IVAN MIJAIL DE LA CRUZ ARGUELLO

Nationality Mexican
Place of Birth: Coatzacoalcos, Veracruz, Mexico
03-August-1989 (37 years)
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RESEARCH INTERESTS

I am an evolutionary ecologist specializing in multi-omics' sciences. I am interested in the genetic and eco-evo basis of how plants cope with biotic and abiotic factors, including the evolution of plant–herbivore interactions, as well as the effects of changing environments on plant fitness at both multi-omics and phenotypic levels. My research combines the integration and synthesis from holistic experimental approaches in both controlled and natural environments with insights from the natural history of populations. By integrating tools from the "Omics" sciences, classic quantitative genetics, bioinformatics (including machine learning and AI), chemical ecology, metabolomics, and evolutionary ecology, I aim to uncover the fundamental mechanisms driving plant adaptation in a rapidly changing world, with the goal of informing nature-based solutions.

WORK/OVERSEA RESEARCH EXPERIENCE

07/06/2024 – 06/06/2026 (2 years)	**Postdoctoral fellow |** Department of Ecology and Genetics, Plant Ecology and Evolution division, Uppsala University, Sweden. Group: Prof. Jon Ågren. Project: Long-term ecological genomics of *Arabidopsis thaliana* under changing environments.
07/06/2021 – 06/06/2024 (3 years)	**Postdoctoral fellow |** Department of Plant Protection Biology, Swedish University of Agricultural Sciences, Sweden. Group: Prof. Johan A. Stenberg. Project: Adapting plant genetic diversity to climate change along a continental latitudinal gradient.
07/10/2020 – 31/05/2021 (8 months)	**Project leader |** Escuela Nacional de Estudios Superiores (ENES) Campus Morelia, National Autonomous University of Mexico (UNAM), Mexico. Group: Prof. Ken Oyama. Project: Population genetics of *Quercus* spp in Mexico.
01/01/2020 - 08/06/2020 (6 months)	**Visiting scientist |** Ecological Genetics Research Unit, University of Helsinki, Finland. Project: Genomics of *Datura stramonium.* Group: Prof. Juha Merilä.
26/03/2018 - 30/06/2018 (3 months)	**Visiting scientist |** Department of Molecular Ecology, Max Planck Institute for Chemical Ecology, Germany. Project: Chemical ecology of Solanaceae species. Group: Prof. Meredith Schuman and Ian T. Baldwin.
3/03/2015 - 30/12/2015 (9 months)	**Research assistant |**Ecological Economy Group, Department of Economy Production, UAM, Mexico. Project: Ecology and sustainability, a perspective from ecological economics. Group: Prof. David Barkin Rappaport.

EDUCATION

October 2020	**PhD in Philosophy (*Summa Cum Laude*) |** Department of Evolutionary Ecology, Institute of Ecology, National Autonomous University of Mexico (UNAM), Mexico. *Thesis: Adaptive evolution of resistance against herbivores in Datura stramonium.* Group: Prof. Juan Núñez Fárfan.
March 2015	**M.Sc. in Biology (*Summa Cum Laude*) |** Department of Biology, Metropolitan Autonomous University (UAM), Mexico. *Thesis: Microdistribution and microhabitat selection of small mammals in a forest of Central Mexico.* Group: Prof. Alondra Castro Campillo.
July 2011	**B.S. in Biology |** Department of the Human and its Environment, Metropolitan Autonomous University (UAM), Mexico.

Thesis: Contribution to some ecological aspects of the distribution of Peromyscus difficilis and Peromyscus melanotis in the National Park "Desierto de los Leones".

Group: Prof. Alondra Castro Campillo.

