

## Investigating the transcontinental-scale distribution of antibiotic resistance along the Belt and Road initiative countries

With the rapid development of social economy, various environmental and health problems are emerging. The Belt and Road initiative covers 60% of the world's population, protecting the environment and health is a core issue to ensure its sustainable development. Antibiotic resistance and its rapid spread on a global scale pose a great threat on human health, agriculture, economics and ecosystem. Environment is a huge reservoir of antibiotic resistance. In order to jointly cope with the increasingly serious problem of environmental dimension of antibiotic resistance and enhance the people's well-being, we will employ advanced technologies such as high-throughput quantitative PCR to reveal the large-scale distribution characteristics of antibiotic resistance genes (ARGs) in the environment along the Belt and Road countries. We will further analyze the relationship between ARGs and some potential influential factors such as economics, trade, population, climate and so on. These efforts will contribute to mitigating the occurrence and spread of antibiotic resistance and advancing protection of public health and environment.



