# L. FRANCISCO HENAO-DIAZ

Department of Ecology and Evolution University of Chicago Zoology Building, 1101 E. 57th St. Chicago, IL fhenaod@uchicago.edu

### **Field of Research**

Evolutionary biology, macroevolution, phylogenetic comparative methods, diversification, biogeography, forest ecology.

### **EDUCATION**

2017 - 2022	Ph.D. University of British Columbia, Vancouver, Canada
2011 - 2012	M.Sc. Universidad de Los Andes, Bogotá D.C., Colombia
2007 - 2010	B.Sc. Universidad de Los Andes, Bogotá D.C., Colombia

### **EMPLOYEMENT**

December 2022 - present	Chicago Postdoctoral Fellow, University of Chicago
May 2021 – December 2021	Graduate Research Internship, World Wildlife Fund – US
June 2017 – September 2017	Graduate Research Assistant, Universidad de los Andes
March 2017 – June 2017	Botanist and team leader in treeline - páramo transition zone at La Colosa, Cajamarca (Tolima), Fundación Guayacanal
October 2016 – January 2017	Botanist at the Biologic characterization southern Serranía de San Lucas, Wildlife Conservation Society (WCS) - Colombia
June 2015 – May 2016	Primatologist group leader in ecological study for environmental compensation pipeline oil San Fernando system, Salgado Meléndez & Asociados
April – May 2015	Botanist at the Biologic characterization southern Serranía de San Lucas, Wildlife Conservation Society (WCS) – Colombia

October 2014 – February 2015	Project Manager treeline-páramo transition zone at Chingaza Complex Páramo, Universidad de Los Andes
December 2014 – January 2015	Mammalogist at Corocora (ODL) oil station Fundación Omacha
December 2013 – February 2014	Data Compiler, Institute of biological Resources Alexander von Humboldt

### **AWARDS AND HONOURS** (excluding scholarships)

2022W	President's Academic Excellence Initiative PhD Award
2021	CSEE Excellence in Doctoral Research Award
2021S	President's Academic Excellence Initiative PhD Award
2020W	President's Academic Excellence Initiative PhD Award
2020S	President's Academic Excellence Initiative PhD Award
2020	Vicki Funk Student Travel Award

#### **PUBLICATIONS**

#### PEER-REVIEWED JOURNALS

- 21. Arenas-Castro, H. et al. (2024) Academic publishing requires linguistically inclusive policies. In press at *Proceeding Royal Society B*.
- 20. Gray, S. L., Lam, E. K, **Henao-Diaz, L. F.**, Jalabert, C. & Kiran K Soma. (2024) Effect of a territorial challenge on the steroid profile of a juvenile songbird. *Neuroscience* 541, 118 132
- 19. Stevenson, P.R., Acosta-Rojas, D.C., Cardenas, S. & **Henao-Diaz, L. F**. (2023) Fruit and seed morphology is better explained by dispersal system than by leaf size in a Tropical rainforest. *American Journal of Botany*. 110(8):e16211
- 18. **Henao-Diaz, L. F.** & Pennell, M. (2023) The Major Features of Macroevolution. *Systematic Biology*. 72(5), 1188 1198
- 17. Rolland, J., **Henao-Diaz, L. F.**, Doebeli, M., Germain, R., Harmon, L. J., Knowles, L. L., Liow, L. H., Mank, J.E., Manchac, A., Otto, S.P., Pennell, M. W., Salamin, N., Silvestro, D., Sugawara, M., Uyeda, J., Wagner, C. E. & Schluter, D. (2023) Conceptual and empirical bridges between micro- and macroevolution. *Nature Ecology and Evolution*. 7(8), 1181 1193

