



FAMILY NAME Ventura Garcia **NAME:** Patrícia
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City: Ponta Delgada (Açores, Portugal)
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AFILIATION

DEPARTMENT: Biology
UNIVERSITY: University of the Azores
ADDRESS: Rua da Mãe de Deus s/n, 9500-801
 Ponta Delgada, Açores, Portugal.

CURRENT POSITION (since 2001):

Assistant Professor
 Department of Biology, University of Azores

OTHER CURRENT FUNCTIONS:

- Head of the research group "Environmental Risks & Society" of the **Centre for Ecology, Evolution and Environmental Changes (cE3c)**
 (<http://ce3c.ciencias.ulisboa.pt/>)
- Deputy Director of the **Azorean Biodiversity Group** (cE3c - GBA), University of Azores.
 (<http://www.gba.uac.pt/>)
- Chair of Education Accreditation Commission (UAc)
- Member of the Scientific Council of the Department of Biology, University of Azores
- Member of the Departmental Council of the Department of Biology, University of Azores
- Departmental Coordinator of Erasmus Mobility Programs, University of Azores

MAIN AREAS OF INTEREST:

Ecotoxicology
 Environmental health

EXPERTISE (key-words):

Biomarkers
 Bioindicators
 Heavy metals
 Soil health
 Biomonitoring
 Natural & anthropogenic pollutants
 Risk assessment

BRIEF DESCRIPTION:

Professor of Ecotoxicology, Environmental Health, Histology and Entomology at the University of Azores since 2001 (Bachelor, Master and Doctoral courses). Leader (2014-) of Island Environmental Risks & Society (IERS) group of the FCT research Centre for Ecology, Evolution and Environmental Changes (cE3c). Deputy Director of the Azorean Biodiversity Group (cE3c - GBA), University of Azores (2015-). Ph.D. in Biology at the University of Azores (2001). Supervision of post-graduate students: 2 pos-doc, 3 PhD and 13 master students. 42 scientific publications (ISI journals and book chapters; H Index= 10), and >70 contributions at national and international conferences (regular presentations and invited talks). My current research is mainly focused on the ecotoxicological effects of natural pollutants (vulcanogenic pollutants) and anthropogenic pollutants (e.g., agrochemicals, air pollutants emissions) on human population and other organisms (aquatic and terrestrial). For the last years I have been involved in environmental health and risk assessment research in islands, using as model the natural and urban ecosystems of the Azores. My current research is driven by two main objectives: i) to evaluate the ecotoxicological impacts of agricultural management in volcanic islands; and, ii) to assess the environmental and human health risks in volcanically active environments.

ACADEMIC DEGREES

Bachelor (1991) **Institution**
 Biological Sciences University of Lisbon

PhD (2001) **Institution**
 Biology, Entomology University of the Azores

LANGUAGES (A= Basic User, B = Independent user, C = Proficient user)

| | Speak | Read | |
|------------|-------|------|---|
| | Write | | |
| Portuguese | C | C | C |
| English | C | C | C |
| French | B | B | A |
| Spanish | B | B | A |

RESEARCH PROJECTS FUNDED DURING THE LAST FIVE YEARS

[HOLI-BioPest] Development of an integrated biomonitorization program for pesticide exposure in agricultural ecosystems: a holistic approach.

FUNDAÇÃO LUSO-AMERICANA PARA O DESENVOLVIMNETO (FLAD) (Proj. 59/2012)

Duration: 2012 - 2015 Funding: 24.000,00 €

PI: P. Garcia

Biomonitoring air pollution: development of an integrated system - BIOAIR.

DIREÇÃO REGIONAL PARA A CIÊNCIA, TECNOLOGIA E COMUNICAÇÃO (DRCTC) (M2.1.2/I/008/2011)

Duration: 2012 - 2014 Funding: 38.930,00 €

PI: A. Rodrigues

EDEN - Caracterização e fiabilidade de bioindicadores para a gestão da biodiversidade em ecossistemas insulares.

