

# LINO OMETTO

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## 2018 Assistant Professor

University of Pavia, Italy.

*Habilitation as Associate Professor (“Abilitazione Scientifica Nazionale”, Professore di II fascia) in Zoology (05/B1) and in Genetics (05/I1).*

My research activity focuses on the genetic basis of biodiversity, which I investigate with a combination of computational and experimental approaches in both model and non-model systems.

I use population genetics to disentangle demographic and selective processes, as well as molecular evolution to identify the genetic basis of phenotypic and adaptive traits in insects and other organisms.

In particular, by merging evolutionary genomics, transcriptomics and metagenomics with ecological, behavioural and morphological data, my research aims at understanding the mechanisms underlying the evolution of invading pest insects and insects of agricultural and medical importance.

## HIGHER EDUCATION

### 2006 Ph.D. in Natural Sciences (*summa cum laude*)

LMU–University of Munich, Germany. Advisor: Prof. Wolfgang Stephan.  
“The selective and demographic history of *Drosophila melanogaster*”.

### 1999 Laurea Degree in Biological Sciences (M.Sc. equivalent)

University of Padova, Italy. Advisor: Prof. Pietro Cardellini.  
“Teratogenic and toxic effects of Alcohol Ethoxylate and Alcohol Ethoxy Sulfate surfactants on *Xenopus laevis* embryos and tadpoles”.

### 1997-98 Maîtrise studies (Erasmus student)

University of Paris XI, France.  
Specialized courses on evolutionary biology, entomology, developmental biology.

## SCIENTIFIC CAREER

### 2014-16 Researcher/PostDoc

Agricultural Entomology Unit, Department of Sustainable Ecosystems and Bioresources, Research and Innovation Centre, Fondazione Edmund Mach, Italy. PI: Dr. Gianfranco 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. PI: Dr. Claudio Varotto.  
Genomics, molecular evolution and population genetics in *Cardamine resedifolia* and *C. impatiens*. NGS data analysis in *Aquilegia*. Molecular evolution in *Drosophila suzukii* and *Propionibacterium acnes*.

### 2006-09 PostDoc

Department of Ecology and Evolution, University of Lausanne, Switzerland. Supervisor: Prof. Laurent Keller.  
Study of the contribution of sex, caste and developmental stage in the evolution of gene expression in the ants *Solenopsis invicta*, *S. richteri*, and their hybrids. Molecular evolution of caste-biased genes.

**2002-06 Ph.D. Student**

Department of Biology II, LMU–University of Munich, Germany. Supervisor: Prof. Wolfgang Stephan. Multi-locus analysis of DNA variation in *Drosophila melanogaster*. Development of a maximum-likelihood approach to distinguish effects of demography from selection on patterns of DNA variation. Evolution of non-coding DNA.

**2001-02 Research internship**

Department of Biology II, LMU–University of Munich, Germany. Supervisor: Dr. Beate Nürnberger. Kin-recognition-mediated behaviour in tadpoles of the hybridizing toads *Bombina variegata* and *B. bombina*. Identification of species-specific genetic markers.

**2000-01 Research internship**

Zoology Department, Canterbury University, Christchurch, New Zealand. Supervisor: Prof. Bruce Waldman. Role of chemical cues in behaviour of the frog *Leiopelma hamiltoni*. Assessment of the species' genetic variation.

**2000 Research internship**

Max Plank Institute for Ornithology, Seewiesen, Germany. Supervisor: Prof. Y. Winter. Spatial ecology of nectarivorous bats.

**1999-00 Research internship**

Department of Biology, University of Padova, Italy. Supervisor: Prof. Alessandro Minelli. Intraspecific variation of morphological traits in the genus *Tygarrup* (Chilopoda).

**PAST APPOINTMENTS****2014-18 Adjunct Professor**

University of Padova, Italy.

**2016-18 Mathematics and Science teacher**

High School (Il M. Martini, Mezzolombardo, Trento, Italy) and Middle school (IC Mezzocorona, Mezzocorona, Trento, Italy).

