

Milagros Rodriguez-Caton

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PhD Biological Sciences

Probiol, Universidad Nacional de Cuyo, Mendoza, Argentina. 2014

Agricultural Engineer

Faculty of Agricultural Sciences. Universidad Nacional de Cuyo, Mendoza, Argentina. 2005

Languages

Spanish, English, French

APPOINTMENTS

Assistant Project Scientist. Department of Plant Sciences, University of California Davis. Davis. USA. Supervisor: Dr. Troy Magney. Jan 2022- present.

Associate Research Scientist. Lamont-Doherty Earth Observatory. Columbia University. New York. USA. Supervisor: Dr. Laia Andreu-Hayles. April 2020-June 2020.

Postdoctoral Research Scientist. Lamont-Doherty Earth Observatory. Columbia University. New York. USA. *Isotopic signal in Polylepis tarapacana tree rings: exploiting the Andean high elevation temperature and precipitation signal.* Advisor: Dr. Laia Andreu-Hayles. April 2018-March 2020.

Postdoctoral Research Fellow. Argentinean Institute for Snow, Ice and Environmental Research (IANIGLA), Department of Dendrochronology and Environmental History. Mendoza, Argentina. *Radial growth patterns associated with tree mortality of Nothofagus pumilio in northern Patagonia.* Advisor: Dr. Ricardo Villalba. Co-advisor: Dr. Ana M. Srur. April 2015-March 2018.

Environmental consultant. Legislative Chamber (Honorable Cámara de Diputados) Mendoza. July 2008-December 2008.

Produce and Sales Specialist. Pole to Pole Produce Ltd. New Zealand. September 2006-December 2007.

MOBILITY AND AWARDS

OXICLIM – synthesis of oxygen isotope proxies for climate reconstruction in southern Patagonia. Friedrich-Alexander-University of Erlangen-Nürnberg, Germany. *Cellulose extraction methods.* Advisor: Dr. Christoph Mayr. July-August 2017.

Erasmus Mundus A2 S1 – Eurotango (Awarded by the European Commission). Community and Conservation Ecology Group. Centre for Ecological and Evolutionary Studies (COCON- CEES), Groningen University, Netherlands. *Spatial patterns of tree growth in low forest stands of Nothofagus pumilio. The R software as a dendroecological tool.* Advisor: Dr. Christian Smit. May 2011-October 2011.

PhD fellowship (Awarded by CONICET - National Council of Scientific and Technical Research, Argentina). Department of Dendrochronology and Environmental History, IANIGLA, CCT-CONICET. Mendoza, Argentina. *Influence of climatic changes in dieback and mortality of Nothofagus pumilio forest in Patagonia, Argentina.* Supervisor: Dr. Ricardo Villalba. Co-advisor: Dr. Mariano Morales. April 2009-May 2014.

Research fellowship. (Awarded by IAI - Inter-American Institute for Global Change Research). Department of Dendrochronology and Environmental History, IANIGLA, CCT-CONICET, Mendoza, Argentina. April 2008-March 2009.

INVITED COMMITTEES, PANELS AND WORKSHOP

Convener of the Global Change session ‘GC010. Changes and impacts of climate variability in South America’ 2019 AGU Fall Meeting, San Francisco, United States, December 9-13, 2019.

Scientific Committee. *Dendrochronology: hidroclimatic and ecological aplicaciones.* Huancayo, Peru, October 24-29, 2016.

Organization Committee. *3rd AmeriDendro Conference,* Mendoza, Argentina, March 28-April 1, 2016.

SCIENTIFIC PUBLICATIONS

In review - In preparation

- (27) **Rodriguez-Caton M**, Rao MP, Andreu-Hayles L, Daux V, Morales MS, Christie DA, Vuille M, D'Arrigo R, Villalba R. Multiproxy reconstruction of past hydrological changes in South American Altiplano. In preparation.
- (26) Pacheco-Solana A, Andreu-Hayles L, Oelkers RC, D'Arrigo R, Santos GM, **Rodriguez-Caton M**, Tejedor E, Ferrero ME, Fuentes A, Maldonado C. Radiocarbon and wood anatomy as novel tools for generating tree-ring records in the Andean tropics. In review.
- (25) Oelkers RC, Andreu-Hayles L, D'Arrigo R, Pacheco-Solana A, **Rodriguez-Caton M**, Fuentes A, Santos GM, Tejedor E, Ferrero ME, Maldonado C. Recent growth increase in endemic *Juglans boliviana* from the Tropical Andes. In review
- (24) Rao MP, Davi NK, Magney TS, Andreu-Hayles L, Nachin B, Byambagerel S, Varuolo-Clarke AM, Cook BI, D'Arrigo R, Pederson N, Ordensten L, **Rodriguez-Caton M**, Leland C, Burentogtokh J, Gardner WRM, Griffin KL. Rapidly approaching a thermal tolerance tipping point in the Eurasian boreal forest at its southern margins. In revision.
- (23) Srur AM, **Rodriguez-Caton M**, Mayr C, Villalba R. Ring width and tree-ring oxygen isotopes provide complementary climatic and ecological information in southern Patagonia. In revision.

