

University Academic Curriculum Vitae

Education since leaving school	<ul style="list-style-type: none">• 2006 Laurea magistrale in Scienze Naturali, University of Florence• 2009, BIO/05 Dottorato di ricerca in Etologia ed Ecologia animale, University of Florence.																																			
Present appointment	<ul style="list-style-type: none">• Assegnista di ricerca AGR/11• start of appointment 01/11/2023• Level of appointment in national context• Employer in national context, Free University of Bolzano,• Genetic analyses in invasive species																																			
Professional experience	Chronological list of all previous employments (each with job title, starting and finishing dates, level, employer, responsibilities)																																			
	<table border="1"><thead><tr><th>From / to</th><th>Job title</th><th>Name of academic Institution</th><th>Academic level</th><th>Responsibilities</th></tr></thead><tbody><tr><td>2019-2023</td><td>Research assistant</td><td>University of Cologne</td><td>Postdoc</td><td>Mass Spectrometry, Transcriptomics, Genomics analyses., students support</td></tr><tr><td>2016-2019</td><td>Neuropeptidomics in insects (Neurostresspep)</td><td>University of Cologne</td><td>Postdoc</td><td>Identification of neuropeptides in insects</td></tr><tr><td>2012-2014</td><td>Elucidating the role of the translation machinery on gene evolution</td><td>University of Aveiro</td><td>Postdoc</td><td>Genomic and proteomics analyses in yeast and bacteria</td></tr><tr><td>2011</td><td>Targetting protein synthesis in the apicoplast and citoplast of Plasmodium</td><td>University of Aveiro</td><td>Postdoc</td><td>Gene optimization for heterologous protein expression</td></tr><tr><td>2010</td><td>Genetics characterization of MHC Loci of the common pheasant (<i>Phasianus colchicus</i>)</td><td>University of Milan</td><td>Contratto a progetto</td><td>Cloning MHC loci</td></tr><tr><td></td><td>Genetics investigation of natural population</td><td>University of Florence</td><td>Borsista</td><td>Population genetics analyses</td></tr></tbody></table>	From / to	Job title	Name of academic Institution	Academic level	Responsibilities	2019-2023	Research assistant	University of Cologne	Postdoc	Mass Spectrometry, Transcriptomics, Genomics analyses., students support	2016-2019	Neuropeptidomics in insects (Neurostresspep)	University of Cologne	Postdoc	Identification of neuropeptides in insects	2012-2014	Elucidating the role of the translation machinery on gene evolution	University of Aveiro	Postdoc	Genomic and proteomics analyses in yeast and bacteria	2011	Targetting protein synthesis in the apicoplast and citoplast of Plasmodium	University of Aveiro	Postdoc	Gene optimization for heterologous protein expression	2010	Genetics characterization of MHC Loci of the common pheasant (<i>Phasianus colchicus</i>)	University of Milan	Contratto a progetto	Cloning MHC loci		Genetics investigation of natural population	University of Florence	Borsista	Population genetics analyses
From / to	Job title	Name of academic Institution	Academic level	Responsibilities																																
2019-2023	Research assistant	University of Cologne	Postdoc	Mass Spectrometry, Transcriptomics, Genomics analyses., students support																																
2016-2019	Neuropeptidomics in insects (Neurostresspep)	University of Cologne	Postdoc	Identification of neuropeptides in insects																																
2012-2014	Elucidating the role of the translation machinery on gene evolution	University of Aveiro	Postdoc	Genomic and proteomics analyses in yeast and bacteria																																
2011	Targetting protein synthesis in the apicoplast and citoplast of Plasmodium	University of Aveiro	Postdoc	Gene optimization for heterologous protein expression																																
2010	Genetics characterization of MHC Loci of the common pheasant (<i>Phasianus colchicus</i>)	University of Milan	Contratto a progetto	Cloning MHC loci																																
	Genetics investigation of natural population	University of Florence	Borsista	Population genetics analyses																																
Participation in exhibitions (where applicable)																																				
Experience in academic teaching	<ul style="list-style-type: none">• "Biologie der Insekten" teaching support to Prof. Predel, University of Cologne, Germany.• "Neuropeptidomes of insects" University of Cologne, Germany.																																			