- 16. Brodie, J., **Henao-Diaz, F.**, Pratama, B., Wheeler, T., Copeland, C. & Helmy, O. E. (2023) Trait assembly in insular communities: filtering rather than in situ evolution determines fruit sizes in Indo-Malayan trees. *The American Naturalist*. 201(4), 574-585
- 15. Louca, S., **Henao-Diaz, L. F.** & Pennell, M. The scaling of diversification rates with age is likely explained by sampling bias. *Evolution*. 76 (7), 1625-1637
- 14. Stevenson, P. R., Cortés, C., Reyes, R., Paramero, R., Uni, J. F., Peña-Núñez, J. L. & **Henao-Diaz, L. F**. (2022). Avifauna asociada a bosques primarios y secundarios del Parque Nacional Natural Cueva de Los Guácharos, Colombia. *Actualidades Biológicas*. 44(116), 1-18.
- 13. Harmon, L. J., Pennell, M. W., **Henao-Diaz, F.**, Rolland, J., Sipley, B. & Uyeda, J. C. (2021) The Causes and consequences of the ubiquitous time-scaling of all evolutionary rates. *Annual Review of Ecology and Systematics*. 52, 587 609
- 12. Germain, R. M., Hart, S. P., Turcotte, M. M., Otto, S. P., Sakarchi, J., Rolland, J., Usui, T., Angert, A. L., Schluter, D., Bassar, R. D., Waters, M. T., **Henao-Diaz, F.,** & Siepielski, A. M. (2020) On the Origin of Coexisting Species. *Trends in Ecology & Evolution* 36(4), 284 293
- 11. **Henao-Diaz, F.** et al. (2020) Atlas de la biodiversidad de Colombia. Primates. Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. Bogotá D.C., Colombia. 51 pp.
- 10. **Henao-Diaz, L. F.** & Sinclair, A. R. E. (2020). Long term monitoring of Serengeti bird species occurrence, abundance, and habitat. *Ecology* 101 (2)
- 9. **Henao Diaz, L. F.**, Harmon, Sugawara, M. T., L. J., Miller, E., & Pennell, M. W. (2019). Reply to Wiens and Scholl: The time dependency of diversification rates is a widely observed phenomenon. *PNAS* 116(49), 24401
- 8. **Henao Diaz, L. F.**, Harmon, L. J., Miller, E., Sugawara, M. T., & Pennell, M. W. (2019) Macroevolutionary diversification rates show time-dependency. *PNAS* 116(15), 7403-7408
- 7. Henao Díaz, F., Arroyo, S., Cárdenas-Posada, G., Fernández, M., López, J. P., Martínez, D. C., Mendoza, J. S., Mondragón-Botero, A., León, O., Pulido-Herrera, K. L., Rodríguez-Cerón N. & Madriñán, S. (2019). Caracterización biológica en la zona de transición bosque-páramo del Complejo de Páramos Chingaza, *Colombia. Biota Colombiana*, 20 (1)
- 6. Stevenson P. R., Cardona, L., Acosta-Rojas, D., Henao-Diaz, F. & Cardenas, S. (2017) Diet of Oilbirds in Cueva de Los Guácharos National Park (Colombia): temporal variation in dispersal quantity, fruit choice and seed morphology. *Neotropical Ornitology*. 28, 295 - 307

- 5. Stevenson, P. R., M. A. Ramírez, L. F. Casas & **F. Henao-Díaz**. (2017) Forestación de bosques en sabanas de la altillanura colombiana: relevancia de las condiciones ambientales para el establecimiento de plántulas. *Biota Colombiana* 18 (Suplemento 1): 99-109.
- 4. Aldana, Ana M., Villanueva, B., Cano, Á., Correa-Gómez, Diego F., Umaña María N., Casas, Luisa F., Cárdenas, S., **Henao-Diaz, F**. & Stevenson P.R. (2017) Drivers of biomass stocks in Northwestern South American forests: complementing information for the Neotropics. *Forest Ecology and Management*.
- 3. Casas, L., Aldana, A. **Henao-Diaz, F.** & Stevenson P.R. (2017) Specific gravity of woody tissue from lowland Neotropical plants. *Ecology*. 98 (5)
- 2. **Henao-Diaz, F.** & Stevenson P.R. (2015) Neutral Theory Overestimates Extinction Times In Non-Human Primates. *International Journal of Primatology*. 36(4), 790-801.
- Henao-Diaz, F., Pacheco-Fernandez, N., Argüello-Bernal, S. Moreno-Arocha, M.M. & Stevenson P. (2012) Patrones de diversidad de Epífitas en Bosques de Tierras Bajas y Subandinos. *Colombia Forestal*. 15(2)

#### MANUSCRIPTS SUBMITED OR IN REVIEW

McGill, B., Jarzyna, M., Diaz, R., Barnes, C., **Henao-Diaz, F.**.. Gillespie. R. A call to develop a coherent discipline of biodiversity science to address global change.