FUNDAÇÃO LUSO-AMERICANA PARA O DESENVOLVIMNETO (FLAD) (Proj. 121/2009)

Duration: 2009 - 2012 Funding: 53.000,00 €

PI: A.O. Soares

[S.A.F.E.] Safeguard Azorean Fragile Ecosystems: Risk assessment and key bioindicators.

DIREÇÃO REGIONAL PARA A CIÊNCIA E TECNOLOGIA (DRCT) (M2.1.2/I/008/2008)

Duration: 2008 - 2011 Funding: 25.000,00 €

PI: J. Marcelino

RESEARCH PROJECTS FUNDED BY PRIVATE COMPANIES

1. ARAUTO- Biomonitorização da qualidade do ar em Ponta Delgada. Varela S.A.

Duration: 2012 - 2013

PI: A. Rodrigues Funding: 32.590 €

PUBLICATIONS

PAPERS (INDEXED JOURNALS WITH IMPACT FACTOR)

31. PARELHO C., **RODRIGUES A.**, BARRETO M.C., FERREIRA N. & GARCIA P.V. (2016). Assessing microbial activities in metal contaminated agricultural volcanic soils - an integrative approach. *Ecotoxicology and Environmental Safety*. (Accepted) **Impact Factor (JRC®): 2.67.**
30. TORRES, P., RODRIGUES A., CABRAL L. & **GARCIA, P.** (2016). Heavy metal content in two commercially important tuna species from an active volcanic region in the Mid-Atlantic Ocean. *Archives of Environmental Contamination and Toxicology*. 70: 341-347. **Impact Factor (JRC®): 1.89.**
29. LINHARES D., **GARCIA P.**, ALMADA A., FERREIRA T., QUEIROZ G., CRUZ J. V. & RODRIGUES, A.S. (2015). Iodine environmental bioavailability and human intake in oceanic islands: Azores as a case-study. *Science of the Total Environment*. 538: 531-538. **Impact Factor (JRC®): 4.099.**
28. LINHARES D., **GARCIA P.V.**, VIVEIROS F., FERREIRA T. & RODRIGUES A.S. (2015). Air pollution by hydrothermal volcanism and human pulmonary function. *BioMed Research International*. Volume 2015: Article ID 326794 pp. 1-9. **Impact Factor (JRC®): 2.706.**
27. FERREIRA, A.F., **GARCIA, P.V.**, CAMARINHO, R. & RODRIGUES, A.S. (2015). Volcanogenic pollution and testicular damage in wild mice. *Chemosphere*. 132:135-141. **Impact Factor (JRC®): 3.499.**
26. PARELHO C., **RODRIGUES A.**, CRUZ J.V. & P.V. GARCIA (2014). Linking trace metals and agricultural land use in volcanic soils - A multivariate approach. *Science of the Total Environment*. 496:241-247. **Impact Factor (JRC®): 3.258.**

