



# LATIN AMERICA REGIONAL ALUMNI CAPACITY BUILDING AND NETWORKING SEMINAR

Integrated Natural Resources and Environmental Governance and  
Policy Making in Latin America – A Cross-country Learning Exchange



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# WELCOME MESSAGE

We are delighted to welcome scientists and practitioners to this seminar. All of you come from very different fields: Working in universities or research organizations; being employed in state administration, civil society organizations, development agencies, or the corporate sector. But there is one thing you all have in common: All of you are having a stake in environmental and natural resources management, including land, water, forest or biodiversity. Thus, we look forward to creative exchange and a diverse interdisciplinary discourse during the Alumni Networking Seminar here in La Plata, Argentina. On the following pages, all participants will be introduced in a profile-like manner, followed by their abstract on the topic they will present during the seminar.

For years, Latin America has been experiencing a growing number of socio-environmental conflicts, often leading to open protests and sometimes violence. The mining of mineral resources in the Andes, the extraction of fossil fuels, the construction of hydroelectric power plants, or the expansion of industrial agriculture (e.g., soy production) in the rainforest areas along the Amazon River illustrate the dominance of a resource-extractive, socially contested development path in many countries of the region. The resulting economic growth is associated with high ecological risks. Benefits and (ecological) costs are unequally distributed within society. This is increasingly leading to resource conflicts over land, water, and other natural resources, which are being fought out within complex and multi-layered governance structures. These politically contentious policy processes involve different sectors (agriculture, forestry, water management, biodiversity conservation) and actors such as indigenous groups, citizens' movements, communities, investors and corporations, policy makers and government institutions at different scales.

This highlights the urgent need for integrated governance regimes that facilitate inclusive policy-making. Adequate consideration of actors and their interests, classification of formal and informal institutions, and understanding of power constellations are important prerequisites. Against this regional background, the Latin America Alumni Seminar will focus on experiences with integrated natural resource and environmental governance and policy making.

The seminar is designed to encourage interaction among participants and to facilitate the exchange and discussion of individual experiences and perspectives on a wide range of topics. The seminar brings together practitioners and scientists from 12 Latin American countries and Germany from disciplines such as forestry, water, agriculture, and other disciplines to enhance joint learning. The seminar consists of both scientific exchange and social events. Keynote speeches will be complemented by poster presentations from participants, excursions, and role-plays to promote integrated thinking in natural resource planning and policy-making.

Our seminar will begin on Monday morning (September 23, 2024) in Buenos Aires. All participants will meet at 8 a.m. in the lobby of the Ibis Buenos Aires Obelisco (Hotel Lobby) --> Av. Corrientes 1344 e/ Talcahuano y Uruguay, C1043ABN Buenos Aires, from where the shuttle bus will take us to the seminar venue at the Universidad Nacional de La Plata. Please make sure you are at the meeting point with your luggage on time.

# PROGRAM SCHEDULE

## Day 1 Sunday, 22 September 2024

Arrival in Buenos Aires

## Day 2 Monday, 23 September 2024

8.00	Transport from Buenos Aires to La Plata (bus departs at 8.15)  Meeting Point in Buenos Aires: Ibis Buenos Aires Obelisco (Hotel Lobby) --> Av. Corrientes 1344 e/ Talcahuano y Uruguay, C1043ABN Buenos Aires	
10.00	Arrival at the UNLP university campus and seminar registration	
10.30	Opening of the event through representatives of the Universidad Nacional de La Plata of La and TU Dresden	
11.00	Introduction into the program	Dr. Simon Benedikter Dr. Sarah Burns
11.20	Introduction of the participants --> Speed dating, each participant 1 minute	Moderation: Dr. Simon Benedikter Dr. Sarah Burns
12.00	Lunch	
13.00	Keynote speeches I: Natural resources policies and governance dynamics in Latin America  • Land and Forest Governance – Theoretical Consideration	Moderation: Dr. Simon Benedikter  Prof. Dr. Lukas Giessen [TU Dresden]

# PROGRAM SCHEDULE

	<ul style="list-style-type: none"> <li>• Developing Climate Change Adaptation Within Strategic and Integral Management Planning for the Pulmarí Territory</li> <li>• Towards Quantitative Explanations of Foreign Forest Policies in South America</li> <li>• Navigating Interdependence on Knowledge Systems: Implications for Aquaculture Governance</li> </ul>	<p>Prof. Dr. Pablo Yapura [National University of La Plata]</p> <p>Dr. Sarah Burns [National University of La Plata/TU Dresden]</p> <p>Gonzala Vergara Troncoso [Heidelberg Centre for Latin America]</p>
15.00	Coffee/Tea break	
15.30	Alumni Poster Session I: Environmental problems and governance responses in Latin America	Moderation: Prof. Dr. Amalia Stuhldreher
16.30	Individual hotel check-in by the participants in La Plata	
19.00	Walk through La Plata (meeting point in La Plata will be announced)	
20.00	Joint dinner	

## Day 3 Tuesday, 24 September 2024

9.00	Alumni Poster Session II: Environmental problems and governance responses in Latin America	Moderation: Prof. Dipl. Biologist Federico Guillermo De Durana
10.00	Coffee/Tea break	

# PROGRAM SCHEDULE

10.30	<p>Keynote speeches II: Natural resources policies and governance dynamics in Latin America</p> <ul style="list-style-type: none"> <li>• Advancing Integrated Natural Resources Management: UNU-FLORES Initiatives for Sustainable Development</li> <li>• Water, Carbon, and Climate Change</li> <li>• Challenges and Lessons Learnt in the Development of the New Cycle of the Brazilian National Climate Change Adaptation Plan</li> </ul>	<p>Moderation: Dr. Simon Benedikter Dr. Sarah Burns</p> <p>Dr. Azin Zarei [UNU-FLORES]</p> <p>Prof. Dr. Christian Bernhofer [TU Dresden]</p> <p>Dr. Pablo Borges de Amorim · [Gesellschaft für Internationale Zusammenarbeit GIZ]</p>
12.00	Joint Lunch	
13.00	<p>Keynote speeches III: Natural resources policies and governance dynamics in Latin America</p> <ul style="list-style-type: none"> <li>• Indigenous Movements, Civil Society and Environmental Governance in Latin America</li> <li>• Peasant Communities as Key Actors for Governance and Policy Formulation and Implementation</li> <li>• Opportunities and Challenges for Collaborative Governance of urban Biodiversity: The Case of the Fog Oasis or “Lomas” Ecosystem in Lima</li> </ul>	<p>Moderation: Dr. Simon Benedikter Dr. Sarah Burns</p> <p>Dr. Osvaldo Jordán Ramos [Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC)]</p> <p>Katherine Steffi Jaramillo Bolanos [SIGTI Multidisciplinary Research School]</p> <p>Juan Diego del Castillo Ruiz [Peruvian Centre for Ecosystem Resilience]</p>
14.30	Coffee/Tea break	
15.00	Excursion to Berisso	
19.00	Joint dinner	

# PROGRAM SCHEDULE

## Day 4 Wednesday, 25 September 2024

9.00	Alumni Poster Session III: Environmental problems and governance responses in Latin America	Moderation: Miguel Angel Centellas Levy
10.00	Coffee/Tea break	
10.30	<p>Keynote speeches IV: Natural resources policies and governance dynamics in Latin America</p> <ul style="list-style-type: none"> <li>• Online Fair Market from Organized Civil Society in Colombia: Case Study of Food Sovereignty and Tropical Ecosystem Conservation</li> <li>• Land use dynamics and Projection of Future Scenarios in a Protected Area of North Patagonia</li> <li>• Socio-Environmental Dynamics of Four University Protected Areas in Guatemala: From Conservation Focused on Nature to Conservation Focused on Adaptive Management and Co-Management Management and Co-Management</li> </ul>	<p>Moderation: Dr. Simon Benedikter Dr. Sarah Burns</p> <p>Erika Lucia Arias Ramirez [Confederación Agrosolidaria Colombia]</p> <p>Rocío Melina Garcia [Institute for Research and Development in Natural Resources, Agroecology and Rural Development]</p> <p>Pedro Danile Pardo Villegas [Universidad de San Carlos de Guatemala]</p>
12.00	Lunch break	
13.00	Preparatory session : interactive field excursion and simulation game	Moderation: Dr. Simon Benedikter Dr. Sarah Burns
14.00	Coffee/Tea break	
14.30	Introduction to the INREM alumni expert network: Discussing networking and cooperation opportunities within INREM	Dr. Simon Benedikter [TU Dresden]

# PROGRAM SCHEDULE

15.30	Visit to the La Plata National Science Museum (Museo de Ciencias Naturales)*  *for those who are interested	
	Dinner individually organized (La Plata)	

## Day 5 Thursday, 26 September 2024

8.30	Transfer from La Plata to Magdalena  Interactive field excursion at landscape level: <ul style="list-style-type: none"> <li>• Visit of forest plantations, mining sites, agriculture areas, water protection areas</li> <li>• Transact walk (drive) and identification of environmental problems/conflicts</li> <li>• Interactive engagement with different landscape actors</li> <li>• Collecting inputs for the simulation game</li> </ul>	
18.00	Joint barbecue	
20.00	Return to La Plata	

## Day 6 Friday, 27 September 2024

8.30	Alumni poster session IV: Environmental problems and governance responses in Latin America	Moderation: Itzel Rocio Arredondo Serrano
9.45	Interactive simulation game based on field excursion to Magdalena	Facilitation: Dr. Simon Benedikter Dr. Sarah Burns



# PROGRAM SCHEDULE

	[Coffee/Tea break while doing group work]	
11.45	Evaluation of the seminar	Moderation: Dr. Simon Benedikter Dr. Sarah Burns
12.15	Awarding the seminar certificates	Prof. Dr. Lukas Giessen Prof. Dr. Christian Bernhofer
12.30	Joint lunch	
14.00	Bus transfer to Buenos Aires (end of seminar)	

## Day 7 Saturday, 28 September 2024

Individual departure from Buenos Aires

# OVERVIEW ALUMNI POSTER SESSIONS

## Poster Session I (23.09.2024)

1	Dr. María Fernanda Chiappero	Diversity of Natural Resources and Its Relationship with Economic Activities in Argentina	Argentina
2	Magaly Ines Beltran Sinani	Addressing Environmental Challenges and Socio-Ecological Crises in Bolivia: Policy, Governance, and Empowerment Perspectives	Boliva
3	Prof. Dipl. Biologist Federico Guillermo De Durana	The Decline of <i>Salix humboldtiana</i> Willd (Creole Willow) in Northern Patagonia, the Only Native Willow to South America	Argentina
4	Prof. Dr. Camila Alejandra Kass	Safeguarding Famatina's Lizards Against Mining Interests	Argentina
5	Adriana Valeria Ramos Roncal	The Toxic Toll: Mercury Contamination in Bolivian Gold Mining	Bolivia