- Support to under-/post-graduate / PhD to lab and bioinformatic analyses studying in AG Predel

Memberships DZG - German Zoological Society

Research and scholarships

Date granted	Award Holder(s)	Funding Body	Title	Amount received
2012	Lapo Ragionieri	DAAD	Research fellowship	-
2012	Lapo Ragionieri	Fundaçao para a Ciéncia e a Tecnologia (FCT)	Research fellowship	-

Publications

1. Enciso J., Corretto E., **Ragionieri L.**, Palmieri L., Perez-Lopez E., Dietrich C., Lombaert E., Janik K., Schuler H. (**under revision**) Phylogenetic analysis of *Scaphoideus* reveals new insights into the invasion history of *Scaphoideus titanus* (Hemiptera, Cicadellidae) in Europe. *Ecology and Evolution*.
2. Chowański S., Lubawy J., Pacholska-Bogalska J., **Ragionieri L.**, Urbański A., Szymczak-Cendlak M., Walkowiak-Nowicka K., Marciniak P. (**minor revision**) FMRFamide-like peptides (FaLPs) – an overview of diverse physiological roles in insects and other arthropods. *International Journal of Biological Sciences*.
3. **Ragionieri L.**, Fierro A., Penna-Díaz M.A., Schubart C.D., Thiel M. (**in press**) Phylogeography of the kelp-dwelling isopod *Amphoroidea typa* along the coast of continental Chile. *Estuarine costal and Shelf Science*. <https://doi.org/10.1016/j.ecss.2025.109168>
4. Enciso Garcia J.S., Chignola M., **Ragionieri L.**, Rey F., Fluch M., Borruso L., Corretto E., Schuler H. (**accepted**). High-Throughput Amplicon Sequencing for Analyzing Microbial Communities of Insects. In: Bonizzoni M. and Ometto L. (eds) *Insect Genomics: Methods and Protocols*, Accepted

Publications about the applicant

5. Corretto E., **Ragionieri L.**, Schuler H. (2023) Caratterizzazione genetica della psilla del biancospino in Europa. *Relazione agraria & forestale* 2023.
6. **Ragionieri L.**, Cannicci S., Fratini S. (2024) Distinct phylogeographic and population genetic patterns of decapod species across mediterranean biogeographic barriers. *Crustaceana* DOI: 10.1163/15685403-bja10399.
7. Ragionieri L*, Zúñiga-Reinoso A*, Blaeser M, Predel R. Phylogenomics of darkling beetles (Coleoptera: Tenebrionidae) from the Atacama Desert. *PeerJ*, DOI: 10.7717/peerj.14848.
8. Marciniak P, Pacholska-Bogalsk, J, Ragionieri L (2022) Neuropeptidomes of *Tenebrio molitor* L. and *Zophobas atratus* Fab. (Coleoptera, Polyphaga: Tenebrionidae). *Journal of Proteome Research*. 21(10), 2247–2260.
9. Blenau W, Bremer AS, Schwietz Y, Friedrich D, Ragionieri L, Predel R, Balfanz S, and Baumann A (2022) PaOctβ2R: Identification and Functional Characterization of an Octopamine Receptor Activating Adenylyl Cyclase Activity in the American Cockroach *Periplaneta americana*. *International journal of*

