



Tipping Points in the Social-Ecological System of the Southwestern Amazon

How diversity regulates soil health, livelihood security, social cohesion and regional climate change - Interdisciplinary postgrad-course taught online by the PRODIGY-Team in 2022/23 in cooperation with FAUTAPO/Bolivia and Parque Zoobotânico/UFAC/ACRE.

Call for participation

Human-nature relations can be approached from diverse perspectives. We, as an intercultural and transdisciplinary research group, proceed as follows:

In order to identify and tackle ecological, social and economic tipping points in the Southwestern Amazon, we ask how diversity regulates soil health, livelihood security, social cohesion and regional climate change. Starting from functional biodiversity in the soils, we look at the significance of ecosystem services, regional climate change and environmental governance for ecological, economic and societal resilience.

Access to land and natural resources is becoming an increasingly central component of local, national and transnational economic strategies in many countries of the world. This competition over land is increasingly influenced by external factors such as climate change, (inadequate) climate and environmental policies, growing demand for food, water and minerals. Moreover, land grabbing, land and food speculation on financial markets increase the risk of conflicts. These conflicts not only affect the distribution of natural resources, but also the lives of the local population living in or near protected areas that are under pressure because of their economic value in this field of tension, our research aims at co-producing transformation knowledge regarding sustainable solutions and, at best to inform local and international political decision-making processes.

Valorizing the research activities and the broad interdisciplinary knowledge of the PRODIGY- team and partners working in scientific institutions in Germany, Brazil, Bolivia, and Peru, we provide real-world insights into the benefits and challenges of inter- and transdisciplinary research and learning in the context of aforementioned aims. After two exclusively virtual courses due to COVID-19, we hope to be able to offer interested participants the opportunity to get engaged with the team through ongoing field-research, a master thesis or other collaboration formats.

About the Research Project and its partners

PRODIGY is a scientific cooperation project between Germany, Brazil, Bolivia and Peru. The principal interest of the project is to understand whether a higher diversity within systems spanning from soil health to economic and social aspects enhances the social-ecological system's resilience. Our research addresses the constantly transforming dynamics between nature and society and is based in the

southwestern Amazon, the tri-national MAP region (the Department of Madre de Dios (Peru), the state of Acre (Brazil) and the department of Pando (Bolivia). The fact that we are dealing with three different countries, also makes the comparison of its (environmental) governance strategies so interesting. The project aims at describing the complex interdependencies by revealing the respective tipping points of the system's immanent functions and consequently their interactions and potential feedback mechanisms. Tipping points occur when a system suddenly changes to a different state and they are often irreversible. Consequently, besides the ecological equilibrium, the exceeding of a tipping point often threatens human wellbeing on a mid- to long term scale. Jointly with local stakeholders, PRODIGY aims at contributing to the development of sustainable options for future decisions, which can avoid the crossing of system relevant tipping points and safeguard livelihoods in a transforming world. Additionally, PRODIGY is concerned with guiding young scientists towards inter- and transdisciplinary perspectives. In this spirit and with the aim to embed this course locally, we recently confirmed pilot-partnerships with the Bolivian [Foundation FAUTAPO](#) and the [Parque Zoobotánico da UFAC](#). In this run (2022/23) we will explore all content-related and practical interfaces with our new partners in order to develop a joint curriculum for extension and complementary courses for the next run (2023/24).

For more information on the project visit our [website](#) and follow us on twitter @ProdigyBioTip and instagram prodigybiotip.

Course-Format

For our PRODIGY postgrad course, we are looking for approx. 50 participants from Universities in Germany and institutions and Universities in the MAP region as well as between social & natural scientists & practitioners, we welcome all genders.

The teaching language will depend on the composition of participants; English, Spanish and/or Portuguese will be used. Thus, applicants should have at least a reading and understanding ability in all three languages. Course contents and discussions will happen in all three languages and often there will be no possibility for translation.

Criteria for Participation (in any of the three languages)

- Master-course-level/completed Bachelor or comparable experience in practice
- Openness to collaboration with people from other educational and cultural backgrounds
- Openness to engage with other academic disciplines and with practitioners
- Ability to work independently in a working group

Submission Requirements

- C.V. (max. 2 pages) & motivation letter (max. 300 words)
- A reflection of up to 300 words on human-nature-relationships in a context well known to you

Course Content

From October 2022 to March 2023, we offer 6 virtual modules on zoom; the overall workload of the course will be 180 hours, including working group work and preparatory time; participants receive 6 ETCS-points from University Landau/Germany and a comparable recognition if they come from the FAUTAPO or UFAC context.

