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## 1. Education

Ph.D., Environmental Science, Biology Department, Drexel University, 2015

M. S., Department of Biology, University of Missouri-St. Louis, St. Louis, USA, 1998

M. em C., Biociências Institute, São Paulo University. Brazil, 1992

B.S. in Biological Sciences, Biology Department, Catholic University. Ecuador, 1989

*Ph.D Thesis*: Systematics of *Monnina* (Polygalaceae) (English); *Advisor*: Walter F. Bien, Ph.D., Drexel University

*Master's Thesis* (1998): Revision of *Aciotis* (Melastomataceae) (English); *Advisor*: Susanne Renner, Ph.D.

*Master's Thesis* (1992): Estudos taxonômicos dos subgêneros de *Monnina* Ruiz & Pav. (Polygalaceae), baseados em espécies equatorianas e brasileiras (Portuguese); *Advisor*: Ana Maria Giulietti, Ph.D.

*Research Interests*: Neotropical plant systematics, applied botany, botanical nomenclature

## 2. Employment

Advisor for the Vice-Chancellor of Academics and Research, Universidad Técnica de Cotopaxi, Latacunga, Ecuador. May 2023- Present.

Associate Curator, UTCEC Herbarium, Universidad Técnica de Cotopaxi, Latacunga, Ecuador. May 2023- Present.

Associate Professor of Botany, IKIAM, Universidad Regional Amazónica, Ecuador. September 2022-April 2023

President's International Fellowship Initiative, South China Botanical Garden-Chinese Academy of Sciences, December 2021-August 2022

Associate Professor of Botany, IKIAM, Universidad Regional Amazónica, Ecuador. June 2020-November 2021.

Associate Professor, Tourism and Agronomy departments (Plant Systematics, General Botany, Flora of Ecuador, Biodiversity and Conservation), Universidad Técnica de Cotopaxi, Latacunga, Ecuador, June 2018-May 2020

Associate Professor, Ecosystems and Biotechnology departments (Botany, Biology, Pharmacognosy), IKIAM University, Tena, Ecuador, April 2016-May 2018

Public Servant 7, *INSPI* - Instituto Nacional de Investigación en Salud Pública. *CIREV* - Centro de Investigación y Referencia de Vectores, Regional Norte, January-March, 2016.

Collection Manager, Botany Department, Academy of Natural Sciences, Philadelphia, 2006-2015

Adjunct Professor, Current Topics in Biology-BIOL 101-Botany, Philadelphia University, Philadelphia, 2015

Research Specialist and Latin American Research Visitors' Liaison, Missouri Botanical Garden, 2002-2006

Assistant Coordinator of the project "Floristic Inventory and Rescue of native plants from Oleoductos de Crudos Pesados." Ecuadorian National Herbarium-Entrix-OCP. Quito, Ecuador, 2001

Teacher of General Botany, and Flora of Ecuador. Ecotourism Majors, Catholic University and San Francisco University, Quito, Ecuador, 1999-2000

Teacher of General Botany, Biology Department, Catholic University, Quito, Ecuador, 1995

Assistant Professor of the courses: Taxonomy of Vascular Plants, and Systematics and Taxonomy of Angiosperms, Biology Department, Catholic University, Quito, Ecuador, 1992

Adjunct Researcher of the project "Botanical Studies of the Ecuadorian Mountain Forest," QCA Herbarium, Catholic University, Quito, Ecuador, 1989

Assistant Researcher of the project "Botanical Studies of the Ecuadorian Mountain Forest," QCA Herbarium, Catholic University, Quito, Ecuador, 1988

Herbarium Assistant at the QCA Herbarium, Catholic University, Quito, Ecuador, 1984-1988

### 3. Publications (\*: Indexed Publication)

75. Valencia C, **Freire-Fierro A.** 2024. Colección de Plantas Vasculares del Herbario UTCEC. Version 2.1. Herbario de Botánica Aplicada - Universidad Técnica de Cotopaxi - UTCEC. Occurrence dataset <https://doi.org/10.60545/fenzag> accessed via GBIF.org on 2024-04-15.
74. \*Ulloa Ulloa C, Turland NJ, **Freire-Fierro A.**, Ge B.-J., Milne J., Muasya M., Proćków J., & Iturriaga T. 2024. Institutional Votes at the XX International Botanical Congress, Madrid, 2024: Report of the Committee on Institutional Votes. *Taxon* 73(1): 317-324.
73. \***Freire-Fierro, A.**, Forest F., Devey D.D., Pastore J.F.B., Horn J., Ge X.-J., Wang Z., Xiao T.-W., and Bien W.F. 2023. *Monnina* (Polygalaceae), a New World monophyletic genus full of contrasts. *Botanical Journal of the Linnean Society* 203(3): 227–252 <https://doi.org/10.1093/botlinnean/boad026>
72. \*Ulloa Ulloa C., Turland N.J., **Freire-Fierro A.**, Ge B.-J., Milne J., Muasya M., Proćków J., Iturriaga T. 2023. (286–289) Proposals on institutional votes, especially to reduce geographical imbalance. *TAXON* 72(3): 701–703. DOI <https://doi.org/10.1002/tax.12959>