#### OTHER PUBLICATIONS

- Schliep, K., Vidal-García, M., Biancani, L., **Henao-Diaz, L. F.**, Ada, E., Solís-Lemus, C. (2023) tanggle: Visualization of Phylogenetic Networks (R package).
- Cruz-Rodríguez, C., Noguera-Urbano, E.A., Olaya-Rodríguez, M.H., **Henao-Díaz, L.F.**, Guzmán-Caro, D.C., Ochoa Quintero, J.M. & Stevenson, P. (2020). Primates y deforestación en Colombia. En: Moreno, L. A. & Andrade, G. I. (Eds.). Biodiversidad 2019. Estado y tendencias de la biodiversidad continental de Colombia. Bogotá, D. C., Colombia: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt. 92p.
- Stevenson P.R, Zárate D. A., Ramirez M. A. & **Henao-Diaz**, F. (2015) Social interactions and proximal spacing in woolly monkeys: lonely females looking for male friends? In: *Dispersing Primate Females: Life History and Social Strategy in Male-Philopatric Groups*. Furuichi T., Yamagiwa J. & Aureli F. (eds) pp 45 71.

### White paper

Gomez, P., **Henao Diaz, F**. & Henao Esteban. (2023). Debunking Financial Inclusion in the US-Latam remittance market Counting clicks to measure inclusion.

#### **INVITED TALKS**

- **Francisco Henao Diaz**, Luke J. Harmon & Matthew W. Pennell, 2019. Explaining the Major Features of the Tree of Life with Process-based Models. Evolution Meeting.
- **Henao-Diaz. F.** 2015. *Plant characterization in forest-páramo transition at Chingaza Páramo Complex*. VIII Colombian Congress of Botany. Symposium: From forest to páramo, transitions and adaptations in high mountain vegetation.

### Contributed talks and presentations

- Marsh, L. K., Carretero-Pinzón, X., Boonratana, R., Shanee, S., Vreedzaam, A., Steiner-Bernardo, C., Oklander, L., **Henao-Diaz, F.** & Behie, A. 2023. *Best Practice Guidelines for the Stewardship of Primates in Fragments: Global Threat Analysis & Recommendations*. XXIX Biennial Meeting of the International Primatological Society.
- Cabra-Arias, C., Camacho, L., **Henao-Diaz, F.**, Torres, K., Avilés, L. 2022. Diversity and abundance of insects along an elevational gradient on the tropical Andes. Annual Meeting Entomological Society of America.
- Carretero-Pinzón, X., Cortés-Rincón, J., Gómez-Posada, C., Hernández, A., Linero, D., Luna, V., Rojas-Bejarano, N., Zárate, D. & **Henao-Diaz, F**. 2022. An evaluation of fragmentation threats of Colombian primate species by region using IUCN-CMP unified classification of direct threats. International Primatological Society Congress.
- Olaya-Rodríguez, María H., **Henao-Díaz**, **Luis Francisco**, Guzmán-Caro, Diana C., Cortés-Rincón, Juliana, Arcniegas-Moreno, Nicolás, Buitrago, Leonardo & Velásquez-Tibatá, Jorge. 2018. *Modelos de distribución de los primates de Colombia: resultados de un trabajo abierto y colaborativo*. V Congreso Colombiano de Zoología. IV Simposio Colombiano de Primatología.
- **Francisco Henao Diaz**, Luke J. Harmon, Mauro Sugawara and Matthew W. Pennell. 2018. *Young clades appear to be diversifying faster: meta-analysis of speciation rates reveals ubiquitous age-dependent effects*. 3rd Standalone Society for Systematic Biologists meeting.
- Stevenson P., Cardona, L., Acosta, D. **Henao, L.** & Cardenas S. 2017. *Diet of oilbirds in southern Colombia: temporal variation, fruit choice and seed morphology*. 54<sup>th</sup> Annual Meeting of the Association for Tropical Biology and Conservation.
- Trevisi, H., **Henao-Diaz, F.**, Ebert, D. & Berking, M. 2017. *Development and validation of effective self-support questionnaire (ESSQ)*. 10th Workshop Congress of Clinical Psychology and Psychotherapy. 35 Symposium of Clinical Professional CP and PT of Deutsche Gesselschaft der Psychologie. German Society of Psychology.

