JESÚS N. PINTO-LEDEZMA

Department of Ecology, Evolution and Behavior • University of Minnesota • St Paul, MN 55108
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RESEARCH INTERESTS

I am an evolutionary and quantitative ecologist whose work focuses on developing a deeper understanding of species coexistence and patterns of diversity across spatial and temporal scales, and the underlying processes that drive, maintain and alter such patterns. I have a passion for science and for diversity and inclusion in education and research.

EDUCATION

Ph.D., Ecology and Evolution 2013-2017
Universidade Federal de Goiás - Goiânia Goiás, Brazil
Dissertation: *Origin and assembly of Furnariides assemblages across space and time: the role of historical processes*
Advisor: José Alexandre Felizola Diniz-Filho

M.S., Wildlife Management 2006-2009
Universidad Nacional de Córdoba - Córdoba Córdoba, Argentina
Dissertation: *Determination of special protected areas for the conservation of migratory birds in the Mar Chiquita Reserve*
Advisors: Adrian H. Farmer and Enrique H. Bucher

B.A., Biology 2001-2005
Universidad Autónoma Gabriel René Moreno Santa Cruz, Bolivia
Distinction in All Subjects. *Cum Laude Honors*
Advisor: Teresa Ruiz de Centurión

PROFESSIONAL APPOINTMENTS

UMN Presidential Postdoctoral Fellow 2022-present
University of Minnesota, Department of Ecology Evolution and Behavior St Paul, MN, USA

Research Scientist 2020-2022
University of Minnesota, Department of Ecology Evolution and Behavior St Paul, MN, USA

Grand Challenge in Biology Postdoctoral Fellow 2017-2020
University of Minnesota, Department of Ecology Evolution and Behavior St Paul, MN, USA

Research Associate 2009-2014
Museo de Historia Natural Noel Kempff Mercado Santa Cruz, Bolivia
Ad Honorem

Visiting Researcher 2010-2011
Centro de Pesquisas do Pantanal, Universidade Federal de Mato Grosso Cuiabá, Bolivia

Intern 2003-2006
Museo de Historia Natural Noel Kempff Mercado Santa Cruz, Brazil

Bolivian Military Service 2000
Air Force Santa Cruz, Bolivia

AWARDS AND FELLOWSHIPS

President's Postdoctoral Fellowship Program, University of Minnesota, College of Biological Sciences 2022-present

AAAS/Science Membership Award, the American Association for the Advancement of Science Program for Excellence in Science 2020-present

Sigma Xi, Membership, Sigma Xi (ΣΞ) the Scientific Research Honor Society 2021

Grand Challenges in Biology Postdoctoral Program, University of Minnesota, College of Biological Sciences 2017-2020

CAPES PhD fellowship, Coordination for the Improvement of Higher Education Personnel, Brazil 2015-2017

OEA-CGUB Doctoral Scholarship, Organization of American States (OAS) and the Coimbra Group of Brazilian Universities (GCUB), Brazil 2014-2015

Master's Program in Wildlife Management, US Wildlife Service, Universidad Nacional de Córdoba, Córdoba, Argetina 2006-2008

Best Student Award for the Biology Major, Universidad Autónoma Gabriel René Moreno, Santa Cruz de la Sierra, Bolivia 2005

RESEARCH ACTIVITIES

FEDERAL GRANTS: ***Total awarded USD 5,886,664***

National Science Foundation, MSA: Integrating biodiversity observations with airborne and satellite data to predict shifts in assemblage diversity and composition under global change. 2020-2023
Role: Principal Investigator
Pinto-Ledezma, Jesús N. (PI, UMN), Cavender-Bares, Jeannine (co-PI, UMN). — **Award: USD 299,375.**

Co-authored Federal Grants:

NASA ROSES Biodiversity: Mapping changes in forest diversity and disease in North American temperate forests. 2021-2024
Role: Co-Investigator
Cavender-Bares, Jeannine (PI, UMN), Townsend, Philip (co-PI, UW). — **Award: USD 481,933.**

National Science Foundation, BII Implementation: The causes and consequences of plant biodiversity across scales in a rapidly changing world. 2020-2025
Role: Co-Investigator
Cavender-Bares, Jeannine (PI, UMN), Townsend, Philip (co-PI, UW), Reich, Peter (co-PI, UMN), José E. Meireles (co-PI, UMaine), Amy Trowbridge (co-PI, UW). More information at: `https://www.spectralbiology.org`. — **Total award: USD 12,5000,000.** Awarded to date: USD 5,105,356.