- molecular sciences 23(3), 1677.
10. Ragionieri L, Verdonck R, Verlinden H, Marchal E, Broeck JV, and Predel R (2022) Schistocerca neuropeptides—An update. *Journal of Insect Physiology* 136, 104326.
 11. Ragionieri L and Predel R (2020) The neuropeptidome of *Carabus* (Coleoptera, Adephaga: Carabidae). *Insect Biochemistry and Molecular Biology* 118, 103309.
 12. Ly A*, Ragionieri L*, Liessem S, Becker M, Deininger SO, Neupert S, and Predel R (2019) Enhanced coverage of insect neuropeptides in tissue sections by an optimized mass-spectrometry-imaging protocol. *Analytical Chemistry* 91:1980-1988.
 13. Pandit AA*, Ragionieri L*, Marleya R, Yeoha JGC, Inward DJG, Davies SA, Predel R and Dow JAT (2018) Coordinated RNA-Seq and peptidomics identify neuropeptides and G-protein coupled receptors (GPCRs) in the large pine weevil *Hylobius abietis*, a major forestry pest. *Insect Biochemistry and Molecular Biology* 101, 94-107.
 14. Liessem S, Ragionieri L, Neupert S, Büschges A and Predel R (2018) Transcriptomic and Neuropeptidomic Analysis of the Stick Insect, *Carausius morosus*. *Journal of Proteome Research* 17(6), 2192-2204.
 15. Ragionieri L, Ozbagci B, Neupert S, Salts Y, Davidovitch M, Altstein M, Predel R (2017). Identification of mature peptides from pban and capa genes of the moths *Heliothis peltigera* and *Spodoptera littoralis*. *Peptides* 94, 1-9.
 16. Fratini S, Ragionieri L, Deli T, Harrer A, Marino IAM, Cannicci S, Zane L, Schubart CD (2016) Unravelling population genetic structure with mitochondrial DNA in a notional panmictic coastal crab species: sample size makes the difference. *BMC Evolutionary Biology*, 16, 150.
 17. Deli T, Fratini S, Ragionieri L, Said K, Chatti N, Schubart CD (2016) Phylogeography of the marbled crab *Pachygrapsus marmoratus* (Decapoda, Grapsidae) along part of the African Mediterranean coast reveals genetic homogeneity across the Siculo-Tunisian Strait versus heterogeneity across the Gibraltar Strait. *Marine Biology Research*, 12(5), 471-487.
 18. Fratini S, Ragionieri L., Cannicci S. (2016) Demographic history and reproductive output correlates with intraspecific genetic variation in seven species of indo-pacific mangrove crabs. *PLoS ONE* 11(7), e0158582.
 19. Ragionieri L, Fratini S, Cannicci S (2015) Temporal patterns of megalopal settlement in different areas of an East African mangrove forest (Gazi Bay, Kenya). *Hydrobiologia* 749 (1), 183-195.
 20. Ragionieri L, Vitorino R, Frommlet J, Oliveira J, Gaspar P, Ribas de Pouplana L, Santos M and Moura G (2015) Improving the accuracy of recombinant protein production through integration of bioinformatics, statistical and mass spectrometry methodologies. *FEBS Journal* 282 (4), 769-787.
 21. Ragionieri L & Schubart CD (2013) Population genetics, gene flow, and biogeographical boundaries of *Carcinus aestuarii* (Crustacea: Brachyura: Carcinidae) along the European Mediterranean coast. *Biological Journal of the Linnean Society*, 109(4), 771-790.
 22. Ragionieri L, Cutuli G, Sposimo P, Spano G, Navone A, Capizzi D, Baccetti N, Vannini M and Fratini S (2013). Establishing the eradication unit of Molara Island: a case of study from Sardinia, Italy. *Biological Invasion* 15(12), 2731-2742.

