dia I, Caputo B.
- Is Côte D'Ivoire a new high hybridization zone for the two major malaria vectors, *Anopheles coluzzii* and *An. gambiae* (Diptera, Culicidae)?  
*Infection, genetics and evolution* (2022) doi: 10.1016/j.meegid.2022.105215.  
Caputo B, Tondossoma N, Virgillito C, Pichler V, Serini P, Calzetta M, Manica M, Coulibaly ZI, Dia I, Akéré M, Offianan A, Della Torre A.
- First evidence of pyrethroid resistance in Italian populations of West Nile virus vector *Culex pipiens*.  
*Medical and Veterinary Entomology* (2022) doi: 10.1111/mve.12573  
Pichler V, Giammarioli C, Bellini R, Veronesi R, Arnoldi D, Rizzoli A, Lia RP, Otranto D, Ballardini M, Cobre P, Serini P, Della Torre A, Caputo B.
- Geographic distribution of the V1016G knockdown resistance mutation in *Aedes albopictus*: a warning bell for Europe  
*Parasites & Vectors* (2022) 15:280 <https://doi.org/10.1186/s13071-022-05407-3>  
Pichler V, Caputo B, Valadas V, Micocci M, Horvath C, Virgillito C, Akiner M, Balatsos G, Bender C, Besnard G, Bravo-Barriga D, Bueno-Mari R, Collantes F, Delacour-Estrella S, Dikolli E, Falcuta E, Flacio E, García-Pérez A.L, Kalan K, Kavran M, L'Ambert G, Lia R.P, Marabuto E, Medialdea R, Melero-Alcibar R, Michaelakis A, Mihalca A, Mikov O, Miranda MA, Müller P, Otranto D, Pajovic I, Petric D, Rebelo MT, Robert V, Rogozi E, Tello A, Zitko T, Schaffner F, Pinto J, della Torre A.
- Tondossama et al. 2022. High Levels of Admixture in *Anopheles gambiae* Populations from Côte d'Ivoire Revealed by Multilocus Genotyping. *Insects*. 2022 Nov 26;13(12):1090. doi: 10.3390/insects13121090.
- Caputo et al. 2023. A bacterium against the tiger. Further evidence of the potential of noninundative

releases of males with manipulated wolbachia infection in reducing fertility of *Aedes albopictus* field populations in Italy. *Pest Management Science* 2023 Sep;79(9):3167-3176. doi: 10.1002/ps.7495

-Tondossama et al. 2023. A high proportion of malaria vector biting and resting indoors despite extensive LLIN coverage in Côte d'Ivoire. *Insects*. 2023 Sep 12;14(9):758. doi: 10.3390/insects14090758.

-Pichler et al.2023. A novel tetra-primer ARMS-PCR approach for the molecular karyotyping of chromosomal inversion 2Ru in the main malaria vectors *Anopheles gambiae* and *Anopheles coluzzii*. *Parasites & Vectors* 2023 Oct 27;16(1):388. doi: 10.1186/s13071-023-06014-6.

-Perugini et al. 2024. Longitudinal survey of insecticide resistance in a village of Central Region of Burkina Faso reveals co-occurrence of 1014F, 1014S and 402L mutations in *Anopheles coluzzii* and *Anopheles arabiensis*" *Malar J* 23, 250 (2024). <https://doi.org/10.1186/s12936-024-05069-9>

-Mayi et al. 2024. "First detection of kdr L1014F allele in *An. ziemanni* and *An. pharoensis* in Cameroon and distribution of the allele in members of the *An. gambiae* complex" *Parasites Vectors* 17, 363 (2024). <https://doi.org/10.1186/s13071-024-06420-4>

-Pichler et al. 2024. Unbiased sequence analysis of *vgsc* gene reveals circulation of novel and known knock-down-resistance mutations in *Culex pipiens*, challenging vector control measures" *Journal of Pest Science* 2024, doi:10.1007/s10340-024-01818-6.