## Poster Session II (24.09.2024)

1	Yesenia Marisol Guardado Torres	Redefining Security: Exploring the Gap Between Perceived Safety and Environmental Vulnerability in El Salvador	El Salvador
2	Miguel Angel Centellas Levy	Neglecting Environmental Implications: The Case of Urban Development in Cochabamba, Bolivia	Bolivia
3	Andres Roberto Ochoa Prieto	Environmental Detriment Related to Urban Trees in Our Cities in Colombia	Colombia
4	Rodriogo Jose Roveta	From an Environmental Problem to an Opportunity. The Use of Biomass from Forests of exotic Species for the Generation of Bioenergy and the Prevention of Fires in Argentine Andean Patagonia.	Argentina
5	Dr. Mariela Yuvinka Peña Vargas	Carbon Accounting in Bolivian Agroforestry Systems in Highlands and Lowlands – Key Research Gaps and Data Needs	Bolivia

# OVERVIEW ALUMNI POSTER SESSIONS

## Poster Session III (25.09.2024)

1	Prof. Dr. Amalia Margarita Stuhldreher	Considerations About Climate Change in Uruguay With a Focus on the Northeast Region: Progress and Challenges in Terms of Governance	Uruguay
2	Itzel Rocio Arredondo Serrano	The Agricultural Crisis of Sinaloa: Key Elements and Possible Ways Forward	Mexico
3	Nathalie Alejandra Suarez Flores	Sustainable Agriculture: Ecosystem-based Adaptation (EbA) for Creating Climate Change Resilience in Manabí, Ecuador	Ecuador
4	Christian Andrew Ross De La Guardia	Integration of Traditional Knowledge in Panama's Family Farming Policies	Panama
5	Dr. Julián Rafael Dip	The Use of Pesticides in Fruit Production: New Alternatives Based on Native Biocontrol Agents	Argentina
6	Dr. Marina Arias	Impact of Food Production in Streams: Challenges and Alternatives	Argentina

## Poster Session IV (27.09.2024)

1	Prof. Dr. Marcia Mazzuca	Environmental Challenges in Argentine Patagonia: Waste Management and Sustainability in the Fishing Industry	Argentina
2	Camila Perez Roig	Environmental Actors and Threats Related to Soil Degradation in Argentina	Argentina
3	Vitória Stéphanie Leonardo Barbosa	Energy Sector in Brazil - Challenges	Brazil
4	Maria Florencia Diaz	Environmental Governance of the Sugar-Alcohol Industry in Argentina	Argentina

# SEMINAR ADDRESS

## Meeting Point in Buenos Aires :

### Ibis Buenos Aires Obelisco (Hotel Lobby)

--> Av. Corrientes 1344 e/ Talcahuano y Uruguay, C1043ABN  
Buenos Aires



## Seminar venue in La Plata:

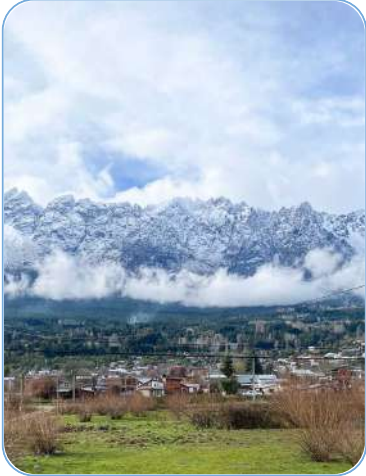
### Monday (23.09.2024) to Wednesday (25.09.2024):

Aula Magna – Facultad de Ciencias Agrarias y Forestales – UNLP  
Calle 60 y 119 s/n  
1 Piso (first floor)  
La Plata, Buenos Aires

### Friday (27.09.2024):

Aula 305 del Centro de Posgrado (Edificio Sergio Karakachoff)  
Calle 48 N° 575 (entre 6 y 7)  
La Plata, Buenos Aires

# SEMINAR PARTICIPANTS



We are delighted to welcome scientists and practitioners to this seminar. All of you come from very different fields: Working in universities or research organizations; being employed in state administration, civil society organizations, development agencies or the corporate sector. But there is one thing you all have in common: All of you are having a stake in environmental and natural resources management, including land, water, forest or biodiversity. Thus, we look forward to creative exchange and a diverse interdisciplinary discourse during this seminar. On the following pages, all participants will be introduced in a profile-like manner, followed the topic they will present during the seminar.



# Juan Diego del Castillo Ruiz, M.Sc.

Peru

Peruvian Centre for Urban Socio-ecosystems Resilience (Centro Urbes)  
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**M.Sc. (c) in Social-Ecological Resilience  
for Sustainable Development**  
Stockholm University, Sweden

**Biologist**  
Universidad Nacional Agraria La Molina,  
Peru

Juan has been involved for 12 years in the co-management and conservation of urban ecosystems in Lima (Peru), and is interested in the intertwines between biodiversity and society in urban areas, with an emphasis in community-based and interdisciplinary conservation.

## ABSTRACT

### **Opportunities and Challenges for Collaborative Governance of Urban Biodiversity: The Case of the Fog Oasis (“Lomas”) Ecosystem in Lima, Peru**

The fog-dependent ecosystem “lomas” or fog oasis extends along the Pacific desert in Peru and Chile (06–30°S) and is characterized by a strong seasonality with cloud-free arid conditions between October and April, and winter cloud cover with fog incidence between May and September. In Lima, the capital of Peru, there are 18 sites of “lomas” covering 7–24% of the city, mainly located in the periphery of the city where most of the rapid and unsustainable urbanization is happening, severely degrading this ecosystem. In seven sites, grassroots organizations have emerged in the last three decades to promote their conservation and sustainable use mainly through ecotourism, education and awareness, and policy advocacy. Also, some public institutions have generated legal mechanisms for conservation, including a Protected Area, and have developed programs and projects in restoration, education, tourism, and research, among others.

Nevertheless, the degradation continues in the context of rapid urbanization in a city with a weak institutionalality. Also, death threats are common towards local leaders in areas where land traffickers have tremendous power with the complicity of some authorities and social actors, generating an unbalanced conflict where environmental defenders are in danger. In this poster, this reality will be presented and analyzed, by identifying the current main trends in these “lomas” sites in terms of conflicts and ecosystem management, complemented by a timeline with key events in Lima in the last decades (e.g., ordinances formalizing informal occupations, creation of the Protected Area). Main opportunities and challenges for community-based conservation of “lomas” in Lima will be presented, with a collaborative governance approach, including reforms to the current institutional arrangement.

# Yesenia Marisol Guardado Torres, M.Sc.

El Salvador

ACCESO – Making Markets Work For Smallholder Farmers

Marisol.guardadot@gmail.com



**M.Sc. in Agricultural Science and Resources Management for the Tropics and Subtropics**

University of Bonn, Germany

**BA. Agricultural Engineering**

Universidad de El Salvador, El Salvador

Dedicated Agricultural Scientist with over five years of extensive experience in working with smallholders and applying innovative learning methodologies. Possessing expertise in agricultural projects including cocoa cultivation, forestry production, and entrepreneurial initiatives.

Proficient in leading environmental projects focused on reforestation and the conservation of native tree species, while developing advanced skills in project planning and coordination. Demonstrates consistent initiative, proposes innovative solutions, and seeks new challenges that integrate practical knowledge with theoretical foundations as a team leader. Adopts a proactive approach to coordinating collaborative efforts, resulting in the effective implementation of sustainable strategies and the promotion of ecological practices

## ABSTRACT

### **Redefining Security: Exploring the Gap Between Perceived Safety and Environmental Vulnerability in El Salvador**

This presentation proposes an interdisciplinary exploration of the complex relationship between security narratives and environmental realities in El Salvador. Despite the government's portrayal of El Salvador as the "safest in Latin America," closer examination reveals significant environmental degradation and insufficient protection of natural resources. Using a people-focused perspective, this study delves into the experiences and viewpoints of communities affected by environmental deterioration, highlighting the disparity between official security rhetoric and environmental insecurity.

Through a creative storytelling approach, we contrast the government's emphasis on traditional security measures with the environmental risks faced by Salvadoran communities. Using policy analysis, I examine how governmental decisions and security policies impact environmental governance, resource management, and sustainability efforts in the country. Furthermore, I explore how environmental security intersects with social justice, showcasing the disproportionate impact of environmental degradation on marginalized communities.

This presentation contributes to the broader conversation on environmental governance and policymaking in Latin America by questioning conventional notions of security and advocating for a more comprehensive approach that integrates environmental considerations into security agendas. By highlighting the gap between perceived safety and environmental vulnerability. The presentation aims to provoke critical reflection and dialogue among both rhetoric, fostering a deeper understanding of the complexities of environmental governance in El Salvador.



# Nathalie Alejandra Suárez Flores, M.Sc.

Ecuador  
IUCN South America  
nathaliea.suarez@gmail.com



## **M.Sc. in Natural Resources Management and Development**

Cologne University of Applied Sciences,  
Germany

## **M.sc. in Environmental Sciences**

Universidad Autónoma de San Luis Potosí,  
Mexico

Internationalist with passion for environment and sustainability. Born in Quito-Ecuador, I had the opportunity to study a double master's degree in environmental sciences and Natural Resources Management in Mexico and Germany respectively. My main interests are sustainable tourism, conservation projects, climate change as well as and the utilization of biodiversity and ecosystem services as alternatives to generate resilience and promote community development. Currently I also focus on issues of awareness raising, knowledge management, gender and climate change.

## **ABSTRACT**

### **Sustainable Agriculture: Ecosystem-based Adaptation (EbA) for Creating Climate Change Resilience in Manabí, Ecuador**

Ecuador has been characterized as having a productive system based on the use of primary resources, standing among them those of agricultural origin as one of the main engines of the Ecuadorian economy. However, despite its social and economic importance in the country, this sector maintains two critical threats that are seriously affecting its dynamism: climate change and soil degradation, related to non-climatic factors.

The province of Manabí, located in the coastal area of the country, is not exempt from this problem. Its parishes are particularly vulnerable to the effects of climate change, especially due to the variation in precipitation periods that increases the probability of floods and landslides, as well as longer and more frequent periods of drought.

The climatic problems of the parishes of this province, added to the strong pressures due to the inappropriate use of the soil, especially referring to high deforestation due to unsustainable agricultural activities, reduce the capacity of nature to provide ecosystem services and compromises its main function of protecting vulnerable populations to the adverse effects of this phenomenon.

To face this reality, the use of Ecosystem-based Adaptation approaches based on innovative and cost-effective approaches at the landscape level in this province is presented as an alternative to building up resilience in vulnerable rural communities. The use of agrosilvopastoral systems with an agrobiodiversity approach - including product diversification, management of the tree component accompanied by forest restoration, and protection of water resources- is considered as an alternative to preserving the main ecosystems of the area on which its inhabitants depend.

These measures must be also accompanied by a capacity-building component to involve stakeholders, including representatives of rural communities, government entities, civil society organizations, academia, and the private sector in the implementation of measures to change this reality.