NON-FEDERAL GRANTS: ***Total awarded USD 326,781***

Cedar Creek Ecological Synthesis Working Groups: Evolutionary imprints on the species responses to the varying environment. 2023-2024
Role: Principal Investigator
Pinto-Ledezma, Jesús N. (PI, UMN), Cavender-Bares, Jeannine (co-PI, UMN), Borer, Elizabeth (co-PI, UMN). — **Award: USD 7,000.**

University of Minnesota, President's Postdoctoral Fellowship Program: Dispersal as a bridge between ecology, evolution, and behavior. 2022-2024

Role: Presidential Fellow
— **Award: USD 162,281.**

College of Biological Sciences, UMN, Grand Challenges in Biology Postdoctoral Fellowship: Evaluating the roles of ecological and historical processes in biological invasions. 2017-2020
Role: Postdoctoral Fellow
— **Award: USD 157,500.**

PUBLICATIONS

As of November 2023, I have published 29 articles in indexed journals, 15 articles in other journals (non-indexed journals), 4 peer-reviewed book chapters and 4 non peer-reviewed book chapters.

†*Equal contribution*
**Undergraduate student*

29. **J.N. Pinto-Ledezma**, S. Díaz, B.S. Halpern, C. Khoury and J. Cavender-Bares. (**Accepted**). No branch left behind: tracking terrestrial biodiversity from a phylogenetic completeness perspective. *Frontiers in Ecology and the Environment.*

28. Guzmán, J.A., **J.N. Pinto-Ledezma**, D. Frantz, P.A Townsend, J. Juzwik and J. Cavender-Bares. (**2023**). Mapping oak wilt disease from space using land surface phenology. *Remote Sensing of Environment, 298: 113794.*

27. Moulatlet, G.M., B. Kusumoto, **J.N. Pinto-Ledezma**, T. Shiono, Y. Kubota and F. Villalobos. (**2023**). Global patterns of phylogenetic beta-diversity components in angiosperms. *Journal of Vegetation Science, 34(4): e13203.*

26. Pellegrini, A.F., L. Anderegg, **J.N. Pinto-Ledezma**, J. Cavender-Bares, S.E. Hobbie and P.B. Reich. (**2023**). Consistent physiological, ecological, and evolutionary effects of fire regime on conservative leaf economics strategies plant communities. *Ecology Letters, 26(4): 597–608.*

25. Meltesen, K.M., E.T. Whiting, **J.N. Pinto-Ledezma**, T.S. Cicak and D.L. Fox. (**2023**). Deconstructing the latitudinal diversity gradient of North American mammals by nominal order. *Journal of Mammalogy, 104(4): 707-722.*

24. Souza, K., D. Fortunato, L. Jardim, L.C. Terribile, M. Lima-Ribeiro, C. Mariano, **J.N. Pinto-Ledezma**, L. M. Bini, R. Loyola, R. Dobrovolski, T.F.L.V.B. Rangel, I.F. Machado, T. Rocha, M.C. Batista, M.L. Lorini, M.M. Vale, C.A. Navas, N.M. Maciel, F. Villalobos, M.A. Olalla-Tarraga, J.F.M. Rodrigues, S. Gouveia and J.A.F. Diniz-Filho. (**2023**). Evolutionary rescue and geographic range shifts under climate change for global amphibians. *Frontiers in Ecology and Evolution, 11: 1038018.*

23. Rueda-Cediel, P., R. Brain, N. Galic, **J.N. Pinto-Ledezma**, A. Rico and V. Forbes. (**2023**). Using life-history trait variation to inform ecological risk assessments for threatened and endangered plant species. *Integrated Environmental Assessment and Management, 19(10): 213–223.*

22. Velasco†, J.A. and **J.N. Pinto-Ledezma†**. (**2022**). Mapping diversification metrics in macroecological studies: prospects and challenges. *Frontiers in Ecology and Evolution, 10: 951271.*

21. Vargas, G., N. Kunert, W.M. Hammond, Z.C. Berry, L.K. Werden, C.M. Smith-Martin, B.T. Wolfe, L. Toro, A. Mondragón-Botero, **J.N. Pinto-Ledezma**, N.B. Schwartz, M. Uriarte, L. Sack, K.J. Anderson-Teixeira and J.S. Powers. (**2022**). Leaf habit affects the distribution of drought sensitivity but not water transport efficiency in the tropics. *Ecology Letters, 25(12): 2637–2650.*

20. Arango, A., **J.N. Pinto-Ledezma**, O. Soto-Rojas, A.M. Lindsay, Ch.D. Mendenhall and F. Villalobos. (**2022**). Hand-Wing Index as a surrogate for dispersal: the case of the Emberizoidea radiation. *Biological Journal of the Linnean Society, 137(1): 137–144.*

19. Fontes, C., **J.N. Pinto-Ledezma**, A.L. Jacobsen, R.B. Pratt and J. Cavender-Bares. (**2022**). Adaptive variation among oaks in wood anatomical properties is shaped by climate of origin and shows limited plasticity across environments. *Functional Ecology, 36(2): 326-340.*