#### Participation at national and international meetings

-2024: XXXIII Congresso Nazionale della Società Italiana di Parassitologia (Padova, 18-21 giugno 2024)

V. Pichler, K. Itokawa, M. Salvemini, B. Caputo, C.M. de Marco, P. Serini, R. Bellini, R. Veronesi, C. De Liberato, F. Romiti, D. Arnoldi, A. Rizzoli, RP. Lia, D. Otranto, A. Michaelakis, M. Bisia, N. Minakawa, S. Kasai, A. della Torre

Presentazione orale: First characterization of pyrethroid resistance mechanisms in European populations of the main West Nile vector, *Culex pipiens*

-2023: 2nd Meeting INF-ACT RN2 PE13 – RESEARCH NODE2 Arthropod Vectors and Vector-Borne Diseases (30 September - 1 October 2023 Bertinoro)

Verena Pichler, Beniamino Caputo, Paola Serini, Romeo Bellini, Rodolfo Veronesi, Claudio De Liberato, Federico Romiti, Daniele Arnoldi, Annapaola Rizzoli, Riccardo P. Lia, Domenico Otranto, Alessandra della Torre

Poster: Investigation of pyrethroid resistance mechanisms in *Aedes albopictus* and *Culex pipiens*

-“ Mosquito-a vector challenge for public health in North Macedonia and beyond “ meeting (Skopje 25-26/01/2023)

V Pichler

Invited speaker: Determination and analysis of resistance to biocides in mosquito vectors

-2023 EMCA (7-10/11/2023, Palma de Mallorca)

V. Pichler, K. Itokawa, M. Salvemini, B. Caputo, C.M. de Marco, P. Serini, R. Bellini, R. Veronesi, C. De Liberato, F. Romiti, D. Arnoldi, A. Rizzoli, RP. Lia, D. Otranto, A. Michaelakis, M. Bisia, N. Minakawa, S. Kasai, A. della Torre

Presentazione orale: First characterization of knock-down-resistance mutations within the *vgsc* gene in *Culex pipiens*

-2022- XXXII Congresso Nazionale della Società Italiana di Parassitologia

(Napoli, 27-30 giugno 2022)

Verena Pichler, Martina Micocci, Chiara Virgillito, Paola Serini, Alessandra della Torre, Beniamino Caputo

Evidence of pyrethroid resistance in two main European mosquito vector species, *Aedes albopictus* and *Culex pipiens*

-2021: 1ST Women in Malaria Conference (22/03/2021-23/03/2021 online)

Verena Pichler, Beniamino Caputo, Carlo De Marco, Eleonora Perugini, Alessandra della Torre

Poster: Novel genotyping tools highlight different patterns of genomic admixture between the Afrotropical malaria vector species, *Anopheles coluzzii* and *An. gambiae*

-3rd AIM-COST Annual Conference (Istanbul, 2-3 September 2021):

V Pichler, V Valadas, C Horvath, M Micocci, AIM-COST network members, ARBOMONITOR Project contributors, F Schaffner, B Caputo, J Pinto, A della Torre

Invited speaker: Novel PCR-based genotyping approach allows to map the spread of pyrethroid resistance in *Aedes albopictus* across Europe

-Soipa 16-19 giugno 2021 XXXI Congresso SoIPa/2021 ESDA

V Pichler, C. Giammarioli, R Bellini, R Veronesi, D Arnoldi, A Rizzoli, R P Lia, D Otranto, M Ballardini, P Cobre, P Serini, A della Torre, and B Caputo

Presentazione orale: First evidence of pyrethroid resistance in West Nile Virus vector, *Culex pipiens*, across Italy

-XI European Congress of Entomology (Napoli, 2-6 Luglio 2018):

Pichler Verena, Kotsakiozi Panayiota, Caputo Beniamino, Caccone Gisella, della Torre Alessandra

Poster: Genomic insights on the biogeography of the tiger mosquito, *Aedes albopictus*, in Italy

-XI European Congress of Entomology (Napoli, 2-6 Luglio 2018):

Pichler Verena, Malandrucolo Chiara, Bellini Romeo, Arnoldi Daniele, Rizzoli Annapaola, Severini Francesco, Toma Luciano, Di Luca Marco, Lia Riccardo Paolo, Otranto Domenico, Montarsi Fabrizio, Carlin Sara Ballardini Marco, Pautasso Alessandra, Triglia Giorgia, Serini Paola, della Torre Alessandra, Caputo Beniamino

Presentazione orale: Pyrethroid susceptibility status of *Aedes albopictus* and *Culex pipiens* populations across Italy

-7° Congresso della Società Italiana di Biologia Evoluzionistica (Roma, 28-31 agosto 2017):

