# **LINO OMETTO**

Department of Biology and Biotechnology – University of Pavia – Via Ferrata 9 – 27100 Pavia – Italy Contact: lino.ometto@unipv.it – tel: +39 0382986079 – web: https://evolinus.github.io/zooe/

# **Associate Professor**

University of Pavia, Italy.

My research focuses on the genetic basis of relevant phenotypic and adaptive traits in insects and other organisms. I use a combination of comparative genomics, population genetics, and molecular evolution to disentangle the neutral and selective processes that have shaped the evolution of biodiversity.

I also enjoy sharing my passion for evolutionary biology and wildlife and I am regularly involved in outreach activities. I am currently President of the Italian Society for Evolutionary Biology (SIBE) and a member of the steering committee of the Federazione Italiana Scienze della Vita (FISV).

	HIGHER EDUCATION
2006	Ph.D. in Natural Sciences (summa cum laude) LMU–University of Munich, Germany. Advisor: Prof. W Stephan. "The selective and demographic history of Drosophila melanogaster".
1999	Laurea Degree in Biological Sciences (M.Sc. equivalent) University of Padova, Italy.
1997-98	Maîtrise studies (Erasmus student) University of Paris XI, France. Specialized courses on evolutionary biology, entomology, developmental biology.

	SCIENTIFIC CAREER	
2021	Associate Professor in Zoology Department of Biology and Biotechnology, University of Pavia, Italy.	
2018-21	Assistant Professor (RTDb)  Department of Biology and Biotechnology, University of Pavia, Italy.	
2020	Habilitation as Full Professor ("Abilitazione Scientifica Nazionale" – ASN, Professore di I fascia) in Zoology.	
2018	8 Habilitation as Associate Professor (ASN, Professore di II fascia) in Zoology and in Genetics.	
2014-16	Researcher/PostDoc Agricultural Entomology Unit, Department of Sustainable Ecosystems and Bioresources, Research and Innovation Centre, Fondazione Edmund Mach, Italy. PI: Dr. G Anfora. Genomics and molecular evolution in the insects Cacopsylla melanoneura and C. picta.	
2009-13	Researcher/PostDoc Department of Biodiversity and Molecular Ecology, Research and Innovation Centre, Fondazione Edmund Mach, Italy. Pl: Dr. C Varotto. Genomics, molecular evolution and population genetics in <i>Cardamine resedifolia</i> and <i>C. impatiens</i> . NGS data analysis in Aquilegia. Molecular evolution in <i>Drosophila suzukii</i> and <i>Propionibacterium acnes</i> .	
2006-09	<b>PostDoc</b> Department of Ecology and Evolution, University of Lausanne, Switzerland. Supervisor: Prof. L Keller.	

	Study of the contribution of sex, caste and developmental stage in the evolution of gene expression in the ants <i>Solenopsis invicta</i> , <i>S. richteri</i> , and their hybrids. Molecular evolution of caste-biased genes.	
2002-06	<b>Ph.D. Student</b> Department of Biology II, LMU–University of Munich, Germany. Supervisor: Prof. W Stephan. Multi-locus analysis of DNA variation in <i>Drosophila melanogaster</i> . Development of a maximum-likelihood approach to distinguish effects of demography from selection on patterns of DNA variation. Evolution of noncoding DNA.	
2001-02	Research internship (10 months)  Department of Biology II, LMU—University of Munich, Germany. Supervisor: Dr. B Nürnberger.  Kin-recognition-mediated behaviour in tadpoles of the hybridizing toads <i>Bombina variegata</i> and <i>B. bombina</i> . Identification of species-specific genetic markers.	
2000-01	Research internship (6 months)  Zoology Department, Canterbury University, Christchurch, New Zealand. Supervisor: Prof. B Waldman.  Role of chemical cues in behaviour of the frog Leiopelma hamiltoni. Assessment of the species' genetic variation.	
2000	Research internship (4 months)  Max Plank Institute for Ornithology, Seewiesen, Germany. Supervisor: Prof. Y Winter.  Spatial ecology of nectarivorous bats.	
1999-00	Research internship (6 months)  Department of Biology, University of Padova, Italy. Supervisor: Prof. A Minelli.  Intraspecific variation of morphological traits in the genus <i>Tygarrup</i> (Chilopoda).	

	PAST APPOINTMENTS	
2014-18	Adjunct Professor University of Padova, Italy.	
2016-18	Mathematics and Science teacher High School (I.I.S. M. Martini, Mezzolombardo, Trento, Italy) and Middle school (IC Mezzocorona, Mezzocorona Trento, Italy).	
2010-12	Scientific adviser for Genetics and Evolution for the science museum MuSe–Museo delle Scienze, Trento.	

	ATTENDED COURSES/OTHER HABILITATIONS
2017	Course (100 h) on Content and Language Integrated Learning (CLIL) for middle schools, and Cambridge CLIL Teaching Knowledge Test (TKT), IPRASE, Rovereto – Trento (Italy).
2015	Teaching habilitation (TFA A28, Mathematics and Sciences for middle school; 55 CFU), University of Trento, Italy.
2007	Course (21 h) on university teaching practice, University of Lausanne, Switzerland.

# O Rota-Stabelli (U. of Trento, Italy): population genetics and evolutionary genomics of invasive insects. A Luchetti, F Ghiselli (U. of Bologna, Italy): TE evolution in mosquitos, population genomics in Formica ants. S Tiozzo (CNRS- Sorbonne University, France): genomics and evolutionary developmental biology in ascidians. Member of the European Drosophila Population Genomics consortium (DrosEU, www.droseu.net). Member of the European COST action EuroScitizen (http://www.euroscitizen.eu). Member of the European Reference Genome Atlas consortium (https://www.erga-biodiversity.eu); Steering Committee member for the Training and Knowledge Transfer and the Citizen Science committees.