AWARDS/FELLOWSHIPS

2025	**Swedish Phytogeographical Society |** Full grant to cover all expenses including registration fees to attend the European Evolutionary Biology Conference of the European Society for Evolutionary Biology. Barcelona, Spain.
2024	**GSA Journals Peer Review Training Program |** Granted as delegate and peer-reviewer from 2025-present. Genetics Society of America, USA.
2024	**Science & SciLifeLab Publishing workshop |** Full grant to attend the workshop Lead by Science (AAAS) and SciLifeLab to be granted as delegated in the peer-review program. Stockholm, Sweden.
2023	**Martha and Fredrik Nilsson's memorial fund, SLU, Sweden |** Grant to cover all expenses including registration fees to attend the Evolution 2023 meeting of the Society for Study of Evolution, Albuquerque, New Mexico, USA.
2022	**New Phytologist Next Generation Scientists Program |** Granted delegate and principal selected talk to attend the meeting in Tartu, Estonia by the New Phytologist foundation.
2022	**American Society of Naturalist Graduate Council. Virtual participation award for postdoc**s | Free attendance to Evolution meeting 2022, Society for Study of Evolution, and free Membership for the Society 2022.
2021	**Free registration to the Society for Experimental Botany annual Conference 2021 |** Attendee Category Low- and Middle-Income Countries. Virtual.
2021	**Global Participation Program Society for Study of Evolution|** Free registration for my participation in the Evolution meeting 2021 of the Society for Study of Evolution.
2020	***Summa Cum Laude* – PhD |** highest honors for my PhD studies at the Institute of Ecology, UNAM, Mexico.
2020	**Genetics Society of America Presidential Membership award |**Talented early career scientists in genetics and evolution. Genetics Society of America, USA.
2015	**University Merit Medal (*Suma Cum Laude*) – MSc |** highest honors for my MSc studies at UAM, Mexico.
2020	**Encouragement for timely graduation stipend |** Stipend for have completed my PhD studies on time**.** UNAM, Mexico.
2016 - 2020	**Graduate Research Fellowship (PhD studies, fellowship for 4 years) |** Secretariat of Science, Humanities, Technology and Innovation (SECIHTI), Mexico.
2012 - 2014	**Graduate Research Fellowship (MSc studies, fellowship for 2 years) |** Secretariat of Science, Humanities, Technology and Innovation (SECIHTI), Mexico.
2019 - 2020	**Finnish National Agency for Education** (f**ellowship for nine months; 3 in Mexico and 6 in Finland) |** Visiting Scientist Fellowship to complete my PhD research in cooperation with international researchers, University of Helsinki, Finland.
2018	**Max Planck Society Fellowship (fellowship for three months) |** Visiting Scientist Fellowship for training in chemical and molecular ecology during my PhD. Department of Molecular Ecology, Max Planck Institute for Chemical Ecology, Germany.
2018	**Postgraduate Studies Support Program Fellowship (UNAM) |** Fellowship for three months for the research stay at the Department of Molecular Ecology, Max Planck Institute for Chemical Ecology, Germany.
2020	**Tree of Life Award - *Datura stramonium* |** Dovetail Genomics. Award of 10,000 USD to sequence the genome of *D. stramonium.*

2019	**Postgraduate Studies Support Program Fellowship (UNAM) |** Fellowship to attend a workshop, University of Copenhagen, Denmark.
2017	**Postgraduate Studies Support Program Fellowship (UNAM) |** Fellowship to attend the conference of the Mexican Scientific Society of Ecology in 2017, Mexico.
2016	**Postgraduate Studies Support Program Fellowship (UNAM) |** Fellowship for field work, Teotihuacán, Mexico.
2015	**PhD acceptance for the full program (declined)** at the Universidad de Chile.

MANUSCRIPTS UNDER REVISION

De-la-Cruz, I. M.