# Gonzalo Vergara Troncoso, M.Sc.

Chile

Heidelberg Center for Latin America

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**Ph.D. Student in Economic Geography**

Heidelberg University, Germany

**M.Sc. in Governance of Risk and Resources**

Heidelberg University, Germany

**Geographer**

Pontifical Catholic University of Chile, Chile

**Minor in Environmental Studies**

Pontifical Catholic University of Chile, Chile

I am a PhD student in Economic Geography at Heidelberg University. My research focuses on risk governance analysis, exploring both the challenges and opportunities that arise in this field. I am committed to teaching and strive to promote academic growth through my work as a lecturer.

## ABSTRACT

### **Navigating Interdependence on Knowledge Systems: Implications for Aquaculture Governance**

As the aquaculture industry and the Government have their interdependent knowledge systems, Academia and local communities are not highly representative. For instance, previous research (Vergara, 2017) has proved that Academia has yet to permeate decision-making processes directly, even stating early warnings about risks that could arise, and did arise in the 2016 crisis, from aquaculture in Southern Chile. Since Academia and local communities still need to be involved (at least as knowledge producers) in the decision-making process, aquaculture industries and the Government must prepare themselves to face several risks (environmental, social, economic, and political). This situation emphasizes the need for a more inclusive approach to decision-making, where diverse knowledge systems are recognized and integrated. The hypothesis indicates that the Government and the aquaculture industry are more interdependent, as dictated by the market-induced implementation of technology, routines and knowledge. As part of a broader project, this section represents how knowledge is incorporated into aquaculture routines and practices in Southern Chile, where this knowledge comes from, and the repercussions of the legal frame on enhancing or restricting risk prevention. By examining the origins and dissemination of knowledge and the impact of regulatory frameworks, this study seeks to elucidate the role of various actors in shaping risk governance strategies. The research presents the preliminary results from qualitative interviews with aquaculture stakeholders, how they relate to each other, and how the knowledge they adopt could prevent or mitigate new crises in the future. By exploring the intricacies of knowledge incorporation into aquaculture practices, this research aims to inform more effective risk management strategies and enhance the industry's resilience to environmental, social, and economic challenges.

# Christian Ross De La Guardia, M.Sc.

## Panama

Inter-American Development Bank (IDB) & International Center for Political and Social Studies – AIP Panama (CIEPS)

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Christian currently coordinates country (Panama) activities for a regional research project on Traditional Knowledge and Food Security, led by CIEPS. He is also a consultant for the Climate Change Division of the IDB Panama office, where he supports the design and preparation of a GEF-8 project to reduce coastal pollution in the Parita Bay in Panama. Christian is an active member of a grassroots organization that seeks to protect the Santa Maria River Watershed, in Panama's central region. His research interests include grassroots movements and watershed governance, water justice, traditional knowledge and food systems, and agrobiodiversity. He holds a MSc in Tropical Forestry from TU Dresden.



### M.Sc. in Tropical Forestry

Technische Universität Dresden, Germany

### B.Sc. in Civil Engineering

Universidad Tecnológica de Panamá,  
Panama

## ABSTRACT

### Integration of Traditional Knowledge in Panama's Family Farming Policies

Panama, as many countries in Latin America, has experienced the effects of the expansion of the (conventional) agricultural frontier over its landscapes. Social-, economic-, ecologic-, and cultural dimensions of this issue are evidenced in trends such as uncontrolled deforestation; countryside depopulation; water pollution by intense use of agrochemicals; loss of soil and biodiversity; and high poverty and malnutrition rates in peasant and indigenous territories.

According to FAO's State of Food Security and Nutrition in the World Report 2022, at least 200,000 people in the country suffer from hunger (5.3% of the population), from which over 50% are within Panama's peasant and indigenous communities. It is also known that from a total of 246,033 agriculture and livestock producers in the country, 81% are in the category of family farmers (less than 5ha of production land). In response to this, a recent multisectoral and interinstitutional effort at the regional scale has focused the attention on creating an enabling policy environment for family farming. This way recognizing its contributions to rural economies, food security and nutrition, and biodiversity conservation; but also, as a potential way to move towards more productive and sustainable food systems. Some initial achievements include the creation of the Family Farming National Plan and the National Committee for Dialogue on Family Farming, both using public participation mechanisms to integrate civil society and public institutions.

Family farmers, among others, include Indigenous Peoples who run diversified agricultural systems and preserve traditional food products, contributing to a balanced-diet and the safeguarding of the world's agro-biodiversity. This poster presentation will deepen on how national efforts on family farming policies are integrating Traditional Knowledge from Panama's Indigenous Territories into their action plans. Lessons will be drawn from an ongoing case study from three communities in the Ngäbe-Buglé Comarca (indigenous demarcated land), as part of the regional research project "Traditional Ecological Knowledge for Food Security and Nutrition: Innovation and Conservation"

# Dr. Pablo Borges de Amorim

Brazil

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH  
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## **Ph.D. in Natural Sciences**

Dresden University of Technology, Germany

## **M.Sc. in Hydro Science and Engineering**

Dresden University of Technology, Germany

## **M.Sc. in Flood Risk Management**

Dresden University of Technology, Germany

## **Environmental Engineering**

Federal University of Itajubá, Brazil

Pablo is a technical adviser of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in climate change adaptation projects. He holds a PhD in Natural Sciences with emphasis on the development of climate hazard scenarios for hydrological studies (2015), MSc in Hydro Science Engineering (2009) and specialization in Flood Risk Management (2009) by the Technische Universität Dresden, Germany; and a degree in Environmental Engineering at the Universidade Federal de Itajubá (2005). Currently he has been dedicated to the area of Climate Services with emphasis on risk analysis in infrastructures and water resources.

## ABSTRACT

### **Challenges and Lessons Learnt in the Development of the New Cycle of the Brazilian National Climate Change Adaptation Plan**

The development of the new cycle of the Brazilian National Climate Change Adaptation Plan (NAP) presented several challenges and important lessons and this abstract explores key aspects of this process. Challenges included the need for broad stakeholder engagement, complex coordination among different levels of government, and the integration of diverse knowledge and perspectives. The Brazilian NAP participatory nature required the development of capacities, balancing the inclusion of various actors while ensuring the plan's coherence and effectiveness. Lessons learned highlight the importance of robust institutional arrangements, clear communication channels and fostering of engagement. Coordination, communication, capacity development, identification of champions, participatory approaches and flexibility were crucial to align the efforts of the 15 different sectors and levels of government. Additionally, the process highlighted the value of incorporating scientific evidence, emphasizing the need for customized climate information, in other words, Climate services. Is it also important to recognize that adaptation is an ongoing process that requires continuous learning and adjustment. This approach allows for flexibility in response to evolving climate impacts and changing societal needs. Overall, the development of the new cycle of the Brazilian NAP demonstrates the complexity and importance of climate change adaptation planning. It highlights the need for holistic, inclusive, and adaptive approaches to address the challenges posed by climate change effectively.

# Vitória Stéphanie Leonardo Barbosa, M.Sc.

Brazil

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**M.Sc. in Hydro Science and Engineering**  
Technische Universität Dresden (TUD),  
Germany)

**MBA in Agile and Innovative Project Management (PMBOK 7th Edition)**  
Instituto de Pós-Graduação e Graduação (IPOG), Brazil

**B.Sc. in Chemical Engineering**  
Universidade Federal de Pernambuco (UFPE),  
Brazil

I am Vitória Barbosa and I hold a master's degree in Hydro Science and Engineering and a bachelor's degree in chemical engineering. I have 10 years of experience in clean technologies and sustainability. As Master Student, I worked with flexibilization models of wastewater treatment plants, identifying optimization opportunities for load displacement potential and reduction of energy consumption. Currently, I am Senior Product Engineering Analyst of an Energy Accumulator Company and responsible for product development and project management.

## ABSTRACT

### Energy Sector in Brazil – Challenges

The energy sector in Brazil faces several challenges, ranging from infrastructure limitations to environmental concerns. Some of the dominant environmental issues include water pollution and scarcity, biodiversity loss, and conflicts over land and natural resource use. Moreover, Brazil relies heavily on hydropower for electricity generation, which makes the energy sector vulnerable to fluctuations in rainfall patterns and climate change.

So that, the environmental problems and socio-ecological crises are diverse and interconnected. Policies formulated to address these issues vary in their effectiveness and implementation. Brazil has established environmental protection laws to conserve biodiversity and ecosystems. Additionally, initiatives like the National Plan for Climate Change and the Low Carbon Agriculture Plan aim to mitigate greenhouse gas emissions and promote sustainable land use practices.

On the other hand, the Brazilian energy industry is undergoing a progressive and irreversible transformation process, in which the unidirectional structure of Generation, Transmission and Distribution is being destroyed, with the insertion of new technologies, by a multidirectional process, with concepts of decentralization, digitalization and decarbonization.

In this context, the BESS (Battery Energy Storage System) is a great option to expand the use of renewable energy sources in Brazil, as it delivers energy when and how it is needed, unlike distribution networks. This means that the user will have this extra stock for times of peak consumption when its value increases. This innovative product is considered a fundamental element for the changes, both for the consumer and for the distributors, transmitters, and generators of electric energy.

In conclusion, to achieve more sustainability, governance structures and institutional arrangements need to prioritize policy integration across sectors. Addressing these challenges requires a multi-faceted approach involving collaboration between government, industry stakeholders, and civil society to develop sustainable solutions that promote economic growth, social equity, and environmental protection in Brazil's energy sector.

# Itzel Rocío Arredondo Serrano, M.Sc.

Mexico

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**M.Sc. in Sustainable Tropical Forestry**  
Technical University of Dresden, Germany

**M.Sc. in Forest Science**  
University of Padova, Italy

**B.Sc. in Biology**  
National Autonomous University of  
Mexico, Mexico

I am a Biologist and MSc in Sustainable Tropical Forestry. My passions include communicating and organizing. I work in the Innovation Management field, and I'm interested in exploring how it can serve my region cope with current environmental transitions.

## ABSTRACT

### **The Agricultural Crisis of Sinaloa: Key Elements and Possible Ways Forward**

The state of Sinaloa, in northwestern Mexico, is considered the country's "breadbasket", as it is consistently one of the main producers of essential grains and vegetables for national and foreign consumption. The agricultural sector of this state is currently facing a myriad of entangled challenges that have reduced its production of some of its key crops, which puts both economic pressures on local producers and food safety pressures on the country at large. Some of the main issues are environmental, notably changes regarding precipitation timing and volume, as well as soil degradation linked to decades worth of intensive agriculture. Other problems arise from the interconnectedness of local and global economies. For example, supply chain issues derived from global crises such as the COVID pandemic and especially the Russo-Ukrainian war have resulted in increasing prices of important supplies such as fertilizer. Furthermore, reactive national economic policies aiming to rein in inflation have failed to account for the different needs of a diverse range of producers, causing net losses and evident civil unrest. In this work, I will present a map of key issues and actors involved in the problem and identify some viable pathways to mitigate and combat its consequences. I will place emphasis on the potential of future-conscious technology and business intelligence to aid the sector as it faces the challenges of the present and near future.