(CO-)INVESTIGATOR IN THE FOLLOWING GRANTS
ANR (French National Research Agency) 2024, "Testing evolution via accumulation of somatic mutations using modular chordates" (consortium partner – co-PI).
PRIN 2022, "Genome plasticity in tiger mosquitoes: biological significance and relevance for pest management" (co-PI).
P.N.R.R. Centro Biodiversità (Spoke 4), "Population genomics in Formica paralugubris" (PI).
Deutsche Forschungsgemeinschaft (DFG grant STE 325/6 to W Stephan).
Swiss National Science Foundation (to L Keller).
ACE-SAP project of the Autonomous Province of Trento (to C Varotto).
Scopazzi project (to G. Anfora).

AWARDS AND RESEARCH GRANTS		
2008	Roche Research Foundation stipend grant (12 months).	
2008	Award for the best lay-summary, Italian Society for Evolutionary Biology.	
2008	PostDoctoral researcher Travel Award, Society for Molecular Biology and Evolution.	
2006	Travel grant, American Genetics Association.	
2006	Travel grant, "Fondation du 450 <sup>eme</sup> anniversaire" – University of Lausanne.	
2005	"G. Canestrini" award for the best communication by a young scientist, Italian Society for Evolutionary Biology.	
2005	Travel grant, Italian Society for Evolutionary Biology.	
2001	Outgoing pre-doctoral fellowship, University of Padova (10 months).	
1996	EU Erasmus Fellowship, exchange program at the University of Paris XI, France (10 months).	

# **PUBLICATIONS**

ORCiD: 0000-0002-2679-625X Scopus Author ID: 6603741193

ResearcherID: C-3609-2008

Scholar: https://scholar.google.com/citations?user=RVjMHWgAAAAJ&hl=en

# **RESEARCH ARTICLES**

\* SHARED FIRST AUTHORSHIP; # CORRESPONDING AUTHOR

- Nunez, JCB, M Coronado-Zamora, M Gautier, M Kapun, S Steindl, <u>L Ometto</u>, [...], and J Gonzales. *Pre-print*. Footprints of worldwide adaptation in structured populations of *D. melanogaster* through the expanded DEST 2.0 genomic resource. *bioRxiv*. DOI: <a href="https://doi.org/10.1101/2024.11.10.622744">https://doi.org/10.1101/2024.11.10.622744</a>
- Pessoa, P, J de Lima, V Piacentini, G Realdon, A Jeffries, <u>L Ometto</u>, JB Lopes, DL Zeidler, MJ Fonseca, B Sousa, A Pinto, and X Sá-Pinto. *Pre-print*. A framework to identify opportunities to address socioscientific issues in the elementary school curricula: A case study from England, Italy, and Portugal. *bioRxiv*. DOI: https://doi.org/10.1101/2024.08.02.606442
- Buzan, E, C de Guttry, C Bortoluzzi, N Street, K Lucek, A Rosling, <u>L Ometto</u>, A Mouton, L Marins, MJ Ruiz-Lòpez, J Melo-Ferreira, E Ottosson, C Mazzoni, and R Waterhouse. *Pre-print*. Harmonising genomics research excellence and stakeholder needs in conservation management. *Authorea*. DOI: <a href="https://doi.org/10.22541/au.172510123.38206942/v1">https://doi.org/10.22541/au.172510123.38206942/v1</a>

