

Kevin I. Sánchez, PhD

PhD in Biological Sciences

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👤 PROFILE

My research focuses on elucidating the evolutionary history of natural populations, with particular emphasis on species delimitation, phylogenetic relationships, and the process of population differentiation. I employ model-based analytical approaches that integrate genetic, phenotypic, and ecogeographic data, recognizing that evolutionary processes operate across multiple dimensions and timescales. During my PhD, I combined phylogeographic and systematic frameworks to study the diversification of Patagonian lizards of the genus *Liolaemus*, integrating genomic and phenotypic evidence to explore patterns of population divergence and connectivity, and colonization dynamics in extreme environments. Currently, in my postdoctoral research, I am expanding these approaches to study the diversification and species delimitation of South American geckos and Australian skinks, investigating how ecological and evolutionary processes shape genetic and phenotypic diversity. Although my primary research system has been reptiles, I am broadly interested in extend these approaches to other biological systems to address fundamental questions in speciation and adaptation.

📁 PROFESSIONAL EXPERIENCE

Department of Ecology and Evolutionary Biology & Museum of Zoology (University of Michigan) [Full-time] 2026–
Post-doctoral research fellow 📍 Ann Arbor, USA
PI: Dr. Dan Rabosky

Instituto Patagónico para el Estudio de los Ecosistemas Continentales (IPEEC-CONICET) [Full-time] 2024–2026
Postdoctoral fellow 📍 Puerto Madryn, Argentina
Advisors: Dr. Mariana Morando, Dr. Melisa Olave

🎓 EDUCATION

Universidad Nacional de Córdoba 2019–2023
Biological Sciences 🎓 PhD
Thesis: Comparación de métodos explícitos de delimitación de especies e historia evolutiva de lagartijas del grupo *Liolaemus kingii* (Liolaemini: *Liolaemus*)
Comparison of explicit species delimitation methods and evolutionary history of Liolaemus kingii group's lizards (Liolaemini: Liolaemus)
Advisors: Dr. Mariana Morando, Dr. Luciano J. Avila

Universidad Nacional de Misiones 2010–2017
Genetics 🎓 BSc Honours
Thesis: Citogenética comparativa en especies del género *Moenkhausia* Eigenmann, 1903 (Characiformes: Characidae)
Comparative cytogenetics of species in the genus Moenkhausia Eigenmann, 1903 (Characiformes: Characidae)
Advisor: Dr. Alberto S. Fenocchio

📖 PUBLICATIONS

* *Lead author role*

Full-likelihood genomic inference resolves intergroup hybrid speciation in the only known parthenogenetic pleurodont lizard (*Liolaemus parthenos*)*

Sánchez KI, Myers EA, Avila LJ, Morando M

Evolution (in press)

2026

Spatial and ecological drivers of diversification in the world's southernmost gecko*