- Cardona, L., Link, A., **Henao-Diaz, F.**, Acosta-Rojas, D., Cardenas, S. & Stevenson P. 2016. Frugivory diet and oil bird's (Steatornis caripensis) potential role as seed dispersers: A case of study in Cueva de los Guácharos National Park (Huila, Colombia). V Colombian Congress of Ornithology. Symposium Birds and ecosystem functions: differential views and ecological roles of birds.
- Acosta-Rojas, Diana, **Henao-Diaz, F** & Madriñán S. 2015. *Aril Ancestral State Reconstruction in Leguminosae: Was right Edred John Corner?* VIII Colombian Congress of Botany. II Symposium in Colombian Leguminosae studies, from local to global levels.
- **Henao-Diaz, F.**, Cardenas-Hoyos, S., Acosta-Rojas. D. & Stevenson P. 2014 *Oilbird* (Steatornis caripensis) *diet and seed dispersal at the National Park Cueva de los Guácharos*. II Symposium of animal behavior in Colombia. 4th Colombian Zoology Congress.
- Stevenson P.R, Zárate D. A., Ramirez M. A. & **Henao-Diaz, F**. 2014. *Social interactions and proximal spacing in woolly monkeys: lonely females looking for male friends?* III Colombian Symposium of Primatology. 4 Colombian Zoology Congress.
- Carlos José Pardo-De la Hoz, **Francisco Henao-Diaz**, Silvia Restrepo, Natalia Vargas. 2014. *First taxonomic and distribution approach of the lichens from the páramo of the Natural National Park Chingaza*, *Colombia*. Symposium: Advances in Lichenology in Latin America. VIII Latino American Congress of Mycology.
- Pablo R. Stevenson, Diego F. Correa, Luisa F. Casas, L. Francisco Henao, David F. Góngora, L. Carolina Lagos, Sofía Arguello, Ana M. Aldana & Antonio Quiñones. 2014. Avances en el diagnóstico de los servicios ecosistémicos de la Reserva Biológica y Productiva Tomogrande, Vichada (Colombia). II Colombian Congress of protected Areas.

#### **TEACHING**

2021 Winter 2020 Fall 2014-I 2012-II	Teaching Assistant: Fundamentals of Biostatistics, University of British Columbia. Teaching Assistant: Phylogenetic Biology, University of British Columbia. Adjunct Professor: General Botany (Laboratory), Universidad de Los Andes Teaching Assistant: Thinking the History of Art, Universidad de Los Andes
2012- II 2011-II 2011–II 2010-II	Tutor: Spanish Writing Center, Universidad de Los Andes Teaching Assistant: Biodiversity, Conservation and Development, Universidad de Los Andes Tutor: Spanish Writing Center, Universidad de Los Andes Monitor: Ecology Laboratory, Universidad de Los Andes

### **SCHOLARSHIPS**

2022 – present Chicago Fellowship		
2020 - 2022	Computational Biodiversity Science and Services (BIOS <sup>2</sup> ) Fellow	
2017 - 2021	International Doctoral Fellowship	
2012	Teaching Assistance Spanish Write Center	
2011	Teaching Assistance Spanish Write Center	

## **GRANTS AND FUNDING**

2022	Chicago Fellowship (US \$ 20,000)
2014	Basic Sciences Project (USD \$20,000)
2012	Primate Conservation Inc. (USD \$1,700)
2011	Seed Research Project. Universidad de los Andes (USD \$1,100)

### **WORKING GROUPS**

2023	Biodiversity along elevation and productivity gradients. Beaty Biodiversity Research Centre, UBC. ( <i>Invited participant</i> )
2022	Insights from Macro-Ecology and Macro-Evolution for Biodiversity Assessment Schoodic Institute, Winter Harbour, ME
2021	L'impact des changements climatiques sur les peits cours d'eau du Québec G3E-BIOS2, Virtual
2019	Coexistence and evolutionary timescales. Beaty Biodiversity Research Centre, UBC. ( <i>Invited participant</i> )
2019	Potential links between micro and macroevolution. Beaty Biodiversity Research Centre, UBC. ( <i>Invited participant</i> )

### **WORKSHOPS**

2023	Biogeographical regionalization and Macroecology. New Orleans, LA
2021	Summer School in Biodiversity Modelling – Evaluating Models with Ecological
	Data. USherbrooke, QC.

