

Catalina González Arango

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Nacionality: colombian

Date and place of birth: Medellín, 13th August, 1975

Languages: Spanish (mother tongue), English (very good), German (good), Italian (good); French (basics).

Objective

To contribute with my professional and scientific experience, through research and teaching, to the development of an interdisciplinary, diverse and high level academic group. Since the start of my academic career as Forest Engineer, until my current postdoctoral position at a Department of Geosciences, I have built my own approach to the understanding of biotic systems, which is essentially based on the concept of change along the space-time dimensions. My aspiration is to further deepen and provide feedback on the study of tropical biotic systems from this perspective.

Areas of interest

Climate change, paleoclimate, palynology, ecology and conservation of tropical forests, vegetation and climate history of South America, land-ocean interactions.

Education

October 2004-July 2008

PhD (*Magna cum laude*)

MARUM, University of Bremen

“Tropical vegetation and climate related to Dansgaard/Oeschger cycles and Heinrich events: high resolution palynological study of environmental change in northern South America during Marine Isotope Stage 3”

Funded: European Union Programme of High Level Scholarships for Latin America(Alfa)/ (DAAD)-Colfuturo.

Supervised by Prof. Dr. Gerold Wefer and Dr. Lydie Dupont.

July 2002-June 2004

MSc. in Forests and Environmental Conservation

Universidad Nacional de Colombia-Medellin.

“Late Holocene paleoenvironmental reconstruction in San Andrés Island, Colombian Caribbean”.

Funded: COLCIENCIAS- Programa Jóvenes Investigadores/ Universidad Nacional de Colombia.

Supervised by Dr. Ligia E. Urrego

January 1994-2001

Bachelor in Forestry Engineering

First class honours.

Thesis **“Reconstrucción palinológica en la Cuenca de Panamá, Pacífico Ecuatorial”.**

Awards, prizes and scholarships

2009	EPRI Young Scientist Award for oral presentation PAGES, Corvallis, USA, July 2009.
2009	MARUM 2008 prize, best PhD thesis at the institute.
2004-2008	DAAD-Colfuturo partial loan-scholarship to accomplish my PhD in Germany.
2004-2007	Scholarship from The Programme Alþan –the European Union Programme of High Level Scholarships for Latin America (Scholarship E04D047330CO)– to accomplish PhD
2002-2004	Graduate sponsorship to complete Master studies, National University of Colombia.
2001	“Academic Excellence” Best undergraduate student of the promotion. Faculty of Agricultural Sciences, National University of Colombia.
2001	First price in the student poster category <i>Looking back to the future: Palaeo Studies of the Earth System</i> , Global Change Open Science Conference, Amsterdam, July 2001.
1997	First place in an Essay Contest called by the Universidad Nacional de Colombia, Medellín. The price was in the form of a sejour in Ilmenau, Germany.
1994	First place in the admission exam for the Forestry Engineering program.

Research and academic experience

2007-present	External reviewer, Universidad Nacional de Colombia
2009-	Reviewer, Journal of Paleolimnology
2009-	Reviewer, Global Change Biology
October 2008-present Postdoctoral researcher Europrox/University of Bremen	Postdoctoral researcher, European Graduate College “Proxies in Earth History” (Europrox) associated to the group Historical Geology and Paleontology, Department of GeosDepartamento de Geociencias de la Universidad de Bremen.
October 2004-July 2008 PhD at MARUM University of Bremen	Neotropical vegetation response to abrupt climate changes.

2003-2006 Centro de Investigación Carbono & Bosques	Editorial committee of newsletter <i>Cambium</i> . Associated researcher. Areas of interest: response of plant communities to environmental change, paleoclimate, palynology, scientific divulgation.
2002-2004 Universidad Nacional de Colombia, Colciencias	Research Assistantship within the Research group on Forest Sciences, as part of the program Young Scientists (COLCIENCIAS). Project “Late-Holocene paleoenvironmental reconstruction in the San Andrés Island, Colombian Caribbean”. Supervisor Ligia Estela Urrego.
2002 Universidad Nacional de Colombia	Ecology of tropical forests: seed bank and litter under different plant covers. Supervision: Dr. Michael Aide
1999-2001 Universidad Nacional de Colombia-Universidad Eafit	Palynology in marine sediments from the Panama Basin. Supervisors Dr. Ligia Estela Urrego and Dr. Jose Ignacio Martinez.
2000 EPM- Universidad Nacional de Colombia	Coeditor of the Book <i>Estudios ecológicos en el área de influencia del proyecto hidroeléctrico Porce II</i> : silvicultura, ecofisiología, palinología.
1999-2000 National University of Colombia	Ecological studies on the area of the hydroelectric project Porce II: silviculture, ecophysiology, palynology. Supervisor Prof. Jorge Ignacio del Valle.