22	Batsleer, F., De Kort, H., **De-la-Cruz, I. M.**, Diller, C., Hytönen, T., Matheve, H., Muola, A., Osorio, S., Pérez Martín J. E., Posé, D., Stenberg, J. A., Vantieghem, P., Bonte, D., and Vandegehuchte, M. L. (2026). Geographic and bioclimatic distance outperform genomic offset in predicting local adaptation in a perennial plant across Europe. Under revision in ***Global Change Biology***
21	**De-la-Cruz, I. M.**, Diller, C., Batsleer, F., Bonte, D., Izquierdo, J. L., Hytönen, T., Osorio, S., Posé, D., de la Rosa, A., Vandegehuchte, M. L., Muola, A., and Stenberg, J. A. (2026). Context-dependent selection and genetic constraint on plant growth and herbivore resistance across European outdoor common gardens and under reduced precipitation in *Fragaria vesca*. Under revision in ***Ecology and Evolution***. *bioRxiv preprint*: https://doi.org/10.64898/2026.02.12.705624
20	Diller, C., **De-la-Cruz, I. M.**, Hytönen, T., Egan, P., and Stenberg, J. A. (2026). To self or to clone? Southern European wild woodland strawberry genotypes self-fertilize, whereas eastern European genotypes clone in a common garden experiment. Under revision in ***American Journal of Botany.*** *bioRxiv preprint*: https://doi.org/10.64898/2026.03.30.715235
19	Ochoa-Zavala, M., Oyama, K., Mar-Silva, F. A., **De-la-Cruz, I. M.**, López-Barrera, G., Llanderal-Mendoza, J., Núñez-Farfán, J., Chávez-Santoscoy, R. A., Hernández-Pérez, J., Hinojosa-Alvarez, S., Magallón-Gayon, E., Santana-Castillo., J. E. (2026). Whole-genome data reveal low genetic diversity despite high gene flow in the associate mangrove tree *Conocarpus erectus* (Combretaceae). Under revision in ***Botanical Journal of the Linnean Society***

PEER REVIEWED PUBLISHED MANUSCRIPTS

De-la-Cruz, I. M.

18	Pérez-Martín, J., Batsleer, F., Vandegehuchte, M; **De-la-Cruz, I. M**, Diller, C; Sánchez-Sevilla, J., Muola, A., Stenberg, J. A., Hytönen, T., Bonte, D., Posé, D., Osorio, S. (2026). Variation in phenotypic plasticity of metabolic and performance traits along a latitudinal gradient in woodland strawberry. ***BMC Plant Biology*** https://doi.org/10.1186/s12870-026-09236-9
17	**De-la-Cruz, I. M.,** Batsleer, F., Bonte, D., Diller, C., Izquierdo, J. L., Still, S., Osorio, S., Posé, D., de la Rosa, A., Vandegehuchte, M. L., Muola, A., Hytönen, T., Stenberg, J. A. (2025). Flowering responses of the woodland strawberry to local climate and reduced precipitation along a European latitudinal gradient. ***Journal of Plant Ecology*** https://doi.org/10.1093/jpe/rtaf105. ***Corresponding author**
16	**De-la-Cruz, I. M.**, Batsleer, F., Bonte, D., Diller, C., Hytönen, T., Izquierdo, J. L., Osorio, S., Posé, D., de la Rosa, A., Vandegehuchte, M. L., Muola, A., and Stenberg, J. A. (2025). Genotypic responses to different environments and reduced precipitation reveal signals of local adaptation and phenotypic plasticity in woodland strawberry. ***Annals of Botany*** https://doi.org/10.1093/aob/mcaf025. ***Corresponding author**
16	Kariñho-Betancourt, E., Calderón Cortés, N., Tapia López, R., **De-la-Cruz, I. M.,** Núñez Farfán, J., and Oyama, K. (2024). Comparative transcriptome profiling reveals distinct regulatory responses of secondary defensive metabolism in *Datura* species (Solanaceae) under plant development and herbivory-mediated stress. ***Ecology and Evolution*** https://doi.org/10.1002/ece3.11496
14	Núñez-Farfán, J., Velázquez-Márquez, S., Torres-García, J.R., **De-la-Cruz, I. M.,** Arroyo, J., Valverde, P.L., Flores-Ortiz, C.M., Hernández-Portilla, L.B., López-Cobos, D.E., and Matías, J.D. (2024). A Trip back home: Resistance to herbivores of native and non-native plant populations of *Datura stramonium*. ***Plants*** https://doi.org/10.3390/plants13010131
13	**De-la-Cruz, I. M.,** Oyama, K., and Núñez-Farfán, J. (2024). The chromosome-scale genome and the genetic resistance machinery against insect herbivores of the Mexican Toloache, *Datura stramonium*. ***G3: Genes, Genomes, Genetics.*** https://doi.org/10.1093/g3journal/jkad288. ***Corresponding author**
12	**De-la-Cruz, I. M.,** and Núñez-Farfán, J. (2023). Inter-annual variation in the abundance of specialist herbivores determines plant resistance in *Datura stramonium*. ***Ecology and Evolution*** htpps://doi.org/10.1002/ece3.10794 ***Corresponding author**
11	Sánchez-Acevedo, V., González-Rodríguez, A., Torres-Miranda, C. A., Rodríguez-Correa, H., Valencia-Á, S., **De-la-Cruz, I. M.**, and Oyama, K. (2023). Nuclear and chloroplast DNA phylogeography reveals high genetic diversity and postglacial range expansion in *Quercus mexicana* (Fagaceae). ***American Journal of Botany*** https://doi.org/10.1002/ajb2.16251