71. \*Jost L., Yáñez-Muñoz M.H., Brito J., Reyes-Puig J.P., Guayasamín J.M., Ron S.R., Quintana C., Iturralde G., Baquero L., Monteros M., **Freire-Fierro A.**, Fernández D., Mendieta-Leiva G., Morales J.F., Karremans A.P., Vásquez-Garica J.A., Salazar G.A., Hágsater E., Solano R., Carnevali Fernández-Concha G., Arana M. 2023. Eponyms are important tools for biologists in the Global South. *Nature Ecology & Evolution*. <https://doi.org/10.1038/s41559-023-02102-z>
70. \*Smith G.F., Figueredo E., Moore G., Landrum L.R., Gereau R.E., Prado J., Demissew S., Applequist W., Quintanar A., Fortunato R., **Freire-Fierro A.**, Wen J., Deng Y.-F. 2022. (193) Proposal to democratize aspects of the governance of the International Code of Nomenclature for algae, fungi, and plants. *Taxon* 71(6): 13-44-1345.
69. Buschbom, J., Acosta-Buenaño N., Chocho V.E., Irazábal R.J., Macklin J., Ojeda L.M., Plos A., Tancoff S., Teta P., Valle C., **Freire-Fierro A.** 2022. Campaigning for a Global Collections Network: Improving the digital representation and visibility of natural science collections from Latin America and the Caribbean. Conference Abstract. *Biodiversity Information Science and Standards* 6: e91356 doi: 10.3897/biss.6.91356
68. Gorneau J., Ausich W.I., Bertolino S., Bik H., Daly M., Demissew S., Donoso D.A., Folk R., **Freire-Fierro A.**, Ghazanfar S.A., Grace O.M., Hu A.-Q., Kulharni S., Lichter-Marck I.H., Lohmann L.G., Malumbres-Olarte J., Muasya A.M., Pérez-González A., Singh Y., Siniscalchi C.M., Specht C.D., Stigall A.L., Tank D.C., Walker L.A., Wright D.F., Zamani A., and Esposito L.A. 2022. Framing the Future for Monography: Improving Recognition, Support, and Access. *Bulletin of the Society of Systematic Biologists* 1(1): 8328. <https://doi.org/10.18061/bssb.v1i1.8328>
67. \*Landrum L.R., Fortunato R., Barkworth M., Breitweiser I., Demissew S., Dönmez A.A., Dutta S., **Freire-Fierro A.**, Kim Y.-D., León B., Moore G., Mosyakin S., Oh S.-H., Parra-O. C., Prado J., Rico Arce L., Sennikov A.N., Smith G.F. 2021. (127-135) Proposals to add new Provisions and Recommendations to Division III of the International Code of Nomenclature for algae, fungi, and plants related to virtual participation in the Nomenclature Section. *Taxon* 70(6): 127-135.
66. \*Landrum L.R., Fortunato R., Barkworth M., Breitweiser I., Demissew S., Dönmez A.A., Dutta S., **Freire-Fierro A.**, Kim Y.-D., León B., Moore G., Mosyakin S., Oh S.-H., Parra-O. C., Prado J., Rico Arce L., Sennikov A.N., Smith G.F. 2021. Report of the Special-purpose Committee on Virtual Participation in the Nomenclature Section. *Taxon* 70(6): 1399-1401.
65. Hernández, R., **A. Freire-Fierro**, M. Chango Lagal, S. Paste Broncano, K. Marín Quevedo, y Asociación Productiva Warmi Mikuy. 2021. *Uso de plantas en la comunidad de San Ignacio, en los Andes Ecuatorianos*. Publicado por Universidad Técnica de Cotopaxi (UTC) y Asociación Botánica Ecuatoriana (ABE). Latacunga, Ecuador. 290 pp. ISBN impreso: 978-9978-395-72-1 ISBN digital: 978-9978-395-71-4
64. Pastore, J.F.B.; **Freire-Fierro, A.**; Mota, M.C.A. 2020. *Monnina* in Flora do Brasil 2020. Jardim Botânico do Rio de Janeiro. Available at: <<http://floradobrasil.jbrj.gov.br/reflora/floradobrasil/FB26037>>. Accessed on: 04 Mar. 2021
63. \*BFG. 2018. Brazilian Flora 2020: Innovation and collaboration to meet Target 1 of the Global Strategy for Plant Conservation (GSPC). *Rodriguésia* 69(4): 1513-1527. <http://rodriguesia.jbrj.gov.br>. DOI: 10.1590/2175-7860201869402
62. \*Ripple, W.J., C. Wolf, T.M. Newsome, P. Barnard, W.R. Moomaw y 11258 authors from 153 countries. 2019. World Scientists's Warning of a Climate Emergency. *BioScience* 70 (1): 8-12 + S1.