- Oueslati, N, A Ghedir, S Choulak, L Gasmi, K Said, and <u>L Ometto</u>. 2024. An initial investigation into the genetic diversity phylogenetic relationships and population structure of the olive psyllid *Euphyllura olivina* in Tunisia. *Phytoparasitica* 52:89. DOI: <a href="https://doi.org/10.1007/s12600-024-01205-y">https://doi.org/10.1007/s12600-024-01205-y</a>
- Ghedir, A, N Oueslati, L Gasmi, A Khorramnejad, K Said, and <u>L Ometto</u>. 2024. Genetic diversity in the tomato leafminer *Tuta absoluta* (Meyrick) in Tunisia. *Phytoparasitica* 52:88. DOI: <a href="https://doi.org/10.1007/s12600-024-01208-9">https://doi.org/10.1007/s12600-024-01208-9</a>
- McCartney, AM, [...], <u>L Ometto</u>, [...], and CJ Mazzoni. 2024. The European Reference Genome Atlas: piloting a decentralised approach to equitable biodiversity genomics. *npj Biodiversity*, 3:28. DOI: <a href="https://doi.org/10.1038/s44185-024-00054-6">https://doi.org/10.1038/s44185-024-00054-6</a>
- Panayides, A, Sá-Pinto X, E Mavrikaki, DK Aanen, S Aboim, B Cavadas, RM Dvorakova, M Eens, E Filova, T Gregorčič, N Kapsala, M Nieuwenhuis, <u>L Ometto</u>, P Papadopoulou, R Pinxten, G Realdon, N Ribeiro, JL Coelho da Silva, B Sousa, G Torkar, and K Korfiatis. 2024. Evolution content in school textbooks: Data from eight European countries. *Evol Educ Outreach*, 17:11. DOI: <a href="https://doi.org/10.1186/s12052-024-00203-2">https://doi.org/10.1186/s12052-024-00203-2</a>
- Fuselli, S, S Greco, R Biello, S Palmitessa, M Lago, C Meneghetti, C McDougall, E Trucchi, O Rota-Stabelli, MA Biscotti, DJ Schmidt, DT Roberts, T Espinoza, JM Hughes, <u>L Ometto</u>, M Gerdol, and G Bertorelle. 2023. Relaxation of natural selection in the evolution of the giant lungfish genomes. *Mol Biol Evol*, 40:msad193, DOI: <a href="https://doi.org/10.1093/molbev/msad193">https://doi.org/10.1093/molbev/msad193</a>
- Pirri, F, <u>L Ometto</u>, S Fuselli, FAN Fernandes, L Ancona, N Perta, D Di Marino, C Le Bohec, L Zane, and E Trucchi. 2022. Selection-driven adaptation to the extreme Antarctic environment in the Emperor penguin. *Heredity* 129:317-326, DOI: <a href="https://doi.org/10.1038/s41437-022-00564-8">https://doi.org/10.1038/s41437-022-00564-8</a> (Journal cover+podcast)
- Valerio, F, N Zadra, O Rota-Stabelli and <u>L Ometto#</u>. 2022. The impact of fast radiation on the phylogeny of *Bactrocera* fruit flies as revealed by multiple evolutionary models and mutation rate-calibrated clock. *Insects* 13:603, DOI: https://doi.org/10.3390/insects13070603
- Luchetti, A, <u>LOmetto</u>, and O Rota-Stabelli. 2021. The complete mitogenome of the European mantis, *Mantis religiosa* Linneus (Mantodea, Mantidae), from Italy: implications for the origin of North American mantis population. *Bullettin of Insectology* 74:253-257.
- Savini, G, F Scolari, <u>L Ometto</u>, O Rota-Stabelli, D Carraretto, LM Gomulski, G Gasperi, AMM Abd-Alla, S Aksoy, GM Attardo, and AR Malacrida. 2021. Viviparity and habitat restrictions may influence the evolution of male reproductive genes in tsetse fly (*Glossina*) species. *BMC Biology* 19:211, DOI: <a href="https://doi.org/10.1186/s12915-021-01148-4">https://doi.org/10.1186/s12915-021-01148-4</a>
- Feuda, R, M Goulty, N Zadra, T Gasperetti, E Rosato, D Pisani, A Rizzoli, N Segata, <u>L Ometto</u>, and O Rota-Stabelli. 2021. Phylogenomics of opsin genes in Diptera reveals lineage-specific events and contrasting evolutionary dynamics in *Anopheles* and *Drosophila*. *Genome Biol Evol* 13:evab170, DOI: <a href="https://doi.org/10.1093/gbe/evab170">https://doi.org/10.1093/gbe/evab170</a>
- Kapun, M, [...], <u>L Ometto</u>, [...], and AO Bergland. 2021. *Drosophila* Evolution over Space and Time (DEST) A New Population Genomics Resource. *Mol Biol Evol* 38:5782-5805, DOI: <a href="https://doi.org/10.1093/molbev/msab259">https://doi.org/10.1093/molbev/msab259</a>
- Wallace, MA, KA Coffman, C Gilbert, S Ravindran, GF Albery, J Abbott, E Argyridou, P Bellosta, AJ Betancourt, H Colinet, K Eric, A Glaser-Schmitt, S Grath, M Jelic, M Kankare, I Kozeretska, V Loeschcke, C Montchamp-Moreau, L Ometto, BS Onder, DJ Orengo, J Parsch, M Pascual, A Patenkovic, E Puerma, MG Ritchie, O Rota-Stabelli, MF Schou, SV Serga, M Stamenkovic-Radak, M Tanaskovic, MS Veselinovic, J Vieira, CP Vieira, M Kapun, T Flatt, J Gonzalez, F Staubach, and DJ Obbard. 2021. The discovery, distribution and diversity of DNA viruses associated with *Drosophila melanogaster* in Europe. *Virus Evolution* 7:veab031, DOI: https://doi.org/10.1093/ve/veab031
- Weil, T, <u>L Ometto</u>, A Esteve-Codina, J Gómez-Garrido, T Oppedisano, C Lotti, M Dabad, T Alioto, U Vrhovsek, S Hogenhout, and G Anfora. 2020. Linking omics and ecology to dissect interactions between the apple proliferation phytoplasma and its psyllid vector *Cacopsylla melanoneura*. *Insect Biochem. Mol. Biol* 127:103474, DOI: <a href="https://doi.org/10.1016/j.ibmb.2020.103474">https://doi.org/10.1016/j.ibmb.2020.103474</a>
- Rota-Stabelli, O, <u>L Ometto</u>, G Tait, S Ghirotto, R Kaur, F Drago, J Gonzales, VM Walton, G Anfora, and MV Rossi-Stacconi. 2020. Distinct genotypes and phenotypes in European and American strains of *Drosophila suzukii*: implications for biology and management of an invasive organism. *J Pest Sci* 93:77-89, DOI: https://doi.org/10.1007/s10340-019-01172-y