Sánchez KI, Wood Jr. PR, Sites Jr JW, Olave M, Avila LJ, Morando M

Molecular Ecology 35, e70581

2026

- Integrative delimitation and demographic modeling uncover speciation with gene flow in *Homonota* geckos (Gekkota: Phyllodactylidae) from Argentina's highlands***
Sánchez KI, López MA, Sites Jr JW, Avila LJ, Morando M
 Zoological Journal of the Linnean Society 207, zlag118 2026
- A new gecko (Phyllodactylidae: *Homonota whitii* group) from the Diaguita highlands, Argentina, with an updated phylogeny for the genus**
 Morando M, Sánchez KI, Vrdoljak J, Pérez CHF, Sites Jr JW, Avila LJ
 Zoologica Scripta 54, 454–472 2025
- A straightforward workflow to explore species diversity using the Patagonian lizards of the *Diplolaemus* genus (Iguania: Leiosauridae) as a study case, with the description of a new species**
 Vrdoljak J, Sánchez KI, González Marín A, Morando M, Avila LJ
 Molecular Phylogenetics and Evolution 204, 108274 2025
- Evaluating the role of melanic coloration and environmental conditions on heat gain among Patagonian lizards (*Liolaemus fitzingerii* group)**
 Escudero PC, Sánchez KI, Avila LJ
 Journal of Herpetology 58, 98–108 2024
- Tracing evolutionary trajectories in the presence of gene flow in South American temperate lizards (Squamata: *Liolaemus kingii* group)***
Sánchez KI, Recknagel H, Elmer KR, Avila LJ, Morando M
 Evolution 78, 716–733 2024
 Media coverage: [link 1](#), [link 2](#), [link 3](#)
- Complex patterns of diversification in the gray zone of speciation: Model-based approaches applied to Patagonian liolaemid lizards (Squamata: *Liolaemus kingii* clade)***
Sánchez KI, Diaz Huesa EG, Breitman MF, Avila LJ, Sites Jr. JW, Morando M
 Systematic Biology 72, 739–752 2023
- A new lizard species of the *Liolaemus kingii* group (Squamata: Liolaemidae) from northwestern Chubut province (Argentina)***
Sánchez KI, Morando M, Avila LJ
 Zootaxa 5264, 235–255 2023
- Phenotypic and geographic variation in two co-distributed Patagonian lizard clades (Squamata, Liolaemini)**
 González Marín A, Sánchez KI, Morando M, Avila LJ
 South American Journal of Herpetology 25, 18–27 2022
- Cytogenetic analyses in three species of *Moenkhausia* Eigenmann, 1903 (Characiformes, Characidae) from Upper Paraná River (Misiones, Argentina)***
Sánchez KI, Takagui FH, Fenocchio AS
 Caryologia 74, 3–10 2021
- An integrative approach to address species limits in the southernmost members of the *Liolaemus kingii* group (Squamata: Liolaemini)***
Sánchez KI, Avila LJ, Sites Jr. JW, Morando M
 Molecular Phylogenetics and Evolution 157, 107046 2021
- Testing repeatability, measurement error and species differentiation when using geometric morphometrics on complex shapes: a case study of Patagonian lizards of the genus *Liolaemus* (Squamata: Liolaemini)**
 Vrdoljak J, Sánchez KI, Arreola-Ramos R, Diaz Huesa EG, Villagra A, Avila LJ, Morando M
 Biological Journal of the Linnean Society 130, 800–812 2020
- Naming the diversity: Taxonomy of current species of Patagonian lizards**
 Avila LJ, González Marín A, Troncoso-Palacios J, Sánchez KI, Pérez CHF, Morando M
 in: Morando, M., Avila, L.J. (Eds.), Lizards of Patagonia. Book series: Natural and Social Sciences of Patagonia. Springer International Publishing, Cham, pp. 123–188 2020

Presentation titles translated from Spanish and Portuguese are indicated with [S] and [P], respectively.

Replicated hybrid zones in Patagonian lizards uncover genomic and environmental patterns of early divergence

Páez-Vacas MI, Sánchez KI, Avila LJ, Olave M, Morando M

Virtual Evolution (online event)

2026

Replicated hybrid zones reveal the ecological and genomic drivers of early divergence in Patagonian lizards

Páez-Vacas MI, Sánchez KI, Avila LJ, Olave M, Morando M

XIII Congreso Latinoamericano de Herpetología (San José, Costa Rica)

2026

Unraveling early divergence in the *Liolaemus fitzingerii* group (Squamata: Liolaemidae) across overlapping genomic clines

Páez-Vacas MI, Sánchez KI, Avila LJ, Olave M, Morando M

II Congreso Latinoamericano de Evolución (Tucumán, Argentina)

2025

Landscape genomics reveals signs of local adaptation in the world's southernmost gecko [S]

Sánchez KI, Olave M, Avila LJ, Morando M

II Congreso Latinoamericano de Evolución (Tucumán, Argentina)

2025

Hybridization, reticulation, and challenges in understanding diversification in *Liolaemus* [S]

Morando M, Sánchez KI, Avila LJ, Olave M

II Congreso Latinoamericano de Evolución (Tucumán, Argentina)

