

Juan Hurtado

PERSONAL/CONTACT INFORMATION

Citizenship	Argentina
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CURRENT POSITION

Assistant Researcher for the National Scientific and Technical Research Council (CONICET) at the Institute of Ecology, Genetics and Evolution of Buenos Aires – University of Buenos Aires, Argentina.

Field of Research: Basic and applied evolutionary biology of insects. I investigate mating system evolution in *Drosophila* and study the genetics of sperm competition and sexual conflict. Also, I am working on the development of innovative approaches for insect population control by genetically engineering seminal proteins.

EDUCATION

2009 – 2014. PhD in Biology (CONICET scholarship). University of Buenos Aires, Argentina. Adviser: Dr. Esteban Hasson.

2001 – 2009. Master of Science in Biological Sciences – School of Sciences. University of Buenos Aires, Argentina.

1994 – 2000. High-school degree – Chemical Technician. Ingeniero Huergo Technical School, Buenos Aires, Argentina.

POSTDOCTORAL FELLOWSHIPS

2018. Using δ -endotoxins to generate transgenic toxic ejaculates as a novel control strategy against target insect females (Visiting Researcher, CONICET grant). Department of Entomology, University of Arizona, US.

2015 – 2016. Genomic Evolutionary Biology in *Drosophila* (CONACyT scholarship). Langebio-Cinvestav, Mexico. Director: Dra. T.A. Markow.

2014 – 2015. Evolution of seminal proteins in *Drosophila* (CONICET scholarship). University of Buenos Aires, Argentina. Director: Dr. Esteban Hasson.

RESEARCHING

UNPUBLISHED WORK

Hurtado J. Revale S., Almeida F., Bennardo L., Weil M., Moreyra N. & Hasson E. **Evolution of seminal proteins in the *Drosophila buzzatii* species.** In preparation.

Hurtado J., Almeida F., Belliard S., Revale S. & Hasson E. **Research gaps and new insights in the intriguing evolution of *Drosophila* seminal proteins.** *Evolution*. Submitted.

Bennardo L., Kreiman L., Gandini L., Rondón J., Turdera L., **Hurtado J.**, Hasson E. **First record of the Spotted-wing *Drosophila* (Diptera: Drosophilidae) in Martín García Island Wildlife Refuge in Argentina.** *Revista de la Sociedad entomológica Argentina*. Submitted.

PUBLICATIONS - JOURNALS

2021. Devescovi F., **Hurtado J.** & Taylor P.W. **Mating-induced changes in responses of female Queensland fruit fly to male pheromones and fruit: A mechanism for mating-induced sexual inhibition.** *Journal of Insect Physiology*. In press.

2019. Moreyra N.N., Mensch J., **Hurtado J.**, Almeida F., Laprida C. & Hasson E. **What does mitogenomics tell us about the evolutionary history of the *Drosophila buzzatii* cluster (*repleta* group)?** *PLoS ONE*. 14(11):e0220676.

2019. **Hurtado J.**, Almeida F., Revale S. & Hasson E. **Revised phylogenetic relationships within the *Drosophila buzzatii* species cluster (Diptera: Drosophilidae: *Drosophila repleta* group) using genomic data.** *Arthropod Systematics and Phylogeny*. 77(2):239-250.

2019. Fernandez Goya L.*, **Hurtado J.*** & Hasson E. **Female remating rate and pattern of sperm use suggest intense sperm competition in *Drosophila antonietae* (Diptera: Drosophilidae).** *Evolutionary Ecology*. DOI 10.1007/s10682-019-10003-6. *: Shared co-first authorship.

2019. Hasson E., De Panis D., **Hurtado J.** & Mensch J. **Host plant adaptation in cactophilic species of the *Drosophila buzzatii* cluster: fitness and transcriptomics.** *Journal of Heredity*. DOI 10.1093/jhered/esy043.

2017. Jaime M.D.L.A., **Hurtado J.**, Loustalot-Laclette M.R., Oliver B. & Markow T. **Exploring effects of sex and diet of *Drosophila melanogaster* head gene expression.** *Journal of Genomics*. 5:128-131.