# Biol. Camila Pérez Roig

Argentina

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**Biologist**

Universidad Nacional de Córdoba,  
Argentina

I am a Biologist from Córdoba, Argentina. I graduated in 2020 and later that year I moved to Patagonia to pursue my PhD studies on the effects of land use change on soil biodiversity and functionality. I did a stay in the German Centre for Biodiversity Research (iDiv) during 2023. I'm currently living back in my hometown, working on my thesis.

## ABSTRACT

### **Environmental Actors and Threats Related to Soil Degradation in Argentina**

The economic system in Argentina is primarily based on exploiting natural resources in various ways, leading to several environmental issues such as land use change, particularly the conversion of forests and grasslands into monocultures. Civil organizations and associations, along with science and conservation institutions such as CONICET, INTA and the National Parks Administration, have reported tangible impacts on ecosystem services, food security, and people's health. This has led to the passing of legislation such as prohibitions on agrochemicals applications near urban areas and the law for territorial planning of native forests use. However, their successful enforcement remains a challenge. This is partially due to the highly centralized national government structures, which sometimes pass laws without ensuring practical mechanisms or including all relevant actors, while economic emergencies continuously push environmental issues to the background. Another obstacle is the heavy influence of international private investors interested in natural resource extraction.

A crucial step towards promoting sustainability is empowering and protecting rural and peri-urban residents, whose livelihoods are tightly linked to ecosystems, by supporting their collective projects so they can solidify and participate in formal and informal economy. Additionally, strengthening the role of science and conservation institutions can provide valuable data and technologies aligned with the 2030 Agenda and the Sustainable Development Goals (SDGs). These institutions conduct environmental impact assessments, ecosystem services valuations, and socio-ecological surveys, often representing a link between rural or peri-urban sectors, public administration and the private sector.

In this poster, I will depict the various sources of threat to soil biodiversity and functionality across Argentina's ecosystems and land use systems, and explain the link between local, regional, national, and international actors that interplay around the topic of my PhD thesis.

# Miguel Ángel Centellas Levy, M.Sc.

Bolivia

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**Master of Science in Integrated Water Management**

**B.Sc. in Environmental Engineering**

Miguel Angel holds a Bachelor's degree in environmental engineering at the "San Pablo" Catholic University of Bolivia, and was awarded with a scholarship from Carolina Foundation to obtain a Master's degree in integrated water management at Cádiz University in Spain. He works in remote sensing and GIS applications, watershed management, and environmental education.

## ABSTRACT

### **Neglecting Environmental Implications: The Case of Urban Development in Cochabamba, Bolivia**

Despite clear evidence of climate change and its different consequences and outcomes, public policies often fail to integrate critical environmental considerations. This study analyses the disconnection between policy decisions and environmental realities in the context of urban development in Cochabamba, Bolivia.

Using rising temperatures as a focal point, a troubling trend of neglection by local authorities is demonstrated: Thermal maps derived from remote sensing tools over the past two decades show a constant increase in surface temperatures (directly correlated with air temperature and thermal sensation), a direct climate change impact on the region. Considering this information, the research describes development projects undertaken by city authorities over the last year and their implications; specifically, the construction of massive infrastructure designed solely for vehicular use, marked by bridges and overpasses, and the designation of public space for a private Padel court within an urban park, ignoring existing reforestation plans and community needs; both projects highlighting the disregard for sustainable urban planning principles.

This study underscores the urgent need for policymakers to align development agendas with environmental guidelines. It calls for a paradigm shift towards integrated urban planning that prioritizes green spaces, sustainable infrastructure, and community engagement. Failure to heed scientific information not only exacerbates the impacts of climate change but also undermines the long-term resilience and livability of our cities.

# Rodrigo José Roveta, M.Sc.

Argentina

Chubut Forest Ministry

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**M.Sc. in Forest Ecology and Management**

Freiburg University, Germany

**Forest Engineer**

Universidad Nacional de la Patagonia  
"San Juan Bosco," Argentina

**Diploma in Government Management and Management Control**

University of Buenos Aires, Argentina &  
École Nationale d'Administration, France

Over the last years, I was ahead of the Ministry of Forestry of the Province of Chubut, Argentina. As part of my regular duties, I was in charge of defining forestry policies in the province, both in relation to forestry development and promotion, the conservation and protection of forests, as well as promoting their sustainable use.

Along that time, I had to face several environmental crises related to large forest fires and therefore be active in looking alternatives in order to affront that issues in the short, medium and long term.

At the same time, I was President of the National Forest Commission at the Federal Council of the Environment (COFEMA) in Argentina. This provided to me the opportunity to regularly interact with all Forest Directors of the country and National authorities, in order to achieving better results with the national native forest law implementation.

## ABSTRACT

### **From an Environmental Problem to an Opportunity: The Use of Biomass from Forests of Exotic Species for the Generation of Bioenergy and the Prevention of Fires in the Argentine Andean Patagonia**

The growth of forest-urban interface areas in Argentine Patagonia has revealed an environmental problem related to the occurrence of increasingly extreme and destructive forest fires. This is based on: the marked effects of climate change, the lack of territorial planning, the disorderly growth of urbanizations and the lack of prevention actions at the landscape scale integrated at the local one. For example, in the Andean region of Chubut, former public policies in the 1970s encouraged the replacement of native forests with afforestations of fast-growing exotic species. Over the years these forestations were not managed, generating a large accumulation of forest biomass with the consequent increase in the danger of forest fires and added to the losses due to pests as well as the quality of the wood. Over time, this was compounded by the growth of urban areas in this matrix of afforestation – native forest, without adequate planning, which generated a new problem in the area such as forest-urban interface fires, which have led government agencies to change the order of priorities when dealing with these types of situations. Given the lack of sustained incentives over time for forestry management and of state capacity to address prevention strategies at a landscape scale, addressing the problem with an intergovernmental vision offers an unique possibility for the situation to be taken as an opportunity through an integrative project, to: organize the landscape in the medium term, considerably reduce the danger of fires, improve the state of forests and their value, strengthen the regional economy of the forestry sector by generating local employment, and make contributions to the reduction of emissions by replacing the use of fossil fuels with fuels of biomass origin for energy generation in isolated towns in the area.



# Prof. Dr. Marcia Mazzuca

Argentina

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Universidad Nacional de la Patagonia San Juan Bosco. Instituto  
de Biociencias de la Patagonia

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**Ph.D. in Biochemistry**

Universidad Nacional de la Patagonia  
San Juan Bosco, Argentina

I am working as a researcher at the National Scientific and Technical Research Council (CONICET) in Biotechnology. I lead a research group that are developing a product that enhances the cultivation of the endemic Patagonian blenny, by incorporating in their diets omega-3 fatty acids and natural antioxidants obtained from shrimp peeling by-products. Additionally, we conduct chemical analyses of archaeological materials from Patagonia. I transfer my experience to undergraduate and graduate teaching as a full professor at the National University of Patagonia San Juan Bosco.

## ABSTRACT

### **Building Blocks for the Integrated Management of the Shrimp Resource in Patagonia**

In Argentine Patagonia, the utilization of natural resources presents a significant challenge due to inadequate waste management practices within the fishing industry, particularly Argentine red shrimp processing. This situation has resulted in environmental issues, ecological imbalances, and community complaints related to air pollution near coastal cities.

To address these problems, waste management laws and ordinances have been implemented by government sectors, along with the relocation of municipal landfills to more distant locations. However, challenges persist in effectively supervising and enforcing environmental legislation.

From the academic and scientific sectors to improve the industry's sustainability, products and processes are being developed, and human resources are being trained to provide technical solutions. However, the current political scenery is unclear, and there are no visible perspectives for support for transferring knowledge to society. Waste could be reduced, reused, and transformed, forming resource management cycles that integrate production chains in terms of the circular economy.

The business sector often follows a linear production and consumption model that overlooks recycling and material reuse. This approach leads to continuous resource consumption, more waste, and pollution. It also contradicts the Sustainable Development Goals (SDGs) by assuming unlimited resource availability and not fully addressing environmental impacts or the well-being of future generations.

Achieving sustainability requires concerted efforts from all involved sectors. Promoting inter-institutional spaces for discussion and collaboration among different sectors, including the scientific community, is crucial. Furthermore, governments should provide stronger support and implement measures to incentivize companies to adopt more sustainable practices and encouraging the transition from a linear to a circular economic model. More budget for research and development related to natural resources sustainability could accelerate positive changes. Education focused on environmental awareness and the SDGs could serve as a medium- and long-term strategy.

# Prof. Dr. Amalia Margarita Stuhldreher

Uruguay (born in Argentina)

Institute for Sustainable Development, Innovation and Social Inclusion, Campus Tacuarembó, Universidad de la República (UDELAR), Uruguay.

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**Ph.D. in Political Science with a Mention in Sociology and Communication Science**

Johannes Gutenberg University of Mainz, Germany

**B.A. in International Relations**

Universidad del Salvador, Argentina

I studied International Relations in Argentina (Universidad del Salvador, 1988–1993). In 1994, I received a scholarship of the Konrad Adenauer Foundation. This enabled me to do my PhD thesis at the University of Mainz in Germany. In 1999, I married and I moved to Freiburg, where I worked as lecturer at the Center for Strategic Qualifications of the University of Freiburg. I also worked at the Chamber of Commerce and Industry of the Upper Rhine, focusing the Regional and Economic Policy. In 2008, I moved with my family to Tacuarembó (Uruguay). At the beginning, I worked as consultant for the Tacuarembó Development Agency. Since 2012, I work at the Universidad de la República. In 2014, I became professor at the Institute for Sustainable Development, Innovation and Social Inclusion (IDIIS) at the Tacuarembó campus (Full Time), with a research proposal that focuses on issues related to sustainable territorial governance of the Northeastern region of Uruguay from a multilevel perspective, connected with the SDGs.

## ABSTRACT

### **Current Perceptions on Climate Change in Uruguay: Actors and Visions with Focus on the Northeast Region**

Current debates about climate change highlight the challenges of Latin America's integration into the global economy, which requires reviewing aspects of environmental governance in a context where the contribution to climate change of certain types of agricultural production as well as the pressure on natural resources are increasingly questioned. In addition, the COVID 19 pandemics is seen as a warning of the growing presence of humans into the planet's ecosystems: the resulting zoonosis are indicative of the negative implications of the increasing human pressure on nature, with the increase in agricultural and forestry activities and the resulting degradation of various ecosystems. All this has clear implications for a country with an economic productive and agro-exporting profile such as Uruguay. The change of government in this country in March 2020 led to some modifications of the country's environmental and climate institutions, including the creation of the new Ministry of Environment and the transfer of the National Climate Change Response System (SNRCC) to that orbit. The departmental elections of September 2020 brought also some changes in the Northeast region of Uruguay (departments of Rivera, Tacuarembó and Cerro Largo). Now the country is facing a new electoral process. Considering this context, this poster assumes a theoretical perspective of multilevel and multi-stakeholder governance, adopting a qualitative methodological strategy. The objective is to analyze the current perception of national and territorial actors regarding the policies and mechanisms of climate governance in Uruguay and the region. It examines diverse articulations at different levels of government, as well as different dynamics of participation with a focus on climate issues at the national as well as within the territory analyzed. Doing so, the poster aims at showing some progress and challenges in this area, in order to contribute to the design of assertive policies on climate change.

