

Maria Vittoria Mancini, PhD

mariavittoria.mancini@unipv.com

EDUCATION

2013 – 2017

PhD in Life and Health Sciences - One Health

Evaluation: Excellent

School of Biological Science and Veterinary Medicine, University of Camerino, Italy

Doctoral thesis: “Bacterial symbiosis in mosquitoes: contribution to host biology and vector control”

Supervisor: Prof. Guido Favia

2015 – 2017

Subject Expert (Cultore della Materia)

School of Biological Science and Veterinary Medicine, University of Camerino, Italy for teaching Food Microbiology and Parasitology (LBN)

2011 - 2013

MSc in Molecular Diagnostic and Biotechnology

110/110 with honours

School of Biological Science and Veterinary Medicine, University of Camerino, Italy

Master thesis in Molecular Parasitology: “Regulation of *Asaia* homeostasis in the gut of *Anopheles* mosquitoes”

2008 - 2011

BSc in Biotechnology

110/110 with honours

School of Biological Science and Veterinary Medicine, University of Camerino, Italy

Report in Molecular and Cellular Biology “Master Cell Bank and Working Cell Bank: characterization and regulatory perspectives”

EMPLOYMENT

October 2022- present

Ricercatore RTD-B | Università di Pavia | Pavia (Italy)

November 2020 – June 2022

Senior Researcher | Polo d’Innovazione Genomica Genetica e Biologia | Terni (Italy)

Bill and Melinda Gates Foundation: Target Malaria Consortium

November 2020 – Present

Affiliated Research Associate | MRC- University of Glasgow- Centre for Virus Research | Glasgow (UK)

April 2018 - November 2020

Research Associate | MRC- University of Glasgow- Centre for Virus Research | Glasgow (UK)

Wellcome Trust

February 2017 – April 2018

Research Assistant | MRC- University of Glasgow- Centre for Virus Research | Glasgow (UK)

Wellcome Trust

VISITING PERIODS AND INTERNSHIPS

August 2018 | **Visiting researcher at the Institute of Medical Research, Kuala Lumpur, Malaysia**

February- December 2016 | **Visiting researcher at University of Sao Paulo State (UNESP) Botucatu, Brazil**

April 2014- July 2015 | **Visiting student at University of Perugia, Italy**

May-October 2013 | **Internship at Imperial College of London, UK**

AWARDS/GRANTS

2021 | Principal Investigator of the ANTI-VeC African Anopheles Symbiont Survey “Establishment of stable MB-carrying *Anopheles* lines and population studies in large cages” (1 year- 46000£)

2021 | PI of the Infravec2 Grant “ Vector competence of *Wolbachia*-carrying mosquitoes in a novel genetic background (No. 7911)

2019 | Travel bursary to attend the ANTI-VeC Network Annual UK meeting, London 21- 22 June 2019

2019 | PI of the Infravec2 Grant “The effect of different *Wolbachia* strains on the natural microbiota of *Ae. aegypti* and *Ae. albopictus*” (No. 5057)

2018 | Co-Investigator of the Project (AV/PP0025/1) Effects of co-infection of *Wolbachia* and the entomopathogenic fungus *Metarhizium pingshaense* in *Aedes aegypti* for the scheme ANTI-VeC Pump-Priming (4 years- 66000£)

2018 | PI of the Infravec2 Grant No.4387 “Evaluation of the natural bacterial diversity of field caught *Ae. aegypti* infected with *Wolbachia*”

2015 | Grant for young scientists “Avvio alla Ricerca” from the Italian National Society of Parasitology (SoIPa) (2 years - 4000€)

TEACHING AND SUPERVISION OF STUDENTS

2020 | **Scientific advisor** for the ANTI-VeC Programme “Training and Collaboration Award”