Peer-reviewed

2023

- (22) Harley GL, Therrell MD, Maxwell JT, Bhuta A, Bregy JC, Heeter KJ, Patterson T, Rochner M, Rother MT, Stambaugh M, Zampieri NE, Altman J, Collins-Key SA, Gentry CM, Guiterman C, Huffman JM, Johnson DJ, King DJ, Larson E, Leland C, Nguyen HTT, Pederson N, Puhlick JJ, Rao MP, **Rodriguez-Caton M**, Sakulich JB, Singh N, Tucker CS, van de Gevel SL, Kaiser AL, Ahmad A. The Longleaf Tree-Ring Network: Reviewing and expanding the utility of *Pinus palustris* Mill. Dendrochronological data. *Progress in Physical Geography*. 03091333221147652.

2022

- (21) Cook BI, Smerdon JE, Cook ER, Williams AP, Anchukaitis KJ, Mankin JS, Allen K, Andreu-Hayles L, Ault TR, Belmecheri S, Coats S, Coulthard B, Fosu B, Grierson P, Griffin D, Herrera DA, Ionita M, Lehner F, Leland C, Marvel K, MoralesMS, Mishra V, Ngoma J, Nguyen HTT, O'Donnell A, Palmer J, Rao MP, **Rodriguez-Caton M**, Seager R, Stahle DW, Stevenson S, Thapa UK, Varuolo-Clarke AM, Wise EK. Megadroughts in the Common Era and the Anthropocene. *Nature Reviews Earth & Environment*. 0123456789.
- (20) **Rodriguez-Caton M**, Andreu-Hayles L, Daux V, Vuille M, Varuolo-Clark A, Oelkers R, Christie DA, D'Arrigo R, Morales MS, Rao MP, Srur AM, Vimeux F, Villalba R. Hydroclimate and ENSO Variability Recorded by Oxygen Isotopes from Tree Rings in the South American Altiplano. *Geophysical Research Letters*. 49(4).

2021

- (19) Segovia-Salcedo MC, Caiza JC, Kessler M, Ramsay PM, Boza TE, Renison D, Quispe-Melgar HR, Urquiaga-Flores E, **Rodriguez-Caton M**, Ames-Martínez FN, Carabajo-Hidalgo A, Cabrera-Amaya DM, Romoleroux K. ¿Cómo avanzar en la conservación de los bosques de *Polylepis* y su diversidad biológica? *Neotropical Biodiversity*. 7(1):318-326.
- (18) Leland, C., Rao, M.P., Cook, E.R, Cook, B.I, Lapidus, B.M, Staniforth, A.B., Solomon, A., Holloway, M.Y., **Rodriguez-Caton, M**. Dendroarchaeological analysis of the Terminal Warehouse in New York City reveals a history of long-distance timber transport during the Gilded Age. *Journal of Archaeology, Reports*, 39, 103114. [news outlets: <https://news.climate.columbia.edu/2021/08/02/new-york-citys-hidden-old-growth-forests/#comments>; <https://www.nationalgeographic.com/environment/article/timber-salvaged-from-new-york-city-buildings-reveals-ancient-climate>]
- (17) Marcotti E, Amoroso MM, **Rodriguez-Caton M**, Vega L, Srur AM, Villalba R. Growth resilience of *Austrocedrus chilensis* to drought along a precipitation gradient in Patagonia, Argentina. *Forest Ecology and Management*, 496, 119388. **Peer-reviewed.**
- (16) **Rodriguez-Caton M**, Andreu-Hayles L, Morales MS, Daux V, Christie DA, Coopman RE, Alvarez C, Rao MP, Aliste D, Flores F, Villalba R. Different climate sensitivity for radial growth, but uniform for tree-ring stable isotopes along an aridity gradient in *Polylepis tarapacana*, the world's highest elevation tree-species. *Tree Physiology*. 41(8):1353–1371.

2020

- (15) Morales MS, Cook ER, Barichivich J, Christie DA, Villalba R, LeQuesne C, Srur AM, Ferrero ME, Gonzalez-Reyes A, Couvreur F, Matskovsky V, Aravena JC, Lara A, Mundo IA, Rojas F, Prieto MR, Smerdon JE, Bianchi LO, Masiokas MH, Urrutia R, Muñoz AA, **Rodriguez-Caton M**, Rojas-Badilla M, Alvarez C, Lopez L, Luckman B, Lister D, Harris I, Jones PD, Williams AP, Velazquez G, Aliste D, Aguilera-Betti I, Marcotti E, Flores F, Muñoz T, Cuq E, Boninsegna JA. 600 years of South American tree rings reveal more widespread droughts since the mid-20th century. *PNAS*, 117(29):1-48. [Cited in several news outlets summarized here].
- (14) Srur AM, Amoroso MM, Mundo I, Morales MS, **Rodriguez-Caton M**, Aschero V, Villalba R. Forest Dynamics in the Argentinean Patagonian Andes: Lessons Learned from Dendroecology. In Latin American Dendroecology - Combining tree-ring sciences and ecology in a mega diverse territory. Eds. Pompa-Garcia M, Camarero JJ. *Springer*. 171-201.
- (13) Guerrero CM, Villalba R, Amoroso MM, **Rodriguez-Caton M**. Patterns of tree establishment following glacier-induced floods in southern Patagonia. In Latin American Dendroecology - Combining tree-ring sciences and ecology in a mega diverse territory. Eds. Pompa-Garcia M, Camarero JJ. *Springer*. 225-246.
- (12) Albiero Junior A, Venegas-González A, **Rodriguez-Caton M**, Oliveira JM, Longhi-Santos T, Galvão F, Temponi LG, Botosso PC. Edge Effects Modify the Growth Dynamics and Climate Sensitivity of *Araucaria angustifolia* Trees. *Tree-ring Research*, 76(1):11-26.