61. \***Freire-Fierro, A.**, J. Caranqui, M.E. Ordóñez y Z. Aguirre. 2019. Colecciones botánicas y micológicas ecuatorianas y su importancia en el estudio, uso sustentable y conservación de la biodiversidad. UTCiencia 6 (2): 109-119. URL: <http://investigacion.utc.edu.ec/revistasutc/index.php/utciencia/article/view/264>
60. \*Picón, G., H. Valdebenito, A. Argüello, D. Neill, W. Franco, y **A. Freire-Fierro** (eds.). 2nd Ed. 2019. La Botánica en Latinoamérica, Realidad y Desarrollo Virtual: Resúmenes del XII Congreso Latinoamericano de Botánica. Latacunga. Universidad Técnica de Cotopaxi y Universidad Central del Ecuador 686 p. URL: [https://www.researchgate.net/publication/332332683\\_Memorias\\_XIICLB\\_2ndEd\\_2019](https://www.researchgate.net/publication/332332683_Memorias_XIICLB_2ndEd_2019) [recuperado 5 Marzo 2020].
59. \*Picón, G., H. Valdebenito, A. Argüello, D. Neill, W. Franco, y **A. Freire-Fierro** (eds.). 2018. La Botánica en Latinoamérica, Realidad y Desarrollo Virtual: Resúmenes del XII Congreso Latinoamericano de Botánica. Latacunga. Universidad Técnica de Cotopaxi y Universidad Central del Ecuador 686 p. [recuperado 5 Marzo 2020]. [https://www.researchgate.net/publication/328723389\\_La\\_Botanica\\_en\\_Latinoamerica\\_realida\\_y\\_desarrollo\\_virtual\\_Memorias\\_del\\_XII\\_Congreso\\_Latinoamericano\\_de\\_Botanica](https://www.researchgate.net/publication/328723389_La_Botanica_en_Latinoamerica_realida_y_desarrollo_virtual_Memorias_del_XII_Congreso_Latinoamericano_de_Botanica) . eISBN: e- ISBN 978- 9978-395-57-8, UTC.
58. \*Picón, G., H. Valdebenito, A. Argüello, D. Neill, W. Franco, y **A. Freire-Fierro** (eds.). 2018. La Botánica en Latinoamérica, Realidad y Desarrollo Virtual: Resúmenes del XII Congreso Latinoamericano de Botánica. Latacunga. Universidad Técnica de Cotopaxi y Universidad Central del Ecuador. Quito, Ecuador. 694 pp. ISBN: 978-9942-945-80-8.
57. \*Picón, G., H. Valdebenito, A. Argüello, D. Neill, W. Franco, y **A. Freire-Fierro** (eds.). 2018. La Botánica en Latinoamérica, Realidad y Desarrollo Virtual: Resúmenes del XII Congreso Latinoamericano de Botánica. Latacunga. Universidad Técnica de Cotopaxi y Universidad Central del Ecuador 684 p. <http://investigacion.utc.edu.ec/libros/index.php/libros/catalog/book/35>. eISBN: 978-9978-395-58-5 UTC.
56. \*Landrum, L.R., S. Demissew, R. Fortunato, **Freire-Fierro, A.**, G. Moore, C. Parra-O., L. Rico and G.F. Smith. 2017. Making nomenclature governance more inclusive through virtual attendance and electronic voting at the Nomenclature Section of an International Botanical Congress. *Taxon* 66 (3): 704-707.
55. **Freire-Fierro, A.**, E. Rodríguez, and D. Montesinos. 2016. Isidoro Sánchez-Vega, 1938-2015 [Obituary]. *Taxon* 65(3): 681-682.
54. **Freire-Fierro, A.** 2015. *Monnina* (Polygalaceae) In: Bernal, R., S.R. Gradstein & M. Celis (eds.). Catálogo de plantas y líquenes de Colombia. Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá. <http://catalogoplantasdecolombia.unal.edu.co>
53. Picanço Leite, W., A.C.A. Aguiar-Dias, **A. Freire-Fierro**, C.B.F. Mendonça y V. Gonçalves-Esteves. 2015. Pollen diversity in Brazilian species of *Monnina* (Polygalaceae). *Phytotaxa* 220 (2): 117-126.
52. \***Freire-Fierro, A.** 2015. Saxifragaceae, In: Catálogo de las Plantas Vasculares de Bolivia. Monographs of Systematic Botany 127: 1197. Missouri Botanical Garden. St. Louis, USA.
51. \***Freire-Fierro, A.** 2015. Polygalaceae, In: Catálogo de las Plantas Vasculares de Bolivia. Monographs of Systematic Botany 127: 1105-111. Missouri Botanical Garden, St. Louis, USA.