10	Albarrán-Lara A., Ochoa-Zavala M., Torres-Miranda A., **De-la-Cruz I. M.**, Dávila P., Peñaloza-Ramírez J., Rodríguez-Correa H. and Oyama K. (2023). Long-distance dispersal drives the genetic variation and historical demography of *Quercus magnoliifolia* and *Quercus resinosa* (Fagaceae) in the Mexican highlands. ***Tree Genetics & Genomes*** https://doi.org/10.1007/s11295-023-01619-5
9	**De-la-Cruz, I. M.,** Kariñho-Betancourt, E., Núñez-Farfán, J., and Oyama, K. (2022). Gene family evolution and natural selection signature in *Datura* spp. (Solanaceae). ***Frontiers in Ecology and Evolution*** https://doi.org/10.3389/fevo.2022.916762
8	**De-la-Cruz, I. M.,** Osorio, S., Batsleer, F., Bonte, D., Diller, C., Hytönen, T. Muola, A. Posé, D., Vandegehuchte, M., and Stenberg, J. A. (2022). Evolutionary ecology of plant-arthropod interactions in light of the 'omics' sciences: A broad guide. ***Frontiers in Plant Science*** https://doi.org/10.3389/fpls.2022.808427 ***corresponding author**
7	**De-la-Cruz, I. M.,** Castro-Campillo, A., Salame-Méndez, A. (2021). Habitat heterogeneity facilitates coexistence of two syntopic species of *Peromyscus* in a temperate forest of Central Mexico. ***Therya*** https://therya.mastozoologiamexicana.com/index.php/THERYA/article/view/1113 ***corresponding author**
6	Velazquéz-Márquez, S., **De-la-Cruz, I. M.,** Tapia-López, R., Núñez-Farfán, J. (2021). Tropane alkaloids and terpene synthase genes of *Datura stramonium* (Solanaceae). ***PeerJ*** https://doi.org/10.7717/peerj.11466
5	**De-la-Cruz, I. M.,** Hallab, A., Olivares, U., Tapia-López, R., Velázquez-Márquez, S., Piñero, D., Oyama, K., Usadel, B., and Núñez-Farfán, J. (2021). Genomic signatures of the evolution of defence against its natural enemies in the poisonous and medicinal plant *Datura stramonium* (Solanaceae). ***Scientific Reports*** https://doi.org/10.1038/s41598-020-79194-1. *****Top 100 most read paper in Ecology in the Journal during 2021***
4	**De-la-Cruz, I. M.,** Merilä, J., Valverde, P. L., Flores-Ortiz C. M., and Núñez-Farfán, J. (2020). Genomic and chemical evidence for local adaptation in resistance to different herbivores in *Datura stramonium*. ***Evolution*** https://doi.org/10.1111/evo.14097
3	**De-la-Cruz, I. M.,** Cruz, L. L., Martínez-García, L., Valverde, P. L., Flores-Ortiz, C. M., Hernández-Portilla, L. B., and Núñez-Farfán, J. (2020). Evolutionary response to herbivory: Population differentiation in microsatellite loci, tropane alkaloids and leaf trichome density in *Datura stramonium*. ***Arthropod-Plant Interactions*** https://doi.org/10.1007/s11829-019-09735-7
2	**De-la-Cruz, I. M.,** Núñez-Farfán, J. (2020). The complete chloroplast genomes of two Mexican plants of the annual herb *Datura stramonium* (Solanaceae). ***Mitochondrial DNA Part B*** https://doi.org/10.1080/23802359.2020.1789516 ***corresponding author**
1	**De-la-Cruz, I. M.,** Castro-Campillo, A., Zavala-Hurtado, A., Salame-Méndez, A., and Ramírez-Pulido, J. (2019). Differentiation pattern in the use of space by males and females of two species of small mammals (*Peromyscus difficilis* and *P. melanotis*) in a temperate forest. ***Therya*** https://therya.mastozoologiamexicana.com/index.php/THERYA/article/view/668 ***corresponding author**
BOOK CHAPTERS	
1	**De-la-Cruz, I. M.,** Velázquez-Marquez, S., and Núñez-Farfán J. (2020). What do we know about the genetic basis of plant defensive responses to herbivores? a minireview. In: ***Evolutionary Ecology of Plant-Herbivore Interaction*** (Eds. Juan Núñez-Farfán and Pedro Valverde). pp 295-314. Springer Nature. https://doi.org/10.1007/978-3-030-46012-9_16
MANUSCRIPTS IN PREPARATION	
1	**De-la-Cruz, I. M**., Milesi, P., Ågren, J., (2026). Exploring the adaptive potential of highly selfing and inbreed plant populations under changing environments. *Intended to be submitted in* ***Proceedings of the National Academy of Sciences***. ***corresponding author**
2	**De-la-Cruz, I. M**., Milesi, P., Ågren, J., (2026). Copy number variants shape genetic diversity within and between populations and contribute to local adaptation in plant populations. *Intended to be submitted in* ***Molecular Biology and Evolution***. ***corresponding author**
3	**De-la-Cruz, I. M**., and Núñez-Farfán, J. (2026). **Mapping the genomic mosaic of plant–herbivore interactions in *Datura stramonium*.** *Intended to be submitted in* ***Journal of Heredity***. ***corresponding author**
4	**De-la-Cruz, I. M**., and Núñez-Farfán, J. (2026). **From wild plant defense to evolution-informed pest management: lessons from decades of *Datura stramonium* (Solanaceae) research in Mexico.** *Intended to be submitted in* ***Ecological Research***. ***corresponding author**
DIPLOMAS, COURSES, WORKSHOPS (LAST 13 YEARS)	
	Diploma: Multivariate statistical analysis, UAM **Diploma:** Conservation of wildlife, UAM **Diploma:** Introduction to GIS theory and remote perception with emphasis on open source software, UAM **Diploma:** Desertification and sustainable agriculture in fragile or degraded agroecosystems **Course:** Statistical analysis applied to the distribution patterns of species, UAM **Course:** Use of space and habitat selection models UAM **Course**: Ecological and evolutionary theory (modules I, II, III), UAM **Course**: Mathematical models in biology, UAM

