

SUZETTE G.A. FLANTUA

I am a biologist with a strong biogeographical background and interest. I aim at integrating knowledge from the paleoecology, biogeography and landscape ecology. I have been implementing GIS and Remote Sensing tools to a wide range of research questions in Venezuela, Colombia and Amazon basin. Currently I am a PhD student working at the Institute for Biodiversity and Ecosystem Dynamics, the Netherlands. My research is focused on spatial modelling of biome responses through time based on fossil pollen records in South America. Therefore I updated the compilation of the Latin American Pollen Database. Next steps will continue on the multi-site and multi-proxy approach for improved spatial understanding of past biome responses.

Key words: Paleoecology, Biogeography, GIS, landscape connectivity modelling, Biodiversity, Climate change, Quaternary, Neotropics.

Date of Birth: February 28th 1980;
Country of Birth: Costa Rica; Nationality: Dutch
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PhD. Researcher **September 2012 - Present.**
Henry Hooghiemstra, supervisor *University of Amsterdam, Netherlands*
Research title: “Temporal and spatial response assessment of Andean biota to climate change: long distance synchronicity vs short-distance variability”

Master of Science, Biology **Graduated cum laude 2008**
John Van Boxel & Henry Hooghiemstra, supervisors *University of Amsterdam, Netherlands*
Project I title: “Modeling the spatial distribution of the Colombian Savanna: Los Llanos Orientales: An application of GIS, Logistic regression and Palynology”.
Project II title: Land use and land-cover changes in the Sector II. Kamarata of the National park Canaima, Venezuela”

Bachelor of Science, Biological Sciences Graduated with honor 2004
Graduated With honor *University of Groningen, Netherlands*
Specialization: Marine biology and watersystems

Publications

10. Flantua, S.G.A., Hooghiemstra, H., Grimm, E.C., Behling, H., Bush, M.B., González-Arango, C., Gosling, W.D., Ledru, M.P., Lozano-García, S., Maldonado, A., Prieto, A.R., Rull, V., Van Boxel, J.H. In Review. Updated site compilation of the Latin American Pollen Database: Challenging palynological research thriving.
9. Flantua, S.G.A., Hooghiemstra, H., Van Boxel, J.H., Cabrera, M., González, Z., González-Arango, C. 2014. Connectivity dynamics since the Last Glacial Maximum in the northern Andes; a pollen-driven framework to assess potential migration, Chapter 6, in: W. D. Stevens, O. M. Montiel, and P. Raven (Eds.) *Paleobotany and Biogeography: A Festschrift for Alan Graham in His 80th Year*. Missouri Botanical Garden Press, St Louis, MO. pp: 98-123
8. Flantua, S.G.A., Hooghiemstra, H., Grimm, E.C., Markgraf, V., 2013. Updated Latin American Pollen Database: Version 2013 in preparation for NEOTOMA. *PAGES news* 21, 88.
7. Rincon, A., Pascual, U., Flantua, S.G.A. 2013. Examining spatially varying relationships between coca crops and associated factors in Colombia, using geographically weight regression. *Applied Geography*, 37: 23-33.
6. Grimm, E.C., Bradshaw, R.H.W., Flantua, S.G.A., Giesecke, T., Lézine, A.M., Takahara, H., and J.W. Williams. 2013. *Pollen Methods and Studies. Databases and Their Application*. *Encyclopedia of Quaternary Science* 2, Amsterdam, The Netherlands.
5. Romero, M.H., Flantua, S.G.A., Tansey, K. & J.C. Berrio. 2012. Landscape transformation in savannas of northern South America: Land use / cover Changes since 1987 in the Llanos Orientales of Colombia. *Applied Geography* 32: 766-776.
4. Flantua, S.G.A. 2008. Land use and land-cover Changes in the Sector II. Kamarata of the National Park Canaima, Venezuela. MSc Thesis, University of Amsterdam, 76 pp.
3. Flantua, S.G.A., Boxel, v. J.H., Hooghiemstra, H. & J. Smaalen. 2007. Application of GIS and logistic regression to fossil pollen data in modeling present and past spatial distribution of the Colombian savanna. *Climate Dynamics*, Volume: 29, Issue: 7-8, Pages: 697-712.
2. Flantua, S.G.A. 2005. Modelling the spatial distribution of the Colombian Savanna: Los Llanos Orientales. MSc Thesis, University of Amsterdam, 59 pp.
1. Flantua, S.G.A. & C.E. Uribe B. 2001. Approach to a characterization of the catchment area of the municipality of Camaguada Chinchiná, Department of Caldas. Municipal Technical Assistance Unit Agropecuaria (UMATA). Chinchiná, Caldas, Colombia, 56 pp.