50. **\*Freire-Fierro, A.** 2015. Hydrangeaceae, In: Catálogo de las Plantas Vasculares de Bolivia. Monographs of Systematic Botany 127: 723-724. Missouri Botanical Garden. St. Louis, USA.
49. **\*Freire-Fierro, A.** 2015. Crassulaceae, In: Catálogo de las Plantas Vasculares de Bolivia. Monographs of Systematic Botany 127: 532-534. Missouri Botanical Garden. St. Louis, USA.
48. **Freire-Fierro, A.** 2014. A new combination for *Monnina* (Polygalaceae). Phytoneuron. ISSN 2153 733X 48. **\*Freire-Fierro, A.** and J.F. Pastore. 2013. *Monnina goiana* (Polygalaceae), a Well-known but Misidentified Brazilian species. Systematic Botany 38(1): 1-5.
47. **\*Mathias, E.C.,** and **A. Freire-Fierro.** 2011. Howard Page Wood, 1924-2010 [Obituary]. TAXON 60: 297.
46. **Freire-Fierro, A.** 2011. Polygalaceae. Pp. 740-745 in: León-Yáñez, S., R. Valencia, N. Pitman, L. Endara, C. Ulloa Ulloa and H. Navarrete. Libro rojo de las plantas endémicas del Ecuador. 2nd. Ed. Publicaciones del Herbario QCA, Pontificia Universidad Católica del Ecuador.
45. **Freire-Fierro, A.** 2011. Grossulariaceae. Libro rojo de las plantas endémicas del Ecuador, II Edition Herbario QCA, Pontificia Universidad Católica del Ecuador, Quito.
44. **Freire-Fierro, A.** 2011. Saxifragaceae. Libro rojo de las plantas endémicas del Ecuador, II Edition Herbario QCA, Pontificia Universidad Católica del Ecuador, Quito.
43. **Freire-Fierro, A.** 2011. Polygalaceae. Libro rojo de las plantas endémicas del Ecuador, II Edition Herbario QCA, Pontificia Universidad Católica del Ecuador, Quito.
42. **Freire-Fierro, A.** 2011. *Monnina* (Polygalaceae), In Idárraga Piedrahita, A., R. del C. Ortiz, R. Callejas Posada & M. Merello, 2011, (eds. Vol. II). Flora de Antioquia: Catálogo de las Plantas Vasculares del Departamento de Antioquia (Colombia).
41. **Freire-Fierro, A.** 2011. Hydrangeaceae, In Idárraga Piedrahita, A., R. del C. Ortiz, R. Callejas Posada & M. Merello, 2011, (eds. Vol. II). Flora de Antioquia: Catálogo de las Plantas Vasculares del Departamento de Antioquia (Colombia).
40. **Freire-Fierro, A.** 2011. Saxifragaceae, In Idárraga Piedrahita, A., R. del C. Ortiz, R. Callejas Posada & M. Merello, 2011, (eds. Vol. II). Flora de Antioquia: Catálogo de las Plantas Vasculares del Departamento de Antioquia (Colombia).
39. **\*Freire-Fierro, A.** and A. Landale. 2011. Lectotypification of Thomas Nuttall's names applied to North American Polygala. Journal of the Botanical Research Institute of Texas 5 (1): 106-109.
38. **\*Moore, G.,** Smith F. G., Figueiredo E., Deimissew S., Lewis G., Shire B., Rico L., Wyk, A.E.van, Alford M., Ali S.I., Ameka G.K., Atahuachi B. M., Bandyophahyay S., Barker N., Beentje H., Bruneau A., Bytebier B., Chandra V., Chiang F., Craven L., Crisp M., Cunningham A., Dold T., Elizondo M.G., Fagg C., Fortuna-Pérez A.P., Fortunato H. R., **Freire-Fierro A.,** Friis I., (+ 41 more authors). 2010. Acacia, the 2011 Nomenclature Section in Melbourne, and beyond. Taxon 59 (4): 1188-1195.
37. **\*Freire-Fierro, A.** y F. Pastore. 2008. Polygalaceae. En: Zuloaga, F., O. Morrone, y M. J. Belgrano (eds.). Catálogo de las Plantas Vasculares del Cono Sur. Monographs of Systematic Botany 107. Missouri Botanical Garden. St. Louis, USA.
36. **\*Freire-Fierro, A.** 2008. Crassulaceae. En: Zuloaga, F., O. Morrone, y M. J. Belgrano (eds.). Catálogo de las Plantas Vasculares del Cono Sur. Monographs of Systematic Botany 107. Missouri Botanical Garden. St. Louis, USA.

35. \***Freire-Fierro, A.** 2008. Filadelfia y la Botánica en Norteamérica. *Bol. Soc. Argent. Bot.* 43 (1-2): 179- 187.
34. \*Romoleroux, K. & **A. Freire-Fierro.** 2004. 117 C. Escalloniaceae. In: G. Harling and L. Andersson (eds.), *Flora of Ecuador* 73: 67-84.
33. Almeida, F., Berry, P.E., **Freire-Fierro, A.**, Gröger, A., Holst, B.K., Luckana, N.G., Michelangeli, F.A., Morley, T., Penney, D., Renner, S.S., Robinson, O.R., Wurdack, J.J. (†) & Yatskievich, K. 2007. Melastomataceae. In Funk, V., Hollowell, T., Berry, P., Kelloff, C. & Alexander, S.N., Checklist of the Plants fo the Guiana Shield (Venezuela: Amazonas, Bolivar, Delta Amacuro; Guyana, Surinam, French Guiana). *Contributions from the United States National Herbarium* 55: 397–417.
32. \***Freire-Fierro, A.** 2004. 115. Crassulaceae. In: G. Harling and L. Andersson (eds.), *Flora of Ecuador* 73: 3-16.
31. \***Freire-Fierro, A.** 2004. 117 A. Saxifragaceae. In: G. Harling and L. Andersson (eds.), *Flora of Ecuador* 73: 17-24.
30. \***Freire-Fierro, A.** 2004. 117 B. Grossulariaceae. In: G. Harling and L. Andersson (eds.), *Flora of Ecuador* 73: 41-66.
29. \***Freire-Fierro, A.** 2004. 117 D. Hydrangeaceae. In: G. Harling and L. Andersson (eds.), *Flora of Ecuador* 73:25-40.
28. \***Freire-Fierro, A.** 2004. 117 E. Phyllonomaceae. In: G. Harling and L. Andersson (eds.), *Flora of Ecuador* 73:85-86.
27. **Freire-Fierro, A.** 2004. *Botánica Sistemática Ecuatoriana*. Missouri Botanical Garden, FUNDACYT, QCNE, RLB and FUNBOTANICA. Murray Print, St. Louis. 209 pp.
26. \***Freire-Fierro, A.**, D. Fernández y C. Quintana. 2002. Usos de Melastomataceae en el Ecuador. *Sida* 20(1) 233—260.
25. **Freire-Fierro, A.** y D. Neill (eds). 2002. *La Botánica en el Nuevo Milenio, Memorias del III Congreso Ecuatoriano de Botánica*. Herbario Nacional del Ecuador and FUNBOTANICA.
24. \***Freire-Fierro, A.** 2002. A new species of *Ribes*, notes and a key of the Ecuadorian Species. *Systematic Botany* 27(1): 14--19.
23. \***Freire-Fierro, A.** 2002. Proposal to conserve *Ribes leptostachyum* Benth. against *Ribes leptostachyum* Decne. *Taxon* 51(1): 195.
22. \***Freire-Fierro, A.** 2002. Revision of *Aciotis* (Melastomataceae). *Systematic Botany Monographs* 62: 1- 99 pp.
21. Berry, P.E., Gröger, A., Holst, B.K., Morley, T., Michelangeli, F.A., Luckana, N.G., Almeda, F., Renner, S.S., **Freire-Fierro, A.**, Robinson, O.R. & Yatskievych, K. 2001. Melastomataceae. Pp. 263– 528 in Steyermark, J.A. (†), Berry, P.E., Yatskievych, K. & Holst, B.K. (eds.), *Flora of the Venezuelan Guayana*, Vol. 6, Liliaceae–Myrsinaceae. Missouri Botanical Garden Press, St. Louis. ISBN 0-915279-81-9.
20. \***Freire-Fierro, A.** 2001. *Aciotis*, Melastomataceae. In: *Flora of the Venezuelan Guayana*, Vol. 6: 270- 276. *Monographs in Systematic Botany of the Missouri Botanical Garden*.
19. \***Freire-Fierro, A.** 2001. *Aciotis* (Melastomataceae): Two new species from the Northeastern lowlands of South America. *Novon* 11(2): 166-170.
18. Vargas, H., D. Neill, M. Asanza, **A. Freire-Fierro** y E. Narváez. 2001. *Flora y Vegetación del Parque Nacional Llanganates*. EcoCiencia-Herbario Nacional del Ecuador/GEF.
17. **Freire-Fierro, A.** 2000. Grossulariaceae. Page 214 In: Valencia, R., N. Pitman, S. León-Yáñez & P. M. Jørgensen (eds.) *Libro rojo de las plantas endémicas del Ecuador 2000*. Herbario QCA, Pontificia Universidad Católica del Ecuador, Quito.