18. Chaplin-Kramer, R., K.A. Brauman, J. Cavender-Bares, S. Díaz, G.T. Duarte, B.J. Enquist, L.A. Garibaldi, J. Geldmann, B.S. Halpern, T.W. Hertel, C.K. Khoury, J.M. Krieger, S. Lavorel, T. Mueller, R.A. Neugarten, **J.N. Pinto-Ledezma**, S. Polasky, A. Purvis, V. Reyes-García, P.R. Roehrdanz, L.J. Shannon, M.R. Shaw, B.N. Strassburg, J.M. Tylianakis, P.H. Verburg, P. Visconti and N. Zafra-Calvo. (**2022**). Conservation needs to integrate knowledge across scales. *Nature Ecology and Evolution, 6: 118-119.*

17. **Pinto-Ledezma, J.N.** and J. Cavender-Bares. (**2021**). Predicting species distributions and community composition using satellite remote sensing predictors. *Scientific Reports, 11: 16448.*

16. Cavender-Bares, J., P. Reich, P.A. Townsend, A. Banerjee, E. Butler, A. Desai, A. Gevens, S. Hobbie, F. Isbell, E. Laliberté, J.E. Meireles, H. Menninger, R.P. Pavlick, **J.N. Pinto-Ledezma**, C. Potter, M.C. Schuman, N. Springer, A. Stefanski, P. Trivedi, A. Trowbridge, L. Williams, C.G. Willis and Y. Yang. (**2021**). BII-Implementation: The causes and consequences of plant biodiversity across scales in a rapidly changing world. *Research Ideas and Outcomes, 7: e63850.*

15. **Pinto-Ledezma, J.N.**, F. Villalobos, P. Reich, J. Catford, D. Larkin and J. Cavender-Bares. (**2020**). Testing Darwin's naturalization conundrum based on taxonomic, phylogenetic and functional dimensions of vascular plant diversity. *Ecological Monographs, 90(4): e01420.*

14. Cavender-Bares, J., C. Fontes and **J.N. Pinto-Ledezma**. (**2020**). Open questions in understanding the adaptive significance of plant functional trait variation within a single lineage. *New Phytologist, 227(3): 659-663.*

13. **Pinto-Ledezma, J.N.**, A.E. Jahn, V.R. Cueto, J.A.F. Diniz-Filho and F. Villalobos. (**2019**). Drives of phylogenetic assemblage structure of the Furnariides, a widespread clade of lowland Neotropical birds. *The American Naturalist, 193(2): E41-E56.*

12. **Pinto-Ledezma, J.N.**, D. Larkin and J. Cavender-Bares. (**2018**). Patterns of beta diversity of vascular plants and their correspondence with biome boundaries across North America. *Frontiers in Ecology and Evolution, 6: 194.*

11. Pereira, E., **J.N. Pinto-Ledezma**, C. de Freitas, F. Villalobos, R. Collevati and N. Medeiros. (**2017**). Evolution of anuran foam nest: trait conservatism and lineage diversification. *Biological Journal of the Linnean Society 122(4): 814-823.*

10. **Pinto-Ledezma, J.N.**, L. Simon, J.A.F Diniz-Filho and F. Villalobos. (**2017**). The geographic diversification of Furnariides: the role of forest versus open habitats in driving species richness gradients. *Journal of Biogeography, 44(8): 1683-1693.*

9. Cseko, E., W. Franca-Rocha, T. Moura and **J.N. Pinto-Ledezma**. (**2017**). New range limit of the Broad-tipped Hermit (*Anopetia gounellei*, Aves: Trochilidae): the state of art and a review on the range area. *Pápeis avulsos de Zoologia, 57(21): 275-285.*

8. *Sosa R., Ch. Schalk, L. Braga and **J.N. Pinto-Ledezma**. (**2015**). Geographic Distribution: *Rhinella amboroensis* (Cochabamba toad) *Herpetological Review, 46(2): 214.*

7. **Pinto-Ledezma, J.N.** and *M.L. Rivero-Mamani. (**2014**). Temporal patterns of deforestation and fragmentation in Lowland Bolivia: Implications for climate change. *Climatic Change, 127: 43-54.*

6. Jahn A.E., D.J. Levey, V. Cueto, **J.N. Pinto-Ledezma**, D. Tuero, J.W. Fox and D. Masson. (**2013**). Patterns of long-distance bird migration in South America as revealed by light-level geolocators. *The Auk, 130(2): 223-229.*