2019

- (11) **Rodriguez-Caton M**, Villalba R, Srur AM, Williams AP. Radial growth patterns associated with tree mortality in *Nothofagus pumilio* forest. *Forests*, 10:489.
- (10) Lopez Callejas L, **Rodriguez-Caton M**, Villalba R. Convergence in growth responses of tropical trees to climate driven by water stress. *Ecography*, 42(11):1899-1912.
- (9) Kowaljow E, Morales MS, Whitworth-Hulse JI, Zeballos SR, Giorgis MA, **Rodriguez-Caton M**, Gurvich DE. A 55-year-old natural experiment gives evidence of the effects of changes in fire frequency on ecosystem properties in a seasonal subtropical dry forest. *Land Degradation & Development* 30:266–277.

2018

- (8) **Rodriguez-Caton M**, Villalba R. Indicadores del decaimiento forestal en bosques de *Nothofagus pumilio* en el norte de la Patagonia argentina. *Madera y Bosque*, 24:2.
- (7) Srur AM, Villalba R, **Rodriguez-Caton M**, Amoroso MM, Marcotti E. Climate and *Nothofagus pumilio* establishment at upper treelines in the patagonian andes. *Frontiers in Earth Science*, 6:1-11.
- (6) Amoroso M, Speer J, Daniels L, Villalba R, Cook E,... **Rodriguez-Caton M**, Soto P, Young A. South american dendrochronological fieldweek 2016: Exploring dendrochronological research in northern Patagonia. *Tree-Ring Research*, 74(1):120-131.

2017

- (5) Pompa-García M, González-Cásares M, Acosta-Hernández AC, Camarero JJ, **Rodriguez-Caton M**. Drought Influence over Radial Growth of Mexican Conifers Inhabiting Mesic and Xeric Sites. *Forests*, 8: 1-13.
- (4) Amoroso M, **Rodriguez-Caton M**, Villalba R, Daniels L. Forest decline in northern Patagonia: the role of climatic variability. In Dendroecology: Tree-ring analyses applied to ecological studies. Eds Amoroso M, Daniels, L, Baker P, Camarero JJ. Springer. 325-342.

2016

- (3) **Rodriguez-Caton M**, Villalba R, Morales M, Srur AM. Influence of droughts on *Nothofagus pumilio* forest decline across northern Patagonia, Argentina. *Ecosphere*, 7:1-17.
- (2) Srur AM, Villalba R, **Rodriguez-Caton M**, Amoroso M, Marcotti E. Establishment of *Nothofagus pumilio* at Upper Treelines Across a Precipitation Gradient in the Northern Patagonian Andes. *Arctic, Antarctic, and Alpine Research*, 48(4):755-766.

2015

- (1) **Rodriguez-Caton M**, Villalba R, Srur AM, Luckman B. Long-term trends in radial growth associated with *Nothofagus pumilio* forest decline in Patagonia: Integrating local- into regional-scale patterns. *Forest Ecology and Management*, 339:44-56.

RESEARCH PROJECTS (Competitive Calls)

Principal Investigator

(13) *Fluorescencia solar inducida de la clorofila (SIF) para escalar el ciclo de carbono de los bosques tropicales desde las hojas al ecosistema*. 2022-2023. 60 night at La Selva Biological Station (~US\$5000). Funded by Organization for Tropical Studies and Lillian and Murray Slatkin Fellowships Fund (Fund 521/571). PI: Dr. Rodriguez-Caton, M.

(12) *A 200-year Temperature Reconstruction over the South American Tropics*. 2019-2021. US\$10000. Funded by Climate Center at Lamont-Doherty Earth Observatory. Seed-Funding from Columbia University. PI: Dr. Rodriguez-Caton, M. CoPI: Dr. Laia Andreu Hayles.

(11) *High-resolution Tropical Temperature records inferred from Tree-Ring Isotopes*. 2018-2019. US\$10000. Funded by Climate Center at Lamont-Doherty Earth Observatory. Seed-Funding from Columbia University. PI: Dr. Rodriguez-Caton, M. CoPI: Dr. Laia Andreu Hayles.

Active research projects (collaborator)

(10) COSIF: Combining Carbonyl Sulfide and Solar Induced Chlorophyll Fluorescence to scale the carbon cycle of tropical rainforests from leaf to landscape. 2022-2025. Funded by NASA. PIs: Ulrike Seibt; Co-PIs: Jochen Stutz, Troy Magney, Nicholas Parazoo; Project Scientists: Sol Cooperdock and **Milagros Rodriguez-Caton**.