16. **Freire-Fierro, A.** 2000. Polygalaceae. Pages 392-393 In: Valencia, R., N. Pitman, S. León-Yáñez & P. M. Jørgensen (eds.) Libro rojo de las plantas endémicas del Ecuador 2000. Herbario QCA, Pontificia Universidad Católica del Ecuador, Quito.
15. Asanza, M., **A. Freire-Fierro**, D. Neill, S. Sandoval y J. C. Welling (eds.) 2000. Resúmenes del III Congreso Ecuatoriano de Botánica. FUNBOTANICA y Herbario Nacional del Ecuador QCNE. Imprenta Hojas y Signos. Quito.
14. **Freire-Fierro, A.** y M. Asanza (eds). 1999. VIII Boletín de FUNBOTANICA. FUNBOTANICA. Imprenta Hojas y Signos. Quito.
13. **Freire-Fierro, A.,** C. Josse y D. Neill (eds). 1999. VII Boletín de FUNBOTANICA. FUNBOTANICA. Imprenta Hojas y Signos. Quito.
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7. \***Freire-Fierro, A.** 1998. Two new species of *Ribes* (Grossulariaceae) from South America. *Novon* 4: 354-358.
6. \***Freire-Fierro, A.** 1995. Book Review of Amazonian Ethnobotanical Dictionary, published by James Ducke & Rodolfo Vásquez. *Economic Botany* 49 (1): 111.
5. **Freire-Fierro, A.,** P. Naranjo, et al. 1995. 270 Plantas medicinales Iberoamericanas, In Gupta, M. (ed.). *Convenio Andrés Bello*, Bogotá.
4. **Freire-Fierro, A.** 1995. Especies medicinales sudamericanas de Polygalaceae. In: Naranjo, P. & R. Escaleras (eds.): *La medicina tradicional en el Ecuador, Memorias de las Primeras Jornadas Ecuatorianas de Etnomedicina Andina*. Biblioteca Ecuatoriana de Ciencias. Vol. 2. Corporación Editora Nacional, Quito.
3. Ríos, M., **A. Freire-Fierro**, & K. Romoleroux (eds). 1995. II Boletín de FUNBOTANICA. Quito.
2. **Freire-Fierro, A.** 1993. The genus *Ribes* (Grossulariaceae) in Ecuador. In: Balslev, H. (ed.). *Neotropical Montane Forests, Biodiversity and Conservation*. AAU Reports 31.
1. **Freire-Fierro, A.,** & R. Valencia (eds). 1993. I Boletín de FUNBOTANICA, Directorio de miembros y colaboradores. Quito.

### Research Projects

Co-PI, Project "Sistemática, historia natural y etnobiología de algas, hongos y plantas de los Andes Centrales ecuatorianos" 2020-2022.

PI, Project "Systematics and Phylogeny of *Monnina* (Polygalaceae: Fabales)". Cottswald Foundation, Academy of Natural Sciences, \$ 3.000. 2012.

PI, Project "Origin and Diversification of *Monnina* (Polygalaceae)". IAPT Fellowships. \$1,000. 2011.

PI, Project "Origin and Diversification of *Monnina* (Polygalaceae)" ASPT Fellowships. \$850. 2011.

PI, Project " Origin and Diversification of *Monnina* (Polygalaceae)". Bentham-Moxon Award, Kew Gardens. \$3,790. 2011.

Co-PI, NSF Project on Virtual Types at the Academy of Natural Sciences Herbarium, NSF Grant #0545170, 2006-2008  
[http://www.nsf.gov/awardsearch/showAward?AWD\\_ID=0545170&HistoricalAwards=false](http://www.nsf.gov/awardsearch/showAward?AWD_ID=0545170&HistoricalAwards=false)

Assistant Coordinator, Project "Inventario Florístico y Rescate de plantas nativas de los Llanganates"  
 Herbario Nacional del Ecuador QCNE-ENTRIX-OCP. Quito, Ecuador, 2001.

Adjunct Researcher, Project "Estudios botánicos de los bosques montanos ecuatorianos".  
 Herbario QCA, Pontificia Universidad Católica del Ecuador. Quito, Ecuador, 1989.