First author publications in preparation for 2014 submission

Flantua, S.G.A., Hooghiemstra, H., Blaauw, M., Grimm, E.M., Rull, V. A quality assessment of the Northern Andes pollen sites for exploring spatial and temporal millennium-scale environmental change. *Special Volume Climate of the Past*.

Languages Dutch, fluent English and Spanish
Field experience Colombia, Venezuela, Netherlands
External positions Research Associate University of Gothenburg, 2014-present
Invited researcher University Los Andes, Bogotá, 2013-present
Honorary Visiting Fellow University of Leicester, 2007.
Peer Reviewer Applied Geography, J. Biogeography, Journal Sustainability.
Advised Students Steven de Goede (IBED, Biology Master); Anna Schwarz (IBED, Biology Master; Elisabet Safont (Uni. Barcelona, PhD Palynology)

Teaching experience

Lecturer Bachelor course *October 2014*
“Biodiversity & Global Change” *Workload: 1 hour*
Biological Sciences, University of Amsterdam *Amsterdam, the Netherlands*

Lecturer and field assistant Bachelor course *September 2014*
“Paleoecology” *Workload: 180 hours*
Biological Sciences, University of Amsterdam *Amsterdam, the Netherlands*

Coordinator and lecturer
Pre-congress training course for young scientists *July 2014*
“Chronology and integration of spatial and temporal *Workload: 4 hours*
data and paleo-environmental interpretations” *Medellin, Colombia*
LOTRED –SA Symposium

Coordinator and lecturer Master course *September 2012*
“Introduction to environmental information systems at *Workload: 24 hours*
national and international level, GIS and Remote Sensing” *University Tunja, Colombia*

Coordinator and lecturer Master course *Augustus 2011*
“Introduction to environmental information systems at *Workload: 24 hours*
national and international level, GIS and Remote Sensing, *Universidad de los Llanos,*
with emphasis on environmental management in the *Colombia*
Orinoco basin”.

English Teacher *February - August 2000*
ESL Institute *Workload: 30 hours/week*
Manizales, Colombia.

Research Experiences

- November 2011 – September 2012
Researcher project “Plan for managing impacts on the agricultural sector caused by the flood emergencies in Cundinamarca and Boyacá, Colombia”.
4D Elements Consultancy – Colombian Corporation of agricultural Research, Colombia.
- October – December 2011
Researcher project “Development of the Conceptual Framework for the definition and implementation of the Ecological Network: Pilot-study in the Orinoco Basin, Colombia.”
4D Elements Consultancy – Research Institute of Biological Resources Alexander von Humboldt, Colombia.
- September 2011- September 2012
Researcher project “Balancing spatial planning, sustainable biomass production and conservation: - A practical multi-stakeholder approach to spatial planning for climate mitigation according to the protocols of the Renewable Energy Directive (2009/28/EC) of the European Union”.
4D Elements Consultancy - World Wildlife Fund, Colombia.
- September 2010 - June 2011
Expert Geographic Information Systems (GIS) and Remote Sensing in the project 'RAISG - Red Amazónica Environmental Geo-referenced Information'. EcoCiencia, Ecuador.
Fundación Gaia Amazonas, Bogotá, Colombia.
- 01 June - 30 August 2011
Expert Geographic Information Systems (GIS) for the design of the Medicinal Plants Database of Indigenous Communities in the Rio Isana basin of Vaupes, Department Guinier, Colombia.
Fundación Gaia Amazonas, Colombia. (Supervisor)
- May 2011
External expert in project 'Study of Vulnerability and Impacts of Climate Change on the Paramos and Colombia-Andean wetlands: Technical Guidelines for adaptation strategies to climate change in Andean ecosystems'.
IDEAM, Colombia
- October - November 2010
Coordinator and Guide of field trips of the evaluation mission for French Fund for World Environment (FFEM) of the Project "Conservation and Sustainable Use of biodiversity by Pemon communities, PN Canaima".
French Fund for World Environment (FFEM) - The Nature Conservancy (TNC). Kamarata, Canaima National Park, Venezuela.
- September 2008 - October 2010
Researcher project “Reviving the Latin American Pollen Data Base - LAPD (Latin America Pollen Database)”
Dr. Prof. H. Hooghiemstra, Dr. J.H. van Boxel (supervisors). University of Amsterdam, the Netherlands
- August - December 2009
Researcher project “Pilot study of the Geographical distribution of plant functional types in the Amazonian lowlands”
Dr. Prof. H. Hooghiemstra, Dr. J.H. van Boxel (supervisors). University of Amsterdam, the Netherlands
- May - August 2009
Coordinator project “In the footsteps of the Ancestors: An assessment of indigenous land use and an application of Participatory Mapping in Kavanayén, Canaima National Park, Venezuela”
Dr. B. Bilbao, University Simon Bolivar, Venezuela.