Pichler Verena, Kotzakiotzi Panagiota, Caputo Beniamino, Caccone Gisella, Alessandra della Torre

Presentazione orale: Genomic insights on the biogeography of the Tiger Mosquito, *Aedes albopictus*, in Italy

-EMBO-Conference: Molecular and population biology of mosquitoes and other disease vectors - Current, resurgent and emerging diseases (Kolybari, Greece 24 – 29 July 2015)

Pichler Verena, Kotzakiotzi Panagiota, Caccone Gisella, Caputo Beniamino, Alessandra della Torre. Genomic and functional study on *Aedes albopictus* in Italy

- PhD Day - Infectious Diseases, Microbiology and Public Health: Interdisciplinary approaches in Health Sciences: a bridge to the future (Roma, 5 giugno 2017)

Pichler Verena, Kotzakiotzi Panagiota, Beniamino Caputo, Gisella Caccone Alessandra della Torre

Presentazione orale: Genomic and functional study on *Aedes albopictus* in Italy

- Annual Meeting of the Italian Malaria Network

(Rome 19th- 20th January 2017)

Verena Pichler, Marco Pombi, Wamdaogo M Guelbeogo, N'Fale Sagnon, Amy Lynd, Hilary Ranson, Beniamino Caputo, Alessandra della Torre



Poster: Temporal Study of Gene Flow and Insecticide Resistance in the Two Major Sub-Saharan Malaria Vectors in Burkina Faso.

-Giornate culturali della Società Entomologica Italiana e Accademia Nazionale Italiana di Entomologia (Firenze, Italia 17 - 18 novembre 2016)

Pichler Verena

Invited speaker: Nuove prospettive genomiche nello studio di zone di ibridazione tra i principali vettori afrotropicali di malaria del complesso *Anopheles gambiae*

-LEXEM meeting: Facing The Invasion Of Alien Arthropods Species: Ecology, Modelling And Control Of Their Economic Impact And Public Health Implications” (Trento, Italia 7-9 novembre 2016)

Pichler Verena, Manica Mattia, Cobre Pietro, Pinto Joao, della Torre Alessandra, Caputo Beniamino.

Presentazione orale: Susceptibility of Italian *Aedes albopictus* and *Culex pipiens* populations to insecticides most widely used in interventions against adult mosquitoes.

- XXIX CONGRESS of Soipa & European Veterinary Parasitology College: Parasites, Poverty and Social commitment

(Bari, 21-24 giugno, 2016)

Pichler Verena, Manica Mattia, Cobre Pietro, della Torre Alessandra, Pinto Joao, Caputo Beniamino.

Presentazione orale: A preliminary assessment of the insecticide resistance status of *Aedes albopictus* and *Culex pipiens* populations from Rome.

- VII Seminario di studio. Salute globale e scenari attuali: nuovi contributi di ricerca Istituto Superiore Sanità. (Roma, 1 giugno 2016)

Pichler V, Pombi M, Guelbeogo WM, Sagnon N, Ranson H, della Torre A, Caputo B.

Poster: Studio Temporale Del Flusso Genico E Della Resistenza Agli Insetticidi Nei Due Principali Vettori Afrotropicali Di Malaria In Una Zona Di Simpatia Del Burkina Faso.

- VI Seminario di studio. Salute globale e scenari attuali: nuovi contributi di ricerca Istituto Superiore Sanità. (Roma, 16 aprile 2015)

Studio del differenziamento genomico e flusso genico tra i principali vettori afrotropicali di malaria all'estremo occidentale del loro areale di distribuzione e valutazione dell'impatto sulla trasmissione di *Plasmodium falciparum*.

Pichler V, Caputo B, della Torre A.

-63rd Annual Meeting of The American Society of Tropical Medicine and Hygiene (New Orleans, 2-6 novembre 2014):

Beniamino Caputo, Verena Pichler, Emiliano Mancini, Marco Pombi, José Vicente, Amabelia Rodrigues, Joao Dinis, Vincenzo Petrarca, Joao Pinto, Alessandra della Torre, David Weetman.

X-chromosome localized recombination hotspots undermine existing molecular diagnosis of *Anopheles gambiae* vs. *An. coluzzii* under high hybridization

-XXVIII Congresso Nazionale SoIPa (Roma 24-27 giugno 2014):

Pichler V., Weetman D., Mancini E., Pombi M., Vicente J., Rodrigues A., Dinis J., Petrarca V., Pinto J., Della Torre A., Caputo B.