**2010-12**

Scientific adviser for Genetics and Evolution for MuSe–Museo delle Scienze, Trento.

**ATTENDED COURSES/OTHER HABILITATIONS****2017**

Course (100h) 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.

**ONGOING COLLABORATIONS**

O Rota-Stabelli, F Cagnacci (FEM, Italy): population genetics, (applied) molecular evolution.

M Bonizzoni (U. of Pavia, Italy): genomics and molecular evolution of Flavivirus in mosquitos.

A Malacrida (U. of Pavia, Italy), G. Attardo (Yale, USA): genomics and molecular evolution in tse-tse flies.

I am member of the European Drosophila Population Genomics Consortium (DrosEU, [www.droseu.net](http://www.droseu.net))

**CO-INVESTIGATOR IN THE FOLLOWING GRANTS**

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 450e 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

### RESEARCH ARTICLES

\* SHARED FIRST AUTHORSHIP; # CORRESPONDING AUTHOR

- [24] Tait, G, A Grassi, F Pfab, MC Crava, DT Dalton, R Magarey, L Ometto, S Vezzulli, V Rossi-Stacconi, A Gottardello, A Pugliese, G Firrao, VM Walton, and G Anfora. *In press*. Large-scale spatial dynamics of *Drosophila suzukii* in Trentino, Italy. *J Pest Sci*
- [23] Benazzo, A, E Trucchi, J Cahill, P Maisano Delsler, 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.
- [22] Tait, G, S Vezzulli, F Sassù, G Antonini, A Biondi, N Baser, G Sollai, A Cini, L Tonina, L Ometto, and G Anfora. 2017. Reconstructing the genetic colonization history of *Drosophila suzukii* in Italy. *BMC Genetics* 18:87.
- [21] Conner, WR, ML Blaxter, G Anfora, L Ometto, O Rota-Stabelli, and M Turelli. 2017. Genome comparisons indicate recent transfer of *w*Ri-like *Wolbachia* between sister species *Drosophila suzukii* and *D. subpulchrella*. *Ecology and Evolution* 7:9391-9404.
- [20] Palatini, U, P Miesen, R Carballar-Lejarazu, L Ometto, 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.
- [19] Crava, MC, S Ramasamy, L Ometto, 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.
- [18] Ramasamy, S, L Ometto, 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.
- [17] Rossi-Stacconi, V, K Rupinder, V Mazzoni, L Ometto, 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.
- [16] De Groeve, J, N Van de Weghe, T Neutens, L Ometto, 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.

- [15] Ometto, L., M Li, L Bresadola, E Barbaro, M Neteler, and C Varotto. 2015. Population structure and local adaptation in *Cardamine resedifolia* and *C. impatiens*. *PLoS ONE* 10:e0125199.
- [14] Campisano, A, L Ometto, S Compant, M Pancher, L Antonielli, C Varotto, G Anfora, I Pertot, A Sessitsch, and O Rota-Stabelli. 2014. Interkingdom transfer of the acne causing agent, *Propionibacterium acnes*, from human to grapevine. *Mol Biol Evol* 31:1059-1065.
- [13] 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. (Journal cover)
- [12] Fior, S, M Li, B Oxelman, R Viola, S Hodges, L Ometto, 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.
- [11] Werzner, A, P Pavlidis, L Ometto, W Stephan, and S Laurent. 2013. Selective sweep in the Flotillin-2 region of European *Drosophila melanogaster*. *PLoS ONE* 8:e56629.
- [10] Hunt, BG, L Ometto, 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.
- [9] 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.
- [8] 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.
- [7] Hunt, BG\*, L Ometto\*, 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.
- [6] Ometto, L#, DD Shoemaker, KG Ross, and L Keller. 2011. Evolution of gene expression in fire ants: the effects of developmental stage, caste, and species. *Mol Biol Evol* 28:1371-1380.
- [5] Ometto, L#, D De Lorenzo, and W Stephan. 2006. Contrasting patterns of sequence divergence and base composition between *Drosophila* introns and intergenic regions. *Biol Lett* 2:604-607.
- [4] 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.
- [3] Ometto, L., W Stephan, and D De Lorenzo. 2005. Insertion/deletion and nucleotide polymorphism data reveal constraints in *Drosophila melanogaster* introns and intergenic regions. *Genetics* 169:1521-1527.
- [2] Glinka, S\*, L Ometto\*, 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.
- [1] Cardellini, P, and L Ometto. 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.