Course: Biostatistical analyses, UAM
Course: Regression and multivariate analyses, UAM
Course: Quantitative and ecological genetics, UNAM
Course: Genomic studies and its general applications, UNAM
Course: Adaptive molecular evolution, UNAM
Course: Selected topics of plant physiology: Anatomy, Nutrition, Photosynthesis and Transport, UNAM
Course: Introduction to bioinformatics using bacterial genomics, UNAM
Course: Population genetics, UNAM
Course: Ecological genomics, UNAM
Course: NOVA Course – Integrated Pest – Pollinator Management, Swedish University of Agricultural Sciences, Alnarp
Workshop: Bioinformatic and analysis of genomic data, UNAM
Workshop: Introduction to the management and data analysis of massive DNA sequencing, UNAM
Workshop: Introduction to Liquid Chromatography/Time-of-Flight/Mass Spectra (HPLC-TOF-MS), UNAM
Workshop: Assembling and annotation of genomes, UNAM
Workshop: Analysis of next generation sequencing data with Galaxy (RNA-seq and ChIP-seq), UNAM
Workshop: JMP Applied to Multivariate statistical analysis, UAM
Workshop: Practical workshop on large-scale genomic data analyses: GWAS in structured populations, The National Laboratory of Genomics for Biodiversity (LANGEBIO), Mexico
Workshop: Next generation sequencing and population genomics, University of Copenhagen, Denmark
Workshop: Unix and R applied to bioinformatics, UNAM
Workshop: RepeatExplorer; discovering repeats in NGS data. Virtual
Workshop: Entomovectoring, Swedish University of Agricultural Sciences, Alnarp
Workshop: Swedish Bioinformatics Workshop 2024
Workshop: Science & SciLifeLab Publishing workshop