2017. Mensch J., **Hurtado J.**, Zermoglio P.F., de la Vega G., Rolandi C., Schilman P.E., Markow T.A. & Hasson E. **Enhanced fertility and chill tolerance after cold-induced reproductive arrest in females of temperate species of the *Drosophila buzzatii* complex.** *Journal of Experimental Biology*. 220:713-721.

2014. Soto E.M., Betti M., **Hurtado J.** & Hasson E. **Differential responses to artificial selection on oviposition site preferences in *Drosophila melanogaster* and *D. simulans*.** *Insect Science*. DOI 10.1111/1744-7917.12176.

2013. **Hurtado J.**, Iglesias P., Lipko P. & Hasson E. **Multiple paternity and sperm competition in the sibling species *Drosophila buzzatii* and *D. koepferae*.** *Molecular Ecology*. 22:5016-5026.

2013. **Hurtado J.** & Hasson E. **Inter and intraspecific variation in female remating propensity in the cactophilic sibling species *Drosophila buzzatii* and *D. koepferae*.** *Journal of insect physiology*. 59:569-576.

2011. **Hurtado J.**, Soto E.M., Orellana L. & Hasson E. **Mating success depends on rearing substrate in cactophilic *Drosophila*.** *Evolutionary Ecology*. 26:733-743.

2011. Soto E.M., Goenaga J., **Hurtado J.** & Hasson E. **Oviposition and performance in natural hosts in cactophilic *Drosophila*.** *Evolutionary Ecology*. 26:975-990.

2010. Soto I.M., Soto E.M., Carreira V.P., Fanara J.J., **Hurtado J.** & Hasson E. **Geographic patterns of inversion polymorphism in the second chromosome of cactophilic *Drosophila buzzatii* from northeastern Argentina.** *Journal of Insect Science*. 10:1-11.

2005. **Hurtado J.**, Soto E.M. & Cortese M. **A new method to analyze habitat preference and mate choice.** *Drosophila Information Service*. 88:134-135.

PUBLICATIONS - BOOK CHAPTERS

2012. Hasson E., Soto I., Soto E. & **Hurtado J.** **Adaptación y especiación en *Drosophila*.** In Darwin en el Sur, ayer y hoy. (eds. E. Hasson, N. Lavagnino, P. Lipko, A. Massarini, J. Mensch, V. Scheinsohn, A. Tropea). Buenos Aires. Libros del Rojas.

PRESENTATIONS AT SCIENTIFIC MEETINGS

2019. **Hurtado J.**, Revale S., Almeida F., Bennardo L., Weil M., Moreyra N. & Hasson E. **Origen y evolución de proteínas seminales en *Drosophila*.** III Argentinian Meeting on Evolutionary Biology (RABE). CABA, Argentina.

2019. Bennardo L., **Hurtado J.** & Hasson E. **Efectos de la cópula interespecífica entre especies del grupo *Drosophila repleta* (Diptera: Drosophilidae).** XVII Latin American Congress of Genetics. Mendoza, Argentina.

2019. Bennardo L., Kreiman L., Mensch J. & **Hurtado J.** **Edad de maduración sexual de las hembras en especies cactófilas de *Drosophila*.** III Argentinian Meeting on Evolutionary Biology (RABE). CABA, Argentina.

2017. Mensch J., Simon H., **Hurtado J.**, Schilman P. & Hasson E. **Accelerating chill coma recovery time in a cold susceptible *Drosophila* by introgression and selection.** VII International Symposium of Environmental Physiology of Ectotherms. Tartu, Estonia.