Teaching experience

2010 Lecturer Universidad de los Andes	“Biodiversity and Climate change”
August 2009 Invited lecturer AWI	Seminar: “Tropical salt-marsh evidence for rapid sea-level changes associated with Heinrich events”
2005-2008 Supervision of laboratory techniques	Introduction for new students working with palynological preparations, Department of Geosciences, University of Bremen.
2003-2004 C&B workshop	Workshop on Global Change for undergraduate students, Research Center Carbono y Bosques.
1998-2002 “Migratory Raptors”	Program of environmental education in rural schools in Fredonia, Colombia.
1996-1997 “Taxonomic Botany”	Teaching assistantship for undergraduate students, Faculty of Agricultural Sciences, National University of Colombia.
1996 “Environmental education”	Environmental Educational Program in rural schools, El Retiro, Antioquia-Colombia.

Funding

<i>June 2009</i> ESF Conference	Grant by ESF with partial funding to participate at the research conference “Mechanisms of Quaternary Climate Change: stability of warm phases in the past and in the future”
<i>June 2008</i> Workshop QUEST-DESIRE	Full grant by QUEST to participate at the “High resolution pollen records and reconstruction of vegetation changes during Dansgaard-Oeschger events”.
<i>May 2007</i> ESF Conference	Grant by ESF with partial funding to participate at the research conference “Ocean controls in abrupt climate change”.
<i>November 2006</i> YSC and ESSP Open Science Conference	Grant by START-IAI with complete funding to participate at the International Young Scientist Conference and the ESSP Open Science Conference, Beijing-China (competitive selection).
<i>2004-2007</i> Alban Scholarship	Alban (European Union) program Ph.D. funding (competitive selection).
<i>April 2006</i> EGU, Vienna	Funding from European Geophysical Union to attend the Conference (competitive selection)
<i>July 2004</i> AAPS, International Palynological Congress	Financial support to attend the International Palynological Congress, Granada-Spain.
<i>2002-2004</i> COLCIENCIAS, Research funds	Co-financial support from Colciencias in the “Young Scientist program”.
<i>2002-2004</i> National University of Colombia, Master Scholarship.	Sponsorship from the National University of Colombia to complete Master studies (Best undergraduate student of that year)
<i>2002</i> IAI-Red Latinoamericana de Botanica	Grant to attend the summer school “Biodiversity and global change: the human impact on natural ecosystems of the Americas”. Mexico. (competitive selection)
<i>July 2001</i> Global Change, Open Science Conference, Amsterdam.	Financial support to attend the Global Change Open Science Conference, Amsterdam (competitive selection)
<i>1997</i> Center for Conservation Biology, Stanford University	Grant to attend the International course “Quantitative Methods for Managing Biological Diversity”, Peruvian Amazonia. (competitive selection)