2018 | **Institute of Medical Research (Kuala Lumpur, Malaysia)**

2017-2020 | **MRC-University of Glasgow Centre for Virus Research (UK)**

2016 | **University of Sao Paulo State (Brazil)**

2014-2017 | **University of Camerino (Italy)**

EDITORIAL AND REFEREEING ACTIVITIES

- Topic Editor of Insects (MPDI)
- Review Editor on the Editorial Board for Computational Genomics (Frontiers in Genetics)
- Review Editor on the Editorial Board for Vector Biology (Frontiers in Tropical Diseases)
- Reviewer for PLoS group journals, Scientific Reports, Frontiers in Microbiology/ Vector Biology/Bioengineering, International Journal of Insect Science, Insects, Trials

CONTRIBUTIONS TO MEETINGS AND CONFERENCES

Mancini Maria Vittoria; Usefulness and limitations of a gene drive approach to vector-borne diseases control, Gene Drive Webinar Series ISAAA (International Service for the Acquisition of Agri-biotech Applications) 8 July 2021 (Expert invited speaker)

Mancini Maria Vittoria, Ant Thomas, Herd Christie, Murdochy Shivan, Steven P. Sinkins; *Wolbachia* for vector control and the impact of environmental factors, Annual meeting of the American Entomological Society, 15-18 November 2020 (Invited speaker)

Mancini Maria Vittoria, Herd Christie, Ant Thomas, Sinkins Steven; *Wolbachia* strain wAu efficiently blocks arbovirus transmission in *Aedes albopictus*, AntiVec Annual Meeting, Imperial College London, UK, 20-21 June 2019 (poster)

Mancini Maria Vittoria, Herd Christie, Ant Thomas, Sinkins Steven; *Wolbachia* strain wAu efficiently blocks arbovirus transmission in *Aedes albopictus*, Mosquito Kolymbari Meeting, Crete, Greece, 22-26 July 2019 (poster)

Maria Vittoria, Mancini, Herd Christie, Ant Thomas, Sinkins Steven; Natural temperature effects on different *Wolbachia* infections in *Ae. aegypti*, European Conference of Entomology, Naples, Italy, 2-6 July 2018 (Invited speaker)

Maria Vittoria Mancini, Herd Christie; Ant Thomas, Sinkins, Steven; Effects of natural temperature regimes on different *Wolbachia* infections in *Ae. aegypti*, “Insect Endosymbiont” and “Insect Infection and Immunity” symposia, Royal Entomological Society meeting, Liverpool, 21-22 March 2018 (Invited speaker)

Maria Vittoria Mancini; The mosquito microbiota: -OMICS insights and field applications. Italian Malaria Network Meeting, Istituto Superiore di Sanità, Rome, Italy; 19-21 January 2017

Maria Vittoria Mancini, Claudia Damiani, Guido Favia; Insights into the Bacterial Microbiota Components of Vectors Circulating in Marche Region, Italy; International Conference "Facing the Invasion of alien arthropod species: ecology, modelling and control of their economic impact and public health implications", Trento, Italy; 7-9 November 2016.

Maria Vittoria Mancini, Roberta Spaccapelo, Claudia Damiani, Alessia Cappelli, Aida Capone, Paolo Rossi, Matteo Valzano, Anastasia Accoti, Luca Facchinelli, Aurelio Serrao, Irene Ricci, Guido Favia; Paratransgenesis to control mosquito-borne diseases: from bench to field, XXIX SoIPa Conference, 21-24 June 2016, Bari, Italy

MEMBERSHIPS AND OUTREACH ACTIVITIES

Memberships and International Consortia

Ordine Nazionale dei Biologi
ISARIC 4C (Coronavirus Clinical Characterization Consortium)
SOIPA, Italian Society of Parasitology
Italian Malaria Network
American Entomological Society

Public Engagement and outreach activities

Medical Research Scotland | “Meet the Scientist Showcase” Science Centre Glasgow, UK, 13 March 2018
Middle of Scotland Science Festival (MoSSFest) | Mugdock Country Park, Glasgow, 8 October 2018

LIST OF PUBLICATIONS

* indicates the co-first authorship

Ant T,* Mancini MV, McNamara C, Sinkins S, A review of the evidence for viral enhancement in insects by *Wolbachia*. Path and Global Health, 2022 1-14. doi: 10.1080/20477724.2022.2117939