Finalized research projects (collaborator)

(9) Temporal dynamics of tree-growth and photosynthesis and their environmental drivers in the Lamont Sanctuary Forest Preserve. 2021-2022. Funded by Climate Center at Lamont-Doherty Earth Observatory. PI: Dr. Mukund Palat Rao.

(8) *THE Mystery of Expanding TropicS: from Past to Future (THEMES)*. Funded by Paribas foundation (France). 2018-2020. PIs: Dr. Ricardo Villalba and Dr. Valérie Daux.

(7) *PIRECREATE – Climate Research Education in the Americas using Tree-Ring Speleothem Examples*. Funded by National Science Foundation (NSF) 2017-2022. PI: Dr. Mathias Vuille, University of Albany, USA.

(6) *OXICLIM – synthesis of oxygen isotope proxies for climate reconstruction in southern Patagonia*. 2016-2017. Funded by MINCYT (Argentina) and BMBF (Germany). PIs: Dr. Julieta Masferro, Dr. Ana Srur and Dr. Christoph Mayr. 2017.

(5) *Climate variability reconstruction in Andean Patagonia during the past 1000-2000 years*. National geographic. PI: Ana Srur. 2017-2018.

(4) *Fluctuations in the aridity of the southern Andes of South America during the last millennium*. 2015-2017. National Agency for Scientific and Technological Promotion (Agencia Nacional de Promoción Científica y Tecnológica). PI: Dr. Mariano Morales.

(3) *Documenting, understanding and projecting changes in the hydrological cycle in the American Cordillera*. 2006-2014. Funded by the Inter-American Institute for Global Change Research (IAI Collaborative Research Network 2047). PI: Dr. B.H. Luckman.

(2) *Influence of climate variability in the type, frequency and intensity of disturbances in the southern-Andean Patagonian forests: A Dendroecological approach*. Multi-year research project (2013-2016 PIP). Funded by CONICET. PI: Ricardo Villalba

(1) *University and Indigenous Huarpe Communities*. A contribution to local development through the cultivation of drought adapted species (*Opuntia ficus-indica*). 2005-2006. Department of Phylosophy, U.N.Cuyo.

TEACHING

Best Practices for using tree-ring stable isotopes of Carbon and Oxygen in paleoclimate and ecophysiology. Workshop held at the Ameridendro Conference, June 27-30th, 2022, Montreal. Chaired by Belmecheri, S. Lavergne, A., **Rodriguez Caton, M.**, Szejner, P., Daux, V.

Become a Scientist for a week. Purchase College. Course for undergraduate students. April 5-7, 2019. Purchase College. New York, United States of America.

Hydroclimate and Ecological applications of Dendrochronology (Dendrocronología y sus aplicaciones hidroclimáticas y ecológicas). Course for graduate students. October 24-29, 2016. Universidad Continental. Huancayo, Perú.

Basic R in dendrochronology (Conocimientos básicos de R y aplicaciones para la Dendrocronología). Workshop for graduate students. August 15-19, 2016. Universidad Juarez del Estado Durango. Durango. México.

R packages for dendrochronology (Paquetes para Dendrocronología en R). Workshop for graduate students. July 5th and 26th, August 9-23, 2016. Argentinean Institute for Snow, Ice and Environmental Research (IANIGLA). CCT CONICET-Mendoza, Argentina.

The use of R in dendrochronology (El uso de R en dendrocronología). Workshop for graduate students. Octubre 24, 2014. Argentinean Institute for Snow, Ice and Environmental Research (IANIGLA). CCT CONICET-Mendoza, Argentina.

Oenochemistry (Enoquímica). Julia Silva de Cejas Agricultural Highschool. Vista Flores. Mendoza. Argentina. 2008-2009.

Agricultural practices (Prácticas agrícolas). Julia Silva de Cejas Agricultural Highschool. Vista Flores. Mendoza. Argentina. 2008-2009.

MENTORING

Raquel Fernández. Training in leaf-level measurements of Chlorophyll fluorescence, hyperspectral imaging, stomatal conductance, etc. La Selva Biological Station, Costa Rica. August 2022.

Lab Technician Troy Nixon. Training in ring cutting, cellulose extraction and stable isotopes measurements in tree rings. Lamont-Doherty Earth Observatory. September 2019-present.

Work student Mario A. Garcia Jr. Columbia University undergraduate Sophomore majoring in Chemistry. Training in Cellulose extraction and stable isotopes measurements in tree rings. Lamont-Doherty Earth Observatory. September 2018-May 2020.

Ana Paula Blazina. Graduate student at Ingeniería en Recursos Naturales Renovables, UNCuyo, Argentina. Training in dendrochronological technics focused in dendroecology. March 2010-July 2010.

SCIENTIFIC CONFERENCES AND MEETINGS

(38) **Rodriguez-Caton M**, Seibt U, Stutz J, Parazoo N, Cooperdock S, Bigwood J, Rao MP, Pierrat Z, Wong CYS, Dierick D, Vargas O, Magney T. Seasonal changes in species specific ecophysiology within a flux tower footprint in the rainforest in Costa Rica (oral). *American Geophysical Union Fall Meeting*, Chicago, USA, December 12-16 2022.