#### 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, ADN Kronos, Libero, Rai, ...) and international level (ScienceDaily, Herald Scotland, LA Times, USA Today, CNN, Nature, Science, Time, ...).

#### BOOK CHAPTERS

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

SELECTED ABSTRACTS TO CONFERENCES (TOTAL: 48)		MY* ORAL/POSTER PRESENTATION
O*	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 <i>Drosophila subpulchrella</i> and the evolution of fresh fruit feeding in <i>Drosophila suzukii</i> : a comparative genomics approach. <i>In</i> : Abstracts of the XI European Congress of Entomology, 2-6 July 2018, Naples, Italy.	
P	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 <u>L Ometto</u> . 2017. 404 error: (evolutionary) page not found. <i>In</i> : Abstracts of the 6th Congress of the Italian Society for Evolutionary Biology, 28-31 August 2017, Rome, Italy.	
O*	<u>L Ometto</u> , and O Rota-Stabelli. 2016. Codon usage and phylogenetic analyses elucidate the recent evolutionary history of Zika virus. <i>In</i> : Abstracts of the International Conference "Facing the invasion of alien arthropods species: ecology, modeling and control of their economic impact and public health implications", 7-9 November 2016, Trento, Italy.	
P	O Rota-Stabelli, T Weil, <u>L Ometto</u> , A Campisano, K Karimi, I Pertot, and G Anfora. 2015. Using molecular clocks to investigate beneficial (and deleterious) microbe-host interactions in the agroecosystem. <i>In</i> : Abstracts of the Annual Meeting of the Society for Molecular Biology and Evolution, 3-7 July 2016, Queensland, Australia.	
O	Rota Stabelli, O, F Drago, G Anfora, and <u>L Ometto</u> . 2016. Towards a molecular clock of Wolbachia. <i>In</i> : Abstracts of the 9th International Wolbachia Conference: in the rain forest, 28 June-3 July 2016, Queensland, Australia.	
P	Rota-Stabelli, O, <u>L Ometto</u> , A Cestaro, MC Crava, S Ramasamy, R Kaur, and G Anfora. 2015. Evolution and genomics quickly provide with useful clues for insect pest management: the case of <i>Drosophila suzukii</i> . <i>In</i> : Abstracts of the 6th Congress of the Italian Society for Evolutionary Biology, 31 August-3 September 2015, Bologna, Italy.	
P*	<u>Ometto, L</u> , O Rota-Stabelli, A Cestaro, MC Crava, and G Anfora. 2015. Genome sequencing galore: what, how and why. <i>In</i> : Abstracts of the 6th Congress of the Italian Society for Evolutionary Biology, 31 August-3 September 2015, Bologna, Italy.	
P	Benazzo, A, L Boitani, J Cahill, P Ciucci, L Cornetti, M Fumagalli, S Fuselli, S Ghirotto, P Maisano Delser, S Mona, <u>L Ometto</u> , L Orlando, A Panziera, O Rota-Stabelli, B Shapiro, E Trucchi, C Vernesi, E Zanetti, and G Bertorelle. 2015. The evolution of the small and isolated population of Apennine brown bears ( <i>Ursus arctos marsicanus</i> ): a whole-genomes perspective. <i>In</i> : Abstracts of the 6th Congress of the Italian Society for Evolutionary Biology, 31 August-3 September 2015, Bologna, Italy.	
P*	<u>Ometto, L</u> , M Li, and C Varotto. 2013. The draft genome of <i>Cardamine resedifolia</i> : genomic tools to investigate plant adaptation to high altitude. <i>In</i> : Abstracts of the 5th Congress of the Italian Society for Evolutionary Biology, 28-31 August 2013, Trento, Italy.	
O	De Groeve, J, O Rota-Stabelli, L Ometto, N Van de Weghe, T Neutens, and F Cagnacci. 2013. From evolutionary trees to behavioural ecology: exploiting SAM to visualize spatio-temporal movement patterns. <i>In</i> : Abstracts of the 5th Congress of the Italian Society for Evolutionary Biology, 28-31 August 2013, Trento, Italy.	
O	Campisano, A, O Rota-Stabelli, M Pancher, S Compant, L Antonielli, and <u>L Ometto</u> . 2013. How grapevine got pimples. The interkingdom horizontal transfer of an unusual symbiont. <i>In</i> : Abstracts of the 5th Congress of the Italian Society for Evolutionary Biology, 28-31 August 2013, Trento, Italy.	
P*	<u>Ometto, L</u> , M Li, L Bresadola, and C Varotto. 2012. Combining genome and candidate genes approaches to study the evolution of stress-related genes in <i>Cardamine resedifolia</i> and <i>C. impatiens</i> . <i>In</i> : Abstracts of the EMBO Workshop "Evolution in the Time of Genomics", 7-9 May 2012, Venice, Italy.	
O	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. <i>In</i> : Abstracts of the Evolution 2011 meeting, 17-21 June 2011, Norman, Oklahoma, USA.	
P*	<u>Ometto, L</u> , L Bresadola, M Li, and C Varotto. 2010. Altitude adaptation in <i>Cardamine</i> . <i>In</i> : Abstracts of the	

