

EINLADUNG

Kolloquium
Sommersemester 2022

Prof. Dr. Bethanie Carney Almroth

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hält am Dienstag, den **06.09.2022**, um 16:15 Uhr, digital via Zoom, einen Vortrag über

„The planet cannot take more pollution! We are outside the safe operating space for humanity“



In a recent publication together with a group of experts, we submitted that the safe operating space of the planetary boundary of novel entities has been exceeded since annual production and releases are increasing at a pace that outstrips the global capacity for assessment and monitoring.

This talk will describe the novel entities boundary in the planetary boundaries framework, which refers to entities that are novel in a geological sense and that could have large-scale impacts that threaten the integrity of Earth system processes. In the publication, we reviewed the scientific literature relevant to quantifying the boundary for novel entities and highlight plastic pollution as a particular aspect of high concern. An impact pathway from production of novel entities to impacts on Earth system processes was presented. We defined and applied three criteria for assessment of the suitability of control variables for the boundary: feasibility, relevance, and comprehensiveness. We then proposed several complementary control variables to capture the complexity of this boundary, while acknowledging major data limitations.

We concluded via a weight of evidence approach that humanity is currently operating outside the planetary boundary. The increasing rate of production and releases of larger volumes and higher numbers of novel entities with diverse risk potentials exceed societies' ability to conduct safety related assessments and monitoring. We recommend taking urgent action to reduce the harm associated with exceeding the boundary by reducing the production and releases of novel entities, noting that even so, the persistence of many novel entities and/or their associated effects will continue to pose a threat. We need to find ways forward on multiple scales, from local to global, and some of these approaches will be discussed.

Einladende: Prof. Dr. Dr. h. c. Henner Hollert und Fabian Weichert, M. Sc.

Dieser Vortrag findet lediglich in **Digitaler Form** statt. Über diesen Link kommen Sie zu der entsprechenden Veranstaltung:

<https://uni-frankfurt.zoom.us/j/65372822827?pwd=OXBKMlV0Q1hQWmt1THhBNk1RQnRTZz09>