23. Fratini S, Ragionieri L, Cutuli G, Vannini M, Cannicci S (2013) Pattern of genetic isolation in the crab *Pachygrapsus marmoratus* within the Tuscan Archipelago (Mediterranean Sea). *Marine Ecology Progress Series* 478, 173-183.
24. Sposimo P, Spano G, Navone A, Fratini S, Ragionieri L, Putzu M, Capizzi D, Baccetti N, Lastrucci B (2012) Rat eradication at Yelkouan Shearwater *Puffinus yelkouan* colonies on NE Sardinian islets: success followed by unexplained re-appearance. In P. Yésou, N. Baccetti and Joe Sultana (Eds.) *Ecology and conservation of Mediterranean seabirds and other bird species under the Barcelona convention*, Proceedings of the 13th Medmaravis Pan-Mediterranean Symposium: 58-64.
25. Sposimo P, Spano G, Navone A, Fratini S, Ragionieri L, Putzu M, Capizzi D, Baccetti N (2012). Rodent eradication on Molara Island and surrounding islets (NE Sardinia): from success to the riddle of reinvasion. *Aliens: the Invasive Species Bulletin*, 32, 33-38.
26. Baratti M, Dessi-Fulgheri F, Ambrosini R, Bonisoli-Alquati A, Caprioli M, Goti E, Matteo A, Monnanni R, Ragionieri L, Ristori E, Romano M, Rubolini D, Scialpi A, Saino N (2012) MHC genotype predicts mate choice in the ring-necked pheasant *Phasianus colchicus*. *Journal of Evolutionary Biology* 25(8), 1531-1542.
27. Ragionieri L, Fratini S, Schubart CD (2012) Revision of the *Neosarmatium meinerti* species complex (Decapoda: Brachyura: Sesarmidae), with descriptions of three pseudocryptic Indo-West Pacific species. *Raffles Bulletin of Zoology* 60(1), 71-87.
28. Fratini S, Schubart CD, Ragionieri L (2011) Population genetics in the rocky shore crab *Pachygrapsus marmoratus* from the western Mediterranean and eastern Atlantic: complementary results from mtDNA and microsatellites at different geographic scales In: *Phylogeography and Population Genetics in Crustacea*. Stefan Koenemann, Christoph D. Schubart, Christoph Held. (eds) *Crustacean Issues*. CRC Press. 19, 191-213
29. Ragionieri L., Cannicci S., Schubart C.D. and S. Fratini (2010). Gene flow and demographic of the mangrove crab *Neosarmatium meinerti* (de Man 1887): a case of study from the East Africa Coast and Seychelles. *Estuarine Costal and Shelf Science* 86(2), 179-188.
30. Fratini S., Ragionieri L., and S. Cannicci (2010). Stock structure and demographic history of Indo-Pacific mud crab *Scylla serrata*. *Estuarine, Coastal and Shelf Science* 86(1) 51-61.
31. Ragionieri L., Fratini S., Vannini M. and Schubart C.D (2009). Phylogenetic and morphometric differentiation reveals geographic radiation and pseudo-cryptic speciation in a mangrove crab from the Indo-West Pacific. *Molecular Phylogenetics and Evolution* 52(3), 825-834.
32. Fratini S, Zane L, Ragionieri L, Vannini M Cannicci S (2008). Relationship between heavy metal accumulation and genetic variability decrease in the intertidal crab *Pachygrapsus marmoratus* (Decapoda; Grapsidae) *Estuarine, Costal and Shelf Science* 79(4), 679-686.
33. Ragionieri L, Papetti C, Pitruzzella G, Rorandelli R, Barbaresi S, and Zane L (2006). Isolation and characterization of microsatellites in *Pachygrapsus marmoratus* (Grapsidae; Decapoda; Brachyura). *Molecular Ecology notes*. 6(1), 179-181.

* Authors contributed equally

Statement of interest My research focuses on two main areas: insect phylogeny/phylogeography and functional neuropeptidomics. I have extensive experience conducting phylogeographic analyses using both nuclear and mitochondrial DNA sequences to investigate the evolutionary history and population structure of various insect species. Recently, I had the opportunity to work on the phylogeny of tenebrionid beetles, utilizing cutting-edge transcriptomic and genomic data. This research involved the application of both second- and third-generation sequencing technologies, which enabled a deeper understanding of genetic relationships and species diversification within this group. By combining data from multiple sequencing platforms, I aim to reconstruct high-resolution phylogenetic trees that provide insights into the evolutionary processes driving species divergence and adaptation. In the second area of my research—functional neuropeptidomics in insects—I focus on identifying neuropeptides and investigating their role in regulating physiological processes in the nervous system. My work involves characterizing the structure, function, and post-translational modifications of these neuropeptides. The goal of this research is to develop species-specific neuropeptide mimetics that can disrupt key physiological functions in pest species, such as reproduction, development, or feeding behavior, without adversely affecting beneficial species like pollinators. This approach holds promise for creating targeted, environmentally friendly pest control strategies that minimize the ecological impact of pesticide use.
In addition to my work in phylogeny and neuropeptidomics, I am increasingly interested in applying genetic methods to study the biodiversity and interactions between insects and their symbionts, including bacteria and fungi. I conduct genome assembly and employ advanced bioinformatic tools for population genomics analyses, as well as genome-wide association studies (GWAS), to identify genetic markers associated with traits of ecological and evolutionary significance.

Language competence

Italian Native
English B2
Portuguese B1
German A2