Chiara Virgillito

Curriculum Vitae

Education

University Degrees

Type	Year	Institution	Notes (Degree, Experience,…)
PhD	01/11/2018-27/04/2022	University of Rome "Sapienza".	**Phd in MALATTIE INFETTIVE, MICROBIOLOGIA E SANITA' PUBBLICA (supervisor: Alessandra della Torre, Roberto Rosà)**
Master	2018	University of Turin.	**Master in Mathematics (Laurea magistrale in Matematica LM-40 voto 106/110)** Thesis title: "Studio di un sistema di reazione e diffusione in due dimensioni " (supervisor: Prof. Ezio Venturino)
Bachelor	2015	University of Catania.	**Bachelor in Mathematics (Laurea Triennale in Matematica LM-35 voto 93/110)** Thesis title: " Processi stocastici".

Additional Training

Type	Year	Institution	Notes
Course	2022	Cime institution, Cetraro (Italy)	Mathematical modeling for epidemiology: analysis, simulation and forecasting
Online course	2021	Highland Statistics Ltd, Scotland (UK)	Introduction to Linear Mixed Effects Models and GLMM (frequentist)
Online course	2021	Highland Statistics Ltd, Scotland (UK)	Data Exploration, Regression, GLM & GAM with introduction to R
Online course	2020	Highland Statistics Ltd, Scotland (UK)	Zero-inflated GAMs and GAMMs for the analysis of spatial and spatial-temporal correlated data using R-INLA

Summer School	2019	Fondazione Edmund Mach	Summer School: "Vectorbite"
Summer School	2019	University of Trento	Summer School: "Data Science and Epidemic Models"
Course	2019	University of Trento	Bayesian Statistic
Course	2019	University of Trento	Advanced topics in biomathematics

Appointments

Academic Appointments

Start	End	Institution	Position
2022-2023	1 March-28 February	Department of Infectious Disease and Public Health (DSPMI). University of Rome "Sapienza"	**12 months. Post-Doc position (Responsabile Scientifico Prof.ssa della Torre A). Title:" Statistical and Mathematical modelling of vectors and vector-borne diseases in temperate and tropical areas".**

Recent Research topics

I am a mathematics graduate student now attending my last year (III°) of PhD in Infectious Diseases and Public Health at the Department of Public Health and Infectious Diseases at "Sapienza" University of Rome. I am current working with vector-borne disease group developing mathematical and statistical models to study the spatial-temporal distribution of mosquitoes and their pathogens. The mathematical models are mostly based on partial differential equations while statistical models are univariate multivariate and regression analyses using both frequentist and Bayesian approaches. Recently, I have focused on the study of advanced spatial models, where I have used stochastic partial differential equations to describe the spatial- temporal correlation on ecological data.

Computer skills

Operating systems: Windows.

Mathematical software: MatLab, Mathematica.

Statistical software: R, R-studio.

PUBBLICAZIONI SCIENTIFICHE IN EXTENSO

IF=Impact Factor

2022

7. Verena Pichler1, Beniamino Caputo, Vera Valadas , Martina Micocci , Cintia Horvath , **Chiara Virgillito**, Mustafa Akiner , Georgios Balatsos, Christelle Bender , Gilles Besnard , Daniel Bravo-Barriga , Rubén Bueno-Mari , Francisco Collantes , Sarah Delacour-Estrella , Enkelejda Dikolli , Elena Falcuta , Eleonora Flacio , Ana L García-Pérez , Katja Kalan , Mihaela Kavran , Gregory L'Ambert , Riccardo P Lia , Eduardo Marabuto , Raquel Medialdea , Rosario Melero-Alcibar , Antonios Michaelakis , Andrei Mihalca , Ognyan Mikov , Miguel A Miranda , Pie Müller , Domenico Otranto , Igor Pajovic , Dusan Petric , Maria Teresa Rebelo , Vincent Robert, Elton Rogozi , Ana Tello , Toni Zitko , Francis Schaffner , Joao Pinto , Alessandra Della Torre, Geographic distribution of the V1016G knockdown resistance mutation in Aedes albopictus: a warning bell for Europe. Parasites Vectors 15, 280 (2022). https://doi.org/10.1186/s13071-022-05407-3, IF=3.87

6. Virgillito, C., Manica, M., Marini, G., Rosà, R., della Torre, A., Martini, S., Drago, A., Baseggio, A., Caputo, B. Evaluation of *Bacillus thuringiensis subsp. israelensis and Bacillus sphaericus* combination against *Culex pipiens* in high vegetated ditches. Accepted in Journal of American Mosquito Control Association (January 2022). IF=0.86