5. Jahn A.E., V. Cueto, J.W. Fox, M.S. Husak, **J.N. Pinto-Ledezma**, D.H. Kim, D.V. Landoll, H.K. Lepage, D.J. Levey, M.T. Murphy and R.B. Renfrew. (**2013**) Migration timing and wintering areas of three species of Tyrannus flycatchers breeding in the great plains of North America *The Auk, 130(2): 247-257.*

4. *Sosa R., Ch. Schalk, L. Braga and **J.N. Pinto-Ledezma**. (**2013**). *Micrurus serranus* (NCN) diet. *Herpetological Review, 44(1): 155.*

3. *Sosa R., Ch. Schalk, L. Braga and **J.N. Pinto-Ledezma**. (**2013**). *Phylodryas psammohidea* (Gunther's green racer) diet. *Herpetological Bulletin, 124: 24.*

2. *Sosa R., Ch. Schalk, L. Braga and **J.N. Pinto-Ledezma**. (**2012**). *Clelia langeri* (NCN) diet. *Herpetological Review, 43(4): 657.*

1. Jahn A.E., **J.N. Pinto-Ledezma**, A.M. Mamani, L.W. De Groote and D.J. Levey. (**2010**). Patterns of home range size and habitat occupancy of Tropical Kingbird (*Tyrannus m. melancholicus*) in the southern Amazon Basin. *Ornitología Neotropical, 12: 39-46.*

BOOK CHAPTERS:

4. **Pinto-Ledezma, J.N.** and J. Cavender-Bares. (**2020**). Using remote sensing for modeling and monitoring species distributions. In Cavender-Bares, J., J. Gamon and P. Townsend (Eds.) *Remote Sensing of Plant Biodiversity. Springer Remote Sensing/Photogrammetry Series.*

3. Cavender-Bares, J., A. Schweiger, **J.N. Pinto-Ledezma** and J.E. Meireles. (**2020**). Applying remote sensing to biodiversity science. In Cavender-Bares, J., J. Gamon and P. Townsend (Eds.) *Remote Sensing of Plant Biodiversity. Springer Remote Sensing/Photogrammetry Series.*

2. Villalobos, F., **J.N. Pinto-Ledezma** and J.A.F. Diniz-Filho. (**2020**). Evolutionary macroecology and the geographical patterns of Neotropical diversification. In Rull, V. and A.C. Carnaval (Eds.) *Neotropical diversification: patterns and processes. Springer Nature AG.*

1. Contributing author in: Cavender-Bares, J. et al. Chapter 3 Status and trends of biodiversity and ecosystem functions underpinning nature's benefit to people. In IPBES (**2018**): The IPBES regional assessment report on biodiversity and ecosystem services for the Americas. 207-362 Pp. Rice et al. (Eds). *Secretariat of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, Bonn, Germany.*

PAPERS IN OTHER PEER-REVIEWED JOURNALS (In Spanish):

15. Moulatlet, G.M., **J.N. Pinto-Ledezma**, and F. Villalobos. (Accepted). Patrones globales de diversidad beta filogenética en Angiospermas. *Desde el Herbario CICY.*

14. **Pinto-Ledezma, J.N.**, M.A. Montenegro and D. Villarroel. (**2017**). Historia Natural del Cerro Mutún V: la avifauna. *Kempffiana, 13(2): 10-28.*

13. Villarroel, D., G. Aramayo, M. Martínez, C. Proença, C. Munhoz, B. Klitgaard, **J.N. Pinto-Ledezma** and M. Nee. (**2017**) Historia Natural del Cerro Mutún VI: flora y vegetación, checklist, estado de conservación y nuevos registros para Bolivia. *Kempffiana, 13(2): 29-74.*

12. *Pinto, M.A., *K. Mano-Cuellar, D. Villarroel and **J.N. Pinto-Ledezma**. (**2017**). Historia Natural del Cerro Mutún IV: la herpetofauna. *Kempffiana, 13(1): 116-128.*

11. **Pinto-Ledezma, J.N.** and D. Villarroel. (**2016**). Historia Natural del Cerro Mutún I: síntesis geográfica, geofísica, climática y socioeconómica. *Kempffiana, 12(2): 29-38.*

10. *Pinto, M.A. and **J.N. Pinto-Ledezma**. (**2015**). Listado preliminar de anfibios de la propiedad Benevento (Santa Cruz, Bolivia). *Kempffiana, 11(1): 23-27.*

9. *Pinto M.A., D. García, K. Mano and **J.N. Pinto-Ledezma**. (**2015**). Listado de anfibios y reptiles de la propiedad Juan Deriba, Santa Cruz, Bolivia. *Kempffiana, 11(1): 70-75.*

8. *Mano K., *M.A. Pinto, *R. Sosa, D. Villarroel and **J.N. Pinto-Ledezma**. (**2015**). Reptile fauna of the Mutún region (Santa Cruz department, Bolivia): species list and conservation status. *Kempffiana, 11(1): 66-69.*