(37) Palat-Rao M, Davi NK, Magney TS, Andreu-Hayles L, Baatarbileg N, Suran B, Varuolo-Clarke AM, Cook BI, D'Arrigo R, Pederson N, Odrentsen L, **Rodríguez-Catón M**, Leland C, Griffin KL. Extreme heat might threaten photosynthetic carbon assimilation by Siberian larch in the southern edge of the North Asian taiga. *Ecological Society of America Annual Meeting*, Montreal, Canada. August 15-19 2022.

(36) **Rodriguez-Caton M**, Andreu-Hayles L, Morales MS, Christie DA, Rao MP, Nixon T, Oelkers R, Varuolo-Clarke A, Coopman R, Vimeux F, Srur AM, Vuille M, D'Arrigo R, Daux V, Villalba R. Climate and physiological signals in tree-ring stable isotopes of *Polylepis tarapacana* from the South American Altiplano (oral). *AmeriDendro*, Montreal, Canada. June 27-30 2022.

(35) **Rodriguez-Caton M**, Andreu-Hayles L, Daux V, Vuille M, Varuolo-Clarke A, Oelkers R, Christie DA, D'Arrigo R, Morales MS, Rao MP, Srur AM, Vimeux F, Villalba R. Hydroclimate and ENSO Variability Recorded by Oxygen Isotopes From Tree Rings in the South American Altiplano (poster). *AmeriDendro*, Montreal, Canada. June 27-30 2022.

(34) Oelkers R, Andreu-Hayles L, **Rodriguez-Caton M**, Pacheco-Solana A., Tejedor-Vargas E, Ferrero E, Fuentes Claros AF, Maldonado C, Nixon T. Assessing the dendroclimatic potential of tropical tree species in northern Bolivia (oral). *AmeriDendro*, Montreal, Canada. June 27-30 2022.

(33) Pacheco-Solana A, Oelkers R, **Rodriguez-Caton M**, Santos GM, Fuentes AF, Tejedor-Vargas E, Ferrero E, Nixon T, Maldonado C, Andreu-Hayles L. Advances in quantitative wood anatomy and radiocarbon dating to better assess climate sensitivity in tree species from the Central tropical Andes (oral). June 27-30 2022. *AmeriDendro*, Montreal, Canada.

(32) **Rodríguez-Catón M.**, Srur A.M., Morales M., Villalba R. Sequías extremas inducen decaimiento en el crecimiento y muerte en las lengas del extremo árido de su distribución (poster). March 30-April 1 2022. *VI Jornadas Forestales Patagónicas*, Bariloche, Argentina.

(31) Villalba R., **Rodríguez-Catón M.**, Montepeluso S., Amoroso M.M., Srur A.M., Mundo I.A., Marcotti E., Bianchi L. Cambio climático; sequías extremas y dinámica forestal en la Patagonia (oral). March 30-April 1 2022. *VI Jornadas Forestales Patagónicas*, Bariloche, Argentina.

(30) Rao MP, Pacheco-Solana A, Jensen J, Oryan B, **Rodriguez-Caton M**, Nixon T, Leland C, Andreu-Hayles L, Magney T, D'Andrea WJ, Boelman N, Commane R, Peteet D, Naeem S, Gentine P, Davi N, Griffin KL. The