RESEARCH GRANTS

- **Repatriation grant 2026 (Declined because I accepted a fellowship research position at Penn State University) |** Full grant of one year to be repatriated to Mexico for Mexican researchers working outside Mexico to be incorporated full time as researcher to an academic institution and lead a research project in Mexico by the Secretariat of Science, Humanities, Technology and Innovation (SECIHTI), Mexico. I was accepted to do this research at the Institute of Ecology, UNAM. Total = 22,567 USD

- **The Swedish Research Council (VR). Sweden. Ecology and evolution of plant adaptation.** Participant and leader of the genomics work package from June 2024-Present. Coordinator: Jon Ågren.

- **BioDiversa - European Research Council. PlantCline: Adapting plant genetic diversity to climate change along a continental latitudinal gradient**. BioDiversa - European Research Council. Participant and leader of the evolutionary ecology work package. Coordinator: Johan A. Stenberg. June 2021-Present.

- **Support Program for Research Projects and Technological Innovation (PAPIIT), UNAM. Geographic contribution and environmental heterogeneity in the population differentiation of *Conocarpus* along the Mexican Pacific**. Participant and project leader of the genomics package. Coordinator: Maried Ochoa Zavala. January 2023-January2025.

- **Dovetail Genomics. Tree of Life Award - *Datura stramonium***. Award of 10,000 USD to improve and sequence the genome of *D. stramonium*. Main researcher and applicant. August 2023.

- **Support Program for Research Projects and Technological Innovation (PAPIIT), UNAM, Mexico. Evolution of plant chemical defense when its herbivores are absent** (# IN216620). Participant. Coordinator: Juan Núñez Farfán. January 2021-January 2024.

- **CONACyT, Mexico (#1527). Genomics of plant defence**. Co-author and main participant. Coordinator: Juan Núñez Farfán. January 2017-January 2020.

- **Support Program for Research Projects and Technological Innovation (PAPIIT), UNAM, Mexico. Genomic analysis of the adaptation of resistance against herbivores in *Datura***

stramonium (#IG200717). Co-author and main participant. Coordinator: Juan Núñez Farfán. January 2016-January 2019.