2025

Diversification in the gray zone of speciation: Hybridization in *Liolaemus* lizards (Squamata) and an in-depth study in the *L. kingii* group

Avila LJ, Sánchez KI, Morando M

10th World Congress of Herpetology (Kuching, Malaysia)

2024

Conservation genomics of *Liolaemus* lizards from the end of the world

Battistella B, Sánchez KI, Morando M, Olave M

3rd joint congress on Evolutionary Biology - virtual talks (online event)

2024

Review of the present status of Leiosaurae: taxonomy, distribution, and conservation issues

Avila LJ, Sánchez KI, Vrdoljak JE, Morando M

Camp'23: Celebrating 100 years of Charles L. Camp's Classification of the Lizards (New York, EEUU)

2023

Reticulation in Squamata, the changing notion of species and a challenge for classification

Morando M, Sánchez KI, Avila LJ

Camp'23: Celebrating 100 years of Charles L. Camp's Classification of the Lizards (New York, EEUU)

2023

Detecting gene flow in the genomic era [S]

Sánchez KI, Morando M

V Reunión Argentina de Biología Evolutiva (La Plata, Argentina)

2023

Navigating the biodiversity landscape: a taxonomic workflow within the metaphor of map and territory [S]

Vrdoljak J, Sánchez KI, Avila LJ, Morando M

V Reunión Argentina de Biología Evolutiva (La Plata, Argentina)

2023

Cryptic enigma: How many species does *Homonota whitii* include? [S]

Oporto NL, Sánchez KI, Avila LJ, Sites Jr. JW, Morando M

V Reunión Argentina de Biología Evolutiva (La Plata, Argentina)

2023

Unveiling diversity in a neotropical gecko group *Homonota horrida* [S]

Millan Lugo AC, Sánchez KI, Avila LJ, Sites Jr. JW, Morando M

V Reunión Argentina de Biología Evolutiva (La Plata, Argentina)

2023

Contrasting models of strict bifurcation and reticulation in a Patagonian lizard group (*Liolaemus kingii* clade) [S]

- Sánchez KI, Avila LJ, Morando M
X Congresso Brasileiro de Herpetologia (Porto Seguro, Brazil) 2023
- Comparison of species delimitation methods in the *Homonota horrida* group [S]**
Millan Lugo AC, Sánchez KI, Avila LJ, Sites Jr. JW, Morando M
XXII Congreso Argentino de Herpetología (Santa Fe, Argentina) 2022
- Cryptic diversity in the *Homonota whitii* group. How many species does it include? [S]**
Oporto NL, Sánchez KI, Avila LJ, Sites Jr. JW, Morando M
XXII Congreso Argentino de Herpetología (Santa Fe, Argentina) 2022
- Comparison of species delimitation methods in the *Homonota horrida* group [S]**
Millan Lugo AC, Sánchez KI, Avila LJ, Sites Jr. JW, Morando M
XIV Reunión Argentina de Cladística y Biogeografía (Trelew, Argentina) 2022
- Cryptic diversity in the *Homonota whitii* group. How many species does it include? [S]**
Oporto NL, Sánchez KI, Avila LJ, Sites Jr. JW, Morando M
XIV Reunión Argentina de Cladística y Biogeografía (Santa Fe, Argentina) 2022
- Reticulation explains the complex diversification history of a clade of Patagonian lizards (Squamata: Liolaemini: *Liolaemus kingii* clade) [S]**
Sánchez KI, Avila LJ, Sites Jr. JW, Morando M
XXI Congreso Argentino de Herpetología (online event) 2021
- Is there a new gecko species in Argentina? Comparison of single-locus species delimitation methods in *Homonota underwoodi* [S]**
López MA, Sánchez KI, Avila LJ, Sites Jr. JW, Morando M
XXI Congreso Argentino de Herpetología (online event) 2021
- An integrative multi-approach workflow resolves species limits in the southernmost members of the *Liolaemus kingii* group (Squamata: Liolaemini)**
Sánchez KI, Avila LJ, Sites Jr. JW, Morando M. 2020
I Meeting of Systematics, Biogeography and Evolution (online event) 2020
- Testing species discovery methods on lizards of the *Liolaemus kingii* group [S]**
Sánchez KI, Avila LJ, Morando M
XX Congreso Argentino de Herpetología (San Juan, Argentina) 2019
- Is the replication crisis solely a problem for psychologists? Study case: geometric morfometrics [S]**
Vrdoljak JE, Sánchez KI, Arreola Ramos R, Díaz Huesa EG, Villagra A, Morando M, Avila LJ
XXIV Reunión del Grupo Argentino de Biometría (Mendoza, Argentina) 2019
- Empirical evaluation of a protocol for genomic data assembly obtained through ddRADseq [S]**
Sánchez KI, Avila LJ, Sites Jr. JW, Leaché AD, Morando M
9° Jornada de Becarixs y 1° Encuentro Patagónico de Becarixs (Puerto Madryn, Argentina) 2019
- Comparison of explicit species delimitation methods and evolutionary history of lizards of the *Liolaemus kingii* group [S]**
Sánchez KI, Avila LJ, Morando M
8° Jornada de Becarixs CONICET-CENPAT (Puerto Madryn, Argentina) 2018
- Contributions of Neotropical fish cytogenetics to understanding chromosomal systems [S]**
Fenocchio AS, Caffetti JD, Furnus G, García E, Leveroni F, Maldonado MA, Sánchez KI, Pioli UO, Rau AI, Roncati HA, Pastori MC
II Reunión Argentina de Biología Evolutiva (Corrientes, Argentina) 2017
- Comparative cytogenetics in species of the genus *Moenkhausia* Eigenmann, 1903 (Characiformes: Characidae) [S]**
Sánchez KI, Pioli UO, Takagui FH, Fenocchio AS