- Marconcini, M, L Hernandez, G Iovino, V Houé, F Valerio, U Palatini, E Pischedda, JE Crawford, BJ White, Teresa Lin, R Carballar-Lejarazu, <u>L Ometto</u>, F Forneris, AB Failloux, and M Bonizzoni. 2019. Polymorphism analyses and protein modelling inform on functional specialization of Piwi clade genes in the arboviral vector *Aedes albopictus*. *PLoS Negl Trop Dis* 13:e0007919, DOI: <a href="https://doi.org/10.1371/journal.pntd.0007919">https://doi.org/10.1371/journal.pntd.0007919</a>
- Wan, F, C Yin, R Tang, M Chen, Q Wu, C Huang, W Qian, O Rota-Stabelli, N Yang, S Wang, G Wang, G Zhang, J Guo, L Gu, L Chen, L Xing, Y Xi, F Liu, K Lin, M Guo, W Liu, K He, R Tian, E Jacquin-Joly, P Franck, M Siegwart, L Ometto, G Anfora, M Blaxter, C Meslin, P Nguyen, M Dalíková, F Marec, J Olivares, S Maugin, J Shen, J Liu, J Guo, J Luo, B Liu, W Fan, L Feng, X Zhao, X Peng, K Wang, L Liu, H Zhan, W Liu, G Shi, C Jiang, J Jin, X Xian, S Lu, M Ye, M Li, M Yang, R Xiong, JR Walters, and F Li. 2019. A chromosome-level genome assembly of *Cydia pomonella* provides insights into chemical ecology and insecticide resistance. *Nature Communications* 10:4273, DOI: <a href="https://doi.org/10.1038/s41467-019-12175-9">https://doi.org/10.1038/s41467-019-12175-9</a>
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- Tait, G, A Grassi, F Pfab, MC Crava, DT Dalton, R Magarey, <u>L Ometto</u>, S Vezzulli, V Rossi-Stacconi, A Gottardello, A Pugliese, G Firrao, VM Walton, and G Anfora. 2018. Large-scale spatial dynamics of *Drosophila suzukii* in Trentino, Italy. *J Pest Sci* 91:4, DOI: <a href="https://doi.org/10.1007/s10340-018-0985-x">https://doi.org/10.1007/s10340-018-0985-x</a>
- Benazzo, A, E Trucchi, J Cahill, P Maisano Delser, S Mona, M Fumagalli, L Bunnefeld, L Cornetti, S Ghirotto, M Girardi, L Ometto, A Panziera, O Rota-Stabelli, E Zanetti, A Karamanlidis, C Groff, L Paule, L Gentile, C Vilà, S Vicario, L Boitani, L Orlando, S Fuselli, C Vernesi, B Shapiro, P Ciucci, and G Bertorelle. 2017. Survival and divergence in a small group: the extraordinary genomic history of the endangered Apennine brown bear stragglers. *Proc Natl Acad Sci USA* 114:E9589-E9597, DOI: <a href="https://doi.org/10.1073/pnas.1707279114">https://doi.org/10.1073/pnas.1707279114</a>
- Tait, G, S Vezzulli, F Sassù, G Antonini, A Biondi, N Baser, G Sollai, A Cini, L Tonina, <u>L Ometto</u>, and G Anfora. 2017. Genetic variability in Italian populations of *Drosophila suzukii*. *BMC Genetics* 18:87, DOI: <a href="https://doi.org/10.1186/s12863-017-0558-7">https://doi.org/10.1186/s12863-017-0558-7</a>
- Conner, WR, ML Blaxter, G Anfora, <u>L Ometto</u>, O Rota-Stabelli, and M Turelli. 2017. Genome comparisons indicate recent transfer of wRi-like *Wolbachia* between sister species *Drosophila suzukii* and *D. subpulchrella*. *Ecology and Evolution* 7:9391-9404, DOI: https://doi.org/10.1002/ece3.3449
- Palatini, U, P Miesen, R Carballar-Lejarazu, <u>L Ometto</u>, E Rizzo, Z Tu, R van Rij, and M Bonizzoni. 2017. Comparative genomics shows that viral integrations are abundant and express piRNAs in the arboviral vectors *Aedes aegypti* and *Aedes albopictus*. *BMC Genomics* 18:512, DOI: <a href="https://doi.org/10.1186/s12864-017-3903-3">https://doi.org/10.1186/s12864-017-3903-3</a>
- Crava, MC, S Ramasamy, <u>L Ometto</u>, G Anfora, and O Rota-Stabelli. 2016. Evolutionary insights into taste perception of the invasive pest *Drosophila suzukii*. *G3:Genes, Genomes, Genetics* 6:4185-4196, DOI: <a href="https://doi.org/10.1534/g3.116.036467">https://doi.org/10.1534/g3.116.036467</a> (F1000Prime recommended)
- Ramasamy, S, <u>L Ometto</u>, MC Crava, S Revadi, R Kaur, D Horner, D Pisani, T Dekker, G Anfora, and O Rota-Stabelli. 2016. The evolution of olfactory gene families in Drosophila and the genomic basis of chemical-ecological adaptation in *Drosophila suzukii*. *Genome Biol Evol* 8:2297-2311, DOI: <a href="https://doi.org/10.1093/gbe/evw160">https://doi.org/10.1093/gbe/evw160</a>
- Rossi-Stacconi, V, K Rupinder, V Mazzoni, <u>L Ometto</u>, A Grassi, A Gottardello, O Rota-Stabelli, and G Anfora. 2016. Multiple lines of evidence for reproductive winter diapause in the invasive pest Drosophila suzukii: useful clues for control strategies. *J Pest Sci* 89:689-700, DOI: <a href="https://doi.org/10.1007/s10340-016-0753-8">https://doi.org/10.1007/s10340-016-0753-8</a>
- De Groeve, J, N Van de Weghe, T Neutens, <u>L Ometto</u>, O Rota-Stabelli, N Ranc, and F Cagnacci. 2016. Extracting spatio-temporal patterns in animal trajectories: an ecological application of sequence analysis methods. *Methods Ecol Evol* 7:369-379, DOI: https://doi.org/10.1111/2041-210X.12453
- Ometto, L, M Li, L Bresadola, E Barbaro, M Neteler, and C Varotto. 2015. Demographic history, population structure, and local adaptation in Alpine populations of *Cardamine impatiens* and *Cardamine resedifolia*. *PLoS ONE* 10:e0125199, DOI: https://doi.org/10.1371/journal.pone.0125199