7. **Pinto-Ledezma, J.N.**, V.X. Sandoval, V.N. Pérez, T.J. Caballero, *K. Mano, *M.A. Pinto and *R. Sosa. (**2014**). Desarrollo de un modelo espacial explícito de hábitat para la paraba jacinta (*Anodorhynchus hyacinthinus*) en el Pantanal boliviano (Santa Cruz, Bolivia). *Ecología en Bolivia, 49(2): 1605-2528.*

6. **Pinto-Ledezma, J.N.**, T.J. Caballero, B. Flores, V.N. Perez, *K. Mano and *M.A. Pinto. (**2014**). Lista preliminar de las aves de la propiedad Juan Deriba, Santa Cruz, Bolivia. *Kempffiana, 10(2): 1-11.*

5. *Sosa R., L. Braga and **J.N. Pinto-Ledezma**. (**2014**). The amphibian fauna of the Southwest Amboró National Park, Santa Cruz, Bolivia. *Kempffiana, 10(2): 31-35.*

4. **Pinto-Ledezma, J.N.** and M.A. Aponte. (**2013**) Algunas notas sobre la reproducción de aves en la Reserva de Vida Silvestre Ríos Blanco y Negro. *Kempffiana, 9(1): 21-25.*

3. **Pinto-Ledezma, J.N.**, R. Sosa, M. Paredes, I. García, D. Villarroel and S. Muyucundo. (**2011**). La paraba jacinta (*Anodorhynchus hyacinthinus*): estado poblacional y su conservación en el Pantanal boliviano. *Kempffiana, 7(2): 15-37..*

2. **Pinto-Ledezma, J.N.** and T. Ruiz de Centurión. (**2010**). Patrones de deforestación y fragamentación 1976-2006 en el municipio San Julián (Santa Cruz, Bolivia). *Ecología en Bolivia, 45(2): 101-115.*

1. Villarroel D., **J.N. Pinto-Ledezma**, T. Ruiz de Centurión and A. Parada. (**2009**) Relación de la cobertura leñosa con la riqueza herbáceaen tres fisionomías del Cerrado *sensu lato* (Cerro Mutún, Santa Cruz, Bolivia). *Ecología en Bolivia, 44(2): 83-98.*

NON PEER-REVIEWED BOOK CHAPTERS:

4. Mostacedo B., M., Toledo, D. Villarroel, **J.N. Pinto-Ledezma**, G. Carreño-Rocabado, B. Flores and Y. Uslar. (**2014**). Memorias del IV Congreso Boliviano de Ecología. 4-6 de Junio 2014. *Universidad Autónoma Gabriel Rene Moreno, Santa Cruz, Bolivia.*

3. Perotto-Baldivieso H.L., K. Riverro, **J.N. Pinto-Ledezma** and A.B. Gill. (**2012**). Distributing biodiversity data through the web: The Geospatial Center for Biodiversity in Bolivia. 1252-1258 pp. In: Embrapa Informática Agropecuária/INPE. Anais 4º Simpósio de Geotecnologias no Pantanal. *Instituto Nacional de Pesquisas Espaciais.*

2. Azurduy H. and **J.N. Pinto-Ledezma**. (**2012**). El escenario ecológico y geográfico. 6-13 pp. In: Azurduy and Rivero (Eds). Historia Natural de la Serranía Incahuasi. *Museo de Historia Natural Noel Kempff Mercado and Total SE.*

1. Villarroel D., L. Arroyo and **J.N. Pinto-Ledezma**. (**2009**). La vegetación de Bella Vista. 45-68 Pp. In: Arroyo and Churchill (Eds). Investigaciones botánicas en la región de Bella Vista, departamento de Santa Cruz, Bolivia: una base para la conservación. *Museo de Historia Natural Noel Kempff Mercado and Missouri Botanical Garden.*

PUBLICATIONS (IN REVIEW OR REVISION)

†*Equal contribution*

4. Arango, A., **J.N. Pinto-Ledezma**, O. Soto-Rojas, Ch.D. Mendenhall and F. Villalobos. (First revision). The effects of the dispersal ability in the diversification dynamics of Emberizoidea (Aves: Passeriformes). *Evolution.*

3. Bala, A., **J.N. Pinto-Ledezma†** and Z.A. Reshi†. (First revision). Phylogenetic relatedness of plant species co-occurring with an invasive alien plant species (*Anthemis cotula* L.) varies with elevation. *Ecosphere.* Available online at: `https://doi.org/10.1101/2023.03.10.532156`.