In addition to preparatory reading, virtual lectures and podcasts on key terms of the project are provided by PRODIGY-team-members as teasers for discussions; practical experiences will be integrated to working group activities. In the context of the new partnerships, fieldwork may be possible allowing participants to flexibly participate (internships, master theses, etc.) depending on their location.

1. Introduction to the PRODIGY-project, the FAUTAPO activities and the focus of the Parque Zoobotânico

What is the global importance of Amazonia? Why Southwest Amazonia as study case? What is special about the MAP-region? Which are the core questions the project is dealing with? Which different and holistic perspectives are offered by integrating different disciplines? Which are the key concepts we are dealing with? What can science contribute to improve human-nature relationships and sustainable development?

2. Stocktaking of participants' knowledge

Introduction to intercultural learning, inter- & transdisciplinary learning & peer-learning; research ethics; introduction to research design; formation of working groups: On which previous knowledge can we build on? What can we learn from each other? How do we learn? How can individual and collective research be designed? How does internal communication work in a transdisciplinary research project?

3. Land Use Science - concepts, approaches and theories

How do the environmental, social, and economic systems influence land use decisions and consequently land use? How do political and cultural backgrounds such as Indigenous vs peasant and western culture impact on land use? Which different concepts of conservation exist? How do institutions influence land use decisions and what about the implementation of policies? What is the connection between land use and conflicts? What is the connection between land use change and tipping points?

4. Research-Methods: qualitative and quantitative, modelling, co-production etc.

How to deal with complexity in interdisciplinary research? Which methods orient research in the respective disciplines? How can they be made compatible? How can disciplines integrate (interdisciplinarity, transdisciplinarity) in research? How to deal with complex systems?

5. Policy Frameworks & Instruments (CBD, SDG's, Paris Climate Agreement etc.)

What are the objectives of sustainable development? Which kinds of instruments exist to transform theory into practice and thereby inform policy-making? How does agenda-setting and decision-making work in rural and urban areas and how in global fora?

6. Science Communication

Why are we co-producing knowledge and for whom? How are the results of a research project produced and communicated? What is the impact of the knowledge generation process on the dissemination of results to the region's population and decision makers? How does external science communication work? How to translate complex scientific results into simple language?

Schedule

Deadline for applications: 13th of August 2022

Send your application documents to the following address: postgrad@prodigy-biotip.org

In case you need more information you can contact the PRODIGY-course-committee: Regine Schöenberg (Free University of Berlin) regine.schoenenberg@fu-berlin.de, Claudia Pinzón (Free University of Berlin) claudia.cuellar@fu-berlin.de, Foster Brown (UFAC-Rio Branco/Acre & Woodwell Climate Research Center) fbrown@woodwellclimate.org, Galia Selaya (EcosConsult, Bolivia) gselaya@outlook.com, Diana Figueroa (Free University Berlin) diana.figueroa.gutierrez@fu-berlin.de

Acceptance until 31st of August 2022

Virtual preparatory meeting (obligatory): 29th of September 2022 17-19h Germany, 10-12h Acre, Madre de Dios, 11-13h Pando

Start of virtual-teaching: 13th of October 2022

End of the 6 modules: 31st of March 2023

This course will be announced in and taught by all PRODIGY partner institutions. The University Koblenz-Landau will emit a certificate of participation equaling 6 ECTS (points).

Participating Institutions

Germany: Universität Koblenz-Landau, Campus Landau, Institute for Environmental Sciences (iES Landau); Universität Hannover, Institute of Soil Science; Freie Universität Berlin, Institute for Latin American Studies (LAI); Universität Kassel, Center for Environmental Systems Research (CESR); Universität Bonn, Center for Development Research (ZEF); Universität Hamburg, Institute of Geography.

Sweden: University of Uppsala

In the MAP (Madre de Dios-Acre-Pando) region: FAUTAPO (Bolivia), EcoConsult (Bolivia); Universidade Federal do Acre (UFAC, Brasil); Universidad Nacional de San Antonio Abad del Cusco (UNSAAC, Peru); Centro de Innovación Científica Amazónica (CIN CIA, Peru); Asociación Boliviana para la investigación y conservación de ecosistemas Andino Amazonicós (ACEAA, Bolivia); Parque Zoobotánico da Universidade Federal do Acre (UFAC), Setor de Estudos do Uso da Terra e de Mudanças Globais; Empresa Brasileira de Pesquisa Agropecuária (Embrapa, Brasil); Universidad Amazónica de Pando (UAP, Bolivia)