- 2017.** Fernandez G., **Hurtado J.** & Hasson E. **Competencia espermática en *Drosophila antonietae*.** II Argentinian Meeting on Evolutionary Biology (RABE). Corrientes, Argentina.
- 2016.** Moreyra N., Mensch J., **Hurtado J.** & Hasson E. **Differential expression analysis of cold tolerance adaptation in *Drosophila buzzatii* by RNA-seq de novo approach.** European Conference on Computational Biology. The Hague, Netherlands.
- 2015.** **Temperature but not tropical *Drosophila* species maintain high fertility after long-term cold exposure: evidence for reproductive diapause?** Mensch J., **Hurtado J.**, Zermoglio P.F., De la Vega G., Rolandi, C. Schilman P.E., Markow T.A. & Hasson E. VI International Symposium on the Environmental Physiology of Ectotherms and Plants. Aarhus, Denmark.
- 2015.** **Evidencias metabólicas, genéticas y adaptativas asociadas a la incidencia de la diapausa reproductiva en especies tropicales y templadas de *Drosophila*.** Mensch J., **Hurtado J.**, Zermoglio P.F., De la Vega G., Rolandi, C. Schilman P.E., Markow T.A. & Hasson E. II Workshop 'Ecological and behavioural physiology: Challenges in a changing world'. Bariloche, Argentina.
- 2015.** Moreyra N., Mensch J., **Hurtado J.** & Hasson E. **Differential expression analysis of cold tolerance adaptation in *D. buzzatii* by RNA-seq de novo approach.** VI Argentinian Conference on Bioinformatics and Computational Biology. Bahía Blanca, Argentina.
- 2013.** **Hurtado J.**, Iglesias P. & Hasson E. **The strength of post-mating sexual selection in cactophilic *Drosophila*: How many flies are not born because of sperm competition?** VIII Symposium on *Drosophila* Ecology, Genetics and Evolution. Porto de Galinhas, Pernambuco, Brazil.
- 2012.** Mensch J., **Hurtado J.**, Johnson S., Markow T. & Hasson E. **Diapausa reproductiva en especies cosmopolitas y autóctonas de *Drosophila*: los efectos de la temperatura y el fotoperíodo sobre el metabolismo energético.** VIII Argentinian Congress of Entomology. Bariloche, Argentina.
- 2011.** **Hurtado J.** & Hasson E. **Female remating and sperm use in *Drosophila buzzatii* and *D. koepferae*.** VII Symposium of *Drosophila* Ecology, Genetics and Evolution. PPBio Amazonia. Belem, Brazil.
- 2009.** Soto E. M., **Hurtado J.**, Betti M. & Hasson, E. **Selección artificial para la preferencia por el sitio de ovoposición y su relación con la utilización de los recursos en *Drosophila simulans*: un camino a la divergencia.** I Evolutionary Biology Meeting of South America. University of Buenos Aires. Buenos Aires, Argentina.
- 2008.** **Hurtado J.**, Soto E.M. & Hasson E. **Sexual Selection in *Drosophila buzzatii*: mating success in different natural breeding resources.** XIII Latin-American Congress of Genetics. Latin-American Society of Genetics. Lima, Perú.
- 2008.** Soto, E. M., **Hurtado, J.**, Betti, M., Cortese, M. & Hasson, E. **Oviposition preference and performance in natural resources in *Drosophila melanogaster* and *D. Simulans*.** The American Genetic Association 2008 Symposium. Genetics and Genomics of Behaviour. Raleigh, North Carolina, USA.

2007. Cortese, M., Soto, E., **Hurtado J.** & Hasson, E. **Preferencias de oviposición y uso de recursos naturales en especies cactófilas de *Drosophila*.** III Bi-national Meeting of Ecology. Chilean Society of Ecology and Argentinian Society of Ecology. La Serena, Chile.

2006. Soto, E.M., Cortese, M. D., **Hurtado, J.** & Hasson, E. R. **Efectos del sustrato de cría en la morfología del ala en *Drosophila melanogaster* y *D. simulans*.** 52 Brazilian Congress of Genetics. Bourbon Cataratas Resort & Convention Center. Foz do Iguazú, Brazil.

2005. Hurtado, J., Steinberg, E. R., Nieves, M., Rivolta, M. A., Villarreal, P. D., Milozzi, C., Cotter, G., Gorla, N. B., Pedrosa, A., Lázaro, A. & Mudry, M. D. **Manejo de primates en cautiverio: relación entre la Citogenética y otros parámetros biológicos.** SAREM. Buenos Aires, Argentina.

2005. Mudry, M. D., Rodriguez, M. E., Nieves, M., Argüelles, C., Holman, B. E., Hassel, D.L., Steinberg, E. R., **Hurtado, J.** & Rinas, M. A. **Manejo y conservación de primates en Misiones: la genética de *Cebus apella* y *Alouatta sp.*** I Colombian Congress of Primatology, Bogotá, Colombia.