2010	
2019	Nantucket phylogeny developer. UMass. Nantucket, MS.
2019	Introduction to Julia. UBC-Vancouver.
2018	How to publish and use Biodiversity Data. Canadensys. UBC-Vancouver.
2018	Introduction to Bayesian Stan Modeling Language. UBC-Vancouver.
2018	Arbor workflows, Visual workflows for phylogenetic comparative methods Arbor Cornell University, Ithaca, NY.
2018	Animal movement analyses: A to Z, with lots of R. British Ecological Society Movement Ecology Special Interest Group. UBC-Vancouver.
2016	Calidad de Datos. Sistema de Información Biológica (SiB – Colombia). Bogotá
2015	I Taller de Validación BioModelos de Distribución Primates. Instituto Alexander von Humboldt. Bogotá D.C.
2015	PÁRAMOS SIN LÍMITES: Comprendiendo la transición páramo-bosque. Aportes de la investigación en flora y fauna para la gestión de la alta montaña colombiana. Instituto Alexander von Humboldt. Montenegro, Quindío.
MEDIA	
2023	Nature: https://www.nature.com/articles/d41586-023-02529-1
2023	Nature: <a href="https://www.nature.com/articles/d41586-023-02529-1">https://www.nature.com/articles/d41586-023-02529-1</a> Research Highlight: <a href="https://www.nature.com/articles/s41559-023-02146-1">https://www.nature.com/articles/s41559-023-02146-1</a>
2023	
	Research Highlight: <a href="https://www.nature.com/articles/s41559-023-02146-1">https://www.nature.com/articles/s41559-023-02146-1</a> El Espectador: <a articles="" href="https://www.elespectador.com/noticias/medio-ambiente/listo-el-primer-atlas-de-primate&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;Research Highlight: &lt;a href=" https:="" s41559-023-02146-1"="" www.nature.com="">https://www.nature.com/articles/s41559-023-02146-1</a> El Espectador: <a href="https://www.elespectador.com/noticias/medio-ambiente/listo-el-primer-atlas-de-primates-de-colombia/">https://www.elespectador.com/noticias/medio-ambiente/listo-el-primer-atlas-de-primates-de-colombia/</a> Semana Sostenible: <a href="https://sostenibilidad.semana.com/medio-ambiente/articulo/donde-habitan-los-primates-en-colombia-">https://sostenibilidad.semana.com/medio-ambiente/articulo/donde-habitan-los-primates-en-colombia-"&gt;https://sostenibilidad.semana.com/medio-ambiente/articulo/donde-habitan-los-primates-en-colombia-</a>
2020	Research Highlight: <a href="https://www.nature.com/articles/s41559-023-02146-1">https://www.nature.com/articles/s41559-023-02146-1</a> El Espectador: <a href="https://www.elespectador.com/noticias/medio-ambiente/listo-el-primer-atlas-de-primates-de-colombia/">https://www.elespectador.com/noticias/medio-ambiente/listo-el-primer-atlas-de-primates-de-colombia/</a> Semana Sostenible: <a href="https://sostenibilidad.semana.com/medio-ambiente/articulo/donde-habitan-los-primates-en-colombia-colombia-hoy/53161">https://sostenibilidad.semana.com/medio-ambiente/articulo/donde-habitan-los-primates-en-colombia-colombia-hoy/53161</a> Science Daily:

# **OUTREACH**

Patterns in Evolution: <a href="https://www.youtube.com/watch?v=QX4RIDVIBWw">https://www.youtube.com/watch?v=QX4RIDVIBWw</a>

The Living Data Project: <a href="https://www.youtube.com/watch?v=BfsVS7DVX-g">https://www.youtube.com/watch?v=BfsVS7DVX-g</a>

### PROFESSIONAL SERVICE

#### **COMMITEES**

2023	ASN Representative for the joint ASN, SSE, and ESE meeting Montreal 2024
2020 – 2021	Grad student representative in the Biodiversity Data Scientist Faculty Search Committee
2014	Scientific committee member III Colombian Symposium of Primatology. IV

Colombian Zoology Congress. Cartagena.

### **MANUSCRIPT REVIEWER (10)**

Current Biology, Ecology Letters, Evolution, J Biogeography, Methods in Ecology and Evolution, PLoS Biology, Proceeding of Royal Society B, Revista de Biología Tropical, Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales

#### **LANGUAGES**

Native: Spanish. Fluent: English. Beginner: French