- phenology and environmental drivers of oak tree-growth and photosynthesis at the Lamont Sanctuary Forest in the northeastern US. *American Association of Geographers Annual Meeting*. February 25 – March 1 2022.
- (29) Pacheco-Solana A, Oelkers R, **Rodriguez-Caton M**, Santos GM, Fuentes AF, Tejedor-Vargas E, Ferrero E, Nixon T, Maldonado C, Andreu-Hayles L. Elucidating tree-ring annual periodicity in tropical Bolivian Andes *Prosopis alba* through radiocarbon and wood anatomy analysis. *American Association of Geographers Annual Meeting*. February 25 – March 1 2022.
- (28) Oelkers R, Andreu-Hayles L, **Rodriguez-Caton M**, Pacheco-Solana A., Tejedor-Vargas E, Ferrero E, Fuentes Claros AF, Maldonado C, Nixon T. New insights for Tropical Dendrochronology in Northern Bolivia. *American Association of Geographers Annual Meeting*. February 25 – March 1 2022.
- (27) Marcotti, E., Amoroso, M.M., **Rodriguez-Caton, M.**, Vega, L., Srur, A.M., Villalba, R. Resiliencia de *Austrocedrus chilensis* a las sequías a través de los anillos de crecimiento de los árboles (oral). XXIX *Reunión Argentina de Ecología*, August 4-6, 2021, Virtual Meeting.
- (26) Srur, A.M., Amoroso, M.M., Mundo, I., Morales, M.S., **Rodriguez-Caton, M.**, Aschero, V., Villalba, R. Ecología desde la perspectiva dendrocronológica: Miradas del pasado para entender los cambios del futuro (oral). XXIX *Reunión Argentina de Ecología*, Agosto 4-6, 2021, Virtual Meeting.
- (24) **Rodriguez-Caton, M.**, Andreu-Hayles, L., Daux, D., Morales, M., Christie, D., R.E. Coopman, A. Varuolo-Clarke, Palat Rao, M., F. Vimeux, Alvarez, C., F. Flores, D. Aliste, R. D'Arrigo, M. Vuille, Villalba, R. Climate signals from high elevation stable isotope tree-ring chronologies of *Polylepis tarapacana* (oral), *PIRE Academy Annual Project Meeting*, September 30-October 1, 2020, Virtual Meeting.
- (23) **Rodriguez-Caton, M.**, Andreu-Hayles, L., Morales, M., Christie, D., Alvarez, C., Palat Rao, M., Leland, C., Oelkers, R., Daux, D., Villalba, R. Climate Signals in Oxygen Isotopic Tree-ring Chronologies of *Polylepis tarapacana* from the South American Altiplano (poster presentation), *American Geophysical Union Fall Meeting*, December 9-13, 2019. San Francisco, California, USA.
- (22) Marcotti, E., Amoroso, M.M, **Rodriguez-Caton, M.**, Vega, L., Srur, A.M., Villalba, R. Extreme droughts in northern Patagonia affects resilience in *Austrocedrus chilensis* forests (poster), *American Geophysical Union Fall Meeting*, December 9-13, 2019. San Francisco, California, USA.
- (21) Morales, M., Cook, E., Barichivich, J., Christie, D., Villalba, R., LeQuesne, C., Srur A., Couvreur, F., Masiokas, M., Gonzalez-Reyes, A., Ferrero, E., Matskovsky, V., Aravena, J.C., Lara, A., Urrutia, R., Mundo, I., Muñoz, A., **Rodriguez-Caton, M.**, Lopez, L., Prieto, M.R., Rojas, F., Bianchi, L., Rojas-Badilla, M., Alvarez, C., Luckman, B., Smerdon, J., Lister, D., Harris, I., Jones, P., Bianchi, E., Aliste, D., Velazquez, G., Aguilera-Betti I., Argollo, J., Boninsegna, J. The South American Drivers of Megadroughts and Pluvials over the Past 600 years (oral), *American Geophysical Union Fall Meeting*, December 9-13, 2019. San Francisco, California, USA.
- (20) Lopez, L., **Rodriguez-Caton, M.**, Villalba, R. Convergence in Growth Responses of Tropical Trees to Climate Driven by Water Stress (poster), *American Geophysical Union Fall Meeting*, December 9-13, 2019. San Francisco, California, USA.
- (19) **Rodriguez-Caton, M.**, Andreu-Hayles, L., Morales, M., Christie, D., Rao, M., Daux, D., Villalba, R. Señal climática en los isótopos estables de los anillos de crecimiento de *Polylepis tarapacana* (oral), *V Internacional Conference Ecology and Conservation of Polylepis forests*, September 16-20, 2019. Quito, Ecuador.
- (18) Maud, M., Massaferrero, J., Srur, A., **Rodriguez-Caton, M.**, Lücke, A., Mayr, C. The project OXICLIM – synthesis of oxygen isotope proxies for climate reconstruction in southern Patagonia (poster), *Conference Climate Impacts on Glaciers and Biosphere in Fuego-Patagonia*, July 14-19, 2017. Berlin, Germany.
- (17) Srur, A.M, Villalba, R., **Rodriguez-Caton, M.**, Amoroso, M., Marcotti, E. Establishment of *Nothofagus pumilio* at upper treelines across precipitation gradients. Part II: the Southern Patagonian Andes (poster), *Conference Climate Impacts on Glaciers and Biosphere in Fuego-Patagonia*, July 14-19, 2017. Berlin, Germany.
- (16) **Rodriguez-Caton, M.**, Villalba, R. Droughts as triggers of *Nothofagus pumilio* growth decline in northern Patagonia, Argentina (oral), *Conference Climate Impacts on Glaciers and Biosphere in Fuego-Patagonia*, July 14-19, 2017. Berlin, Germany.
- (15) **Rodriguez-Caton, M.**, Villalba, R., Srur, A.M. Influencia de sequías extremas sobre el decaimiento de los bosques de *Nothofagus pumilio* de Argentina (oral), *IV Reunión Binacional de Ecología*, September 19-22, 2016. Misiones, Argentina.
- (14) Srur, A.M., Villalba, R., **Rodriguez-Caton, M.**, Amoroso, M.M., Guerrero, C., Lara, A., Lavergne, A., Masiokas, M., Morales, M.S. Patrones de crecimiento de *Nothofagus pumilio* durante los últimos 200 años a lo largo de un gradiente de humedad, en el sur de la Patagonia (oral), *IV Reunión Binacional de Ecología*, September 19-22, 2016. Misiones, Argentina.
- (13) **Rodriguez-Caton, M.**, Villalba, R., Srur, A.M., Morales, M., Calí, S., Blazina, A., Ripalta, A., Masiokas, M., Mundo, I. Droughts trigger *Nothofagus pumilio* growth decline in northern Patagonia, Argentina (oral), *3rd AmeriDendro Conference*, March 28-April 1, 2016. Mendoza, Argentina.