HONORS AND AWARDS

2020 – 2021. Grant: *Innovation Venture Investment Program - University of Arizona*. Inducible toxic ejaculate in *Drosophila suzukii*: An innovative approach for insect population control.

2018 – 2020. Grant (PICT 4113/2016): *Young researcher program - Agencia Nacional de Promoción Científica y Técnica (ANPCyT)*. New genes as drivers of phenotypic evolution in *Drosophila*.

2017 – 2018. Travel costs grant to conduct a collaborative project at the University of Arizona, US - National Research Council (CONICET). Using δ -endotoxins to generate transgenic toxic ejaculates as a novel control strategy against target insect females.

2014 – 2015. Postdoctoral fellowship from the National Research Council (CONICET).

2009 – 2014. Doctoral fellowship from the National Research Council (CONICET).

2008. Scholarship for outstanding undergraduates. University of Buenos Aires.

2007 – 2008. Scholarship for outstanding undergraduates promoting research initiation. University of Buenos Aires.

2007. Scholarship for outstanding undergraduates promoting academic international exchange. Autonomous University of Madrid, Spain.

TEACHING EXPERIENCE

2020 – present. Teaching assistant at the Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires. Course: Genetics I.

2019 December. Main teacher of the postgraduate workshop 'R basis in Biology' at the Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires.

2017 – 2018. Head of practical work at the Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires. Course: General Ecology.

2018 September. Main teacher of the postgraduate workshop 'R basis in Biology' at the University of Río Negro. Argentina.

2017 October. Main teacher of the postgraduate workshop 'R basis in Biology' at the Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires.

2011 – 2014. Teaching assistant at the Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires. Course: Genetics I.

2009 – 2010. Teaching assistant at the Department of Physiology, Molecular and Cell Biology, School of Science, University of Buenos Aires. Courses: Genetics I and Introduction to Cell and Molecular Biology.

2008 – 2009. Science lab teacher at Toratenu Educational Centre, Primary School, Buenos Aires.

2006 – 2007. Teaching assistant at the Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires. Courses: Genetics I and General Ecology.

2005 – 2008. Teaching assistant at the Department of Physiology, Molecular and Cell Biology, School of Science, University of Buenos Aires. Course: Introduction to Cell and Molecular Biology.

MENTORING EXPERIENCE

2020 – present. Undergraduate student Martina Weil (Biology). Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires.

2019 – present. Doctoral student Johnma Rondon (Evolutionary Genetics). Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires.

2018 – present. Doctoral student Lautaro Bennardo (Evolutionary Genetics). Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires.

2017 – 2019. Undergraduate student Rocío Rodríguez (Biology). Favaloro University. Argentina.

2017 – 2018. Undergraduate student Lautaro Bennardo (Biology). Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires.

2016 – 2017. Undergraduate student Lucía Fernández Goya (Biology). Department of Ecology, Genetics and Evolution, School of Science, University of Buenos Aires.

TECHNICIAN EXPERIENCE

2016 February – April. Technical adviser at Increa SRL. Buenos Aires, Argentina.

2003 – 2004. Chemical and lab technician at the National Institute of Parasitology, Ministry of Health, Buenos Aires, Argentina.

2004 February. Field assistant at the Ecology of Desert Communities Research Group. University of Buenos Aires.

2001 – 2003. Field assistant at the National Museum of Natural Sciences Bernardino Rivadavia. Buenos Aires, Argentina.

PUBLIC ENGAGEMENT

2017 August – November. Project director and adviser of high school students (at the Department of Ecology, Genetics and Evolution) under the 'Didactic Experiences Program'. School of Science, University of Buenos Aires.

2016 (and 2014) November. Main teacher of the open workshop 'Introduction to R language: from twitter to papers', 2nd (and 1st) edition. School of Science, University of Buenos Aires.

2005 July – November. Trainer of high school students (at the Department of Ecology, Genetics and Evolution) under the 'Didactic Experiences Program'. School of Science, University of Buenos Aires.

2002 August. School of Science Guide for high school visitors under the 'Biology Week Program'. School of Science, University of Buenos Aires.

LANGUAGES

Spanish. Native speaker.

English. *Oral Proficiency Level (CEFR): C1* (Center for English as a Second Language, University of Arizona, 2017). *First Certificate* (University of Cambridge, 2000).