- March 2009* Coordinator project "Database on the Unit of Biodiversity of the Centre of Ecology (BioDiversa)"
Dr. A.Y. Sanchez-Mercado (supervisor)
Venezuelan Institute for Scientific Research (IVIC), Venezuela
- November 2006 – August 2009* Researcher project "Biodiversity conservation and sustainable use of natural resources of Pemón habitats in the Canaima National Park, Venezuela".
Dr. B. Bilbao, University Simon Bolivar, Venezuela.
- November 2006 – August 2010* Researcher project "Risk Assessment in the reduction of habitats in the Canaima National Park, Venezuela: Vulnerability and tools for sustainable development."
Dr. B. Bilbao, University Simon Bolivar, Venezuela.

Voluntary Research Experiences

- April 2009* Field Assistant project "Inventory and Monitoring of Neotropical Biodiversity" within the macro-project "Initiative for Neotropical Diversity Mapping (NEOMAP)."
J.R. Ferrer Paris, Venezuelan Institute for Scientific Research (IVIC), Caracas, Venezuela.
- December 2007* Field Assistant project "Shark nursery areas in the National Park Los Roques Archipelago, Venezuela."
R. Tavares, Shark Research Centre (ILC), Venezuela.
- July-August 2003* Field Assistant in PhD Project 'The Illusion of Monogamy Patterns of extra-pair paternity in the reed bunting (*Emberiza schoeniclus*)'.
Dr. K.M. Bouwman University of Groningen, The Netherlands.
- April-August 1999* Researcher project "Ecological Monitoring of the flora in the natural reserve of the Fundación Manuel Mejía."
Hernan Correa, Director Fundación Manuel Mejía Chinchiná, Caldas, Colombia
- February-August 1999* Volunteer "Program Development Cooperation Program of the American Field Service "(AFS). Chinchiná, Caldas, Colombia.
- March-June, 1997, 1998* Field Assistant Bird Inventory, Amelisweerd Nature Reserve, Utrecht, The Netherlands.
Dr. L.L.M. de Bruijn.

Conferences and courses

- 9-12 July 2014 LOTRED-SA, 3rd International Symposium Climate change and human impact in Central and South America over the last 2000 years: Observation and Models. "Temporal and spatial quality assessment of the updated Latin American pollen database for the last 2000 years". University EAFIT, Medellin, Colombia. Oral presentation.
- 7-9 April 2014 Dutch Geographical Congress XII (NAC12). "Connectivity dynamics since the last glacial maximum in the Northern Andes; a pollen-driven framework to assess migration capacities and landscape restrictions".