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- Ometto, L, A Cestaro, S Ramasamy, A Grassi, S Revadi, M Moretto, P Fontana, C Varotto, D Pisani, T Dekker, N Wrobel, R Viola, I Pertot, D Cavalieri, M Blaxter, G Anfora, and O Rota-Stabelli. 2013. Linking genomics and ecology to investigate the complex evolution of an invasive *Drosophila* pest. *Genome Biol Evol* 5:745-757, DOI: https://doi.org/10.1093/gbe/evt034 (Journal cover)
- Fior, S, M Li, B Oxelman, R Viola, S Hodges, <u>L Ometto</u>, and C Varotto. 2013. Spatiotemporal reconstruction of the *Aquilegia* rapid radiation through next-generation sequencing of rapidly evolving cpDNA regions. *New Phytologist* 198:579-592, DOI: https://doi.org/10.1111/nph.12163
- Werzner, A, P Pavlidis, <u>L Ometto</u>, W Stephan, and S Laurent. 2013. Selective sweep in the Flotillin-2 region of European *Drosophila melanogaster*. *PLoS ONE* 8:e56629, DOI: https://doi.org/10.1371/journal.pone.0056629.s003
- Hunt, BG, <u>L Ometto</u>, L Keller, and MAD Goodisman. 2013. Evolution at two levels in fire ants: the relationship between patterns of gene expression and protein sequence evolution. *Mol Biol* Evol 30:263-271, DOI: <a href="https://doi.org/10.1093/molbev/mss234">https://doi.org/10.1093/molbev/mss234</a>
- Ometto, L, M Li, L Bresadola, and C Varotto. 2012. Rates of evolution in stress-related genes are associated to habitat preference in two *Cardamine* lineages. *BMC Evol Biol* 12:7, DOI: https://doi.org/10.1186/1471-2148-12-7
- Ometto, L#, KG Ross, DD Shoemaker, and L Keller. 2012. Disruption of gene expression in hybrids of the fire ants Solenopsis invicta and Solenopsis richteri. Mol Ecol 21:2488-2501, DOI: <a href="https://doi.org/10.1111/j.1365-294X.2012.05544.x">https://doi.org/10.1111/j.1365-294X.2012.05544.x</a>
- Hunt, BG\*, <u>L Ometto\*</u>, Y Wurm, DD Shoemaker, SV Yi, L Keller, and MAD Goodisman. 2011. Relaxed selection is a precursor to the evolution of phenotypic plasticity. *Proc Natl Acad Sci USA* 108:15936-15941, DOI: <a href="https://doi.org/10.1073/pnas.1104825108">https://doi.org/10.1073/pnas.1104825108</a>
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- Ometto, L#, S Glinka, D De Lorenzo, and W Stephan. 2005. Inferring the effects of demography and selection on *Drosophila melanogaster* populations from a chromosome-wide scan of DNA variation. *Mol Biol Evol* 22:2119-2130, DOI: https://doi.org/10.1093/molbev/msi207
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- Glinka, S\*, <u>L Ometto\*</u>, S Mousset, W Stephan, and D De Lorenzo. 2003. Demography and natural selection have shaped genetic variation in *Drosophila melanogaster*: a multi-locus approach. *Genetics* 165:1269-1278, DOI: <a href="https://doi.org/10.1093/genetics/165.3.1269">https://doi.org/10.1093/genetics/165.3.1269</a> (F1000Prime recommended)
- Cardellini, P, and <u>L Ometto</u>. 2001. Teratogenic and toxic effects of Alcohol Ethoxylate and Alcohol Ethoxy Sulfate surfactants on *Xenopus laevis* embryos and tadpoles. *Ecotox Environ Safe* 48:170-177, DOI: <a href="https://doi.org/10.1006/eesa.2000.2005">https://doi.org/10.1006/eesa.2000.2005</a>

MEDIA COVERAGE

• The results of my research have been covered by news media at both national (Repubblica, L'Adige, Corriere del Trentino, Il Trentino, Corriere del Veneto, ADNKronos, Libero, Rai, ...) and international level (ScienceDaily, Herald Scotland, LA Times, USA Today, CNN, Nature, Science, Time, ...).

# **BOOKS AND BOOK CHAPTERS**

Bonizzoni, M, and <u>L Ometto</u>, editors. *Forthcoming*. Insect Genomics – Methods in Molecular Biology. Humana - Springer.

<u>Ometto, L.</u> 2011. Genetica di popolazioni. *In*: Ferraguti M, Castellacci C, editors. Evoluzione: Modelli e Processi. Pearson Italia, Milano, Italy.