2. Arango, A., **J.N. Pinto-Ledezma**, O. Soto-Rojas and F. Villalobos. (First revision). Evidences of widespread sympatry as the main driver of diversification for Emberizoidea (Aves). *Proceedings of the Royal Society B.*

1. Velasco, J.A., G. Campillo-García, **J.N. Pinto-Ledezma** and O. Villela-Flores. (First revision) Spatiotemporal dimensions of a reproductive life history trait in a spiny lizard radiation (Squamata: Phrynosomatidae). *Evolution.* Available online at: `https://www.biorxiv.org/content/10.1101/2020.06.17.157891v1`.

PREPRINTS

2. Mendes, L., **J.N. Pinto-Ledezma**, R.R. Dunn, and T.F.L.V.B. Rangel. (2020). Urban warming inverse contribution on risk of dengue transmission in the southeastern North America. *Preprint.* Available online at: `https://doi.org/10.1101/2020.01.15.908020`.

1. Souza, K., **J.N. Pinto-Ledezma**, R. Dobrovolski, M. Telles, T. Soares, C. Ruas and J.A.F. Diniz-Filho. (2020). How to measure the influence of landscape population genetic structure: developing resistance surfaces using a pattern-oriented modeling approach. *Preprint.* Available online at: `https://doi.org/10.1101/2020.02.20.958637`.

TEACHING AND ADVISING

CORE TEACHING:

University of Minnesota: Department of Ecology, Evolution & Evolution
EEB 3534: **Biodiversity Science** (Instructor of record) Spring 2019-2023
EEB 5534: **Biodiversity Science** (Instructor of record) Spring 2019-2023
Lab material at: `https://jesusnpl.github.io/teaching/`

Universidad Autónoma Gabriel René Moreno: Carrera de Biología
Landscape Ecology (Guest Lecturer) Spring 2015, 2017
Master en Manejo de Recursos Naturales y Medio Ambiente

ADDITIONAL TEACHING:

University of Minnesota: Department of Ecology, Evolution & Behavior
Workshop: Intro to Multilevel Modeling (Instructor) Nov, 2023
Workshop material at: `git@github.com:jesusNPL/MLM_intro.git`

University of Minnesota: Department of Biology Teaching & Learning - The Nature of Life (NOL @ Itasca)
Introduction to Programming Using R (Instructor) July, 2023
Module material at: `git@github.com:jesusNPL/NOL.git`

University of Minnesota: Department of Ecology, Evolution & Behavior
Evolutionary Ecology (Guest Lecturer) May, 2023
Ecology (EEB 3407/5407) May Term 2023

University of Minnesota: Department of Ecology, Evolution & Behavior
NextGen species distribution models (Lecturer) May, 2022
Lab material at: `git@github.com:jesusNPL/NextGenSDM.git`

University of Minnesota: Department of Fisheries, Wildlie and Conservation Biology
Introduction to patterns of biodiversity (Guest Lecturer) Oct, 2019
Lab material at: `git@github.com:jesusNPL/LargeScale.git`

Universidade Federal de Goiás: Department of Ecology
Phylogenetic Comparative Methods (Teaching Assistant) Spring 2016
Lab material at: `http://dinizfilho.wixsite.com/dinizfilholab/`

DIRECTED STUDENT MENTORING:

External PhD Thesis Committee:

Felipe A. Toro Cardona, February 2023 - Present. External committee member, PhD Thesis/Project: 'Macroecological patterns and niche evolution of Hylids in America'. Universidad de Antioquia, Colombia.

Axel Arango García, August 2019 - August 2023. External committee member, PhD Thesis/Project: 'Effects of dispersal on the diversification of Emberizoidea (Aves, Passeriformes) in the New World'. Instituto de Ecología A.C., Xalapa, Mexico.

Past Undergraduate Mentoring:

Zoe Karwowski - EEB, University of Minnesota

Past External Graduate Advisees:

Marco Aurelio Pinto Viveros, February 2017 – August 2019. Master Science Thesis: 'The amphibians as a model of biological control in agricultural areas of Santa Cruz, Bolivia', Master program Manejo de Recursos Naturales y Medio Ambiente, Universidad Autónoma Gabriel René Moreno, Santa Cruz de la Sierra, Bolivia.