- (12) **Rodriguez-Caton, M.**, Villalba, R., Encinas-Viso, F., Amoroso, M., Pissolito, C., Bianchi, L. Estimates of *Nothofagus pumilio* forest decline in northern patagonia, Argentina (poster), *3rd AmeriDendro Conference*, March 28-April 1, 2016. Mendoza, Argentina.
- (11) Lara, A., Urrutia-Jalabert, R., Villalba, R., Cuq, E., Rodriguez, C.G., **Rodriguez-Caton, M.**, Aliste, D. Serra-Olabuenaga, I., Wolodarsky-Franke, A. Development of millennial *Fitzroya cupressoides* tree-ring chronologies and strengthening their climatic signal (oral), *3rd AmeriDendro Conference*, March 28-April 1, 2016. Mendoza, Argentina.
- (10) Srur, A.M., Villalba, R., **Rodriguez-Caton, M.**, Amoroso, M.M, Marcotti, E. Relationships between the establishment of *Nothofagus pumilio* in the upper treeline and climate variations in Northern Patagonia (oral), *3rd AmeriDendro Conference*, March 28-April 1, 2016. Mendoza, Argentina.
- (9) Guerrero, C., Amoroso, M., **Rodriguez-Caton, M.**, Villalba, R. Dendroecology of *Nothofagus* on flooded lakeshores caused by Perito Moreno Glacier, Patagonia, Argentina (oral), *3rd AmeriDendro Conference*, March 28-April 1, 2016. Mendoza, Argentina.
- (8) **Rodriguez-Caton, M.**, Villalba, R., Srur, A.M., Morales, M. A dominant fast growing tree today, will always be a fast growing tree? (oral), *9th International Conference on Dendrochronology 2014 – WorldDendro*, January 13-17. 2014. Melbourne, Australia.
- (7) **Rodriguez-Caton, M.**, Villalba, R, Morales, M, Srur, A, Ferri, L. Drought influences on *Nothofagus pumilio* forest decline across northern Patagonia, Argentina (oral), *Final IAI meeting project Documenting, understanding and projecting changes in the hydrological cycle in the American Cordillera*, October 6-9, 2014. Mendoza, Argentina.
- (6) Radins, M, Amoroso, M, Villalba, R, **Rodriguez-Caton, M.** Edge dynamics in *Nothofagus pumilio* forests of southern Patagonia as a result of disturbance interactions (poster), *Final IAI meeting project Documenting, understanding and projecting changes in the hydrological cycle in the American Cordillera*, October 6-9, 2014. Mendoza, Argentina.
- (5) **Rodriguez-Caton, M.**, Villalba, R. *Nothofagus pumilio* dieback in Northern Patagonia: Relationships between patterns of radial growth and crown mortality (poster), *AmeriDendro 2013: Second American Dendrochronology Conference*, May 13-17, 2013. Tucson, Arizona, USA.
- (4) Morales, M., Palacios, M., Srur, A., **Rodriguez-Caton, M.**, et al. Tree-ring evidences of insect outbreaks in *Nothofagus pumilio* forest in southern Patagonia, Argentina (poster), *AmeriDendro 2013: Second American Dendrochronology Conference*, May 13-17, 2013. Tucson, Arizona, USA.
- (3) Srur, A., Villalba, R., **Rodriguez-Caton, M.**, et al. Differences in *Nothofagus pumilio* forest structure and tree-ring growth along altitudinal gradients at different aspects in southern Patagonia (oral), *AmeriDendro 2013: Second American Dendrochronology Conference*, May 13-17, 2013. Tucson, Arizona, USA.
- (2) **Rodriguez-Caton, M.**, Amoroso, M., Mundo, I., Srur, A., Villalba, R. Influences of past climate variations on forest dynamics in Patagonia (poster). *II International Symposium Reconstructing Climate Variations in South America and the Antarctic Peninsula over the last 2000 years*, October 27-30, 2010. Centro de Estudios Científicos – Valdivia, Chile.
- (1) **Rodriguez-Caton, M.**, Calí, S., Villalba, R. *Nothofagus pumilio* dieback in Northern Patagonia: The influence of climate variations (poster), *VI Southern Connection Congress*, February 15-19, 2010. Bariloche, Argentina.

COURSES (Attendee)

- (16) **Programming in Python.** Dr. Oscar Filevich (Neuroengineering Laboratory) and Dr. Rafael Grimson (Research and Environmental Engineering Institute) at National University of San Martin and CONICET, Argentina. August-September 2020.
- (15) **Seminar in Plant Physiology & Ecology.** Dr Kevin Griffin. Ecology, Evolution and Environmental Biology Department, Columbia University, Estados Unidos de América. January-May 2020.
- (14) **Responsible Conduct of Research.** Columbia University. February 3, 2019.
- (13) **Statistical Modeling in Ecology and Evolution.** Ecology, Evolution and Environmental Biology Department. Columbia University. Dr Maria Uriarte. September-December 2018.
- (12) **Lab Safety, Chemical Hygiene, and Hazardous Waste Management Refresher Training.** Columbia University. April 20, 2018.
- (11) **Using R in dendrochronology. Workshop - 3rd AmeriDendro Conference.** Dr. Andy Bunn, Dr. Wilson Lara-Henao, Dr. Marieke Van der Maaten, Dr. Ernst Van der Maaten, Dr. Christian Zang. March 29, 2016. 3h.
- (10) **South American Dendrochronology Fielweek.** Dr Mariano Amoroso, Dra Ana Srur, Dr Ricardo Villalba, Dr Ed Cook, Dr Dave Stahle, Dra Lori Daniels, Dr Jim Speer. Sede Andina de la Universidad Nacional de Rio Negro - El Bolsón y IANIGLA-CONICET. Argentina. March 18-26, 2016. 64h.

