

Invitation to a Guest Lecture
at the joint colloquium of the Institute of Biology and Environmental Sciences and the
Department of Neuroscience

Module bio890: Current topics in biology

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**Rainforest Ecological Health Status: How to take its "Temperature" from
the Ground to the Canopy**

Ecological interactions are being affected at unprecedented rates by human activities in tropical forests. Yet, the continuity of ecological functions such as seed dispersal is crucial for forest regeneration. It thus becomes increasingly urgent to be able to rapidly assess the health status of these processes in order to take appropriate management measures. Using new methods that we developed to rapidly assess the level of seed removal and frugivore activity in the understory and in the canopy, we aimed at evaluating the effect on the health status of the nearby mature forest of a recently-open road in French Guiana. Our results showed that the proportion of fruits opened and consumed, and the level of seeds removed in the forest within the vicinity (< 1-2 km) of the road is ca. 30-50% lower than previous observations carried out at a remote control forest (Natural Reserve of Nouragues). Our indices also confirm that large birds (toucans) and small body-sized primates (kinkajou) are the main consumers and seed dispersers remaining in the forest nearby the road. We also show that the primates-specialist tree species are more affected by road proximity than vertebrates-generalist tree species thanks to some compensatory effects by birds when large primates are barely present. Therefore, despite efforts to preserve forest continuity (vegetation bridge over the asphalted road), increased hunting pressures in forests nearby the road remains the main driver of defaunation which has affected ecological processes such as seed dispersal less than a decade after the road was opened to traffic.

20.06.2022, 10 am s.t.

room: W03 1-152

Host: Prof. Dr. Gerhard Zotz (Functional Ecology of Plants), IBU

Members of all institutes are cordially invited to join the lecture.