Assistant Researcher, Project "Estudios botánicos de los bosques montanos ecuatorianos".  
 Herbario QCA, Pontificia Universidad Católica del Ecuador. Quito, Ecuador, 1988.

### 3. Inter-Institutional Collaborative Projects

Systematics of *Monnina* (Polygalaceae). 2010-2023- In collaboration with colleagues from the USA (Harvard University, Drexel University, and Florida Gulf Coast University), Brazil (Universidad de Santa Catarina), China (South China Botanical Garden) and the UK (Kew Botanical Gardens).

Connecting Collections Workshop Series. September 2022. Online event carried out by Ecuadorian (Ikiam University, Universidad Técnica de Cotopaxi, Ministry of Environment); Guatemala (Consejo Nacional de Areas Protegidas), Argentina (CONICET), Global (SPNHC), Germany (Statistical Genetics), Guatemala (SNIBgt) with funding from GBIF: <https://statistical-genetics.com/2022/08/connecting-collections-workshop-series/>

“Reactivación económica del Cantón Arajuno post-COVID basado en la consolidación del Sistema Agroproductivo Tradicional Amazónico Chakra y la creación de valor agregado local e integración al mercado de sus productos" 2020-2022. Research Project carried out by Ecuadorian universities (Universidad Regional Amazónica Ikiam, Universidad Central del Ecuador and Universiad ) a social organization (Fundación Pacha-Mama), a local government institution (GAD Arajunto) and a national Ecuadorian institution (Ministry of Husbandry).

Chinese-Neotropical Botanical Symposium. August 17-18<sup>th</sup>, 2022. A virtual symposium organized in collaboration with two Ecuadorian universities (Universidad Técnica de Cotopaxi, Universidad Regional Amazónica Ikiam), an Ecuadorian NGO (Asociación Botánica Ecuatoriana), and one Chinese institution (South China Botanical Garden).

IX Congreso Latinoamericano de Plantas Medicinales. Octubre 13-15, 2021. A virtual congress organized with the collaboration from Ecuadorian (Universidad Regional Amazónica Ikiam, Universidad Técnica de Cotopaxi, Universidad de Cuenca), an Ecuadorian private Corporation (Ecuadorian Corporation For The Development Of Research And Academy, CEDIA ) and international collaborators from Colombia, Argentina and Chile.  
<https://colaplamed2021.cedia.edu.ec/>



XII Latin American Botanical Congress. 2015-2018. In collaboration several Ecuadorian universities: Universidad Técnica de Cotopaxi, Universidad San Francisco de Quito, Universidad Estatal Amazónica); Universidad Regional Amazónica Ikiam and a social organization: Cooperativa de Vivienda Puertas del Sol.

2016-2018. "Actividad biológica in vitro de los extractos de plantas medicinales de la Reserva Biológica Colonso Chalupas Provincia de Napo-Ecuador mediante técnicas in vitro para *Leishmania* spp.", \$14,900. 2017. In collaboration with the Ecuadorian Institute of Health (INSPI).

#### **4. Graduate student**

Jia-Le Guo. 2024. M.S. student. Phylogenomics of Andean Plants. South China Botanical Garden, China.

#### **5. Undergraduate students**

Andi, Lizeth. 2024. Medicinal plants from the Napo Province. Biotechnology Career. Universidad Regional Amazónica Ikiam, Ecuador.

Encarnación, Gabriela. 2023. Potencial tintóreo y ecotoxicología de especies vegetales en la Amazonía ecuatoriana. Ecosystems Career. Universidad Regional Amazónica Ikiam, Ecuador.

Fuentes, Karla. 2021. Ilustración sobre las plantas arvenses nativas de la provincia de Cotopaxi. Graphic Design Degree. Universidad Técnica de Cotopaxi, Ecuador.

Pachacama Andrea, 2020. Guía etnobotánica de los mercados de la ciudad de Latacunga, cantón Latacunga, Cotopaxi, Ecuador. Ecotourism Engineering Degree. Universidad Técnica de Cotopaxi, Ecuador.

Gavilánez Liz. 2020. Guía etnobotánica de la Parroquia Canchagua, Cantón Saquisilí, Cotopaxi, Ecuador. Ecotourism Engineering Degree. Universidad Técnica de Cotopaxi, Ecuador.

Carua, Jenifer y Arguero Brayan. 2020. Mucilaginous plants from Ecuador. Agroindustry Engineering Degree. Universidad Técnica de Cotopaxi, Ecuador.

Zurita, Eveling. 2019. Identificación e historia natural de familias botánicas del sendero de downhill en el campus Salache de la Universidad Técnica de Cotopaxi Latacunga- Ecuador. Ecotourism Engineering Degree. Universidad Técnica de Cotopaxi, Ecuador.

#### **6. Graduate Courses Taught**

International Graduate Course in Botany, Graduate Program in Plant Sciences, University of Quindío, Colombia. 17-21 April, 2017. 24 students.