- Suzette Flantua, Henry Hooghiemstra, Cabrera, M., Van Boxel, J.H., González-Carranza, Z., Velasquez-Ruiz, C.A. Oral presentation.
- 13-16 January 2014 Workshop: Age Models, Chronologies, and Databases. Queen's University Belfast, Northern Ireland. Participant.
- 11-12 September 2013 Workshop Ecosystem services to business decision makers: A guide to the identification of risks or opportunities in business, associated with changes in ecosystems. Ecoral, World Resources Institute, Concejo Empresarial Colombiano para el Desarrollo Sostenible – CECODES. Medellín, Colombia. Participant.
- 05 September 2013 ExpoAmbiental 2013, Bogotá, Colombia. Fundación Siembre Colombia. Conferencia: Responsible consumption in Colombia. Invited lecturer.
- 05-08 August 2013 ABEQUA congress - 2nd LaACER: Latin-American Abrupt Climate Changes and Environmental Responses. "Connectivity dynamics since the last glacial maximum in the northern Andes; a pollen-driven framework to assess migration capacities and landscape restrictions". Natal, Brazil. Poster.
- 01-04 July 2013 PhD Specialized course: "Modelling and mapping species distribution". University of Amsterdam, Netherlands. Participant.
- 04-07 June 2013 PhD specialized course: "Tools for analyzing landscape connectivity: methods and applications". ETSI Montes, Universidad Politécnica de Madrid, Spain. Participant.
- April-June 2013 Course Time and Project Management. University of Wageningen. 32 hours. Wageningen, Netherlands. Participant.
- April-June 2013 Course English academic writing. 32 hours. University of Amsterdam, Netherlands. Participant.
- 02 March 2013 International Seminar on Sustainability. ADS COLOMBIA. Conferencia: La Sostenibilidad: avances, inquietudes y retrocesos. Medellín, Colombia. Invited speaker.
- 28 November – 2 December 2012 LaAcer I Millennial scale climate variability over the last glacial period in tropical and subtropical America. "Assessing temporal uncertainty of the Latin American pollen database". Bogotá, Colombia. Oral presentation.
- 06 - 09 Junio 2012. II Feria del Medio Ambiente – FIMA 2012. Corferios Bogotá y Ministerio Medio Ambiente y Desarrollo Sostenible. "Connecting and reinventing: Ecological Networks". Bogota, Colombia. Invited speaker.
- 02-03 November 2011 International Seminar "Energy Efficiency in buildings: Advances and Challenges in Colombia". Unidad de Planeación Minero Energética (UPME) del Ministerio de Minas y Energía, PNUD-Colombia y Global Environment Facility - GEF. Bogotá, Colombia. Participant.
- 03–04 October 2011 Workshop "Land Change Modeling: calibration, validation, extrapolation and interpretation". Pre-congress course of Congress XIX National Meeting SELPER-Mexico. Latin American Society of Remote Sensing and Spatial Information Systems. Participant.
- 05-07 October 2011 XIX National Meeting SELPER-Mexico. Latin American Society of Remote Sensing and Spatial Information Systems. "A new algorithm for detecting regional burn areas in the savannas of South America from