V Simposio Argentino de Ictiología (Corrientes, Argentina)	2017
Contribution to the cytogenetic study of two genera belonging to the family Poeciliidae (Cyprinodontiformes) from tributaries of the Paraná River (Misiones, Argentina) [S]	
<i>Rau AI, Maldonado MA, Caffetti JD, <u>Sánchez KI</u>, Pastori MC</i>	
V Simposio Argentino de Ictiología (Corrientes, Argentina)	2017
Cytogenetic characterization of a cultivated stock of <i>Cyprinus carpio</i> L. y <i>Ctenopharyngodon idella</i> V. (Ostariophysi: Cypriniformes) [S]	
<i>Sánchez KI, Rau AI, Pioli UO, Caffetti JD, Pastori MC, Fenocchio AS</i>	
Jornadas Regionales de Genética (Corrientes, Argentina)	2016
Cytogenetic studies of exotic fish species cultivated in Misiones, Argentina (<i>Cyprinus carpio</i> L. and <i>Ctenopharyngodon idella</i> V.) [P]	
<i>Sánchez KI, Pioli UO, Rau AI, Caffetti JD, Fenocchio AS</i>	
XVI Simpósio de Citogenética e Genética de Peixes (Cuiabá, Brazil)	2015
Preliminary cytogenetic studies in exotic fishes cultivated in Misiones (<i>Cyprinus carpio</i> L. and <i>Ctenopharyngodon idella</i> V.) [S]	
<i>Sánchez KI, Pioli UO, Pastori MC, Fenocchio AS</i>	
IX Jornadas Científico-Tecnológicas de la Universidad Nacional de Misiones (Posadas, Argentina)	2015

FUNDING

Project titles translated from Spanish are indicated with [S]

Lakeside fund (California Academy of Sciences)

Lakeside Foundation 2025
*Introgression and evolutionary dynamics in the *Liolaemus darwinii* complex: Disentangling neutral and adaptive processes*
 USD 13225

Evolutionary, Ecological, or Conservation Genomics (EECG) Research Award

American Genetic Association 2025
Genomic insights into adaptation and population connectivity in the world's southernmost gecko (Homonota darwinii complex)
 USD 6000