Mancini MV*, Ant TH, Herd CS, Martinez J, Murdochy SM, Gingell DD, Mararo E, Johnson PCD, Sinkins SP. High Temperature Cycles Result in Maternal Transmission and Dengue Infection Differences Between *Wolbachia* Strains in *Aedes aegypti*. *mBio*. 2021;12(6):e0025021. doi: 10.1128/mBio.00250-21

Damiani C, Cappelli A, Comandatore F, Montarsi F, Serrao A, Michelutti A, Bertola M, Mancini MV, Ricci I, Bandi C, Favia G. *Wolbachia* in *Aedes koreicus*: rare detections and possible implications. *Insects* 2022; 13, 216. <https://doi.org/10.3390/insects13020216>

Ant TH, Mancini MV, Martinez J, Sinkins SP. Enhancement of *Aedes aegypti* susceptibility to dengue by *Wolbachia* is not supported. *Nat Commun*. 2020;11(1):6111. doi: 10.1038/s41467-020-19830-6.

Comandatore F, Damiani C, Cappelli A, Ribolla PEM, Gasperi G, Gradoni F, Capelli G, Piazza A, Montarsi F, Mancini MV, Rossi P, Ricci I, Bandi C, Favia G. Phylogenomics Reveals that *Asaia* Symbionts from Insects Underwent Convergent Genome Reduction, Preserving an Insecticide-Degrading Gene. *mBio*. 2021; 12(2):e00106-21. doi: 10.1128/mBio.00106-21.

Ahmad NA, Mancini MV, Ant TH, Martinez J, Kamarul GMR, Nazni WA, Hoffmann AA, Sinkins SP. *Wolbachia* strain wAlbB maintains high density and dengue inhibition following introduction into a field population of *Aedes aegypti*. *Philos Trans R Soc Lond B Biol Sci*. 2021;376(1818):20190809. doi: 10.1098/rstb.2019.0809.

Mancini MV*, Damiani C, Short SM, Cappelli A, Ulissi U, Capone A, Serrao A, Rossi P, Amici A, Kalogris C, Dimopoulos G, Ricci I, Favia G. Inhibition of *Asaia* in Adult Mosquitoes Causes Male-Specific Mortality and Diverse Transcriptome Changes. *Pathogens*. 2020 ;9(5):380. doi: 10.3390/pathogens9050380.

Herren JK, Mbaisi L, Mararo E, Makhulu EE, Mobegi VA, Butungi H, Mancini MV, Oundo JW, Teal ET, Pinaud S, Lawniczak MKN, Jabara J, Nattoh G, Sinkins SP. A microsporidian impairs *Plasmodium falciparum* transmission in *Anopheles arabiensis* mosquitoes. *Nat Commun*. 2020;11(1):2187. doi: 10.1038/s41467-020-16121-y.

Mancini MV, Herd CS, Ant TH, Murdochy SM, Sinkins SP. *Wolbachia* strain wAu efficiently blocks arbovirus transmission in *Aedes albopictus*. *PLoS Negl Trop Dis*. 2020;14(3):e0007926. doi: 10.1371/journal.pntd.0007926.

Nazni WA, Hoffmann AA, NoorAfizah A, Cheong YL, Mancini MV, Golding N, Kamarul GMR, Arif MAK, Thohir H, NurSyamimi H, ZatilAqmar MZ, NurRuqqayah M, NorSyazwani A, Faiz A, Irfan FMN, Rubaaini S, Nuradila N, Nizam NMN, Irwan SM, Endersby-Harshman NM, White VL, Ant TH, Herd CS, Hasnor AH, AbuBakar R, Hapsah DM, Khadijah K, Kamilan D, Lee SC, Paid YM, Fadzilah K, Topek O, Gill BS, Lee HL, Sinkins SP. Establishment of *Wolbachia* Strain wAlbB in Malaysian Populations of *Aedes aegypti* for Dengue Control. *Curr Biol*. 2019;29(24):4241-4248.e5. doi: 10.1016/j.cub.2019.11.007

Cappelli A, Damiani C, Mancini MV, Valzano M, Rossi P, Serrao A, Ricci I, Favia G. *Asaia* Activates Immune Genes in Mosquito Eliciting an Anti-*Plasmodium* Response: Implications in Malaria Control. *Front Genet*. 2019;10:836

Alonso DP*, Mancini MV, Damiani C, Cappelli A, Ricci I, Alvarez MVN, Bandi C, Ribolla PEM, Favia G. Genome Reduction in the Mosquito Symbiont *Asaia*. *Genome Biol Evol*. 2019;11(1):1-10. doi: 10.1093/gbe/evy255.