## SELECTED ABSTRACTS TO CONFERENCES (TOTAL: 71)

MY\* ORAL/POSTER PRESENTATION

- Fazio, V, and <u>L Ometto</u>. 2024. The evolution of the P450 gene family in true fruit flies. *In*: Abstracts of the 10<sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 8–11 September 2024, Napoli, Italy.
- Ometto, L, G Forni, J Martelossi, A Masoni, G Mercati, D Pistone, S Maretti, G Santini, A Olivieri, A Luchetti, and F Ghiselli. 2024. A population genomics approach to study the structure and evolution of native and introduced populations of the mountain wood ant *Formica paralugubris*. *In*: Abstracts of the International Congress of Entomology, 25–30 August 2024, Kyoto, Japan.
- Martelossi, J, A Silverj, C Albertini, A Luchetti, O Rota-Stabelli, and <u>L Ometto</u>. 2024. The adaptive and variable transposable elements landscape of mosquitoes (Culicidae). *In*: Abstracts of the International congress on transposable elements 2024, 20–23 April 2024, Saint Malo, France.
- Bergland, A, J Nunez, M Coronado-Zamora, M Gautier, M Kapun, S Steindl, <u>L Ometto</u>, P Margot, K Hoedjes, J Beets, R. Axel Wiberg, G Mazzeo, D Bass, D Petrov, P Schmidt, T Flatt, and J Gonzalez. 2024. DEST 2.0: an expanded genomic resource reveals new insights on fly phylogeography and adaptation. *In*: Abstracts of The Allied Genetics Conference 2024, 6–10 March 2024, Washington DC, USA.
- Carretta, E, G Mercati, and <u>L Ometto</u>. 2023. Evolutionary dynamics of opsin genes in Brachycera flies. *In*: Abstracts of the Congress of the Society for Molecular Biology and Evolutionary, 23-28 July 2023, Ferrara, Italy.
- Macchia, A, and <u>L Ometto</u>. 2022. Evolution of mechanoreceptor genes in Diptera. *In*: Abstracts of the 9<sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 4-7 September 2022, Ancona, Italy.
- Carretta, E, and <u>L Ometto</u>. 2022. The evolutionary history of opsin genes in *Bactrocera* fruit flies. *In*: Abstracts of the 9<sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 4-7 September 2022, Ancona, Italy.
- Howie, JM, E Corretto, LS Serbina, J Dittmer, <u>L Ometto</u>, O Rota-Stabelli, C Stauffer, and H Schuler. 2022. Population genomics and phylogenetics of Phytoplasma transmissibility by Psyllids and their coevolving endosymbionts. *In*: Abstracts of the 9<sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 4-7 September 2022, Ancona, Italy.
- Anfora, G, G Tait, A Grassi, A Cabianca, C Crava, F Pfab, <u>L Ometto</u>, MV Rossi-Stacconi, S Mermer, and V Walton. 2022. Exploitation of population dynamics and chemical communication for integrated management of *Drosophila suzukii*. *In*: Abstracts of the 26<sup>th</sup> International Congress of Entomology, 17-22 July 2022, Helsinki, Finland.
- Pirri, F, <u>L Ometto</u>, S Fuselli, L Zane, and E Trucchi. 2020. Natural selection in the evolutionary divergence between two penguin species. *In*: Abstracts of the 1<sup>st</sup> Italian Congress on Marine Evolution, 23-25 November 2020, online conference.
- Valerio, F, F Scolari, L Gomulski, M Bonizzoni, and <u>L Ometto</u>. 2018. "Melons and mangos for my friend and just olives for me, please": the evolution of food choice in *Bactrocera* fruit flies. *In*: Abstracts of the 8<sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 1-4 September 2019, Padova, Italy.
- Ometto, L, and F Valerio. 2018. Multi-locus phylogeny of *Bactrocera* fruit flies. *In*: Abstracts of the 8<sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 1-4 September 2019, Padova, Italy.
- Rota-Stabelli, O, R Kaur, MC Crava, V Rossi-Stacconi, V Mazzoni, M Turelli, M Blaxter, G Anfora, and <u>L Ometto</u>. 2018. The genome of *Drosophila subpulchrella* and the evolution of fresh fruit feeding in *Drosophila suzukii*: a comparative genomics approach. *In*: Abstracts of the XI European Congress of Entomology, 2-6 July 2018, Naples, Italy.
- Rizzi, S, S Celestini, G Menegus, F De Giorgi, F Failla, S Pernechele, M Salvatori, A Silverj, E Barbazza, P Bisaccia, C Bonaldi, L Dal Borgo, L De Biasio, L Drago, G Fabbri, J Fabrello, A Franceschini, S Gallo, S Gionfriddo, J Grego, C Leonardi, GM Menti, L Molinaro, S Monteforte, C Ottocento, A Paiola, P Panizzon, BB Savasci, F Zancanella, G Fusco, O Rota-Stabelli, and L Ometto. 2017. 404 error: (evolutionary) page not found. *In*: Abstracts of the 7<sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 28-31 August 2017, Rome, Italy.
- Ometto, L, and O Rota-Stabelli. 2016. Codon usage and phylogenetic analyses elucidate the recent evolutionary history of *Zika* virus. *In*: Abstracts of the International Conference "Facing the invasion of alien arthropods species:



POPULAR PRESS

Series of 13 popular/scientific articles for the Italian inflight magazine "Nelblu" (Volare-AirEurope air company), appearing between 2001 and 2003.

OTHER PUBLICATIONS

SIBE.

- Contribution to the Italian translation of the book "Learning evolution through socioscientific issues" (Sá-Pinto, X, A Beniermann, T Børsen, M Georgiou, A Jeffries, P Pessoa, B Sousa, and DL Zeidler (Eds.). 2022.).
- Contribution to the Italian translation, adaptation, and distribution of the document "Evoluzione, Scienza e Società Evolution, Science and Society" (supported and prepared by, among others, the Society for the Study of Evolution and the Society for Molecular Biology and Evolution).
- Ometto L, and B Waldman. 2001. Chemical cues in Maud Island frogs, *Leiopelma hamiltoni*. Report for the Department of Conservation of New Zealand.

	INVITED SEMINARS		
2021	"Phenotypic plasticity and why it matters in evolution", Department of Biology, University of Padova, Italy.		
2019	"Being a gene is not enough: phenotypic plasticity and evolution", Department of Biology, University of Padova, Italy.		
2013	"Genomic and candidate gene approaches to investigate altitudinal adaptation in <i>Cardamine</i> ", Department of Biology, University of Konstanz, Germany.		
2013	"Evolution seen through the genomes of plants and flies", Institute for Integrative Biology, ETH Zurich, Switzerland.		
2012	"Genomic approaches to study adaptive evolution in plants and flies", Symposium of the Italian Society for Evolutionary Biology, Ferrara, Italy.		
2012	"Evolutionary genomics: tales from ants and plants", Department of Biology, University of Modena and Reggio Emilia, Italy.		
2010	"Gene expression in ants", Department of Evolutionary Biology, LMU–University of Munich, Germany.		
2006	"Demography and selection in <i>Drosophila melanogaster</i> ", Department of Ecology and Evolution, University of Lausanne, Switzerland.		
2006	"Demography and selection in <i>Drosophila melanogaster</i> : an X-chromosome tale", Volkswagenstiftung Conference in Evolutionary Biology, LMU–University of Munich, Germany.		
2001	"Homing and olfaction in New Zealand native frogs", Department of Biology, University of Padova, Italy.		
2000	"Orientamento nei pipistrelli nettarivori", Department of Biology, University of Padova, Italy.		