CONFERENCES/PRESENTATIONS

2026	Exploring the evolutionary potential of plant populations in a changing world. *Seminar at the Integrated Plant Protection Unit*, *Swedish University of Agricultural Sciences*. Alnarp, Sweden. **Speaker**.
2026	Evolutionary ecology and genomics of plant adaptation under changing environments. *Seminar at the Laboratory of Ecological genetics and evolution, Institute of Ecology, UNAM*. Mexico. **Speaker**.
2025	Flowering responses of the woodland strawberry to local climate and reduced precipitation along a European latitudinal gradient. *European Evolutionary Biology conference. European Society of Evolutionary Biology*. Barcelona, Spain. **Speaker**.
2025	Genotypic responses to different environments and reduced precipitation reveal signals of local adaptation and phenotypic plasticity in woodland strawberry. *European Evolutionary Biology conference. European Society of Evolutionary Biology*. Barcelona, Spain. **Speaker**.
2025	Within-population genetic variation in *Arabidopsis thaliana*. Seminar at Plant Ecology and Evolution division. Evolutionary Biology Centre. Uppsala University. **Speaker**.
2024	BSA Virtual Symposium on Climate Change. *Botanical Society of America*. Virtual. **Participant.**
2024	Phenotypic and metabolomic responses of *Fragaria v*esca to varied environmental conditions: insights from the PlantCline project. *Mendel Early Career Symposium (3rd Edition)*. Gregor Mendel Institute, Vienna. **Speaker**.
2024	Ecological genomics of local adaptation in *Arabidopsis thaliana*. Seminar at Plant Ecology and Evolution division. Evolutionary Biology Centre. Uppsala University. **Speaker**.
2023	Unraveling the complexity of climate change effects on plants: Fitness responses to herbivory and drought in the woodland strawberry (*Fragaria vesca*) across Europe. *Evolution 2023. Society for the study of Evolution*. New Mexico, USA. **Speaker.**
2022	Drought effects on natural selection driven by herbivores in plant resistance of the woodland strawberry along a latitudinal gradient in Europe. *Center for Biological Control meeting. Swedish University of Agricultural Sciences*. Uppsala, Sweden. **Speaker.**
2022	Local adaptation in resistance to different herbivores in *Datura stramonium*. *25th biennial plant resistance to insects workshop*. Malmö, Sweden. **Speaker.**
2022	Evolutionary ecology of the woodland strawberry. *25th biennial plant resistance to insects workshop*. Malmö, Sweden. **Speaker.**
2022	Genomic basis of the evolution of resistance against its natural enemies in the poisonous and medicinal plant *Datura stramonium* (Solanaceae). *New Phytologist Next Generation Scientists meeting*. Tartu, Estonia. **Speaker**.
2021	Genomics of local adaptation in *Datura stramonium*. Molecular Biology and Evolution 2021 meeting, Molecular Biology and Evolutionary Society. Virtual. **Poster**.
2021	Adapting Plant Genetic Diversity to Climate Change along a Continental Latitudinal Gradient. *Center for Biological Control meeting. Swedish University of Agricultural Sciences*. Alnarp, Sweden. **Speaker.**
2021	PlantCLine Biodiversa Project. *International Workshop on Entomovectoring*, organized by Paul Egan and Heikki Hokkanen, SLU, Alnarp, Sweden. **Speaker**.
2021	Ecological genomics of *Datura stramonium* *Seminar Biodiversity Unit, University of Turku*, Finland. **Speaker**.
2021	Chemical ecology of *Datura stramonium* *Seminar Department of Plant Protection Biology*, Swedish University of Agricultural Sciences, Alnarp, Sweden. **Speaker**.

2021	Genomic and chemical evidence for local adaptation in resistance to different herbivores in *Datura stramonium* *Evolution 2021. Society for the study of Evolution*. Virtual**. Speaker**.
2019	Adaptive evolution of resistance against herbivores in *Datura stramonium* *VII Mexican National Conference of Ecology*, Queretaro, Mexico. **Speaker**.
2019	Natural history and infestation dynamic of three herbivores specialist of *Datura stramonium* *VII Mexican National Conference of Ecology*, Queretaro, Mexico. **Speaker**.
2018	Genome assembly and annotation of *Datura stramonium* (Solanaceae) *Student Seminar, Institute of Ecology*, UNAM, México. **Speaker**.
2017	Differentiation in chemical and physical defense in two native populations of *Datura stramonium* *VI Mexican National Conference of Ecology*. Leon Guanajuato, Mexico. **Speaker**.
2017	Habitat heterogeneity promotes coexistence in the use of space of two *Peromyscus* (Cricetidae) in a template forest *VI Mexican National Conference of Ecology*. Leon Guanajuato, Mexico. **Poster.**
2016	Selection and use of the microhabitat by two *Peromyscus* in a conifer forest *XIII Mexican National Conference of Mastozoology*. San Cristobal de las Casas, Chiapas, Mexico. **Poster.**
2016	Ecological microdistribution in two *Peromyscus* of a temperate forest in central Mexico *XIII Mexican National Conference of Mastozoology*. San Cristobal de las Casas, Chiapas, Mexico**. Speaker**.
2014	Differential seasonal use of individual reproductive space of *Peromyscus difficilis felipensis* and *P. melanotis* (Rodentia: Cricetidae) *63rd Annual Meeting of Southwestern Association of Naturalist*. Mexico City, Mexico. **Poster.**
2013	Microhabitat quality classification for small mammals in a temperate forest of conifers *XII Mexican National Conference of Mastozoology*. Puebla, Mexico. **Poster.**