Mancini MV*, 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. Estimating bacteria diversity in different organs of nine species of mosquito by next generation sequencing. *BMC Microbiol*. 2018;18(1):126. doi: 10.1186/s12866-018-1266-9.

Bozic J, Capone A, Pediconi D, Mensah P, Cappelli A, Valzano M, Mancini MV, Scuppa P, Martin E, Epis S, Rossi P, Favia G, Ricci I. Mosquitoes can harbour yeasts of clinical significance and contribute to their environmental dissemination. *Environ Microbiol Rep*. 2017;9(5):642-648.

Mancini MV*, Spaccapelo R, Damiani C, Accoti A, Tallarita M, Petraglia E, Rossi P, Cappelli A, Capone A, Peruzzi G, Valzano M, Picciolini M, Diabaté A, Facchinelli L, Ricci I, Favia G. Paratransgenesis to control malaria vectors: a semi-field pilot study. *Parasit Vectors*. 2016 ;9:140. doi: 10.1186/s13071-016-1427-3.

Rossi P, Ricci I, Cappelli A, Damiani C, Ulissi U, Mancini MV, Valzano M, Capone A, Epis S, Crotti E, Chouaia B, Scuppa P, Joshi D, Xi Z, Mandrioli M, Sacchi L, O'Neill SL, Favia G. Mutual exclusion of *Asaia* and *Wolbachia* in the reproductive organs of mosquito vectors. *Parasit Vectors*. 2015;8:278.

LIST OF PUBLICATIONS AS MEMBER OF AN INTERNATIONAL CONSORTIUM (ISARIC4)

Docherty AB, Mulholland RH, Lone NI, Cheyne CP, De Angelis D, Diaz-Ordaz K, Donegan C, Drake TM, Dunning J, Funk S, García-Fiñana M, Girvan M, Hardwick HE, Harrison J, Ho A, Hughes DM, Keogh RH, Kirwan PD, Leeming G, Nguyen Van-Tam JS, Pius R, Russell CD, Spencer RG, Tom BD, Turtle L, Openshaw PJ, Baillie JK, Harrison EM, Semple MG et al., . Changes in in-hospital mortality in the first wave of COVID-19: a multicentre prospective observational cohort study using the WHO Clinical Characterisation Protocol UK. *Lancet Respir Med*. 2021;9(7):773-785. doi: 10.1016/S2213-2600(21)00175-2

Bloom CI, Drake TM, Docherty AB, Lipworth BJ, Johnston SL, Nguyen-Van-Tam JS, Carson G, Dunning J, Harrison EM, Baillie JK, Semple MG, Cullinan P, Openshaw PJM et al., Risk of adverse outcomes in patients with underlying respiratory conditions admitted to hospital with COVID-19: a national, multicentre prospective cohort study using the ISARIC WHO Clinical Characterisation Protocol UK. *Lancet Respir Med*. 2021; 9(7):699-711. doi: 10.1016/S2213-2600(21)00013-8

Russell CD, Fairfield CJ, Drake TM, Turtle L, Seaton RA, Wootton DG, Sigfrid L, Harrison EM, Docherty AB, de Silva TI, Egan C, Pius R, Hardwick HE, Merson L, Girvan M, Dunning J, Nguyen-Van-Tam JS, Openshaw PJM, Baillie JK, Semple MG, Ho A, et al., Co-infections, secondary infections, and antimicrobial use in patients hospitalised with COVID-19 during the first pandemic wave from the ISARIC WHO CCP-UK study: a multicentre, prospective cohort study. *Lancet Microbe*. 2021;2(8):e354-e365. doi: 10.1016/S2666-5247(21)00090-2