# **TEACHING AND ACADEMIC ROLES Academic Courses** 2019-... "Zoologia" ("Zoology"; BSc course; 9 CFUs), University of Pavia, Italy. 2020-... "Biologia delle popolazioni e delle comunità" ("Population and Community Biology"; MSc course; 4-6 CFUs), University of Pavia, Italy. 2023-... "Genomics and evolution of emerging infectious diseases" (MSc course; 6 CFUs), University of Pavia, Italy. 2018-19 "Anatomia comparata" ("Comparative Anatomy"; BSc course; 1 CFU), University of Pavia, Italy. **2018-19** "Biotecnologie degli Insetti" ("Insects Biotechnology"; MSc course; 4 CFUs), University of Pavia, Italy. 2018-19 Zoologia" ("Zoology"; BSc course; 2 CFUs), University of Pavia, Italy. 2014-18 "Evoluzione e Filogenesi" ("Evolution and Phylogenetics"; MSc course; 2-3 CFUs), University of Padova, Italy. 2006-08 Co-instructor, "Experimental Design" (MSc course; principal instructor: L Keller), University of Lausanne, Switzerland. **Other Courses** 2021 "Rate of molecular substitution in coding genes" (PhD course "Exploring evolution using tree based methods:

phylogenetics, molecular clocks, barcoding, and phylogenomics"), 22-24 February 2021, University of Trento and

2019	"Population genetics and molecular evolution" (summer school "Bridging Phylogeny and Population genetics: Inferring divergence and selection at both interspecies and intraspecies level", lectures + practicals), 27-31 August 2019, Fondazione Edmund Mach, San Michele all'Adige (TN), Italy.	
2015	"Understanding statistic tests and choose when and how to apply them - From experimental design to data analysis" (PhD course, lectures + practicals; with V Mazzoni), Fondazione Edmund Mach, San Michele all'Adige (TN) Italy.	
2012	Co-instructor, "Population genetics" (PhD course, lectures; principal instructor: D Neale, U. of California at Davis), Fondazione Edmund Mach, Italy.	
2011	Guest lecturer (MSc course; lecture; principal instructor: R Velasco), University of Bologna.	
2007	"Evolution of non-coding DNA", Summer school "Genome evolution: mechanisms, dynamics and case studies", Trento (Italy).	
2003-05	Teaching assistant, "Practical course in molecular population genetics" (MSc course, practicals; principal instructors: L Rose and D De Lorenzo), LMU–University of Munich, Germany.	
	Other Lectures	
2012	"Genetics basics: what, where, how", workshop "Plant phenology and genetics", Trento (Italy).	
2010	"What evolution does not explain", workshop "Updates on evolutionary research", Orvieto (Italy).	
2009	"What evolution does not explain", workshop "Teaching evolution", Abbiategrasso - Milano (Italy).	

#### Student (\*co)supervision

# Ph.D.

- 2024-2027: Chiara Albertini.
- 2022-2024: Nihel Oueslati\* (main supervisor: Khaled Said, University of Monastir, Tunisia).
- 2022-2024: Asma Ghedir\* (main supervisor: Khaled Said, University of Monastir, Tunisia).
- 2018-2021: Federica Valerio.

# M.Sc.

- Ongoing: Dibyojyoti Chattopadhyay, Giulia Mercati, Gabriele Bambini, Enrica Carretta.
- 2024: Aromita Mallik, Corinne Castellano, Verdiana Fazio.
- 2022: Alessandro Macchia, Lucia Foresto\*.
- 2021: Saja AM Boulad.
- 2019: Paola Staffiere.
- Previous: Luisa Bresadola\*, Bettina Schirrmeister\*, Lena Müller\*, Claudia Lemcke\*.

#### Bachelor

- Ongoing: Astra Bertelli, Simone Raggi, Gaia Ruga.
- 2024: Lorenzo Vecchio, Mattia Vignoli, Margherita Toppi, Anita Raccanello.
- 2023: Giulia Mercati, Samuele Tarozzo, Mariam Mahmoud, Emma Pesenti.
- 2022: Elisa Miragliotta, Erica Melchionda.
- 2021: Morea Tomasi, Chiara Albertini, Corinne Castellano.
- 2019: Daria Marzanati.
- Previous: Johannes De Groeve\*.

# Ph.D. assessment committee member

- Giulia Agostinetto (2022; University of Milano-Bicocca; Supervisors: Prof M. Casiraghi).
- Giobbe Forni (2021; University of Bologna; Supervisors: Prof. B. Mantovani and Prof. A Luchetti).
- Juke Wihe (2018; University of Ferrara; Supervisor: Prof. G. Bertorelle and Dr. C Varotto).
- Grazia Savini (2016; University of Pavia; Supervisor: Prof. A Malacrida).
- Daniel Croll (2009; University of Lausanne; Supervisor: Prof. I Sanders).

#### Ph.D. tutor

- Aromita Mallik (2024-27; University of Pavia; Supervisor: Prof. M Castelli).
- Carlo Croci (2023-25; University of Pavia; Supervisor: Prof. M Castelli).
- Greta Bellinzona (2021-24; University of Pavia; Supervisor: Prof. D Sassera).
- Francesca Messina (2021-24; University of Pavia; Supervisor: Prof. A Balestrazzi).
- Vincenzo Agostini (2021-24; University of Pavia; Supervisor: Prof. A Olivieri).

#### Other assessment committee member

Camille Meslin, HDR-Habilitation a diriger des recherches (2025; INRAE-Sorbonne Université, Versailles, France)

#### **Institutional roles**

- 2021-ongoing: Reference person of the University of Pavia for the Life Sciences working group of the Coimbra Group (https://www.coimbra-group.eu).
- 2021-ongoing: Academic tutor for the Dual Career program (aimed at student athletes) for the Biology and Biotechnology Bachelor and Master programs of the University of Pavia.
- 2021-ongoing: Member of the 'Consiglio Scientifico Bibliotecario 2', University of Pavia.
- 2021-2024: Member of the departmental council (Giunta di Dipartimento), Department of Biology and Biotechnology of the University of Pavia.
- 2019-ongoing: Member, PhD Program in Genetics, Molecular and Cellular Biology of the University of Pavia.
- 2023: PhD commission president, University of Pavia.
- 2019-2021: Member of the Research and Resources Committee, Department of Biology and Biotechnology of the University of Pavia.