LinnéSys: Systematics Research Fund

The Linnean Society of London y The Systematics Association 2024
Assessing the role of hybridization in the origin of the only parthenogenetic pleurodont lizard (Squamata: Liolaemidae: Liolaemus parthenos)
 £ 1340

CONICET Posdoctoral Fellowship

Consejo Nacional de Investigaciones Científicas y Técnicas 2024–2026
Diversification in the arid zones of Argentina: Evolutionary history and population genomics of the world's southernmost gecko (Squamata: Phyllodactylidae: Homonota darwinii) [S]
 ARS 20214003.81 (as of February 2026, ongoing)

Lakeside fund (California Academy of Sciences)

Lakeside Foundation 2024
Evolutionary origins of the only parthenogenetic pleurodont lizard
 USD 12011

Proyectos de Investigación UNPSJB 2024 (co-directed with M. Morando)

Secretaría de Ciencia y Técnica de la Universidad Nacional de la Patagonia "San Juan Bosco" 2024
Diversification in geckos (Squamata: Phyllodactylidae: Homonota): challenges and opportunities posed by the

integration of genetic and phenotypic information in the H. borelli and H. horrida groups [S]

ARS 300000

LinnéSys: Systematics Research Fund

The Linnean Society of London and The Systematics Association

2021

Cryptic diversity and evolutionary history of lizards of the Liolaemus kingii group

£ 994

CONICET Doctoral Fellowship

Consejo Nacional de Investigaciones Científicas y Técnicas

2018–2024

Comparison of explicit species delimitation methods and evolutionary history of lizards of the Liolaemus kingii group (Liolaemini: Liolaemus) [S]

ARS 9161539.02

Beca de iniciación en la investigación: Jóvenes estudiantes avanzados

Comité de Desarrollo e Innovación Tecnológica (CEDIT)

2017–2018

Comparative cytogenetics in species of the genus Moenkhausia Eigenmann, 1903 (Ostariophysi: Characiformes) [S]

Beca de iniciación en la investigación: Jóvenes estudiantes avanzados

Comité de Desarrollo e Innovación Tecnológica (CEDIT)

2016–2017

Cytogenetic analysis in a population of Moenkhausia dichrourea Kner, 1858 (Ostariophysi: Characiformes) from Paraná River, Misiones Province, Argentina [S]

Becas SecIP para auxiliares de investigación

Secretaría de Investigación y Posgrado de la Universidad Nacional de Misiones

2013

Genetic systems, cytoembriology, and cytogenomics of South American grasses [S]

ARS 1400

HUMAN RESOURCES TRAINING

Titles translated from Spanish are indicated with [S]

Honor thesis advisor

- Millán Lugo AC. *Species delimitation in a group of Patagonian geckos (Homonota: H. horrida group) [S]*. Universidad Nacional de la Patagonia "San Juan Bosco". **Co-advisor (2023–)**
- Oporto NL. *Species delimitation in a group of Patagonian geckos (Homonota: H. whitii group) [S]*. Universidad Nacional de la Patagonia "San Juan Bosco". **Co-advisor (2023–)**
- Battistella Gómez B. *Conservation genomics in Patagonian lizards of the Liolaemus kingii clade [S]*. Universidad Nacional de Cuyo. **Co-advisor (2024–2025)**
- López MA. *Species delimitation in a group of Patagonian geckos (Homonota: H. underwoodi group) [S]*. Universidad Nacional de la Patagonia "San Juan Bosco". **Co-advisor (2022–2023)**

Internships

- Millán Lugo AC. *Revealing cryptic diversity in the Homonota horrida gecko group: results of mitochondrial marker sequences [S]*. Instituto Patagónico para el Estudio de los Ecosistemas Continentales (IPEEC-CONICET). **Co-advisor (2021–2023)**
- Oporto NL. *Unveiling hidden diversity in Homonota whitii: Study of cryptic lineages based on a mitochondrial marker [S]*. Instituto Patagónico para el Estudio de los Ecosistemas Continentales (IPEEC-CONICET). **Co-advisor (2021–2023)**
- López MA. *Species delimitation in a group of Patagonian geckos (Homonota: H. underwoodi group) [S]*. Instituto Patagónico para el Estudio de los Ecosistemas Continentales (IPEEC-CONICET). **Co-advisor (2020–2022)**