OUTREACH

2024-2025	Organizer of the program division day (Plant Ecology and Evolution) for the years 2024 and 2025, Uppsala University.
2023-2024	Organizer of academic seminars for the years 2023 and 2024 at Department of Plant Protection Biology, SLU, Sweden.
2022	Newsletter coordinator. SLU Posdoct Association Sweden.
2022	Cómo defenderse de tus enemigos cuándo eres una planta? *Mexican Scientific Society for Ecology*. Regular talks for high school students. Virtual. **Speaker**.
2012	Plant Antioxidants. *Science fest, UAM*. **Speaker**.
2013	Ecotoxicology and coevolution. *Science fest, UAM*. **Speaker**

TEACHING

01/06/2025 – 31/01/2026	**Comparative genomics**, *University of Applied Sciences Bingen*, Bingen, Germany (bachelor students). Course leader and main teacher.
1/06/2023-31/01/2024	**Integrated Pest Management**, *Plant Protection Biology*, *SLU* (graduate students). Course leader and main teacher.
15/01/2017 – 31/07/2017 15/01/2019 – 31/07/2019	**Quantitative and Ecological genetics**, *UNAM* (bachelor and graduate students). Teaching assistant.
01/08/2015 – 17/12/2015	**Sustainability**, *UAM* (bachelor students). Teaching assistant.
01/02/2015 – 31/07/2015	**Biology, Chemistry**, *Instituto Especializado en Estudios Intensivos* S.C. (I.D.E.A.), Mexico City (high school). Main teacher.

MENTORSHIP

2025	**Wieger Joustra.** *Uppsala University*. Master thesis. Differential amounts of heritable variation for trichome production within several Swedish populations of *A. thaliana*. Co-Supervisor with Jon Ågren.
2022-2023	**Shah Ahmad Ansari**. *University of Padova*. Master thesis. The role of α-farnesene in strawberries in insect herbivory and biological control. Co-Supervisor with Johan A. Stenberg.
2025	**The Baltic Sea University Programme, Master thesis supervision program:** ▪ Anna Gorshkova, *University of Greifswald*. Assessing the impact of wind farms in the baltic sea on migratory and resident bird populations. ▪ Mariia Marchenko, *Odesa I. I. Mechnikov National University*. Assessing the feasibility of using several *Pseudomonas* genus representatives in microbial fuel cell design.

	▪ Dobromil Skrzypniak, *University of Gdansk*. Epifauna of submerged marine objects in seasonal perspective.
2022	**Emma Olsson and Alice Landfeldt.** Natural insights of plant-herbivores interactions of the woodland strawberry. Co-supervisor with Katarina Schiemann. Final high school thesis project. *Polhemskola,* Lund, Sweden.
2025	Opponent of Jonathan Gyllingberg, *Uppsala University*. Sex ratio bias in *Salix repens*.

CURRENT/PAST MEMBERSHIPS	
	Society for the Study of Evolution (SSE) European Society of Evolutionary Biology (ESEB) Society for Molecular Biology and Evolution (SMBE) Genetics Society of America (GSA) Iberoamerican Society of Bioinformatics (SolBio) Sociedad Científica Mexicana de Ecología (SCME) Swedish Phytogeographical Society
ACTING AS REVIEWER	
	Mitochondrial DNA Part B: Resources (3), *Journal of Plant Research (4)*, *Ecology and Evolution (4)*, *Plant Ecology (1), PCI Ecology (1), Evolutionary Bioinformatics (1), The Crop Journal (1), Crop Protection (1), Acta Oecologica (1), Frontiers in Plant Science (1), Molecular Ecology (2), BMC genomics (1), Genetics (1), Journal of Plant Ecology (3), Science (1), Ecology (1), G3: Genes, Genomes, Genetics (2).*
WEBPAGES	
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SKILLS	Bioinformatics/Stats, Unix/Bash command lines, Mass spectrometry, Insect/Plant care, Field work, Lab/wet work, Project administration and leadership, Mentorship, Fair peer-review.

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