4th Congress of the Italian Society for Evolutionary Biology, 2-4 September 2010, Milano, Italy.

P\* Ometto, L., DD Shoemaker, KG Ross, and L Keller. 2009. Molecular evolution of caste-biased genes in fire ants (*Solenopsis*). *In*: Abstracts of the 12th Congress of the European Society for Evolutionary Biology, 24-29 August 2009, Torino, Italy.

O\* Ometto, L., DD Shoemaker, KG Ross, and L Keller. 2008. One genome, many phenotypes: evolutionary transcriptomics in ants. *In*: Abstracts of the 3rd Congress of the Italian Society for Evolutionary Biology, 2-5 October 2008, Alghero (SS), Italy.

O\* Ometto, L., KG Ross, DD Shoemaker, and L Keller. 2008. The evolution of gene expression in fire ants. *In*: Abstracts of the Annual Meeting of the Society for Molecular Biology and Evolution, 5-8 June 2008, Barcelona, Spain.

O\* Ometto, L., KG Ross, DD Shoemaker, and L Keller. 2007. Evolution of gene expression across castes in fire ants. *In*: Abstracts of the J. Monod Conference "Evolutionary Genomics", 2-6 May 2007, Roscoff, France.

O\* Ometto, L., D De Lorenzo, and W Stephan. 2006. Selective constraints in non-coding DNA of *Drosophila melanogaster*. *In*: Abstracts of the 2nd Congress of the Italian Society for Evolutionary Biology, 4-7 September 2006, Firenze, Italy.

P\* Ometto, L., KG Ross, DD Shoemaker, and L Keller. 2006. Gene expression profile across castes in two fire ants species and their hybrids. *In*: Abstracts of the American Genetics Association Annual Symposium on "Genetics of Speciation", 21-24 July 2006, Vancouver, Canada.

O\* Ometto, L., S Glinka, W Stephan, and D De Lorenzo. 2005. Demographic and selective history of *Drosophila melanogaster* inferred by a multilocus scan of DNA variation. *In*: Abstracts of the 1st Congress of the Italian Society for Evolutionary Biology, 24-26 August 2005, Ferrara, Italy.