25. MARCELINO J.A.P., E. WEBER, L. SILVA, **P.V. GARCIA** & A.O. SOARES (2014) Expedient Metrics to Describe Plant Community Change Across Gradients of Anthropogenic Influence. *Environmental Management*, 54:1121-1130 **Impact Factor (JRC[®]): 1.724.**
24. CAMARINHO R., **GARCIA, P.V.**, A. RODRIGUES (2013). Chronic exposure to volcanogenic air pollution as cause of lung injury. *Environmental Pollution*, 181: 24-30. **Impact Factor (JRC[®]): 3.730.**
23. MARCELINO J.A.P., L. SILVA, **P.V. GARCIA**, E. WEBER, A.O. SOARES (2013). Using species spectra to evaluate plant community conservation value along a gradient of anthropogenic disturbance. *Environmental Monitoring and Assessment*, 185: 6221-6233. **Impact Factor (JRC[®]): 1.592.**
22. RODRIGUES A.S., M.S.C. ARRUDA, **P. GARCIA** (2012). Evidence of DNA damage in humans inhabiting a volcanically active environment: A useful tool for biomonitoring. *Environment International*, 49: 51-56. **Impact Factor (JRC[®]): 6.122.**
21. **GARCIA, P.V.**, D. LINHARES, A. AMARAL, A. RODRIGUES (2012). Exposure of thermoelectric power-plant workers to volatile organic compounds from fuel oil: Genotoxic and cytotoxic effects in buccal epithelial cells. *Mutation Research: Genetic Toxicology and Environmental Mutagenesis*, 747: 197–201. **Impact Factor (JRC[®]): 3.035.**
20. CABRAL, S., A.O. SOARES, **P. GARCIA** (2011). Voracity of *Coccinella undecimpunctata*: effects of insecticides when foraging in a prey/plant system. *Journal of Pest Science*, 84:373–379. **Impact Factor (JRC[®]): 1.509.**
19. CABRAL, S., A.O. SOARES, **P. GARCIA** (2009). Predation by *Coccinella undecimpunctata* L. (Coleoptera: Coccinellidae) on *Myzus persicae* Sulzer (Homoptera: Aphididae): effect of prey density. *Biological Control*, 50(1): 25-29. **Impact Factor (JRC[®]): 1.612.**
18. **GARCIA, P.**, N. PEREIRA, L. OLIVEIRA (2009). Side-effects of organic and synthetic pesticides on cold-stored diapausing prepupae of *Trichogramma cordubensis* (Hym., Trichogrammatidae). *BioControl*, 54(3): 451-458 **Impact Factor (JRC[®]): 1.406.**
17. RODRIGUES, A., L. CUNHA, A. AMARAL, J. MEDEIROS, **P. GARCIA** (2008). Bioavailability of heavy metals and their effects on the midgut cells of a phytophagous insect inhabiting volcanic environments. *Science of the Total Environment*, 406(1-2): 116-122. **Impact Factor (JRC[®]): 2,579.**
16. CABRAL, S., **P. GARCIA**, A.O. SOARES (2008). Effects of pirimicarb, buprofezin and pymetrozine on survival, development and reproduction of *Coccinella undecimpunctata*. *Biocontrol Science and Technology*, 18(3): 307-318. **Impact Factor (JRC[®]): 0.874.**
15. MOTA, J.A., A.O. SOARES, **P. GARCIA** (2008). Temperature dependence for development of the whitefly predator *Clitostethus arcuatus* (Rossi). 2008. *BioControl*, 53(4): 603-613. **Factor de Impacto (JRC[®]): 1.957.**
14. OLIVEIRA, L., A. MEDEIROS, J.V. FALCÓ, F. BEITIA, M.J. VERDÚ, **P. GARCIA** (2008). Parasitoids from Azores (Hymenoptera: Encyrtidae, Pteromalidae, Braconidae): potential use in integrated pest management against *Ceratitits capitata* (Diptera: Tephritidae). *Biocontrol Science and Technology*, 18(7): 741-744. **Impact Factor (JRC[®]): 0.874.**
13. CABRAL, S.G.M., A.O. SOARES, R. MOURA, **P. GARCIA** (2006). Suitability of *Aphis fabae*, *Myzus persicae* (Homoptera: Aphididae) and *Aleyrodes proletella* (Homoptera: Aleyrodidae) as preys for *Coccinella undecimpunctata* (Coleoptera: Coccinellidae). *Biological Control*, 39(3): 434-440. **Impact Factor (JRC[®]): 1.735.**
12. **GARCIA, P.**, S. CABRAL, L. OLIVEIRA & A. S. RODRIGUES (2006). Effects of deltamethrin on the reproduction of *Trichogramma cordubensis* (Hymenoptera: Trichogrammatidae). *Biocontrol Science and Technology*, 16(7): 699-708. **Impact Factor (JRC[®]): 0,862.**
11. MOURA, R., **P. GARCIA**, S. CABRAL, A.O. SOARES (2006). Does pirimicarb affect the voracity of the euriphagous predator, *Coccinella undecimpunctata* L. (Coleoptera: Coccinellidae)? *Biological Control*, 38(3): 363-368. **Impact Factor (JRC[®]): 1.735.**
10. RORIZ, V., L. OLIVEIRA, **P. GARCIA** (2006). Host suitability and preference studies of *Trichogramma cordubensis* (Hymenoptera: Trichogrammatidae). *Biological Control*, 36(3): 331-336. **Impact Factor (JRC[®]): 1.735.**