#### **7. Distinctions**

Research Associate, Smithsonian Institution, USA, 2015-Present

Research Associate, Academy of Natural Sciences of Drexel University, 2015-2018

Research Associate, Ecuadorian National Herbarium QCNE, 2014-2016

Research Associate, Missouri Botanical Garden, St. Louis, USA, 2006-Present

Biodiversity Crisis Response Committee Co-Chair, Society for the Preservation of Natural History Collections, November 2023-October 2025  
 President, 2024-2025, Ecuadorian Biology Society, Sociedad Ecuatoriana de Biología.  
 OWSD Coordinator and other institutions, Organization of Women in Science from Developing Countries. July 2023-June 2025.  
 Affiliate Society Liaison Committee Chair, Society for Herbarium Curators, 2023-2024.  
 President, Asociación Botánica Ecuatoriana ABE, 2017-Present.  
 Chairperson, Public Relations Committee, American Society of Plant Taxonomy, USA. 2016-2017.  
 Medal of Honor, Peruvian Botanical Society. 2016.  
 Quito Honorary Ambassador, Quito-Turismo, Quito. 2016.  
 Council Member, International Association for Plant Taxonomy IAPT, 2017-2022.  
 President, Organizing Committee, IX Latin American Congress on Medicinal Plants, Virtual, Ecuador, 13- 15 October 2021  
 President, Association for Latin American Botanists, 2015-2018  
 President, XII Latin American Botanical Congress, Quito, Ecuador, October, 2015-2018  
 Superior Council, Association for Latin American Botanists, 2011-2014  
 Steering Committee Member, Membership Chapter, Consortium of Northeastern Herbaria, USA-Canada. 2008.  
 Executive Director of the Ecuadorian Foundation for Research and Development of Botany, FUNBOTANICA, Ecuador, 1999-2002  
 Representative for Ecuador for the Latin American Botanical Association (ALB), 1998-2002  
 President of the Ecuadorian Foundation for Research and Development of Botany, FUNBOTANICA, Ecuador, 1995  
 Master's Graduation "Cum Laude", São Paulo University, Brazil, 1989  
 Fellowship from the Smithsonian Institution, to attend the Botanical Workshop for Latin America and the Caribbean, 1989  
 Graduate Fellowship from the Latin American Botanical Network. Brazil, 1989-92  
 Graduate Fellowship from the Science and Technology Ecuadorian Foundation (FUNDACYT). Ecuador, 1995-1998  
 Undergraduate Studentship from Catholic University, Ecuador, 1984-1998

## **8. Guest Speaker**

XLVII Jornadas Nacionales de Biología, November, 2023, Portoviejo, Ecuador.  
 XLVI Jornadas Nacionales de Biología, November 24-26, 2022, Otonga, Ecuador.  
 Herbaria and their treasures. Virtual Seminar. Universidad Técnica de Cotopaxi, Universidad Regional Amazónica Ikiam. March. 2021.  
 Seminario Internacional Investigación Científica. Virtual Seminar. Universidad Técnica de Cotopaxi, Universidad del Quindío (Colombia) and Universidad Regional Amazónica Ikiam. 2020.  
 Congreso Nacional de Manejo de Vida Silvestre, Santa Elena, Ecuador. 2016.  
 XV Congreso Nacional de Botánica, Perú. 2016. <http://www.slideshare.net/997227832/libro-resumenes-xv-congreso-nacional-de-botnica-cusco-peru-2016>  
 Round Table "El papel de los herbarios en la conservación", 66to Congreso Brasileiro de Botánica, Brasil, 2015.

XIV Congreso Nacional de Botánica, Trujillo, Peru, 2012  
XXXI Jornadas Argentinas de Botánica, September, Corrientes, Argentina, 2007

## 9. Service

XLVI Jornadas Nacionales de Biología, November 24-26, 2022, Otonga, Ecuador. Member of the Organizing Committee.  
Organizing Committee, Seminario Internacional Investigación Científica. Virtual Seminar. Universidad Técnica de Cotopaxi, Universidad del Quindío (Colombia) and Universidad Regional Amazónica Ikiam. 2020-Present.  
Organizer. Herbaria and their treasures. Virtual Seminar. Universidad Técnica de Cotopaxi, Universidad Regional Amazónica Ikiam. March. 2021.  
Area Editor, *Rodriguesia*. 2020-Present.  
Section Editor, *Phytokeys*. 2020-Present  
Member, Natural History Collections Task-Force, Society for the Preservation of Natural History Collections SPNHC. October 2020-Present.  
Member-at-Large, Society for Herbarium Curators, 2020-2022  
Botany Symposium Organizer, I Congreso Nacional de Manejo de Vida Silvestre, Santa Elena, Ecuador. 2016.  
Corresponding Secretary, Philadelphia Botanical Club, 2008-2014  
Administration/Content Compilation of a webpage about Polygalaceae.  
[www.neotropicos.net/Polygalaceae](http://www.neotropicos.net/Polygalaceae) , 2002- Present  
Co-Organizer of the Third Ecuadorian Botanical Congress, Quito, October 25 to 27, 2000  
Creator/Administrator of the Discussion list, *Anuncios Botánicos*,  
<http://espanol.groups.yahoo.com/group/Anunciosbotanicos/> , 2004-2020

## 11. Reviewer

*Boletín Latinoamericano de Etnobotánica*, *Phytotaxa*, International Code of Botanical Nomenclature, Spanish Edition, *Lundellia*, *Brittonia*, *Sida*, *Caldasia*, *Novon*, *Systematic Botany*, *Flora Fanerogâmica do Estado de São Paulo*, *Phytokeys*, *Taxon*, *Rodriguesia*.

## 12. Society Memberships

Sociedad Ecuatoriana de Biología. 2020-Present.  
Organization for Women in Science for the Developing World, 2020-Present, Member.  
Asociación Botánica Ecuatoriana ABE, 2016-Present.  
Sigma XI, The Scientific Research Society, 2011-Present.  
Society for Herbarium Curators, Life Member: Council Member, Member-At-Large, Executive Board.  
Philadelphia Botanical Club, 2006-2016.  
International Association for Plant Taxonomy, Life Member.  
American Society of Plant Taxonomy, 1997-Present.  
Association for Latin American Botanists, ALB, 1987-Present, Past-President.  
Ecuadorian Foundation for Research and Development of Botany, FUNBOTANICA, 1998-2000.  
Botanical Society of America, 1997-1998.