P\* Ometto, L., S Glinka, L Mueller, W Stephan, and D De Lorenzo. 2005. Distinguishing demographic and selective footprints in the X chromosome of *Drosophila melanogaster*. *In*: Abstracts of the 10th Congress of the European Society for Evolutionary Biology, 15-20 August 2005, Kraków, Poland.

P\* Ometto, L., S Glinka, S Mousset, W Stephan, and D De Lorenzo. 2003. A multi-locus survey of *Drosophila melanogaster* X chromosome: Demography and natural selection shaped genetic variation. *In*: Abstracts of the 9th Congress of the European Society for Evolutionary Biology, 18-24 August 2003, Leeds, UK.

O\* Ometto, L., and P Cardellini. 1999. Effetti di tensioattivi (AE ed AES) su embrioni e su larve di *Xenopus laevis*. *In*: Atti del 60° Congresso dell'Unione Zoologica Italiana, 27-30 September 1999, Pavia, Italy.

#### 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

- 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

**2013** "Genomic and candidate gene approaches to investigate altitudinal adaptation in *Cardamine*", 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.
<b>2012</b>	“Evolutionary genomics: tales from ants and plants”, Department of Biology, University of Modena and Reggio Emilia, Italy.
<b>2010</b>	“Gene expression in ants”, Department of Evolutionary Biology, LMU–University of Munich, Germany.
<b>2006</b>	“Demography and selection in <i>Drosophila melanogaster</i> ”, Department of Ecology and Evolution, University of Lausanne, Switzerland.
<b>2006</b>	“Demography and selection in <i>Drosophila melanogaster</i> : an X-chromosome tale”, Volkswagenstiftung Conference in Evolutionary Biology, LMU–University of Munich, Germany.
<b>2001</b>	“Homing and olfaction in New Zealand native frogs”, Department of Biology, University of Padova, Italy.
<b>2000</b>	“Orientamento nei pipistrelli nettariatori”, Department of Biology, University of Padova, Italy.

## TEACHING AND ACADEMIC ROLES

### Courses

<b>2018-19</b>	“Comparative Anatomy” (1 CFU; lectures; with V Bertone), University of Pavia, Italy.
<b>2018-19</b>	“Insects Biotechnology” (MSc course; 4 CFUs; lectures; with AR Malacrida), University of Pavia, Italy.
<b>2018-19</b>	“Zoology” (2 CFUs; lectures; with G Gasperi), University of Pavia, Italy.
<b>2014-18</b>	“Evolution and Phylogenetics” (course held during four academic years, 2-3 CFUs; MSc course, lectures + practicals; with O Rota-Stabelli and G Fusco), University of Padova, Italy.
<b>2015</b>	“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, Italy.
<b>2012</b>	Co-instructor, “Population genetics” (PhD course, lectures; principal instructor: D Neale, U. of California at Davis), Fondazione Edmund Mach, Italy.
<b>2011</b>	Invited guest lecturer (MSc course, lecture; principal instructor: R Velasco), University of Bologna, on “Inference of demographic and selective forces in population genetics”.
<b>2006-08</b>	Co-instructor, “Experimental Design” (MSc course, practicals; principal instructor: L Keller), University of Lausanne, Switzerland.
<b>2003-05</b>	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

<b>2012</b>	“Genetics basics: what, where, how”, workshop “Plant phenology and genetics”, Trento (Italy).
<b>2010</b>	“What evolution does not explain”, workshop “Updates on evolutionary research”, Orvieto (Italy).
<b>2009</b>	“What evolution does not explain”, workshop “Teaching evolution”, Abbiategrosso - Milano (Italy).
<b>2007</b>	“Evolution of non-coding DNA”, Summer school “Genome evolution: mechanisms, dynamics and case studies”, Trento (Italy)