First evidence of recombination in the X-chromosome centromeric region of the Malaria mosquitoes *Anopheles gambiae* and *An. coluzzii*

(Diptera: Culicidae)

- Genomic Epidemiology of Malaria 2014 (Wellcome Trust Genome Campus Hinxton, Cambridge UK; 8-11 giugno 2014):

Beniamino Caputo, Verena Pichler, Emiliano Mancini, Marco Pombi, José Vicente, Amabelia Rodrigues, Joao Dinis, Vincenzo Petrarca, Joao Pinto, Ale della Torre, David Weetman.

Does hybridization promote degradation of the chromosome-X island of genomic divergence between *Anopheles gambiae* and *An. coluzzii*?

-5th Congress of the 2013 ITALIAN SOCIETY FOR EVOLUTIONARY BIOLOGY 'EVOLUZIONE' (Trento, 28-31 agosto 2013):

Pichler V, Weetman D, Mancini E, Pombi M, Vicente J, Rodrigues A, Pinto J, della Torre A, Caputo B.

Presentazione orale: Evidence of recombination on the "speciation island" X-chromosome centromeric region between the malaria mosquitoes *Anopheles gambiae* and *An. coluzzii*

#### Projects as Principal Investigator

Funding by Sapienza University "Avvio alla Ricerca - anno 2022 "

Project: "Investigation on metabolic pyrethroid resistance mechanisms in Italian populations of West Nile virus vector *Culex pipiens* (Diptera)"

BE-FOR-ERC 2021 by Sapienza University

Project: "TIRECX: Tackling the gap of knowledge on insecticide resistance in the main West Nile vector in Europe, *Culex pipiens*".

Funding by Sapienza University "Avvio alla Ricerca 2016"

Project: "Studio temporale della resistenza agli insetticidi e del flusso genico nei vettori afrotropicali di malaria del complesso *Anopheles gambiae* in una zona di simpatia del Burkina Faso." (2016-2017)

Proponente.

Infravec project: "IRMIA: Insecticide resistance monitoring in Italian *Aedes albopictus* populations" (2021)

#### Participation in projects

Project PNRR: PE0000007- ONE HEALTH BASIC AND TRANSLATIONAL RESEARCH ACTIONS (INF-ACT)

Member in RN2-WP2 e WP3

Project PRIN 2020: Prot. 2020XYBN88: "TACKLING MOSQUITOES IN ITALY: FROM CITIZEN TO BENCH AND BACK" PI: Prof. Alessandra della Torre, Sapienza Università di Roma.

Project NIH 2016 "Empowering functional genomics of *An. gambiae* through inversion genotyping"; (2016-2021) Co-PI: Prof. Alessandra della Torre, Sapienza Università di Roma  
Partecipante

Project ACIP "EXploring the hidden GENomic diversity of *An. gambiae* and *An. coluzzii* species pair to account for spatial differences in MALaria transmission (ExGenMal)" PI: Prof. Beniamino Caputo, Sapienza Università di Roma  
(2017-2019)

Project Open Call Collection OC-2017-1 Proposal Reference OC-2017-1-22105: "*Aedes* Invasive Mosquitoes (AIM) COST ACTION"; Website: <https://www.aedescost.eu/>; PI: Prof. Alessandra della Torre, Sapienza Università di Roma; 2018-2022

Project Medi Ateneo 2020: "At the forefront of research on patterns of species formation: the case of the two major incompletely-isolated Afro-tropical malaria vector species and of their adaptation to anthropogenic habitats"; PI: Prof. Alessandra della Torre, Sapienza Università di Roma.