- MODIS images: a case study in the savannas of the Llanos in Colombia." M. Romero-Ruiz, S.G.A.Flantua, K. Tansey, J.C. Berrio. Oral presentation.
- 31 August – 02 September 2011 Colombian Congress of Construction 2011. Seminar: Steps towards sustainability in Colombia. "Flood Prevention and Management: Experiences in the Netherlands and applications in Colombia." Colombian Chamber of Construction - CAMACOL, Cartagena, Colombia. Guest speaker.
- 03-05 August 2011 II National Congress of Climate 2011. IDEAM, Ministry of Environment, Housing and Territorial Development and UNDP-Colombia. Bogotá, Colombia. Participant.
- 21-29 January 2011 Tilia Neotoma Workshop Paleocological database. Dr. E. Grimm, Illinois State Museum. Springfield, IL, United States. Invited participant.
- 23-26 September 2010 I Neotoma Workshop Paleocological database: Launching Phase 2 of the Neotoma Paleocommunity Database, Penn State & Illinois State Museum. Madison, WI, USA. Invited participant.
- 01-04 August 2010 II International Congress on Biodiversity of the Guiana Shield. Core Altos Estudos Universidade Amazon (NAEA), Federal University of Pará (UFPA). "The Dynamics of Indigenous land use in the National Park of Canaima, Venezuela: Distribution patterns and land use between Pemón Communities." S. Flantua, dr. B. Bilbao (Universidad Simón Bolívar, USB), J. Rosales (Universidad Nacional Experimental de Guayana, UNEG). Macapá, Brazil. Oral presentation.
- 13-15 July 2010 I National Climate Congress 2010. IDEAM, Ministry of Environment, Housing and Territorial Development and UNDP-Colombia. Bogotá, Colombia. Participant.
- 02-06 November 2009 VIII Venezuelan Congress of Ecology. Universidad Nacional Experimental Francisco de Miranda and the Venezuelan Society of Ecology. "In the footsteps of the Ancestors: A diagnosis of indigenous land use and an application of Participatory Mapping, Kavanayén, Canaima National Park, Venezuela". S. Flantua, B. Bilbao (University Simón Bolívar), M.M. Franco, P. Peña, H. Chani, A.K. Lambos. Santa Ana de Coro, Venezuela. Book of Abstracts: 233. Oral presentation.
- 01-04 August 2009 Workshop 'Life Plan of Pemon Indigenous Community II Project II: "Factors of Risk in the reduction of habitats in the Canaima National Park: Vulnerability and tools for sustainable development". Dr. I. Rodriguez (Venezuelan Institute for Scientific Research, IVIC), Dr. I. Sanchez (IVIC), Dr. B. Bilbao (Universidad Simón Bolívar), SGA Flantua. Kavanayén, Canaima National Park, Venezuela. Co-Organizer.
- 07-09 May 2009 Workshop 'Life Plan of Pemón Indigenous Community Project I: "Factors of risk in the reduction of habitats in the Canaima National Park: Vulnerability and tools for sustainable development". Dr. I. Rodriguez (Venezuelan Institute for Scientific Research, IVIC), Dr. I. Sanchez (IVIC), Dr. B. Bilbao (Universidad Simón Bolívar), SGA Flantua. Kavanayén, Canaima National Park, Venezuela. Co-Organizer.
- 09-13 March 2009 XVIII Venezuelan Congress of Soil Science. "Soil types and land uses in Kamarata, Canaima National Park, Edo. Bolivar, Venezuela". E.P.

- Pedraza, E. Zambrano, C.L. Mendez, S. Flantua, I.H.V. Hernández, B. Bilbao. Universidad Nacional Experimental Sur del Lago "Jesús María Semprum" and the Venezuelan Society of Soil Science. Santa Barbara, Venezuela. Book of abstracts: SA16. Poster.
- 05-09 November 2007 Workshop "Combining perspectives for the creation of a legitimate and effective environmental policy of fire management in the Canaima National Park" in the VII Venezuelan Congress of Ecology. La Salle Foundation of Natural Sciences and The Venezuelan Society of Ecology. Main coordinators: B. Bilbao (Universidad Simón Bolívar) and Selma García (CVG Electrificación del Caroni, CA - EDELCA CVG Corporación Venezolana de Guayana - CVG). Ciudad Guayana, Venezuela, Book of abstracts: 6, p.58. Participant.
- 05-09 November 2007 VI Symposium "Institutional, ecological and socio-fire perspectives in the Canaima National Park" in the VII Venezuelan Congress of Ecology. La Salle Foundation of Natural Sciences and The Venezuelan Society of Ecology. Main coordinators: B. Bilbao (Universidad Simón Bolívar) and Selma García (CVG Electrificación del Caroni, CA - EDELCA CVG Corporación Venezolana de Guayana - CVG). Ciudad Guayana, Venezuela. Book of Abstracts, p.28. Participant.
- 23-27 April 2007 Methods in Interdisciplinary Environmental Research (METI) Graduate Training Course: Remote Sensing of the Land Surface. Partnership for European Environmental Research (PEER). University of Leicester, UK, Participant.
- 05-09 November 2007 VII Venezuelan Congress of Ecology. La Salle Foundation of Natural Sciences and The Venezuelan Society of Ecology. "Evaluating the spatial pattern of land use and forest cover changes in habitat Pemón, Sector II Kamarata, Canaima National Park, Venezuela". S. Flantua & B. Bilbao. Ciudad Guayana, Venezuela, Oral Presentation. Book of Abstracts: 306, p.358.
- 11-13 April 2007 Geographical Information Science Research FR (GISRUK) Conference. National Centre for Geocomputation, National University of Ireland Maynooth. "Application of GIS and logistic regression to fossil pollen data in modeling present and past spatial distribution of the Colombian savanna." S.G.A. Flantua, J.H. van Boxel, H. Hooghiemstra, J. Smaalen van. Maynooth, Ireland. Oral Presentation. Book of abstracts: 2B2.
- 06-10 March 2006 Wolf Seminar. The Association for Nature "Wolf". Workshop for Ecology and Conservation of large carnivores, with an emphasis on wolves (*Canis lupus*) and lynx (*Lynx lynx*). Beskid Mountains Zywiecki, Poland. Participant.
- 04-05 November 2004 Colombian Biome 2nd Meeting 2004. National University of Colombia, Institute of Natural Sciences. "Preliminary results from the integration of GIS in palynological data analysis: Study of the Eastern Plains of Colombia." S.G.A. Flantua, J.H. van Boxel, H. Hooghiemstra, J. van Smaalen. Bogota, Colombia. Book of abstracts: p. 46. Oral Presentation.

