



Tipping Points in the Southwestern Amazon

How diversity regulates soil health, livelihood security, social cohesion and regional climate change - Interdisciplinary Project-Course taught online by the PRODIGY-Team in 2020/21

Call for participation

Access to land and natural resources is becoming an increasingly central component of local and national 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 the financial markets increase the risk for conflicts. In this field of tension, our research aims to support the development of rational and sustainable solutions and to inform local and political decision-making processes.

In order to approximate to the 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 tackle the significance of ecosystem services, regional climate change and environmental governance for ecological, economic and societal resilience.

Valorizing the research activities of the PRODIGY- project team for making young scientists familiar with an interdisciplinary research approach, **we will give students the opportunity to gain real world insights into the benefits and challenges of inter- and transdisciplinary research** and learning in the context of aforementioned aims. Interested students will be given the opportunity to get engaged with the project through an internship, a master thesis or other collaboration formats.

About the Research Project

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 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 states of Madre de Dios (Peru), Acre (Brazil) and 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. These changes 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 transdisciplinary perspectives.

For more information on the project visit our website www.prodigy-biotip.org and follow us on twitter and instagram @ProdigyBioTip.

Course-Format

For this first round of our PRODIGY online teaching course we are looking for approx. 50 participants, aiming at gender-balancing and balancing participants from Universities in Germany and institutions and Universities in the MAP region as well as social & natural scientists & practitioners. .

The teaching language will be depending on the composition of participants, English, Spanish and/or Portuguese will be used. Thus, at least a reading ability in all three languages is an advantage.

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

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 August 2020 to February 2021 we offer 6 virtual modules with 2 X 2 hours each on the teaching-platform go-to-meeting; the overall workload of the course will be 90 hours, including working groups and preparatory time (adequate to 3 ECTS).

In addition to preparatory reading, podcasts on key issues of the project are provided by PRODIGY-team-members as teasers for discussions; practical experiences will be integrated to working group activities. As soon as fieldwork is possible again (due to Covid-19), we will allow participants to participate flexibly (internships, master theses, etc.), depending on their location.

Module 1: Introduction to the PRODIGY-project

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

Module 2: Stocktaking of participants' knowledge

Introduction to intercultural learning, inter- & transdisciplinary learning & peer-learning; 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 research be designed?

Module 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 campesino and western culture impact? Can institutions influence land use decisions? What is the connection between land use and conflicts? What is the connection between land use change and tipping points?

Module 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 disciplines integrate (interdisciplinarity, transdisciplinarity) in a research? How to deal with complex systems?

Module 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)?

Module 6: Science Communication

How does internal communication work in a transdisciplinary research project? How are the results of a research project produced? 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?

Schedule

Please send your applications by the **29th of June 2020** to Regine Schöenberg (regine.schoenberg@fu-berlin.de) (FU Berlin) and to Sabina Cerruto Ribeiro (sabina.ufac@gmail.com) (UFAC-Rio Branco/Acre).

Acceptance until:	3 rd of July 2020
Virtual preparatory meeting (obligatory):	24 th of August 2020
Start of the PRODIGY-virtual-teaching:	18 th of September 2020
End of the 6 modules:	February 2021

This course will be announced in and taught by all PRODIGY partner institutions. The University Landau who is heading PRODIGY will emit a certificate of participation equaling 3 credit points (adequate to 90 hours workload).

Participating Institutions (potentially)

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.

Costa Rica: CATIE - (Centro Agronómico Tropical de Investigación y Enseñanza) (requested).

Brazil: Universidade Federal do Acre (UFAC); Empresa Brasileira de Pesquisa Agropecuária (Embrapa); Centro de Trabalho Amazônico (CTA), Instituto de Mudanças Climáticas (IMC).

Bolivia: Herencia; Asociación Boliviana para la investigación y conservación de ecosistemas Andino Amazónicos (ACEAA); Universidad Amazónica de Pando (UAP).

Peru: Universidad Nacional de San Antonio Abad del Cusco (UNSAAC); Centro de Innovación Científica Amazónica (CIN CIA);