PRESENTATIONS

**Last five years*

Invited Presentation - Integrating multiple dimensions of plant biodiversity *August, 2023*
Paving the Way for Continental Scale Biology: Technology, Techniques, and Teamwork for Connecting Research Across Scales - The National Academies of Sciences, Engineering, and Medicine Webinar

Contributed Presentation - No branch left behind: tracking terrestrial biodiversity from a phylogenetic completeness perspective *August, 2023*
Ecological Society of America Annual Meeting Portland, OR

Contributed Presentation - Phylogenetic and spectral similarity predict redundancy in biodiversity-ecosystem function relationships in two long-term forest diversity experiments *(Co-author)* *August, 2023*
Ecological Society of America Annual Meeting Portland, OR

Contributed Presentation - Integrating phylogenies, forest inventories, and hyperspectral observations to map tree communities from space *(Co-author)* *August, 2023*
Ecological Society of America Annual Meeting Portland, OR

Contributed Presentation - Can we map tree diseases from space? The case of oak wilt disease *(Co-author)* *August, 2023*
Ecological Society of America Annual Meeting Portland, OR

Contributed Presentation - How spectral biology and remote sensing can inform biodiversity management and conservation *(Co-author)* *July, 2023*
Botany Annual Conference Boise, ID

Invited Presentation - Trait biogeography: the role of past distributions *Apr, 2023*
Symposium on the Biogeography of Behavior, University of Oklahoma Norman, OK

Invited Presentation - Harnessing Bird and Remote Sensing Data to Understand Biodiversity Change Over Space and Time *Jan, 2023*
Saint Paul Audubon Society Saint Paul, MN

Contributed Presentation - Mapping phylogenetic composition and diversity in temperate forests for conservation and disease detection *(Co-author)* *Dec, 2022*
AGU Annual Meeting Chicago, IL

Invited Presentation - Can we use remote sensing products to predict and monitor biodiversity? *Aug, 2022*
Panorama Actual de las Ciencias Atmosféricas y del Cambio Climático 2022 Mexico DF, Mexico

Contributed Presentation - Assessing the link between spectral diversity and functional diversity *Jul, 2022*
Annual Meeting of the Association for Tropical Biology and Conservation Cartagena, Colombia

Contributed Presentation - The role evolutionary and biogeographic imprints on plant-trait distributions and ecosystems functioning *Jun, 2022*
World Biodiversity Forum Davos, Switzerland

Invited Presentation - Macroevolutionary and ecological processes as drivers of species co-occurrences *Feb, 2022*
Ecology, Evolution and Environmental Biology Seminar Series, Columbia University New York, NY

Contributed Presentation - Plant diversity across dimensions: coupling biodiversity measures from the ground and the sky *Dec, 2021*
AGU Annual Meeting New Orleans, LA

Contributed Poster - Modeling species distributions using remote sensing data: the Eastern temperate forests of the US as a case study *Dec, 2021*
AGU Annual Meeting New Orleans, LA

Contributed Presentation - Plant hydraulics and rainfall niches: a mechanistic approach to explain species distributions across tropical biomes *(Co-author)* *Dec, 2021*
AGU Annual Meeting New Orleans, LA

Contributed Presentation - Detection of oak wilt disease from tree to landscape Scales *(Co-author)* *Dec, 2021*
AGU Annual Meeting New Orleans, LA

Invited Presentation - Predictive ecological and evolutionary science *Sep, 2021*
School of Natural and Environmental Sciences, Newcastle University (Online) Newcastle, UK

Invited Presentation - Plant community structure and detection *Jun, 2021*
Institute of Biology, Leipzig University (Online) Leipzig, Germany

Invited Presentation - Plant biodiversity: community structure, composition and detection *Jan, 2021*
Ecology, Evolution and Behavior Seminar Series, University of Minnesota (Online) St Paul, MN

Contributed Poster - Integrating biodiversity observations with airborne and satellite data to predict shifts in assemblage diversity and composition underg global change *Jan, 2021*
NSF Macrosystems Biology and NEON Enabled Science PI Meeting Online meeting

Invited Presentation - Macroecology and macroevolution in the Neotropics *Nov, 2020*
Department of Geography, Federal University of Rio Grande do Norte (Online) RGN, Brazil

Invited Presentation - Introduction to graphical models *Jan, 2020*
Evoutionary Biology Network, Institute of Ecology Xalapa, Mexico

Contributed Presentation - The role of ecology and evolution on the assembly and species co-occurrence at different spatial and temporal scales *Sep, 2019*
Grand Challenges in Biology Symposium, University of Minnesota St Paul, MN

Contributed Poster - Testing Darwin's naturalization conundrum based on taxonomic, phylogenetic and functional dimensions of vascular plant diversity *Aug, 2019*
Ecological Society of America Annual Meeting Louisville, KY

Invited Presentation - Wildlife management and indigenous people in Bolivian lowlands *Apr, 2019*
Mano a Mano International Partners St Paul, MN

Contributed Presentation - Integrated Global Biodiversity Detection: Plant Spectra, Phylogenetics, and Enhanced Species Distribution Models *(Co-author)* *Dec, 2018*
AGU Annual Meeting Washington DC