9. DIAS, C., **P. GARCIA**, N. SIMÕES, L. OLIVEIRA (2005). Efficacy of *Bacillus thuringiensis* against the citrus leafminer, *Phyllocnistis citrella* (Lepidoptera: Phyllocnistidae). *Journal of Economic Entomology*, 98(6): 1880-1883. **Impact Factor (JRC®): 1.205.**
8. MARTINS, T., L. OLIVEIRA, **P. GARCIA** (2005). Larval mortality factors of *Spodoptera littoralis* in the Azores. *BioControl*, 50(5): 761-770. **Impact Factor (JRC®): 1.324.**
7. OLIVEIRA, L., V. VIEIRA, **P. GARCIA** (2004). Effect of temperature on the biology of *Noctua atlantica* Warr. (Lepidoptera: Noctuidae), a species endemic to the Azores. *European Journal of Entomology*, 101(3): 423-426. **Impact Factor (JRC®): 0.657.**
6. VIEIRA, V., L. OLIVEIRA, **P. GARCIA**, J. TAVARES (2004). Assessment of *Pseudaletia unipuncta* (Haworth) (Lepidoptera: Noctuidae) populations in Azorean pastures by light and pheromone traps. *Arquipélago – Life and Marine Sciences*, 21A: 33-42.
5. RAPOSO, F., L. OLIVEIRA, **P. GARCIA** (2003). Susceptibility of *Glyptapanteles militaris* (Hymenoptera: Braconidae), a parasitoid of *Pseudaletia unipuncta* (Lepidoptera: Noctuidae) to some insecticides. *Biocontrol Science and Technology*, 13: 261-267. **Impact Factor (JRC®): 0.832.**
4. REIS, J., L. OLIVEIRA, **P. GARCIA** (2003). Effects of larval diet of *Pseudaletia unipuncta* on the performance of the parasitoid *Glyptapanteles militaris*. *Environmental Entomology*, 32(1): 180-186. **Impact Factor (JRC®): 0.824.**
3. **GARCIA, P.**, E. WAJNBERG, J. PIZZOL, L. OLIVEIRA (2002). Diapause in the egg parasitoid *Trichogramma cordubensis*: Role of temperature. *Journal of Insect Physiology*, 48(3): 349-355. **Impact Factor (JRC®): 1.789.**
2. VIEIRA, A., L. OLIVEIRA, **P. GARCIA** (2001). Effects of Conventional Pesticides on Preimaginal Developmental Stages and Adults of *Trichogramma cordubensis* (Hymenoptera: Trichogrammatidae). *Biocontrol Science and Technology*, 11(4): 527-534. **Impact Factor (JRC®): 0.877.**
1. GARCIA, P., E. WAJNBERG, L. OLIVEIRA, J. TAVARES (2001). Is the parasitization capacity of *Trichogramma cordubensis* (Hymenoptera: Trichogrammatidae) influenced by the age of the females? *Entomologia Experimentalis et Applicata*, 98(2): 219-224. **Impact Factor (JRC®): 0.997.**