# Dr. María Fernanda Chiappero

Argentina

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**Ph.D. in Biological Sciences**

National University of Córdoba,  
Argentina

**Biologist**

National University of Córdoba, Argentina

I am interested in studying soil biota and their relationship with soil processes. My works are mainly focus in understand how different environmental changes, due to altitudinal gradients or land use changes, shape the composition of soil biota and their functions in the soil. Actually, I am interested in exploring the role of land use changes, due to pine afforestation in native Patagonian steppes, in soil organic carbon fractions

## ABSTRACT

### **Diversity of Natural Resources and Its Relationship with Economic Activities in Argentina**

Argentina is a large country, with different kind of climatic regions, ranging from humid rainforests in Misiones to extreme arid sites in the Puna. Each climatic region has it proper natural resources, which have been the key for the development of economic activities that in most cases involve the exploitation and extraction of these resources. For example, forests in the Chaco region have been cutted off for timber purposes and, along with natural grasslands in the Pampas, most of these areas were transformed into agricultural lands. These activities have displaced many farmer families (that once live in tight association with these ecosystems) and polluted the environment as the implementation of agrochemicals. In the Puna region, lithium reserves in salt-flats undergo mining extraction, consuming tons of water in an arid place, affecting local communities that use water for consumption or livestock rising. Mining is also extended along the Andes Cordillera, in provinces like San Juan, Mendoza and La Rioja creating conflicts with towns living downstream due to water pollution. In Patagonia, the exploitation of petrol and gas reserves has been associated to house damages because of fracking in the west side, while at the east side, petrol leaks have contaminated the sea, threatening costal ecosystems. As our laws stablish natural resources belong to provinces, each government is able to exploit them and regulating economic activities. Hence, the resolution of environmental issues in most of cases depends on each province, with legal protection gained through citizen protests. As a biologist, I believe that solutions need to be addressed through a national perspective that guarantees nature protection for all Argentineans, accompanied by effective law application against environmental issues caused by the economic and business sector. Nature is interconnected and affecting native ecosystems at one place can have cascading effects in very distant regions.

# Rocío Melina Garcia (PhD candidate)

## Argentina

Institute for Research and Development in Natural Resources, Agroecology and Rural Development (IRNAD, CONICET-UNRN)  
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## Forest Engineer

National University of La Plata

Rocio Melina Garcia is a Forestry Engineer and a Doctoral Fellow at the CONICET, close to completing her PhD in forest sciences at IRNAD, El Bolsón, Argentina. Her research focuses into forest policy, mountain governance, sustainability indicators in forest management, and land use scenarios within protected areas in Patagonia. In addition, she contributes as a Graduate Assistant in the subject of Planning and Management of Natural Resources at the National University of Río Negro.

## ABSTRACT

### Land Use Dynamics and Projection of Future Scenarios in a Protected Area of North Patagonia

Evaluating sustainability in native forests is an increasingly urgent challenge in global environmental management. This complex aspect of social-ecological systems is addressed through various methodologies aimed at translating sustainability into tangible factors. Protected areas serve as a governance model designed to regulate land use within a territorial system to preserve environmentally significant regions. In this study, we analyzed the sustainability of alternative land uses and identified the main agents of land use change within the native forests of a protected area in Patagonia. Our approach included a political-institutional study combined with a spatial-temporal analysis of major land uses within the study area. We developed a set of sustainability indicators encompassing ecological, economic-productive, social, cultural, and political dimensions. Using these indicators, we projected and analyzed future land use scenarios (conservation, livestock use, forestry use, formal tourism, informal tourism, and urban development) to assess their sustainability levels. Conservation and formal tourism emerged as the most sustainable land uses, followed by traditional uses such as livestock and forestry. Informal tourism, similar to urban development, exhibited the lowest degrees of sustainability. The indicators showing the greatest variability between scenarios included accessibility, tourism activity, and institutional factors, identified as the main agents of land use change. The scenarios demonstrated that the sustainability of land use varies significantly depending on implementation characteristics. This study contributes to the environmental management of the protected area and provides valuable tools for monitoring and sustainable management in similar protected areas.

# Andres Roberto Ochoa Prieto, M.Sc.

Colombia

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**M.Sc. in Tropical Forestry**

TU Dresden, Germany

**B.Sc. in Forest Engineering**

Universidad Distrital Francisco José de Caldas, Colombia

Bachelor's in Forest Engineering from Francisco José de Caldas University, Colombia (2007), and Master's in Tropical Forestry with an emphasis in urban forestry from TU Dresden, Germany (2015). Certified Arborist and Utility Specialist by the ISA. As a consultant, he specializes in risk assessment, tree management plans, and credentialing programs in Colombia and Latin America. Co-founder and president of the Colombian Association of Arboriculture (ACA) from 2015 to 2020, he organized key events like the II Latin American Congress of Arboriculture and the first ISA Latin American Tree Climbing Championship in 2018. He established ACA as a leading training entity, contributed to the creation of Colombia's first arboriculture accreditation scheme, and promoted ISA certification across multiple Latin American countries. In 2023, he received the Sharon J. Lilly Award of Achievement for his contributions to ISA.

## ABSTRACT

### **Environmental Detriment Related to Urban Trees in Our Cities in Colombia**

Around 75 percent of the Colombian population lives in urban areas and depends on the essential ecological, economic, and social benefits provided by urban trees and forests. However, the tree cover distribution and welfares from urban forests vary in condition in the cities around the country, due to the challenges of sustaining this important resource.

The management of urban trees and forests includes a diversity of tasks such as inventorying tree populations; enacting tree ordinances and policies; land use planning; developing and implementing management and maintenance plans, annual work plans and budgets; promoting community education; among others. However, the panorama of the trees canopy management in our cities is nothing close to be effective and it is cover has often been troubled bases such as inconsistent management approaches, inadequate funding distribution, weak linkages with other resource management programs, lack of planning, policies without technical background, and implementations of non-skilled and non-related professionals in the field that fails to consider the proper knowledge, the tree benefits, and the international best practices for urban trees.

As urban growth continues, is relevant that management decisions of today will need to shifted as these will affect the types and quality of benefits generated from the urban trees in the for future, including the acknowledgment of the right knowledge and how to create adequate policies, will be essential to developing suitable management approaches for optimal urban green cover, tree health and benefits into the future. Otherwise, we will have the perfect scenario for an environmental detriment for our the urban trees and forests, as these mentioned issues could lead to a loss of green canopy cover, that would reduce the quality of the urban environment and numerous ecosystem services derived from trees and forests.

# Dr. Julián Rafael Dib

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**Ph.D. in Biological Sciences**

National University of Tucumán

**Biochemist**

National University of Tucumán

Julián Rafael Dib is a biochemist with a Ph.D. in Biological Sciences. He currently holds the position of Associate Professor at the National University of Tucumán and Researcher at PROIMI-CONICET, Argentina. His research interests focus on technologies for biological control in lemons and blueberries.

## ABSTRACT

### **The Use of Pesticides in Fruit Production: New Alternatives Based on Native Biocontrol Agents**

Fruit production in developing countries faces significant post-harvest losses, primarily due to fungal diseases, with estimates reaching up to 50% of total yield. Traditionally, the agricultural sector heavily relies on chemical pesticides to minimize such losses. However, concerns regarding environmental and human health impacts associated with excessive pesticide use are rising. Additionally, a lack of updated regulations to control pesticide use and promote sustainable alternatives hinders progress in our region. Our research group focuses on developing biocontrol agents derived from native microorganisms to combat post-harvest fungal diseases affecting lemons and blueberries. We have successfully isolated bacteria and yeasts exhibiting antifungal activity against fungal phytopathogens in both in vitro and in vivo assays. Furthermore, investigations have been conducted to elucidate the mechanisms of action employed by these biocontrol agents. Complete genome sequencing and analysis have identified genes potentially linked to their biocontrol properties.

The development of biocontrol formulations based on native microorganisms offers a sustainable approach to manage post-harvest fungal diseases in fruits. These formulations present an effective alternative to chemical pesticides, thereby reducing their environmental impacts. Moreover, biocontrol agents can promote organic fruit production and facilitate market access in regions with stricter quality standards.

# Magaly Ines Beltran Siñani, M.Sc.

Bolivia

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## **Master in Renewable Energy Technologies**

Universidad Mayor de San Simón & KTH Institute

## **Postgraduate Diploma in Environmental Management**

TU Dresden, Germany

## **Postgraduate Diploma in Climate Change and Trans-disciplinary Research**

Universidad Mayor de San Simón, Bolivia

## **B.A. in Physics**

Universidad Mayor de San Simón, Bolivia

## **B.A. in Industrial Engineering**

Universidad Mayor de San Simón, Bolivia

I am a specialist with a comprehensive understanding of renewable energy, sustainability, and climate change projects and policies, as well as a track record of contributing to publications in these fields. My experience extends to effectively coordinating with diverse stakeholders involved in projects and developing training courses and specialized programs.

## **ABSTRACT**

### **Addressing Environmental Challenges and Socio-Ecological Crises in Bolivia: Policy, Governance, and Empowerment Perspectives**

Bolivia, known for its rich biodiversity and diverse ecosystems, faces numerous environmental challenges and socio-ecological crises, such as deforestation, soil degradation, water pollution, biodiversity loss, land conflicts, water scarcity, and climate change impacts. This poster explores these issues, focusing on policy formulation, governance structure changes, power relations, and empowerment strategies for sustainability. Policies have been developed to tackle these problems, including sustainable land and water resource management and climate adaptation strategies. Governance shifts have occurred, recognizing indigenous rights, promoting community participation, and encouraging decentralization. However, the effective implementation of environmental regulations is often hindered by conflicting interests and power dynamics. Strengthening the empowerment of key actors—indigenous groups, local communities, civil society organizations, and marginalized populations—is essential.

## Prof. Dipl. Biologist Federico Guillermo De Durana

Argentina

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**Professorship in Biology**

University of Rio Negro, Argentina

**Diploma in Environmental Management**

Technical University of Dresden, Germany

**Biologist**

University of La Plata, Argentina

I'm a former researcher of the National Institute of Agricultural Technology (INTA) where I worked for 16 years in environmental topics related to biodiversity conservation and agriculture impacts.

Actually, I'm dedicated to education in both middle and superior level in an agrotechnical school in the province of Rio Negro. My subjects are Applied Biology and Natural Resource Management, and the implementation of the National Law of Environmental Education.