SYMPOSIA AND WORKSHOPS ORGANIZED

Round table on Diversity in Biodiversity Science (Organization committee) Oct, 2020
Biodiversity Research Coordination Network (RCN) *Online meeting*

X Bolivian Congress of Ornithology (Scientific committee) Oct, 2019
Asociación Boliviana de Ornitología and Universidad San Francisco Xavier *Sucre, Bolivia*

SERVICE AND OUTREACH ACTIVITIES

SERVICE AS EDITOR:

1. Subject-Matter Editor — **Ecological Monographs** (The Ecological Society of America)

2. Editorial Board — **Kempffiana** (Museo de Historia Natural Noel Kempff Mercado)

3. Subject-Matter Editor - special issue: *Applications of spectral biology and remote sensing for deciphering the causes and consequences of plant biodiversity across scales* — **Ecology** (The Ecological Society of America)

4. Guest Associate Editor in Models in Ecology and Evolution — **Frontiers in Ecology and Evolution**

SERVICE AS REVIEWER:

Web of Science ResearcherID: E-7984-2014

I served as a reviewer panelist for the **US National Science Foundation** in 2022 and 2023. In 2020, I served as an expert reviewer for the 2020 Red List of birds (eastern South America).

I have served as a reviewer in areas of macroecology and macroevolution, biogeography, theoretical ecology, community ecology, and ecological modeling in journals, including:

Nature
Ecology(7)
Frontiers in Ecology and the Environment
Ecological Monographs(2)
Philosophical Transactions of the Royal Society B
Ecology Letters
Journal of Biogeography(12)
Global Ecology and Biogeography(11)
Diversity and Distributions(3)
Journal of Aninal Ecology(2)
Journal of Ecology(4)
Methods in Ecology and Evolution(2)
Ecology and Evolution(2)
Journal of Field Ornithology(2)
EMU (Australian Journal of Ornithology)(2)
Kempffiana
Oecología Australis
El Hornero (Ornitología Neotropical)
Communications Biology
Ecography
Biological Conservation
PNAS(3)
The American Naturalist(2)
Systematic Biology(3)
Nature Communications(3)
New Phytologist(8)
Oikos
Molecular Biology and Evolution
Biological Journal of the Linnean Society(2)
Remote Sensing in Ecology and Conservation(3)
Biotropica(3)
Annals of Botany
Journal of Vegetation Science(2)
Journal of Plant Ecology
Prespectives in Ecology and Conservation(2)
Journal of Zoolog. Syst. Evol. Research
Biodiversity and Conservation(2)
Forest Ecology and Management(2)
NPJ Biodiversity(2)
Plos One
PeerJ

NATIONAL AND INTERNATIONAL SERVICE ACTIVITIES:

1. **Official Bolivian member** for the Society of Wetlands Scientists, South American Chapter.

2. **Research Advisor in Ecology and Natural Resources**: National Academy of Sciences of Bolivia, Santa Cruz Chapter (*Scientia Crucensis*).

SKILLS

Languages	First language: Spanish (speaking, reading, and advanced writing) Proficient: English, Portuguese (speaking, reading, and writting) Familiar with: Guaraní, Quechua
Computer Programming	Advanced: R, Markdown Intermediate: LaTeX, Stan, Git, RevBayes, Matlab, ArcGis Familiar with: Julia, Python, C++, Bash, Envi

EXPERIENCE WITH SCIENTIFIC COLLECTIONS AND CURATION

Museo de Historia Natural Noel Kempff Mercado, Santa Cruz de la Sierra, Bolivia

1. **Assistant curator**: identification, preparation and maintenance of bird specimens collected in the field (2009 – 2014).

2. **Coordinator**: development of the Geospatial Centre for Biodiversity in Bolivia—for the vertebrate collection at the Museum in collaboration with a team of taxonomists. `http://www.museonoelkempff.org/cgb/`. (2011 – 2013).

3. **Field coordinator of biological inventories** in National Protected Areas of Bolivia, including Ríos Blanco y Negro Wildlife Reserve (2009), Otuquis National Park (2011, 2013).

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American Association for the Advancement of Science (AAAS)	2020-present
Sigma Xi, The Scientific Research Honor Society (ΣΞ)	2021-present
American Geophysical Union (AGU)	2019-present
Ecological Society of America (ESA)	2014-present
National Academy of Sciences of Bolivia, Santa Cruz Chapter	2013-Present
Ornithological Society of Bolivia (ASBOR)	2012-Present
Ecological Society of Bolivia (ABECOL)	2006-Present
Society of Wetlands Scientists, South American Chapter (SWS)	2010-2014
International Society for Salt Lake Research (ISSLR)	2010-2014
Community of Wildlife Management in Latin America (COMFAUNA)	2009-Present
Society of Conservation Biology, Bolivian Chapter (SCB)	2007-2012