5. Caputo B, Tondossoma N, **Virgillito C**, Pichler V, Serini P, Calzetta M, Manica M, Coulibaly ZI, Dia I, Akré MA, Offianan A, Torre AD. Is Côte D'Ivoire a new high hybridization zone for the two major malaria vectors, Anopheles coluzzii and An. gambiae (Diptera, Culicidae)? Infect Genet Evol. 2022 Jan 18:105215. doi: 10.1016/j.meegid.2022.105215. Epub ahead of print. PMID: 35063691. IF=3.3

2021

4. Perugini E, Guelbeogo WM, Calzetta M, Manzi S, **Virgillito C**, Caputo B, Pichler V, Ranson H, Sagnon N, Della Torre A, Pombi M. Behavioural plasticity of Anopheles coluzzii and Anopheles arabiensis undermines LLIN community protective effect in a Sudanese-savannah village in Burkina Faso. Parasit Vectors. 2020 Jun 1;13(1):277. doi: 10.1186/s13071-020-04142-x. PMID: 32487147; PMCID: PMC7268364. IF=3.8

3. Virgillito, C., Manica M., Marini G. , Caputo B. , della Torre A., Rosà R . Modelling arthropod active dispersal using Partial Differential Equations: the case of the mosquito Aedes albopictus. Ecological Modelling. 2021. doi.org/10.1016/j.ecolmodel.2021.109658. IF=2.27

2. Ngom, El Hadji Malick , **Virgillito, Chiara** , Manica, Mattia , Rosà, Roberto, Pichler, Verena, Sarleti Noemi , Isseu, Kassé, Diallo, Mawlouth , della Torre Alessandra, Dia , Ibrahima , Caputo Beniamino. Entomological survey in two Senegalese villages reveals discrepancies in results obtained by two traps targeting host-seeking mosquitoes. Insects 2021, *12*(8), 692; doi.org/10.3390/insects12080692. IF=1.8

1. Caputo, B., Langella, G., Petrella, V., **Virgillito, C**., Manica, M., Filipponi, F., Varone, M., Primo, P., Puggioli, A., Bellini, R., D'Antonio, C., Iesu, L., Tullo, L., Rizzo, C., Longobardi, A., Sollazzo, G., Perrotta, M. M., Fabozzi, M., Palmieri, F., Saccone, G, Rosà, R., della Torre, A., Salvemini, M. Aedes albopictus bionomics data collection by citizen participation on Procida Island, a promising Mediterranean site for the assessment of innovative and community-based integrated pest management methods. PLoS Negl Trop Dis. 2021 Sep 16;15(9):e0009698. doi: 10.1371/journal.pntd.0009698. PMID: 34529653; PMCID: PMC8445450. IF=4.4

ABSTRACTS E POSTER A CONGRESSI

2022

1. Beniamino Caputo, Eleonora Longo, Chiara Virgillito, Carlo Maria De Marco, Paola Serini, Verena Pichler, Maria Vittoria Zucchelli , Alice Michelutti, Fabrizio Montarsi, Marco di Luca, Francesco Severini, Alessandra della Torre, Monitoring Aedes invasive mosquitoes by citizen science: results of first experiences in Italy. Poster , XXXII National Conference of Italian Society of Parasitology, Naples, Italy, June 27-30, 2022.

2021

1 Virgillito C, Manica M, Marini G, Caputo B, Rosà R, della Torre A, Bayesian statistical models to evaluate the efficacy of traditional and innovative mosquito control interventions, Poster Online and Abstract, XXXI National Conference of Italian Society of Parasitology, Rome, Italy, June 16-19, 2021.

2020

1 Virgillito C, Marini G, Manica M, Caputo B, della Torre A, Rosà R Mathematical modelling of mosquitoes dispersal. Poster- 11th Conference on Dynamical Systems Applied to Biology and Natural Sciences DSABNS 2020 Trento, Italy, February 4-7, 2020

2 Virgillito C, Caputo B, Manica M, Rosà R, della Torre A. Mathematical modelling of flying-mosquitoes dispersal: a PDE based approach A. ISTISAN Congressi 20/C1 - XI Seminar - PhD Day. COVID-19: Facing a multi(face)phase pandemic. Virtual Meeting. Organized by the Italian National Institute of Health and Sapienza University of Rome. September 17 and 24, October 1 and 8, 2020. Abstract book

2019

1 Virgillito C, Caputo B, della Torre Construction of statistical-mathematical models for the study, control and evolution of the spread of pathogenic mosquitoes X Seminar - PhD Day. Democracy for Science - Science for Democracy. Istituto Superiore di Sanità. Rome, May 17, 2019. Abstract book.

2 Virgillito C, Marini G, Manica M, Caputo B, della Torre A, Rosà R Mathematical modelling of mosquitoes dispersal. Poster- 11th Conference on Dynamical Systems Applied to Biology and Natural Sciences DSABNS 2020 Trento, Italy, December 16, 2019

3 Athens, Greece, participation to Aedes Invasive Mosquitoes COST ACTION (AIM) Conference.

Luogo e Data

Roma 02/10/2022