

# Geographisches Kolloquium Sommersemester 2022



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**Dienstag, 05.07.22, 16.15 - 17.45 Uhr**

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## **Remote sensing and GIS-based approach on deprived environment mapping in Ghana**

Building extraction for slum areas or informal settlement is very important, given the complexity that exists within this special place within the urban area. Slums are unique in terms of the population density, spatial complexity, heterogeneity and even ontologies. It is worth looking at the existing works and their contribution to the detection and delineation of these informal settlements. The application of new knowledge that is scalable is desirable taking into consideration the variability of socio-economic data and relationships that may exist between them and the geography of slum areas. Slum building extraction in many studies have looked at underdeveloped countries or developing countries but is there a need for a closer look; slums cause severe societal problems or are important indicators of poverty or deprivation. In this proposed study, we will employ existing deep learning methods and investigate the possibility of selecting optimal statistical learning methods with one objective in mind - relate the presence of slum buildings in parts of the city of Accra, Ghana to deprivation. We will apply statistical learning specifically to very high-resolution (VHR) remote sensing imagery. We hope to effectively extract the outline of slum building outlines and by extension establish a relationship between geometry and/or morphology and urban poverty. Precisely, we hope to prove that the morphology of buildings may reveal the property of deprivation and be tested across other cities characterized by slums.