Drake TM, Fairfield CJ, Pius R, Knight SR, Norman L, Girvan M, Hardwick HE, Docherty AB, Thwaites RS, Openshaw PJM, Baillie JK, Harrison EM, Semple MG et al., . Non-steroidal anti-inflammatory drug use and outcomes of COVID-19 in the ISARIC Clinical Characterisation Protocol UK cohort: a matched, prospective cohort study. *Lancet Rheumatol*. 2021;3(7):e498-e506. doi: 10.1016/S2665-9913(21)00104-1

Drake TM, Riad AM, Fairfield CJ, Egan C, Knight SR, Pius R, Hardwick HE, Norman L, Shaw CA, McLean KA, Thompson AAR, Ho A, Swann OV, Sullivan M, Soares F, Holden KA, Merson L, Plotkin D, Sigfrid L, de Silva TI, Girvan M, Jackson C, Russell CD, Dunning J, Solomon T, Carson G, Olliaro P, Nguyen-Van-Tam JS, Turtle L, Docherty AB, Openshaw PJ, Baillie JK, Harrison EM, Semple MG et al., Characterisation of in-hospital complications associated with COVID-19 using the ISARIC WHO Clinical Characterisation Protocol UK: a prospective, multicentre cohort study. *Lancet*. 2021;398(10296):223-237. doi: 10.1016/S0140-6736(21)00799-6. Erratum in: *Lancet*. 2021;398(10298):390.

Leclerc QJ, Fuller NM, Keogh RH, Diaz-Ordaz K, Sekula R, Semple MG; ISARIC4C Investigators; CMMID COVID-19 Working Group, Atkins KE, Procter SR, Knight GM. Importance of patient bed pathways and length of stay differences in predicting COVID-19 hospital bed occupancy in England. *BMC Health Serv Res*. 2021;21(1):566. doi: 10.1186/s12913-021-06509-x.

Yates T, Zaccardi F, Islam N, Razieh C, Gillies CL, Lawson CA, Chudasama Y, Rowlands A, Davies MJ, Docherty AB, Openshaw PJM, Baillie JK, Semple MG; ISARIC4C investigators, Khunti K. Obesity,

Ethnicity, and Risk of Critical Care, Mechanical Ventilation, and Mortality in Patients Admitted to Hospital with COVID-19: Analysis of the ISARIC CCP-UK Cohort. *Obesity* (Silver Spring). 2021;29(7):1223-1230. doi: 10.1002/oby.23178

Gupta RK, Harrison EM, Ho A, Docherty AB, Knight SR, van Smeden M, Abubakar I, Lipman M, Quartagno M, Pius R, Buchan I, Carson G, Drake TM, Dunning J, Fairfield CJ, Gamble C, Green CA, Halpin S, Hardwick HE, Holden KA, Horby PW, Jackson C, Mclean KA, Merson L, Nguyen-Van-Tam JS, Norman L, Olliaro PL, Pritchard MG, Russell CD, Scott-Brown J, Shaw CA, Sheikh A, Solomon T, Sudlow C, Swann OV, Turtle L, Openshaw PJM, Baillie JK, Semple MG, Noursadeghi M et al., Development and validation of the ISARIC 4C Deterioration model for adults hospitalised with COVID-19: a prospective cohort study. *Lancet Respir Med.* 2021;9(4):349-359. doi: 10.1016/S2213-2600(20)30559-2

BOOK CHAPTERS

Mancini MV, Favia G (2022) Chapter 12: *Asaia* for paratransgenesis; Transgenic Insects, technique and Applications, CABI Biotechnology series (*in press*)

Ai sensi dell'art. 46 e 47 del DPR 445/2000, dichiaro che le informazioni inserite nel mio CV corrispondono a verità, essendo consapevole dell'eventuale applicazione dell'art. 76 dello stesso articolo in caso di dichiarazione mendace

Autorizzo il trattamento dei miei dati personali presenti nel curriculum vitae ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e del GDPR (Regolamento UE 2016/679).