

**Speaker: Juliette Unwin (University of Bristol)**

**Date: 11/03/2025 at 13:15 in 1 WN 3.11**

**Title: Using statistical modelling to inform global health policy**

**Abstract:**

In this presentation, I will give an overview of several pieces of work that my collaborators and I have done using statistics and statistical modelling to inform global public health policy. The first part of the talk will focus on developing methods associated with pandemic preparedness. I will explain research into two related semi-mechanistic branching process type models (Renewal and Hawkes process) that we have used to explain infectious disease transmission included malaria in near elimination settings and COVID-19. Then I will describe methods that we have developed for the Global Reference Group of Children Affected by Crises to advocate for some of the most marginalised children around the world. These include estimating the minimum number of children who lost a parent or caregiver during the COVID-19 pandemic, data science techniques to identify the leading causes of orphanhood in the United States and recent work using computer vision models to estimate child poverty.