Association for Tropical Biology, 1998-1998  
Brazilian Botanical Society, 1989-1992

### **13. Workshops Attended**

Kew Herbarium Techniques, August, Brooklyn Botanic Garden, New York, USA, 2012.  
Georeferencing. Appalachian State University, South Carolina, USA, 2012.  
Integrated Pest Management for Museums, Libraries and Archives, March 31--May 9. Online Workshop, 2008.  
Plant Systematics, Organization for Tropical Studies. June to August. Costa Rica, 1996.  
Botanical Diversity in Tropical Forests, European Summer School, Aarhus University. July. Denmark, 1993.  
Theory and Methods in Vegetal Taxonomy, Latin American Botanical Network. November. Argentina, 1991.  
Latin American and Caribbean Botanical Workshop, Smithsonian Institution. July to August. USA, 1989.

### **14. Field Experience**

Argentina, Subtropical habitats, Cerrado vegetation, 2007.  
Austria, Vienna, Serpentine vegetation, 2005.  
Bolivia, volunteer work at Noel Kempf National Park. One week, 1994.  
Brazil, Atlantic and restinga habitats, 2014, 2015.  
Brazil, Caatinga, Cerrados and Campos Rupestres, 1990-1992.  
Brazil, Campos Rupestres, Serra do Cipó, Grão Mogol. Monthly visits as part of my studies on *Monnina* (Polygalaceae), 1989-90.  
Canada, Pacific West Coast, 2015.  
Chile, Dry vegetation and cloud forest, 2010.  
Colombia, montane forests, 2009; 2017.  
Costa Rica, all ecosystem types, as part of the OTS Course on Plant Systematics. Two months, 1996.  
Ecuador, all continental ecosystems: 1982-1989; 1998-2001; 2015-Present  
Peru, cloud forest and lomas vegetation, Northern and Central Peru, 2012, 2016.  
Mexico, cloud forest of Central and Western Mexico, 2012.  
Panama, cloud forests, 2011.  
Taiwan, lowlands and highlands, 2013.  
Uruguay, dry forest and wetlands, 2008.  
USA, Massachusetts, Missouri, New Jersey, Pennsylvania, New York, Arizona 2002-2015, 2019.

### **15. Meetings Attended**

XLVII Jornadas Nacionales de Biología. Portoviejo, Ecuador. November 2023.  
7th Annual Digital Data Conference, Arizona State University Tempe, Arizona, USA. June 2023.  
Society for the Preservation of Natural History Collections, San Francisco (USA). May 2023.  
Society for the Preservation of Natural History Collections, Virtual. October 2022.

XLVI Jornadas Nacionales de Biología, November 24-26, 2022, Otonga, Ecuador.  
Botanical Society of America Virtual Meetings, July 2021.  
Botanical Society of America Virtual Meetings, July 2020.  
Botanical Society of America Meetings, Tucson, July 2019.  
XII Latin American Botanical Congress, Quito, 2018.  
XIX International Botanical Congress, Shenzhen, China, 2017.  
Nomenclature Sessions, XIX IBC, Shenzhen, China, 2017.  
Peruvian National Botanical Congress, Machu Picchu, 2016.  
Botanical Society of America Meetings, Edmonton, Canada, 2015.  
66 Brazilian Botanical Congress, Santos, Brazil, 2015.  
XI Congreso Latinoamericano de Botánica, Bahía, Brazil, 2014.  
Global Plants Initiative, 5<sup>th</sup> Annual Meeting, Madrid, Spain, 2012.  
Global Plants Initiative, 4<sup>th</sup> Annual Meeting, Panama City, Panama, 2011.  
X Congreso Latinoamericano de Botánica, La Serena, Chile, 2010.  
Botanical Society of America Meetings, Snow Bird, Utah, USA, 2009.  
Latin American Plant Initiative Meetings, Buenos Aires, Argentina, 2008.  
AAAS Meetings, February, St. Louis, USA, 2006.  
XVII International Botanical Congress, July, Vienna, Austria, 2005.  
VIII Congreso Latinoamericano de Botánica, Cartagena de Indias, October, Colombia, 2002 .  
Co-Organizer, III Congreso Ecuatoriano de Botánica, October, Quito, Ecuador (Co-organizer),  
2000 XVI International Botanical Congress, August, St. Louis, USA, 1999.  
VII Congreso Latinoamericano de Botánica, Latin American Botanical Association, Latin  
American Botanical Network, Mexican Botanical Society, October, México, 1998 .  
American Institute of Biological Sciences (AIBS) Meetings, American Society of Plant  
Taxonomists, Baltimore, August, USA, 1998.  
VI Congreso Latinoamericano de Botánica, Latin American Botanical Association, October, Mar  
del Plata, Argentina, 1994.  
XLIII Congreso Brasileiro de Botánica, Sociedad Brasileira de Botánica, Universidad Federal de  
Sergipe, January, Aracajú, Brazil, 1992 .  
XLII Congreso Brasileiro de Botánica, Sociedad Brasileira de Botánica, Universidad Federal de  
Goiás, January, Goiás, Brazil, 1991.  
XLI Congreso Brasileiro de Botánica, Sociedad Brasileira de Botánica, Universidad Federal do  
Ceará, January, Fortaleza, Brazil, 1990.

## **16. Languages.**

Fluent in Spanish (Native language), Portuguese, and English.