- (9) **Evolutionary Biology.** Dr. Andrea Astié, Dr. Paulo Llambías, Dr. Florencia Fernández Campón, Dr. Silvia Lomáscolo and Dr. Adriana Marvaldi. PhD program in Biological Sciences, Probiol. UNCuyo. September 3-7, 2012. 45h.
- (8) **Biostatistics.** M. Sc. Marcelo E. Alberto. PhD program in Biological Sciences, Probiol, UNCuyo. July 30-August 3, 2012. 40h.
- (7) **Spatial Ecology: “Simulating dynamic spatial processes”.** Dr. Johan Van de Koppel. Centre for Ecological and Evolutionary Studies (COCON-CEES). University of Groningen. Netherlands. October 3-4, 2011. 18h.
- (6) **Forest Stand Dynamics. Dr. Bruce Larson and Dr Mariano Amoroso.** Alberto Soriano Graduate School. Faculty of Agronomy. UBA. Buenos Aires. Argentina. June 28-July 3, 2010. 48h.
- (5) **Epistemology and Scientific Methodology.** Dr. Luis Marone. PhD program in Biological Sciences, Probiol. UNCuyo. Mendoza. March 8-12, 2010. 50h.
- (4) **Multivariate techniques for global change research.** Prof. Emeritus László Orlóci. Universidade Federal do Rio Grande Do Sul. BRAZIL. November 16-26, 2010. 60h.
- (3) **Classics of the Literature in Ecology.** Dr. Diego Vázquez and Dr. Pablo Villagra. PhD program in Biological Sciences, Probiol. UNCuyo. Mendoza. Argentina. June 15-August 7, 2009. 90h.
- (2) **Growth rings anatomy and wood technology.** Eng. Esteban Guerra and Dra Stella Bogino. Universidad Nacional de San Luis. April 20-24, 2010. 40h.
- (1) **Paleoclimatology: understanding global climate changes.** Dr. Ricardo Villalba and Dr José Armando Boninsegna. PhD program in Biological Sciences, Probiol. UNCuyo. Mendoza. Argentina. September 22-27, 2008. 45h.

SERVICE AND OUTREACH

Guest editor *Dendrochronologia*. Special issue: Advances in tropical and subtropical Dendrochronology in South America. February-June 2022

Reviewer

Journals: *Geophysical Research Letters*, *Tree Physiology*, *Climate Dynamics*, *Dendrochronologia* (x3), *Ecosystems*, *Forest Ecology and Management*, *Madera y Bosques* (x2), *Urban Forestry and Urban Greening*, *Science of the Total Environment*, *Journal of Geophysical Research Biogeosciences*.

Book chapters: In *Latin American Dendroecology - Combining tree-ring sciences and ecology in a mega diverse territory*.

University of California Davis Picnic Day. April 2022.

Guided Tours to visitors at Tree-Ring Laboratory of Lamont Doherty Earth Observatory-Columbia University:

- Chip Comins. Chairman and CEO, American Renewable Energy Institute. February 25, 2020.
- Columbia University creative writing class. December 4, 2019
- Lamont Doherty-Earth Observatory Open House. October 5, 2019
- Members of City Garden Club. May 2, 2019
- Centroeamerican children of the Cayuga Center, NYC. May 20, 2019
- Family of the Columbia University Trustee Paul Maddon. May 22, 2019
- Lamont Doherty-Earth Observatory Open House. October 13, 2018

FIELD CAMPAIGNS

2022. February, April, August and November. La Selva Biological Station, Puerto Viejo de Sarapiquí, Heredia, Costa Rica. Leaf level measurements of gas-exchange-related traits in trees.

2022. July. Redwood Forest, California (Jackson Demonstration State Forest and Garcia River Forest), USA. Leaf level measurements of gas-exchange-related traits in trees.

2021. Demolition sites in Manhattan, NYC, USA. Recovery of old-building timbers for dendroarchaeology.

2019. Bolivia (Apolobamba, Cochabamba, La Paz, Tarija). Dendrochronology sampling of tropical tree species.

2018. Bolivia (Madidi National Park). Dendrochronology sampling of tropical species.

2017. North Patagonia, Argentina (Challhuaco and Paso Cordoba). Temperate forest. Dendrochronology.

2016. South Patagonia, El Chalten, Argentina. *Nothofagus pumilio* and *N. betuloides* forest. Dendrochronology.

2015. North (Los Alerces National Park) and South (El Chalten) Patagonia, Argentina. Sampling of *Fitzroya cupressoides* and *Nothofagus pumilio* forest for dendrochronology.

2011. South Patagonia, El Chalten, Argentina. Dendrochronology sampling of *Nothofagus pumilio* forest.

2010. North (Challhuaco and Rio Jeinemeni) and South (El Chalten) Patagonia, Argentina. *N. pumilio* forest.