Grants and financing

- 2012 **Nederlandse Organisatie voor Wetenschappelijk Onderzoek, Netherlands.** Research project: "Temporal land spatial response assessment of Andean biota to climate change: long distance synchronicity vs short-distance variability". Full 4 years scholarship.
- 2010 **Financial Support. Funds Hugo de Vries, Netherlands.** Research project "Reviving the Latin American Pollen Data Base (LAPD)". S.G.A. Flantua & J.B. van Boxel. University of Amsterdam, Faculty of Sciences, Institute for Biodiversity and Ecosystem Dynamics (IBED), the Netherlands. € 3200.
- 2009 **Financial Support. Funds Hugo de Vries, Netherlands.** Research project "Pilot study of the Geographical distribution of plant functional types in the Amazonian lowlands." J.B. van Boxel & S.G.A. Flantua. University of Amsterdam. Faculty of Sciences. Institute for Biodiversity and Ecosystem Dynamics (IBED), the Netherlands. € 2164.
- 2007 **Scholarship Funds 'Amsterdamse Fonds Universiteits - AUF',** University of Amsterdam, The Netherlands. Master's Thesis. "Analysis of land use by Pemón indigenous communities and changes of forest cover in Sector II. Kamarata, Canaima National Park, Venezuela". € 500.
- 2007 **STUNT scholarship for 'International Student Affairs',** University of Amsterdam, The Netherlands. Master's Thesis. "Analysis of land use by Pemón indigenous communities and changes of forest cover in Sector II. Kamarata, Canaima National Park, Venezuela". Amount received: € 700.

Awards

Europe Prize for Innovation for Sustainable Development, 2010. Project "Factors of Risk in the reduction of habitats in the Canaima National Park: vulnerability and tools for sustainable development". Involved researcher 2006-2011.

Professional services

Jury-member Thesis Evaluation of the Master Proposal "Management of Environmental Information Systems in the Orinoquia," presented by the student F.T. Rodriguez, **Master Sustainable Environmental Management**, University of los Llanos, Villavicencio, August 5th, 2011.

Work references (alphabetic order)

Dr. Henry Hooghiemstra, Institute of Biodiversity and Ecosystem Dynamics, University of Amsterdam, Netherlands. Office: +31-20-5257857, Email: H.Hooghiemstra@uva.nl

Dr. Milton H. Romero R., 4D Elements Consultancy, Colombia. Mobile: +57- 314 337-6401, Email: milher67@gmail.com.

Ing. Elkin Posada, Asesorías de Diseño Sostenible, Colombia. Mobile: +57- 3006089255, Email: efp@adscolumbia.com.