TEACHING

Titles translated from Spanish are indicated with [S]

Graduate courses

- *Phylogenies and Molecular Evolution [S]*. Universidad Nacional de Cuyo (Mendoza). 2024

Workshops

- *Phylogenetic network reconstruction* (dictated with Melisa Olave). X Congresso Brasileiro de Herpetologia (Porto Seguro, Bahia). 2023

Guest speaker

- *Population genomics* [S]. Genetics course (responsible professor: Mariana Morando). Universidad Nacional de la Patagonia "San Juan Bosco". 2025
- *Database manipulation and estimation of phylogenetic relationships using molecular data* [S]. Genetics course (responsible professor: Mariana Morando). Universidad Nacional de la Patagonia "San Juan Bosco". 2025
- *Database manipulation and estimation of phylogenetic relationships using molecular data* [S]. Genetics course (responsible professor: Mariana Morando). Universidad Nacional de la Patagonia "San Juan Bosco". 2024
- *An integrative approach to infer species limits in southern populations of the Liolaemus kingii group (Squamata: Liolaemini)* [S]. Herpetology course (responsible professor: Luciano J Avila). Universidad Nacional de la Patagonia "San Juan Bosco". 2020

 RESEARCH STAYS

- **California Academy of Sciences.** 2024 (1 month). Supported by the Lakeside fellowship.
- **California Academy of Sciences.** 2025 (2 months). Supported by the Lakeside fellowship.

 PEER REVIEW

Number of articles in brackets

Biological Journal of the Linnean Society [1]

Caryologia [1]

Cuadernos de Herpetología [1]

Ecology and Evolution [1]

Evolution [2]

Heredity [1]

iScience [1]

Journal of Fish Biology [2]

Molecular Ecology [1]

Molecular Phylogenetics and Evolution [2]

Peer Community in Evolutionary Biology [1]

Zoological Journal of the Linnean Society [1]

Zootaxa [1]

 COURSEWORK

Filogeografía		Programación en Python	
Universidad de la República	2022	Universidad Nacional de San Martín	2021
Diseño experimental		Epistemología	
Universidad Nacional de Córdoba	2019	Universidad Nacional de Córdoba	2019
Herramientas de análisis en filogeografía		Sistemas de Información Geográfica (SIG) aplicados a la ecología	
Universidad Nacional del Comahue	2019	Universidad Nacional de la Patagonia "San Juan Bosco"	2019
Herpetología		Análisis de la estructura genética de poblaciones	

<i>Universidad Nacional de la Patagonia "San Juan Bosco"</i>	2018	naturales	<i>Universidad Nacional de Córdoba</i>	2018
Diplomatura bioestadística básica aplicada, mediada con entorno R		Análisis macroevolutivos cuantitativos en R		
<i>Universidad Nacional de Córdoba</i>	2018	<i>Universidad Nacional de la Patagonia "San Juan Bosco"</i>	2018	
Introducción a la morfometría geométrica		Fundamentos de R		
<i>Universidad Nacional de la Patagonia "San Juan Bosco"</i>	2018	<i>Universidad Nacional de la Patagonia "San Juan Bosco"</i>	2018	
Escritura de artículos científicos y tesis				
<i>Universidad Tecnológica Nacional</i>	2017			

SKILLS

Teamwork 

Communication 

Learning 

Bash 

Cluster computing 

R 

Python 

ACADEMIC SOCIETY MEMBERSHIPS

American Genetic Association (AGA) [By application]

Society of Systematic Biologists (SSB) [By application]

Society for the Study of Evolution (SSE) [By application]

Sociedad Argentina de Biología Evolutiva (SABE) [By application]

The Systematics Association [By application]

LANGUAGES

Spanish [Native] / English [Intermediate] / Portuguese [Basic]

INTERESTS

Reading / Hiking / Playing videogames / Playing guitar