Selected Courses and Conferences

- July 2009* 4th PAGES Open Science Meeting, Corvallis, USA. Oral Presentation “Tropical salt-marsh evidence for rapid sea-level changes associated with Heinrich events”
- July 2009* 1st PAGES Young Scientist Meeting, Corvallis, USA. Oral Presentation “Tropical salt-marsh evidence for rapid sea-level changes associated with Heinrich events”
- June 2009* ESF research conference “Mechanisms of Quaternary Climate Change: stability of warm phases in the past and in the future”, Obergurgul, Austria. Poster presentation: “Were humid intervals in northern South America always warm in the North Atlantic?”
- November 2008* 15th NSG Annual Symposium, Utrecht, Holanda. Oral presentation “Palynological land-sea comparison during rapid climatic changes in northern South America: evidence from the Cariaco Basin”.
- August-Sept. 2008* 12th International Palynological Congress IPC-XII, Bonn. Oral presentation “Tropical salt marsh succession as sea-level indicator during Heinrich events”.
- June 2008* ECOLMAS Course “Career Workshop for Geoscientists”, University of Bremen
- June 2008* Quest-Desire workshop “High resolution pollen records and reconstruction of vegetation changes during Dansgaard-Oeschger events”, Bordeaux.
Oral presentation: “Neotropical vegetation response to rapid climate changes during the last glacial period: palynological evidence from the Cariaco Basin”
- May 2007* European Science Foundation Conference “Ocean controls in abrupt climate change”.
- March 2007* NEBROC Course “Terrestrial climate signals in deep-sea sediments”, University of Bremen.
- November 2006* ESSP Open Science Conference, Poster presentation: “Tropical vegetation response to rapid climate changes: palynological evidence from the Cariaco Basin”.
- November 2006* International Young Scientists’ Global Change Conference, Beijing, China. Oral presentation: “Tropical vegetation response to rapid climate changes: palynological evidence from the Cariaco Basin”.
- September 2006* 36th Annual Conference of the Ecological Society of Germany, Switzerland and Austria (GfÖ), Bremen, Germany. Oral presentation: “Tropical vegetation response to rapid climate changes: palynological evidence of multiple stable states during the last glacial”.
- April 2006* European Geosciences Union, General Assembly. Vienna. Poster presentation: “Centennial resolution record of vegetation change from glacial sediments of the Cariaco Basin”.

<i>March 2006</i>	ECOLMAS Course “Time series analysis”, University of Bremen
<i>July 2005</i>	ECOLMAS Course “Organism-based proxies in paleoceanography” University of Bremen
<i>November 2004</i>	ECOLMAS Introductory course on Marine Sciences, NIOZ-University of Bremen.
<i>July 2004</i>	International Palynological Congress, Granada (Spain). Oral Presentation “Mangroves as environmental indicators in palynological reconstructions”. Poster “Vegetational and Environmental history of the Colombian Caribbean during the Holocene”.
<i>October 2003</i>	Course “Cambio Climático Global: Implicaciones para la conservación de los recursos naturales”. Universidad de Antioquia, Medellín.
<i>November 2002</i>	Course “Biodiversidad y cambio global: el impacto humano en los ecosistemas naturales de las Américas”. Red Latinoamericana de Botánica/Inter-American Institute for Global Change Research, México
<i>October 2002</i>	VIII Latin American Botany Congress, Cartagena de Indias, Colombia (Poster: Cambios de la vegetación y del clima durante los últimos 40000 años en la Cuenca de Panamá, Pacífico colombiano: evidencia palinológica de las secciones marinas ODP 677B y TR 163-38).
<i>July 2001</i>	Global Change Open Science Conference, Amsterdam, The Netherlands (Poster: Late Quaternary vegetation and climate change in the Panama Basin: palynological evidence from marine cores ODP677B and TR 163-38)
<i>February 2001</i>	Symposium on Tropical and subtropical Palynology (America -Africa), La Habana, Cuba (Poster: Polen en sedimentos marinos, Cuenca de Panamá, Pacífico Colombiano).
<i>November 2000</i>	Colombian Biome Meeting, Bogotá. Late Quaternary Paleoceanography of Colombian Pacific, Micropaleontological and Palynological results (presenter)
<i>September 1999</i>	XIII National Congress of Biology Students. Integración de diferentes enfoques para la conservación de la biodiversidad (presenter).
<i>May-June 1999</i>	Course “Diseño y análisis de proyectos para el monitoreo de la diversidad biológica”, Medellín y Utría – Colombia (Plannig committee).
<i>April 1999</i>	Course on Climatic Prediction, Dr. Nicholas Graham, Universidad Nacional de Colombia, Medellín (attendee).
<i>November 1997</i>	Course “Quantitative Methods for Managing Biological Diversity”, Peruvian Amazonia, Stanford University (attendee).