BOOK & BOOK CHAPTERS

4. RODRIGUES, A. S. & **P. GARCIA** (2015). Non-eruptive volcanogenic air pollution and health effects. pp. 223-234 In: Watson, R.R., Tabor, J.A, Ehiri, J.E. & Preedy, V.R. (Eds.), *Handbook of public health in natural disasters. Human Health Handbooks*, Wageningen Academic Publishers, Netherlands, ISBN: 978-90-8686-257-3.
3. **GARCIA, P.** (2014). Insecticidas Piretróides, Dos crisântemos aos circuitos comerciais. pp. 18-19. In: Lima, M., A. Rodrigues & P. Garcia (Eds), *Biologia, um ano de ciência*, Universidade dos Açores, Ponta Delgada.
2. LIMA, M., A. RODRIGUES & **P. GARCIA** (Eds) (2014). *Biologia, um ano de ciência*. 72 pp. Universidade dos Açores, Ponta Delgada.
1. **GARCIA, P** (2011). Sublethal Effects of Pyrethroids on Insect Parasitoids. In: Margarita Stoytcheva (Ed), *What We Need to Further Know, Pesticides - Formulations, Effects, Fate* ISBN: 978-953-307-532-7, InTech, Available from:
<http://www.intechopen.com/articles/show/title/sublethal-effects-of-pyrethroids-on-insect-parasitoids-what-we-need-to-further-know>

INDEXED JOURNALS & PEER REVIEWED JOURNAL PROCEEDINGS (total): 25

SUBMITTED ARTICLES: 2

TALKS/POSTERS PRESENTED IN SCIENTIFIC MEETINGS (total): >70

STUDENT SUPERVISION

POST DOC

1. 2008-2010 - José Marcelino, *Biological invasions in islands: the impact of mutual interference between natural enemies*. Direção Regional de Ciência e Tecnologia DRCT - M1.1.2/F/003/2008. Co-supervised with A.O Soares (UAc) [Concluded].
2. 2008 - 2009 - Ana Rosa Resendes, *Disruptores endócrinos associados a ambientes extremos de origem vulcânica: Pesquisa de efeitos e modos de ação*. Direção Regional de Ciência e Tecnologia DRCT - M1.1.2/F/004/2008. Co-supervised with A. Rodrigues (UAc) [Concluded].

PHD STUDENTS

3. 2012...- Carolina Paula Furtado Medeiros Parelho, *Desenvolvimento de biomarcadores de exposição e de efeito na biomonitorização de pesticidas em ecossistemas agrícolas: uma abordagem holística*. DRCTC - M3.1.2/F/048/2011, [Ongoing].
Areas: Biology, Ecotoxicology
2. 2012...- Diana Paula Silva Linhares, *Impacto do vulcanismo na saúde pública: estudo eco-epidemiológico da população das Furnas e Ribeira Quente*. DRCTC - M3.1.2/F/019/2011 [Ongoing].
Areas: Biology, Environmental health
1. 2005 - 2009- Susana Gabriela Moura Cabral, *Coccinella undecimpunctata L. (Coleoptera: Coccinellidae) as biological control agent and insecticide side-effects on the predator's effectiveness*. FCT - SFRH/BD/17542/2004 [2009].
Areas: Biology, Biological Control