#### Other roles

• 2024: Member of the selection committee for the admission to the IUSS – Istituto Universitario di Studi Superiori of Pavia (School for Advanced Studies).

## Peer review referee

BMC Evolutionary Biology; BMC Genomics; Current Opinion in Insect Science; Evolution; Frontiers in Genetics; Genetica; Genetics; Genome Biology and Evolution; Heredity; Molecular Biology and Evolution; Molecular Ecology; Molecular Genetics and Genomics; PeerJ; PLoS One; PLoS Neglected Tropical Diseases; Scientific Reports; Wellcome Open Research.

# **Grant reviewer**

University of Padova – Department of Biology, Intramural Research Program.

# **Society membership**

- Italian Society for Evolutionary Biology (Co-founder; 2006-2010 and 2015-2019: Council member; 2019-22: Secretary; 2022-2024: Vice President; 2024-present: President)
- Federazione Italiana Scienze della Vita (FISV; steering committee adviser)
- European Society for Evolutionary Biology
- Society for Molecular Biology and Evolution

# **ORGANIZATION OF WORKSHOPS AND SCHOOLS**

Workshop "External actors engagement workshop", 19 January 2023 (online), European Reference Genome Atlas - ERGA initiative.

Workshop "Building high-quality reference genome assemblies of eukaryotes", 21st European Conference on Computational Biology, 12-21 September 2022 (online), Sitges, Barcelona, Spain.

2022	Crash-course "Best practice for high quality genome assembly", hosted by the 8 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology (in partnership with European Reference Genome Atlas - ERGA), 4-7 September 2022, Ancona, Italy.
2021	Pavia Intensive School for Advanced Graduate Studies "Emerging viral threats in a globalized society: molecular, epidemiological, clinical and social aspects of emerging viral diseases", 6-10 September 2021 (online), University of Pavia, Italy.
2021	PhD Course "Molecular Phylogenetics: from genes to communities to kingdoms", PhD Programme in Genetics, Molecular and Cellular Biology, 26-30 April 2021 (online), University of Pavia (Italy).
2016	Workshop "Inferring natural selection from genome-wide data", promoted by the Italian Society for Evolutionary Biology, 16-18 December 2016, Ferrara, Italy.
2012	"EvolutionDay", 29 June 2012, Fondazione Edmund Mach, Italy.
2007	Summer School: "Genome evolution: mechanisms, dynamics and case studies", promoted by the Italian Society for Evolutionary Biology, 19-22 June 2007, Monte Bondone – Trento, Italy.

	ORGANIZATION OF MEETINGS AND SYMPOSIA	
2024	10 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 8-11 September 2024, Napoli, Italy.	
2023	Symposium "Evolution of sensory systems", Congress of the Society for Molecular Biology and Evolution, 23-27 July 2023, Ferrara, Italy.	
2022	9 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 4-7 September 2022, Ancona, Italy.	
2013	5 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 28-31 August 2013, Trento, Italy (chair of the congress).	
2009	Symposium "Evolutionary Transcriptomics", 12 <sup>th</sup> Congress of the European Society for Evolutionary Biology, 24-29 August 2009, Torino, Italy.	
	Scientific committees / Chairman activity	
2024	Scientific committee, 10 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 8-11 September 2024, Napoli, Italy.	
2023	Symposium chairman, workshop "From Eve's snake to molecular dogs", 2-3 November 2023, Bologna, Italy.	
2024	Scientific committee, 10 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 8-11 September 2024, Napoli, Italy.	
2022	Scientific committee, 9 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 4-7 September 2022, Ancona, Italy.	
2019	Scientific committee and symposium chairman, 7 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 1-4 September 2019, Padova, Italy.	
2015	Symposium chairman, 6 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 31 August-3 September 2015, Bologna, Italy.	
2013	Congress and symposium chairman + Scientific committee, 5 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 28-31 August 2013, Trento, Italy.	
2010	Symposium chairman, 4 <sup>th</sup> Congress of the Italian Society for Evolutionary Biology, 2-4 September 2010, Milano, Italy.	
2008	Scientific committee and Symposium chairman, 3 <sup>rd</sup> Congress of the Italian Society for Evolutionary Biology, 2-5 October 2008, Alghero (SS), Italy.	

# **OUTREACH**

# **Invited Public Lectures**

**2019** Darwin Day, Rovereto (Trento), Italy.

2016	Darwin Day, Rovereto (Trento), Italy.
2015	Museo Civico, Rovereto (Trento), Italy.
2011	Climatrentino, Trento, Italy.
2010	Bioweek, Trento, Italy.
2010	Darwin Day, Trento, Italy.

# **Public Outreach**

- Speaker, "L'evoluzione davanti al caminetto", 18 February 2022, Facebook streaming.
- Co-organizer and speaker, Wallace Day An afternoon with evolutionary biologists, 31 August 2013, MuSe–Museo delle Scienze, Trento, Italy.
- Scientific guide at scientific expositions and at butterfly house.
- Numerous public demonstrations/seminars during university/research institute open-days (e.g. Research Night).
- Numerous outreach activities (including "1 ora con il ricercatore" "1 hour with the researcher") at kindergartens, primary, secondary and high schools, summer camps.

		LANGUAGES
Mother tongue	Italian	
Other languages	English (very good; IELTS 7.5, C1), French (very good), German (basic).	