Publications

Peer reviewed publications

González, C., and Dupont, L.M. Coastal vegetation evidence for sea-level changes associated with Heinrich Events. *PAGES newsletter* 17(2):70-72

Mertens, K., **González, C.**, Delusina, I. and Louwye, S. 2009. 30,000 years of productivity and salinity variations in the Late Quaternary Cariaco Basin revealed by dinoflagellate cysts. *Boreas*, DOI 10.1111/j.1502-3885.2009.00095.x

Mertens, K.N., Verhoeven, K., Verleye, T., Louwye, S., Deaf, A.S., Harding, I., De Schepper, S., Kodrans-Nsiah, M., De Vernal, A., Henry, M., Radi, T., Dybkjaer, K., Poulsen, N.E., Feist-Burkhardt, S., Chitolie, J., **González Arango, C.**, Heilmann-Clausen, C., Londeix, L., Turon, J.-L., Marret, F., Matthiessen, J., Mccarthy, F., Prasad, V., Pospelova, V., Kyffin Hughes, J.E., Riding, J. B.; Rochon, A.; Sangiorgi, F., Welters, N., Sinclair, N., Thun, C., Soliman, A., Van Nieuwenhove, N., Vink, A., Young, M., 2009. Determining the absolute abundance of dinoflagellate cysts in recent marine sediments: the *Lycopodium* marker-grain method put to the test. *Review of Paleobotany and Palynology*, doi:10.1016/j.revpalbo.2009.05.004.

González, C., and Dupont, L.M. 2009. Tropical salt marsh succession as sea-level indicator during Heinrich events. *Quaternary Science Reviews* 28: 939-946.

González, C., Urrego, L.E., Martínez, J.I., Polanía, J., and Yokoyama, Y. Late Holocene mangrove dynamics in the Colombian Caribbean: a history of human and natural disturbances. Accepted for publication in *The Holocene*.

González, C., Dupont, L.M., Mertens, K., and Wefer, G. 2008. Reconstructing marine productivity of the Cariaco Basin during marine isotope stages 3 and 4 using organic-walled dinoflagellate cysts. *Paleoceanography* 23, doi:10.1029/2008PA001602.

González, C., Dupont, L.M., Behling, H., and Wefer, G., 2008. Neotropical vegetation response to rapid climate changes during the last glacial: palynological evidence from the Cariaco Basin. *Quaternary Research* 69: 217-230.

González, C., Urrego, L.E., and Martínez, J.I. 2006. Late Quaternary vegetation and climate change in the Panama Basin: palynological evidence from marine cores ODP 677B and TR 163. *Palaeogeography Palaeoclimatology Palaeoecology*: 234:62-80.

González, C., Londoño, C. and Colorado, G.J. 2003. Banco de semillas y capa de hojarasca en varias coberturas vegetales en bosques montanos de las Cordillera Central de Colombia. *Crónica Forestal y del Medio Ambiente*, 18: 77

Sierra, C.A., **González, C.** and Urrego, D. 2002. La Declaración de Ámsterdam y el papel de la IGBP en el Cambio Global. *Revista Crónica Forestal y del Medio Ambiente* 17: 95

González, C., Urrego, L.E. and Martínez, J.I. 2001. Late Quaternary vegetation and climate change in the Panamá Basin: palynological evidence from marine cores ODP 677B and TR 163. *Global Change Newsletter* 48: 19.

Books and book chapters

Rull, V., Abbott, M.B., Vegas-Vilarrúbia, T., Bezada, M., Montoya, E., Nogué, S., **González, C.** Paleoenvironmental trends in Venezuela during the last glacial cycle. In: Sánchez-Villagra, M.R., Aguilera, O.A., Carlini, A.A. (eds.), *Urumaco and Venezuelan Palaeontology-the fossil record of the Northern Neotropics*. Indiana University Press. *In press*.

Urrego, D. and **González, C.** (eds.) 2000. *Estudios ecológicos en el área de influencia del proyecto hidroeléctrico Porve II*. Empresas Públicas de Medellín 232 p.

González, C. and Lema, L.F. 2000. Comportamiento de índices de diversidad en función del área acumulada. In: Urrego, D. & González, C. (eds.) *Estudios ecológicos en el área de influencia del proyecto hidroeléctrico Porve II*. Empresas Públicas de Medellín p: 107-121.

González, C., Urrego, D.H., and Castaño, G.J., 2000. Variables estructurales y cambios en el microclima del sotobosque. In: Urrego, D. & González, C. (eds.) *Estudios ecológicos en el área de influencia del proyecto hidroeléctrico Porve II*. Empresas Públicas de Medellín. p: 161-180.

Ramírez, L.F., **González, C.**, Urrego, D.H., Lema, L.F. and Urrego L.E. 2000. Análisis palinológico de una columna de sedimentos de la quebrada Guaduas. In: Urrego, D. & González, C. (eds.) *Estudios ecológicos en el área de influencia del proyecto hidroeléctrico Porve II*. Empresas Públicas de Medellín. p: 217-232.