MASTER STUDENTS

13. [Ongoing] Helga Bento Bailote, *Determinação de iodúrias e suas implicações em crianças do 1º ciclo da ilha Terceira*. Master on Biomedical Sciences (UAc).
12. [2015] Alexandra Margarida Melo Almada, *Biodisponibilidade Ambiental de Iodo e Iodúrias em Crianças de Santa Maria e São Miguel*. Master on Biomedical Sciences (UAc).
11. [2014] Laura Aguiar Torres, *Avaliação de genotoxicidade em células do epitélio bucal de sujeitos expostos ocupacionalmente a radiações ionizantes*. Master on Environment, Health and Safety (UAc).
10. [2014] Filipe Miguel Teixeira de Sousa Bernardo, *Testicular toxicity in mice exposed to agrochemicals – comparative effects of conventional and organic farming*, Master on Environment, Health and Safety (UAc)
9. [2013] Telma Ferreira, *Estudo da Sensibilização a Ácaros na ilha de São Miguel*, Master on Biomedical Sciences (UAc).
8. [2013] Cláudia da Silva Furtado, *Efeitos letais e sub-letais de óleos essenciais de *Pittosporum undulatum* e *Hedychium gardnerianum* no parasitóide oófago, *Trichogramma cordubensis* (Hymenoptera: Trichogrammatidae)*. Master on Biotechnology and Biological Control (UAc).
7. [2011] Diana Paula Silva Linhares, *Exposição a compostos orgânicos voláteis de fuelóleo e genotoxicidade em células esfoliadas do epitélio bucal humano*, Master on Biomedical Sciences (UAc).
6. [2011] Mónica Sofia Carvalho Arruda, *Exposição humana a gases de origem vulcânica (ambiente vulcânico): Avaliação dos efeitos respiratórios e genotóxicos*. Master on Biomedical Sciences (UAc).

5. [2011] Ricardo Alexandre Dias dos Santos Camarinho, *Avaliação de dano pulmonar em ratos cronicamente expostos a poluição de origem vulcânica e antropogénica*. Master on Biomedical Sciences (UAc).
4. [2006] Nuno Miguel Malgueiro Gonçalves Dias Pereira, *Resposta funcional de *Trichogramma cordubensis* (Hymenoptera: Trichogrammatidae) na presença de *Bacillus thuringiensis**. Master on Biology (UAc).
3. [2005] José Adriano Mota, *Utilização de um predador autóctone no controlo de *Trialeurodes vaporariorum* (Westwood) nos Açores, 2005*. Master on Biological Protection of Ecosystems (UAc).
2. [2004] Valdemiro Roriz, *Utilização do parasitóide oófago *Trichogramma cordubensis* (Vargas & Cabello) no controlo de pragas agrícolas (*Phlogophora meticulosa* L., *Peridroma saucia* Hüb., *Noctua pronuba* L. e *Autographa gamma* L.)*. Master on Biology (UAc).
1. [2004] Célia do Rosário Lopes Português, *Influência do fotoperíodo e da temperatura na indução da diapausa em *Trichogramma cordubensis* Vargas & Cabello (Hymenoptera: Trichogrammatidae)*. Master on Biology (UAc).

GRADUATION STUDENTS: 8

PEER REVIEWING (Selected journals)

- *Environment International*
- *Ecotoxicology and Environmental Safety*
- *Investigacion Clínica*
- *Acta Oncologica*
- *ISRN Ecology*
- *BioControl*
- *Biological Control*
- *Entomological Science*

ORGANIZATION OF SCIENTIFIC MEETINGS

- 8-13 November 2014 - Workshop "Sensitive Biomarkers in Ecotoxicology", University of Azores, Ponta Delgada, Portugal.
- 5-7 November 2014 - Workshop "Volcanism, fluoride and fluorosis", University of Azores, Ponta Delgada, Portugal.
- 3-5 September 2012 - Workshop "XV Congresso Ibérico de Entomologia", University of Azores, Angra do Heroísmo, Portugal.
- 13-15 June 2011 – "XI Simpósio Internacional de Neuropterologia", University of Azores, Ponta Delgada, Portugal.
- 7 September 2009 – Seminar "Azores 2010 E.D.E.N. Azorean Habitats", University of Azores, Ponta Delgada, Portugal.
- 23-27 November 2009 – workshop "Hymenoptera of the World: distribution and diversity", University of Azores, Ponta Delgada, Portugal.
- 23-24 April 2009 – workshop "Ecotoxicology and Risk Assessment", CIRN, University of Azores, Ponta Delgada, Portugal.
- 23-29 September 1995- "1st International Symposium on Biological Control in European Islands", University of Azores, Ponta Delgada, Portugal.