### ABSTRACT

#### **The Decline of *Salix humboldtiana* Willd (Creole Willow) in Northern Patagonia, the Only Native Willow to South America**

Biodiversity loss remains one of the most pressing issues for global governance. In Argentina one of the main causes of biodiversity loss are the overexploitation of native forest and the introduction of exotic species. *Salix humboldtiana*, the only willow native to South America, forms the early successional phase of riparian environments in humid and semi-arid regions, from Mexico to northern Patagonia, the southernmost limit of its geographical range. This species experienced strong pressure for use since the beginning of European settlement because it was the only tree species of the rivers that cross the arid Patagonian steppe. At regional scale, biological invasion, hybridization with exotic plants, unsustainable use, and riparian transformation caused by urbanization, agriculture, mineral extraction, and hydroelectric activity would constitute anthropogenic factors of degradation and destruction of the vegetation formed by *S. humboldtiana*. Currently in few places only individuals or relict populations remain. Fragmentation of the populations and decrease in the size of the remaining forests compromise the species ability to reproduce and persist and is reflected in a notable retraction in the historical distribution. The Creole willow is extinct in the lower valley of the Neuquén and Limay Rivers. In the Chubut River, the southernmost limit of its natural distribution, it is observed at a clear numerical disadvantage, with exotic *Salix x rubens*. In the Río Negro, although it is present, a notable advance of exotic species is observed to the detriment of the populations. The situation described, justifies the inclusion of this species under the laws that specifically protect natural native forests. However, it is also necessary to implement conservation programs in which the social, educational and ecosystem dimensions represent key issues.



# Prof. Dr. Camila Alejandra Kass

## Argentina

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### **Doctorate in Natural Sciences**

National University of La Plata, Argentina

### **Specialization in University Teaching**

National University of La Plata, Argentina

### **Licenciada en Biología (Orientation: Zoology)**

National University of La Plata, Argentina  
(Equivalent to almost a Master of Science in Biology with a Zoology orientation)

I am a zoologist and did my PhD studying a lizard community in La Rioja Argentina. In 2021, I decided to begin working in my own conservation project and founded CLEFAM. Nowadays I am a researcher and teacher in two National Universities of my country. I have an incredible 3 years old daughter and a 2 months old boy. I love being a mom and having a career.

## ABSTRACT

### **Safeguarding Famatina's Lizards Against Mining Interests**

In Famatina (La Rioja), the conflict over mining activities has persisted for over more than two decades, epitomizing the struggle between economic interests and environmental conservation, governance institutions, and local communities. As mining operations loom over the region, urgent calls for inclusive decision-making processes and sustainable resource management practices intensify. The ecological risks associated with mining are exacerbated by the unequal distribution of consequences across society, disproportionately burdening local communities and ecosystems. This conflict underscores the imperative of balancing economic development with the preservation of biodiversity and cultural heritage. The rich biodiversity of Famatina, home to three endemic lizard species facing extinction due to habitat destruction, pollution, and landscape fragmentation, underscores the critical importance of conservation efforts. Therefore, initiatives like CLEFAM (Conservation of Endemic Lizards from Famatina Mountains) are paramount. Recognizing the ecological significance of these reptiles as keystone species within Famatina's ecosystems, CLEFAM focuses on comprehensive research, habitat monitoring, and community engagement to mitigate the threats posed by mining activities. In light of the imminent threat to Famatina's unique biodiversity, stakeholders must prioritize collaborative efforts to address these challenges. It is imperative that governance institutions, mining companies, local communities, and conservation organizations work together to implement sustainable solutions and uphold principles of environmental justice and social equity. By safeguarding Famatina's natural heritage, we not only protect its ecosystems but also ensure the well-being and resilience of present and future generations. The time for action is now, as we strive to preserve the ecological integrity of this remarkable region and secure a sustainable future for all.

# Adriana Valeria Ramos Roncal, M.Sc.

Bolivia

Fundación Comunidad Sustentable

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**M.Sc. in Environmental Management and Natural Resources**

Military Engineering University, La Paz, Bolivia

**B.Sc. in Biology**

Mayor de San Andrés University, La Paz, Bolivia

Extensive experience in environmental pollution, developing research on mercury contamination in aquatic ecosystems, its environmental and social effects.

Vast experience in environmental education and sensitization processes with active involvement of urban, rural and indigenous communities.

## ABSTRACT

### The Toxic Toll: Mercury Contamination in Bolivian Gold Mining

Mercury is an extremely dangerous pollutant to human and ecosystem health. In Bolivia, its uncontrolled use in gold mining has contaminated water bodies, fish, and indigenous populations. A regulatory framework based on principles of environmental management and human health is urgently necessary and may be designed based on successful experiences from countries with similar social and environmental realities.

As the elevated gold prices have stimulated gold mining worldwide, particularly, in Bolivia, more than 1,700 gold-mining cooperatives heavily rely on the use of mercury for gold amalgamation, yielding approximately 1Kg gold/5Kg mercury. Consequently, Bolivia has become the first importer of mercury in the world, buying approximately 200 tons/year.

As gold extraction is mainly conducted in rivers, mercury is readily transformed into methylmercury by aquatic bacteria. Methylmercury is absorbed and stored in fat tissue in algae and invertebrates, it is easily bioaccumulated and undergoes biomagnification along the trophic chain, ultimately reaching fish and humans.

Recently, researchers reported mercury concentrations above permissible values (1 ppm) in Bolivian-Amazonic indigenous communities. Similar studies in Lake Titicaca found that methylmercury concentrations are still within acceptable limits, however, if preventive measures are not taken, this ecosystem and the human populations that depend on it could be affected in the future.

Bolivia ratified the Minamata Convention in 2015, nevertheless, to date it has not developed a National Action Plan, which is essential to define policies and actions for the gradual elimination of mercury use. Thus, it is of utmost importance to develop specific regulations for gold mining to mitigate this serious environmental problem.

Here, I present a situational analysis of the effects of mercury contamination of water bodies by gold mining in Bolivia. I aim to open a space of discussion and feedback about environmental management strategies and regulations in the matter occurring in other Latin American countries.

# Dr. Mariela Yuvinka Peña Vargas

Bolivia

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## **Ph.D. in Engineering**

Universidad Nacional Autónoma de México

## **M.Sc. in Environmental Engineering**

University of Science and Technology Beijing

## **B.Sc. in Environmental Engineering**

Escuela Militar de Ingeniería

Mariela Peña is an Environmental Policy Analyst at Universidad Mayor de San Andres, focusing on advancing sustainable environmental policies and practices. With expertise in circular economy, organic waste valorization, anaerobic digestion, and water security, she has worked on sustainability projects across Bolivia, China, Mexico, the UK, and Germany.

## ABSTRACT

### **Carbon Accounting in Bolivian Lowland Agroforestry Systems – Key Research Gaps and Data Needs**

Current research on carbon accounting in Bolivian lowland agroforestry systems seeks to assess carbon stocks and fluxes while identifying crucial research gaps and data needs. Although agroforestry systems significantly contribute to carbon sequestration, specific studies in Bolivia's lowland regions are sparse.

This research focuses on understanding carbon dynamics in lowland agroforestry practices, including soy and indigenous systems. Key research gaps include incomplete inventories of tree species, uncertainties in carbon allocation among system components, and limited knowledge of long-term carbon storage stability in lowland agroforestry soils.

Additionally, methodologies for accurately assessing carbon stocks and fluxes in these complex systems need refinement. Integrating socio-economic factors into carbon accounting frameworks is crucial for a comprehensive understanding. Addressing these gaps requires interdisciplinary approaches that combine field measurements, remote sensing data, and socio-economic analyses tailored to lowland conditions. Ultimately, this research aims to inform policies and practices for sustainable land management and climate resilience in Bolivia's lowland agroecological landscapes.

# Erika Lucía Arias Ramírez

Colombia

Confederación Agrosolidaria Colombia –civil society organization  
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**M.Sc. in Natural Resources Management  
and Development**

TH Köln and UASLP

**Environmental Engineer**

El Bosque University

Rural woman fully committed to family, peasant, ethnical and community farming, rural tourism, 'civil society natural reserves network' and rural governance in Colombia

## ABSTRACT

### **Online Fair Market from Organized Civil Society in Colombia: Case Study of Food Sovereignty and Tropical Ecosystem Conservation**

In percentage, 34% of the diversified and nutritious food that reaches homes in the world comes from small agricultural units (<2ha) thanks to the work of family farming, it is estimated that peasant farming reaches 70% of Colombian homes. Therefore, in 2018 the UN enacted the declaration on the Peasant rights ratified in Colombia by Act 028 of 2023.

Framed in the above, the continuous Colombian peasants claim show up associative informed awareness about environmental sustainability and food security and sovereignty, being a complex role from local to national governance. Thus, it was collectively created an observatory with 930 peasant families from the Agrosolidaria federation. It seeks to understand how organized civil society resists the violations introduced by the covid- 19 and confinement by continuing the ancestral peasant markets and short marketing chains, which promote equity for small stakeholders, agrifood products and at the same time support the conservation of ecosystems through the philosophy: production respectful with nature, thus contributing to a fair and sustainable local food system.

Besides in the rural territories is known that Tropical forests are threatened to a great extent by the expansion of the agricultural frontier, in contrast, the smallest agricultural units produce the most diversified global food (Ricciardi, et al., 2018). Small scale farming is committed to establishing productions that are respectful with ecosystems, and continue adding value using craft models to reach specialized markets, both aligned with current international agreements as the 2030 Agenda (SDGs 2, 12 and 15). In Agrosolidaria self-managed processes are noteworthy, these ensure sustainability and innovation. These are demonstrated with: i) self-online market incidence with 44% states production presence at the national territory, ii) the self-online market continues its operation to date and, iii) the market became an option to get higher family's revenues by reaching directly the final consumer.

# Katherine Bolanos

Ecuador

SIGTI – EPN

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**MBA**

Leipzig University, Germany

Katherine Bolanos works as part of the SIGTI-EPN team, which is dedicated to multidisciplinary applied research. She completed her studies at the National Polytechnic School-Ecuador and her postgraduate studies at the University of Leipzig-Germany. Katherine had the opportunity to be part of intensive training programs in China, Ecuador and India on economics, environmental conservation and women's empowerment, respectively. Her knowledge and years of experience have been put at the service of youth as a university professor.

## ABSTRACT

### **Peasant Communities as Key Actors for Governance and Policy Formulation and Implementation**

Intag is one of the most biodiverse regions in the world. It is located in Cotacachi-Cayapas National Park in northwestern Ecuador. It has humid and cloud forests, where endemic and endangered species live (e.g., glass-frog, prenadilla-fish, spectacled bear). This fragile ecosystem has been threatened not only by the mining industry but also by the weak implementation of pro-biodiversity policies.