Abstracts in Conference Volumes

González, C., and Dupont, L.M. 2008. Tropical salt marsh succession as sea-level indicator during Heinrich Events. *Terra Nostra, Schriften der GeoUnion Alfred-Wegener Stiftung*, Vol. 2008, 2: 12th International Palynological Congress and 8th International Organisation of Paleobotany Conference, Bonn, August 30-September 5, p: 96.

González, C., and Dupont, L.M. 2007. Terrestrial-marine responses to rapid climate changes in northern South America: palynological evidence from the Cariaco Basin. *Terra Nostra, Schriften der GeoUnion Alfred-Wegener-Stiftung*, Vol. 2007, 1-2: The oceans in the earth system. International conference and 97th annual meeting of the Geologische Vereinigung e.V., Bremen, Germany, October 1-5, 2007 p: 95

González, C., and Urrego, L.E. 2007. Late Holocene mangrove dynamics in the Colombian Caribbean: a history of human and natural disturbances. *Terra Nostra, Schriften der GeoUnion Alfred-Wegener-Stiftung*, Vol. 2007, 1-2: The oceans in the earth system. International conference and 97th annual meeting of the Geologische Vereinigung e.V., Bremen, Germany, October 1-5, 2007 p: 96

González, C., Dupont, L.M., Behling, H., and Wefer, G., 2006. Centennial resolution record of vegetation change from glacial sediments of the Cariaco Basin. *Geophysical Research Abstracts*, Vol. 8, 00550, SRef-ID SRef-ID: 1607-7962/gra/EGU06-A-00550.

González, C., Dupont, L.M., Behling, H., Wefer, G., 2006. Tropical vegetation response to rapid climate change: palynological evidence of multiple stable states during the last glacial. *Proceedings of the Gesellschaft für Ökologie (GfÖ)*, Band 36, Bremen, p: 266.

González, C., Dupont, L.M., Behling, H., and Wefer, G., 2006. Tropical vegetation response to rapid climate changes: palynological evidence from the Cariaco Basin. *An earth system science partnership Global Environmental Change Open Science Conference*, Beijing, China, 9-12 November, p: 530-531.

González, C., Urrego, L.E., Polanía, J., and Urán, G. 2004. Mangroves as environmental indicators in paleoecological reconstructions. 11th International Palynological Congress, Granada, 4-9 July. *Polen*, 14.

González, C., Urrego, L.E., and Martínez, J.I. 2002. Cambios de la vegetación y del clima durante los últimos 40.000 años en la Cuenca de Panamá, Pacífico Colombiano: evidencia palinológica de las secciones marinas ODP 677B y TR 163-38. Proceedings of the VIII Congreso Latinoamericano de Botánica y Segundo Congreso Colombiano de Botánica, Cartagena de Indias, 13-18 October, p. 376.

González, C., Urrego, L.E., and Martínez, J.I. 2001. Late Quaternary vegetation and climate change in the Panama Basin: palynological evidence from marine cores ODP 677B and TR 163-38. Open Science Conference, Amsterdam, 10-13 July.

Other publications

González, C. 2004. Del pasado al futuro: una mirada sobre el clima a través del tiempo. *Cambium: Boletín sobre Cambio Global del Centro de Investigación Carbono y Bosques*, Vol. 2 (3): 1.

González, C. 2003. El metabolismo de la tierra está cambiando. *Cambium: Boletín sobre Cambio Global del Centro de Investigación Carbono y Bosques*, Vol. 1 (7): 1.

González, C. 2003. En 50 años disminuirá la producción de maíz por efecto del cambio climático. *Cambium: Boletín sobre Cambio Global del Centro de Investigación Carbono y Bosques*, Vol. 1 (5): 1.

González, C. 2003. Los manglares como indicadores ambientales en los registros paleoecológicos. *Cambium: Boletín sobre Cambio Global del Centro de Investigación Carbono y Bosques*, Vol. 1 (3): 2-3.

González, C. 2003. La huella del tiempo. *Cambium: Boletín sobre Cambio Global del Centro de Investigación Carbono y Bosques*, Vol. 1 (2): 1.

Professional Activities

- Peer review of *Global Change Biology*, *Journal of Paleolimnology*,
- Member of the American Geology Union (AGU)
- PAGES subscriber

References

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