Project Medi Ateneo 2019 – Sapienza Università di Roma – “Improving knowledge on malaria vector epidemiology after Long Lasting Insecticide Nets (LLINs) distribution in Burkina Faso 2019”  
- PI: Prof. Marco Pombi Sapienza Università di Roma

Partecipante

Project Ateneo 2017 “Enhancing preparedness to public health risks and economic burden associated to invasive mosquitoes in Italy”; PI: Prof. Alessandra della Torre, Sapienza Università di Roma

Project Ateneo 2015 “From population genomics to speciation: the case of malaria vector species of the *Anopheles gambiae* complex”. PI: Prof. Alessandra della Torre, Sapienza Università di Roma

Project Europeo AvecNet (African Vector Control: New Tools) PI: Prof. Alessandra della Torre, Sapienza Università di Roma  
(2011-2016)

Project “FUTURO IN RICERCA – 2010” del MIUR “Ruolo delle barriere riproduttive in un caso emblematico di speciazione incipiente  
(2012-2017)

## ACKNOWLEDGMENTS

Winner of “Premio Giovani 2018”

Department of Public Health and Infectious Diseases, Sapienza University-Rome

## Other academic appointments

Member of the Italian Society of Parasitology (SoIpa: Società Italiana di Parassitologia)

Organization of meetings:

- 8th BeMM (Biology and Molecular Medicine) Symposium (Roma, 20 November 2017)
- PhD Day - Infectious Diseases, Microbiology and Public Health: Interdisciplinary approaches in Health Sciences: a bridge to the future (Roma, 5 giugno 2017)
- VII Seminario di studio. Salute globale e scenari attuali: nuovi contributi di ricerca Istituto Superiore Sanità. (Roma, 1 giugno 2016)

Reviewer for several scientific journal including: Medical and Veterinary Entomology, Insects, Parasites & Vectors, Infectious Diseases of Poverty, PLoS NTD, BMC Genetics, Genes, Pesticide Biochemistry and Physiology, Evolutionary Applications, Molecules.

Associate Editor for Medical & Veterinary Entomology since april 2023

## LECTURING:

Seminars within the following courses: seminariale nell’ambito dei seguenti corsi:

- modulo di Parassitologia del C.I. Microbiologia del corso di laurea in Medicina e Chirurgia "C" - Roma Azienda Policlinico Umberto I (Università di Roma, Sapienza, dall’ AA 2023/2024)
- modulo di Parassitologia del C.I. “Microbiologia” Corso di Laurea Magistrale in Medicina e Chirurgia (CL-B; Università di Roma, Sapienza, dall’AA 2021/2022)
- modulo di Parassitologia Molecolare del C.I. di Virologia e Parassitologia

Molecolari, Corso di Laurea Specialistica in Biotecnologie Mediche (Università di Roma, Sapienza, dall'AA 2021/2022)

- Corso di Ecologia e biologia evolutiva dei parassiti umani e zoonotici, Corso di laurea magistrale Ecobiologia (Università di Roma, Sapienza, dall'AA 2022/2023)
- Progetto ERASMUS+ "Mosquitos- a vector challenge for public health in North Macedonia and beyond" (2023)

teaching support activities within the following courses:

- Corso di laurea Tecniche di laboratorio biomedico, modulo di Parassitologia Diagnostica del C.I. "Microbiologia", (Corso di laurea E - Regione Molise- IRCCS Neuromed Pozzilli- IRCCS Neuromed Pozzilli; Università di Roma, Sapienza, dal AA 2021/2022)
- Corso di laurea Tecniche di laboratorio biomedico, modulo di Parassitologia Diagnostica del C.I. "Microbiologia" (Corso di laurea C - ASL Latina, Università di Roma, Sapienza, dall'AA 2020/2021)
- Corso di laurea magistrale "Ecobiologia", Corso di Ecologia e biologia evolutiva dei parassiti umani e zoonotici (Facoltà MMFFNN – Università di Roma, Sapienza, dall'AA 2022/2023)

Tutoring and student supervision within the following courses:

- Corso di Dottorato "Advances In Infectious Diseases, Microbiology, Legal Medicine And Public Health Sciences"
- Laurea magistrale "Ecobiologia" (Facoltà MMFFNN – Università di Roma, Sapienza)
- Laurea triennale "Tecniche di laboratorio biomedico" (Facoltà Medicina e Odontoiatria, Farmacia e Medicina, Università di Roma, Sapienza)
- Progetto Erasmus+ (Università di Roma, Sapienza in collaborazione con Benaki Phytopathological Institute, Athens, Greece)

**Career breaks** Maternity leave from 12/01/2019 until 12/06/2019

La sottoscritta autorizza al trattamento dei dati e alla pubblicazione del *curriculum vitae* sul sito istituzionale dell'Ateneo, nelle modalità e per la durata prevista dal d.lgs. n. 33/2013, art. 15.

Roma, 14/10/2024