Mineral extraction (i.e., tons of copper and molybdenum) has been considered as a solution to the multiple economic crises that Ecuador has faced. Current laws and regulations, as well as efforts of environmental groups, have been insufficient to prevent mining-extraction activities. Nevertheless, the collective action of Intag's inhabitants has managed to stop most of the mining activity and create neutral socio-economic alternatives.

The literature points out that regional-governance takes center stage due to lack of legitimacy and financial crises in a country. Other approaches establish that the main similarity between governance theory and the theory of new-regionalism is the involvement of actors from different social sectors to design and implement policies. However, the literature presents limited information about the type of actors and their specific roles to enable governance, especially at the regional level.

Using a case-study as research methodology and including multiple sources of evidence (i.e., local documents, interviews and direct-observation), this work presents a 'good-practice' that explains how the intervention of diverse social actors can create an integrative and sustainable governance system. The structure of this work (1) briefly outlines the socio-ecological crises in Intag, (2) describes the main findings of the case-study, related to the role and collective actions of peasants and other non-governmental actors to design/implement integrative pro-biodiversity policies, and (3) suggests approaches for researchers/practitioners to empower local actors for sustainable governance at the regional level

# Pedro Daniel Pardo Villegas, M.Sc.

## Guatemala

Ecology Department, Biology School, Universidad de San Carlos de Guatemala

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## M.Sc. in Tropical Forestry

Technische Universität Dresden, Germany

## B.Sc. in Biology

University of San Carlos de Guatemala, Guatemala

Biologist graduated from the School of Biology, University of San Carlos de Guatemala, with a Master in Tropical Forestry of the Faculty of Environmental Sciences, Technical University of Dresden, Germany.

Experience in research on topics related to floristic and ethnobotanical diversity in communal reserves and protected areas, ecosystem services of agroforestry systems and homegardens, and socio-environmental dynamics in protected areas of Guatemala.

Teaching experience at the university level, in the biology degree program at the School of Biology, University of San Carlos de Guatemala, where he currently works as a full-time professor.

## ABSTRACT

### **Socio-Environmental Dynamics of Protected Areas in Guatemala: From Conservation Focused on Nature to Conservation Focused on Adaptive Management and Co-Management**

In 2010, Guatemala was included in the list of megadiverse countries. Nevertheless, despite the conservation efforts, the increasing loss of natural habitats and biodiversity has resulted in the inclusion of the Mesoamerican region in the list of biodiversity hotspots.

To date, in Guatemala there are more than 300 declared protected areas, which represent approximately 32% of its territory. Still, the socio-environmental problems, product of a development model based on the exploitation and concentration of land, has generated a growing socio-environmental complexity, within and on the borders of protected areas. This panorama leads to question the viability of conservation through protected areas, at least as they were originally conceived. Furthermore, social organizations have come to question the benefits that protected areas provide to local communities (many of these, established after the declaration of the protected area). This situation raises the need to rethink the role of protected areas. This change requires political will and the ability to integrate stakeholders to achieve environmental governance.

In 2011, a research project focused on the socio-environmental dynamic driving the conservation in four protected areas was done. In each of the areas, the socio-environmental dynamics was outlined, identifying local actors and their relationships. This methodology allowed the record of different conceptions based on the experience of each of the social actor that interact with a protected area. In this way, it is possible to recognize a more contextualized definition of a protected area, a definition that responds to the socio-environmental complexity of Guatemala.

# Dr. Marina Arias

## Argentina

Institute of Limnology “Dr. Raúl A. Ringuelet” (ILPLA-CONICET-UNLP).

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### Ph.D. in Natural Sciences

La Plata National University, Argentina

### B.Sc. in Biology (Orientation: Ecology)

La Plata National University, Argentina

I was born in Buenos Aires, grew up in Patagonia, and moved to La Plata to study Biology. Working at ILPLA, I got my PhD focusing on the impact of food production on streams through macroinvertebrate communities. After two amazing and transforming experiences at the Institute for Environmental Sciences in Landau, Germany, I'm back in Argentina as Research Associate to study the role of riparian ecosystems in the relationship between streams and agroecosystems.

## ABSTRACT

### Impact of Food Production in Streams: Challenges and Alternatives

In Argentina, agriculture is the main productive activity, being grain exportation the main destiny of production. Food production for internal market is carried out under the same industrial production model: input- dependence. Based on monoculture, selected-seeds and the intensive use of agrochemicals, horticulture also includes undercover crops, deepening its impact. The streams running through plots are subjected to multiple stressors, together with the lack of regulations for distance to crops. In this context, I studied the impact of agrochemical applications in horticultural production on water quality and biodiversity of streams in the Horticultural Belt of La Plata, one of the most important food production areas in Argentina. We analyzed nutrient and pesticides concentrations and the macroinvertebrate community related to aquatic vegetation. Horticultural streams showed higher nutrient and pesticide concentrations compared to less-disturbed streams, and macroinvertebrate community was characterized by low richness and abundances, together with tolerant invertebrate taxa. Our results show the impact of food production and evidence of the lack of regulations for aquatic environments. Furthermore, these results contribute to the growing concern about the ecological impacts of agrochemicals, along with human health impacts and the increase in food prices. This knowledge generates awareness in both consumers and farmers, who opt for healthier and sustainable ways of production. Ecological agriculture stands out as a strategy for sustainable production that promotes biodiversity and natural cycles, fair trade, responsible consumption and human health. In addition, I discuss how ecological agriculture contributes to the preservation of freshwater and riparian ecosystems. However, the country's policies tend to favor large entrepreneurs rather than family farmers. Promoting sustainable agriculture in the hands of small farmers is key for the sustainable development in Argentina and for the preservation of water resources.

# Ing. Maria Florencia Diaz

Argentina

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**Industrial Engineering**

Tucuman National University

I work as Project Manager in the implementation of SAP S/4HANA software in a leading business group in the northwest of Argentina. Currently, finishing the Bi National Master in Regional Science and Environmental Impact at the Technological University of Córdoba and the Karlsruhe Institute of Technology in Germany. Passionate about the environment and technology.

## ABSTRACT

### **Environmental Governance of the Sugar-Alcohol Industry in Argentina**

Society has long recognized the importance of eliminating unsustainable production and consumption patterns. Therefore, the goal has been to pursue economic growth and sustainability in parallel. Increasing attention is being paid to environmental policy as one of the most important factors for effective environmental management and action. However, there are a number of challenges associated with environmental governance, such as the complexity of the context and the problem to be solved, issues of power and politics, and the fact that all ecological systems and social contexts are unique. Therefore, the assessment and analysis must be conducted with these elements in mind.

On the other hand, the sugar industry is an important economic sector worldwide. Cane sugar is produced mainly in the Americas and Asia. Currently, 80 % of the world's sugar production and a large part of the ethanol produced worldwide comes from sugarcane cultivation. Sugarcane production in Argentina is concentrated in the northwest of the country. Sugarcane is characterized by its socioeconomic importance. In the growing areas, there is greater industrialization and expansion of the production infrastructure, which increases the number of jobs, especially at harvest time (zafra). In addition, the sugar sector is the driving force behind various activities related to agribusiness, marketing and supply systems. Until a few years ago, sugar mills only produced sugar, but today, influenced by the global context and production policies, most of these industries include sugar, ethanol and energy production. Like any industry, they produce waste that has an impact on the environment.

The most important waste in ethanol production is stillage. It has a high content of salts and organic contamination. 10 L of vinasse are produced for 1 L of ethanol. The vinasse is used or deposited in the following places: As fertilizer for agricultural fields, Dumped in Slaughter Zones or rivers. Because of these real-world problems, the idea of a theoretical environmental policy arises as an instrument to guide individual behavior or collective action in pursuit of environmental public goods and related social outcomes.

This problem gives rise to the central question: What is the potential of the concept of Environmental Governance for the sugar-alcohol industry in Argentina?



# Dr. Osvaldo Jordán Ramos

## Panama

Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC)

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### **Ph.D. in Political Science**

University of Florida, Gainesville, USA

### **M.A. in Latin American Studies**

University of Florida, Gainesville, USA

### **B.Sc. in Biology**

California State University, Chico, USA

Dr. Osvaldo Jordán Ramos has a Ph. D. in Political Science at the University of Florida, Gainesville; and a bachelor's degree in biology at California State University, Chico. He is currently a research associate at the Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC), based in Panama; and has participated as a research/advocate in various civil society and environmental organizations dedicated to the protection of water resources, wetland conservation, community participation, and the defense indigenous territories in The Americas.

## ABSTRACT

### **Indigenous Movements, Civil Society and Environmental Governance in Latin America**

In the context of Climate Change, the rising concern for the scarcity of water resources and improved water management has coincided with a wave of support for the protection of Indigenous territories, identities and land rights at the international level. This poses daunting challenges for policymakers, private companies and other social actors at the national level as property rights become a critical question for the allocation of water resources and watershed-level decision-making. The traditional primacy of the State becomes relativized when confronted with preexisting indigenous rights, and there emerges the urgent need for new legal arrangements and building social consensus to satisfy conflicting demands. This presentation will review the recent history of countries in Latin America examining the root causes of recurring conflicts over the allocation of water resources as well as major legal advances that are currently influencing global discussions such as the Escazú Agreement. The protracted conflict over the construction of the Barro Blanco hydroelectric dam in the legally recognized Ngäble-Bugle Autonomous Territory (Comarca) in Panama between 2008-2016 will illustrate the complexities of these dilemmas showing the discolations between international, national, territorial and community levels of governance; and how the concept of sustainable development may be misinterpreted, marketed and even voided when confronted with different worldviews, lifestyles and aspirations. A set of conclusions will offer food for thought for new initiatives moving in a collision course in the region such as the recently authorized expansion of the Panama Canal Watershed.

# Dr. Simon Benedikter

Germany

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Simon is a social and environmental scientist with research and practical work experience in natural resources and environmental management, particularly with regard to water and forests in the Asia-Pacific region. From 2007 to 2013, he was based in the Mekong Delta (Vietnam), where he coordinated research on water management and governance on behalf of the Center for Development Research (ZEF, Germany). He then served as a GIZ-affiliated adviser to the Vietnamese Environmental Ministry (Hanoi) with a focus on climate protection and ecosystem-based adaptation from 2014 to 2017. Since 2018, Simon has been a researcher and project coordinator in the Institute of International Forestry and Forest Products at TU Dresden, where he coordinated research on forest landscape restoration in the Greater Mekong region. He is coordinating the international networks of his institute, including the Global SDG Campus and alumni network INREM.

**Ph.D. in Development Studies**

University of Bonn, Germany

**M.Sc. in Applied Environmental Sciences**

University of Koblenz, Germany

**Diploma (equivalent to M.A.) in Southeast Asian Studies**

University of Bonn, Germany

# Dr. rer. nat. Sabine Hahn-Bernhofer

## Germany

Technische Universität Dresden, Faculty of Environmental Sciences, Institute for Hydrology and Meteorology, Chair of Meteorology, International Master Course Hydro Science and Engineering at TUD, coordination of applications and DAAD-EPOS scholarships.