### Student supervision/external examiner

- Ph.D. thesis committee for Grazia Savini (2016; University of Pavia; Supervisor: Prof. A. Malacrida).
- Co-tutor, post graduate internship, Johannes De Groeve (2013; Fondazione Edmund Mach).
- Co-supervisor for the M.Sc. of Luisa Bresadola (2010; University of Parma).
- Ph.D. thesis committee for Daniel Croll (2009; University of Lausanne; Supervisor: Prof. I. Sanders).
- Co-supervisor for the M.Sc. of Bettina Schirrmeyer (2005; LMU–University of Munich).
- Co-supervisor for the M.Sc. of Lena Müller (2004; LMU–University of Munich).
- Co-supervisor for the M.Sc. of Claudia Lemcke (2002; LMU–University of Munich).

### Peer review referee

*BMC Evolutionary Biology; Evolution; Genetica; Genetics; Genome Biology and Evolution; Heredity; Molecular Biology and Evolution; Molecular Ecology; Molecular Genetics and Genomics; PLoS One.*

### Society membership

- Italian Society for Evolutionary Biology (Co-founder; 2006-2010 and 2015-present: Council member)

## ORGANIZATION OF MEETINGS AND CONFERENCES

- 2016** Co-organizer, workshop "Inferring natural selection from genome-wide data", promoted by the Italian Society for Evolutionary Biology, 16-18 December 2016, Ferrara, Italy.
- 2013** Co-main organizer, 5th Congress of the Italian Society for Evolutionary Biology, 28-31 August 2013, Trento, Italy.
- 2012** Co-organizer, "EvolutionDay", 29 June 2012, Fondazione Edmund Mach, Italy.
- 2009** Co-organizer/chairman, Symposium "Evolutionary Transcriptomics", 12th Congress of the European Society for Evolutionary Biology, 24-29 August 2009, Torino, Italy.
- 2007** Main organizer, 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.

### Chairman activity

- 2015** Symposium chairman, 6th Congress of the Italian Society for Evolutionary Biology, 31 August-3 September 2015, Bologna, Italy.
- 2013** Congress and symposium chairman, 5th Congress of the Italian Society for Evolutionary Biology, 28-31 August 2013, Trento, Italy.
- 2010** Symposium chairman, 4th Congress of the Italian Society for Evolutionary Biology, 2-4 September 2010, Milano, Italy.
- 2008** Scientific committee and Symposium chairman, 3rd Congress of the Italian Society for Evolutionary Biology, 2-5 October 2008, Alghero (SS), Italy.

## OUTREACH

### Public Lectures

- 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

- 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.
- Several public demonstrations/seminars during university/research institute open-days.
- Numerous scientific activities and lectures at kindergartens, primary and high schools, summer camps.

## TECHNICAL SKILLS AND COMPETENCES

<b>Lab/field work</b>	<ul style="list-style-type: none"><li>• Laboratory techniques: DNA extraction, amplification (PCR), purification, primer design, DNA sequencing and sequence analysis.</li><li>• RNA extraction, amplification, and purification; microarray preparation and analysis.</li><li>• Research experience (including handling, genetics, data analysis) with different model (<i>Drosophila</i>) and non-model organisms (insects, ants, frogs, plants).</li><li>• Fieldwork experience (plant sampling, animal census, behavioural observations).</li></ul>
<b>Bioinformatics</b>	<ul style="list-style-type: none"><li>• Data analysis: R, PAML, codonw, Geneious, ABySS, SoapDenovo2, Platanus, RepeatMasker, orthoMCL, various other genome analysis tools, BLAST+.</li><li>• Experience with de-novo genome draft assembly, analysis of Next Generation Sequencing data (including RNA-Seq), large datasets of SNPs, and genome scale projects.</li><li>• Very good experience with Unix environment and perl programming language, basic usage of python.</li></ul>

## LANGUAGES

**Mother tongue** Italian

**Other languages** English (very good; IELTS 7.5, C1), French (very good), German (basic).