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After biology studies in Würzburg, emphasis on ecology, employment in teaching, and doctorate on gas exchange measurements in lichens in the field, several rather management assignments followed. Moving to Dresden for family and two children. Since 2004 working for DAAD-EPOS program, coordinating applications and scholarships for HSE.

## **Doctoral Degree in Biology**

Julius-Maximilians-Universität Würzburg, Germany

## **Diploma in Biology**

Julius-Maximilians-Universität Würzburg, Germany

# Prof. Dr. Christian Bernhofer

Germany (Affiliation), Austria (Citizen)

Chair of Meteorology, Institute of Hydrology and Meteorology,  
Department of Hydro Sciences, Faculty of Environmental Sciences,  
Dresden University of Technology  
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**Ph.D. (Dr. phil.) in Meteorology (Major)  
and Botany (Minor)**

University of Vienna, Austria

**Venia Legendi (Habilitation) in Applied  
Meteorology**

Universität für Bodenkultur, Vienna,  
Austria

After studies and research in Vienna (Austria) and the US (Ft. Collins, Colo.; Tucson, Az.), Bernhofer moved to Dresden as holder of the Chair of Meteorology in 1993. His research spans various topics, including urban climatology, atmospheric studies in complex terrain, energy, water and carbon fluxes at the Earth's surface and regional climate and climate change. He served as Dean of Studies (Hydro Sciences) and introduced the master program in Hydro Science and Engineering in 2004. As a senior professor his current interests are centered on meteorology-hydrology-ecology as well as on climate change adaptation.

## ABSTRACT

### Water, Carbon, and Climate Change

The need to include Nature Based Solutions (NBS) in the management of environmental resources is a major challenge and a potential tool for mitigation of climate change. Here, water limits and vegetation dynamics are crucial processes at all scales from plot to global. Understanding these processes requires interdisciplinary approaches and team work. Simultaneously, human attempts to manage resources cause disturbances, despite their vital and unique services (like the provision of food and fiber; clean water). Examples will elaborate this nexus, including the upcoming debate on ESS (Ecosystem Services) and NBS. As climate change is approaching critical tipping points, urgent action is required while carefully checking for consequences.

# Prof. Dr. Lukas Giessen

Germany

TU Dresden, Chair of Tropical and International Forest Governance

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- Consultant FAO, Rome (2004)
- Phd and PostDoc researcher U Goettingen (2005–2011)
- PostDoc U Wageningen (2011–2012)
- Senior Scientist U Goettingen (2012–2017)
- Principal Scientist “Forest Governance”, European Forest Institute (EFI, 2017–2020)
- Chair in Tropical and International Forest Governance (2020–date)

**Habilitation in Forest Policy and International Land Use Governance**  
University of Göttingen, Germany

**Ph.D. in Forest Policy**  
University of Göttingen, Germany

**M.Sc. in Sustainable Forestry and Land Use Management**  
University of Freiburg, Germany

**Dipl. Ing. (FH) in Forest Engineering and Management**  
FH Göttingen, Germany

## ABSTRACT

### Land and Forest Governance – Theoretical Consideration

The talk aims to introduce the analytical concept of governance to the field of land use sciences and forest governance in particular. It differentiates normative political from analytical scientific understandings and introduces participants to the core elements of national and international institutions on forests, relating actors and effects on forests. In doing so, it links the concepts of governance with public policy and sketches out the policy-making process.

# Prof. Dr. Pablo Yapura

Argentina

Faculty of Agricultural and Forest Sciences, La Plata

National University

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**Forest Engineer**

La Plata National University

He has worked as a teacher for more than 30 years in the Forest Management and Operations Research courses of the Forestry degree at his Faculty, and currently he holds a tenured full professor position. In the past, he has also served in several executive positions at his Faculty for almost 12 years. As a researcher, he currently works in Forest Management Planning and Optimization at the Ecological and Environmental Systems Laboratory (LISEA), an accredited scientific unit at the university level.

## ABSTRACT

### **Developing Climate Change Adaptation Within Strategic and Integral Management Planning for the Pulmarí Territory**

In 1988, synchronized national and Neuquén provincial laws founded Corporación Interstadual Pulmarí (Pulmarí Interstate Corporation) as an autonomous public entity. As contracting parties, both state levels integrate into the corporation's patrimony and, for the fulfillment of its purposes, a set of properties covering a total area of ca. 113.000 ha, entirely located in the Aluminé Department of the province. The interstate agreement also established that the corporation's purpose was to use these lands for the social and economic growth of its region and, mainly, of local indigenous communities. To these ends, the corporation could develop any compatible land use, such as farming, forestry, mining, industrial, commercial, and tourism activities, among others explicitly referred to. On top of a previous strategic planning effort carried out more than 10 years ago, the aim of this project was to develop an updated planning exercise, this time with both a comprehensive scope and a truly long-term horizon. And given current global concerns, it was considered mandatory to incorporate a climate change adaptation approach into this planning exercise. This keynote will present the conceptual framework and assumed approaches that research lab LISEA, in a consulting capacity, has made explicit and agreed upon with corporation authorities in order to carry out this planning exercise. It will also present a sequence of stages that were designed for the entire planning project, until the completion of a management plan that documents the entire process and can become the management tool the corporation needs to better accomplish its goals.

# Dr. Azin Zarei

Germany

Research associate, United Nations University (UNU-FLORES)

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**Ph.D. in Natural Resource Engineering**

University of Tehran, Iran

Dr. Azin Zarei is a Research Associate at the United Nations University (UNU-FLORES), specializing in assessing climate change impacts on vegetation cover using remote sensing, Geographic Information Systems (GIS), and statistical models. She is currently involved in the Sustainability Nexus AID programme at UNU-FLORES. Previously, as a Postdoctoral Researcher at the Potsdam Institute for Climate Impact Research (PIK), she extended her research to Tanzania and contributed to drought and climate change monitoring projects with the UNESCO International Hydrological Programme (IHP).

## ABSTRACT

### **Advancing Integrated Natural Resources Management: UNU-FLORES Initiatives for Sustainable Development**

Integrated Natural Resources Management adopts a holistic approach to balancing ecological health, economic development, and social equity, ensuring the long-term conservation and sustainable use of natural resources. The United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES) is advancing several initiatives, including the Resource Nexus for Sustainability Transformations (NEXtra) programme. NEXtra supports doctoral research from the Global South on sustainability transformations using a Resource Nexus perspective.

The Sustainability Nexus Analytics, Informatics, and Data (AID) Programme, another key initiative of The United Nations University (UNU), supports the Resource Nexus approach to integrated resource management and sustainable development. This programme focuses on advancing the management of water, soil, waste, energy, and geo-resources through three main pillars:

- **Resource Nexus Data:** Enhances data exchange and addresses gaps to improve analysis of resource nexus in coupled human–environment systems. This pillar inventories existing data and identifies gaps, supporting governments, societies, and businesses in tackling global environmental challenges.
- **Resource Nexus Informatics:** Builds and refines capacities for processing resource nexus data. It develops and promotes advanced tools and best practices for managing and analyzing data within human–environment systems.
- **Resource Nexus Analytics:** Facilitates the extraction of actionable information from data to support decision-making, focusing on the development and promotion of state-of-the-art analytical tools and frameworks.

The Sustainability Nexus AID Programme aims to position UNU-FLORES as a global leader in Resource Nexus Analytics, Informatics, and Data, addressing the triple planetary crisis of climate change, biodiversity loss, and pollution. By aligning with the 2030 Sustainable Development Goals (SDGs), the programme promotes integrated resource management and sustainable development. Through its modular structure and problem-driven approach, it engages a broad network of professionals for regional and global collaboration, fostering a community of practice to effectively address sustainability challenges and achieve the SDGs. Further information can be found at <https://www.sustainabilityaid>.

# Dr. Sarah Burns

Argentina

IILISEA (UNLP) / Chair of Tropical and International Forestry (TUD)

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**Ph.D. in Forest Policy**

University of Göttingen, Germany

**M.Sc. in Ecohydrology**

National University of La Plata, Argentina

**Forest Engineering**

National University of La Plata, Argentina

Group Leader of the Working Group "International Forest Governance and Multilateralism"

Co-Editor-in-chief of Forest Policy and Economics.

Coordinator of IUFRO Unit 09.05.00 on Forest Policy and Governance

My research focuses on forest policy and governance at the interface between the national and international levels, using qualitative and quantitative approaches.

## ABSTRACT

### Towards Quantitative Explanations of Foreign Forest Policies in South America

In recent decades, globalization has impacted all policy sectors. As a result of this trend the capacities of central foreign bureaucracies to oversee all foreign affairs, especially issue specific ones, are exceeded allowing other bureaucracies to expand and build up own units dealing with these issue-specific international relations. Hence, foreign policies are determined by bargaining horizontally between bureaucracies with different interests within a state, competing with the once monopoly-holding foreign affairs bureaucracies and leading to a complex structure of a country's foreign policy.

Empirically, forests have been important issues in international policies since the Earth Summit in 1992. Consequently, countries' bureaucracies have included forests as an issue in their foreign policy agendas with forest related bureaucracies becoming increasingly relevant in foreign policy. However, the forest sector has strong relations with the environmental, agricultural and industry sectors competing but also making coalitions based on the overlapping portions of their interests. South America, relatively more forested than any other region of the world has received a lot of international attention being a crucial focus of global forest policy. However, the importance of forests as an issue widely varies between countries, which can be assumed having severe implications on a country's foreign forest policy; while some countries like Brazil have forest-based economies, in other countries like Argentina the forest sector is negligible. This paper aims at comparing the foreign forest policy in two countries of South America with different forest importance, Argentina and Brazil, across time. In order to do so a two-stage strategy was employed, combining qualitative content analysis and social network analysis. Our results showed that in Brazil more actors and their coalitions were involved in the development of foreign forest policy, resulting in complex policy networks and limiting the autonomous agency the coalitions could perform. Contrary, in Argentina a limited set of actors and coalitions engaged, providing them with high degrees of autonomy.



# SEMINAR COORDINATION



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## Dr. Sarah Burns

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## Prof. Dr. Pablo Yapura

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# JOIN THE ALUMNI NETWORK!



The professional alumni network "Integrated Natural Resources and Environmental Management (INREM)" was founded in 2022 as a global network of experts. Located at the Faculty of Environmental Sciences of Technische Universität Dresden (TU Dresden), INREM unites international educational programs with developmental relevance in environmental sectors: CIPSEM, M.Sc. Ecosystem Services, M.Sc. Hydrosience, M.Sc. Tropical Forestry and UNU-Flores. As an interdisciplinary North-South-South expert network, INREM brings together alumni in a transnational initiative. It aims to facilitate regular exchange of experiences, joint, social learning, and international networking among its members.

Interdisciplinary and integrative thinking and acting constitute the leitmotif of INREM. Both are essential for sustainable development in the sense of the Agenda 2030 and the Sustainable Development Goals.

