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Martynas Keršys
Šarūnas Mickus

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Milda Stancikaitė

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THE MODERN RESPONSE TO INFECTIOUS DISEASE OUTBREAKS USING GENETIC SEQUENCING

Gytis Dudas

Vilnius University, Life Sciences Center

The modern response to infectious disease outbreaks has become unimaginable without sequencing, the reading of the genetic code that makes up the pathogen. Due to increasingly cheaper sequencing technologies, it is now trivial to diagnose genetic conditions in humans and many infectious disease outbreaks caused by bacterial, viral, and even fungal pathogens can be dissected with a remarkable degree of precision, revealing information that would be impossible or unfeasible to get via any other means. You'll hear about a few outbreaks and epidemics from the headlines of the last decade (e.g. Ebola virus in West Africa 2013-2016) whose investigations using pathogen genetic sequence data spearheaded the ongoing revolution in epidemiology, how such information was used in Lithuania during the SARS-CoV-2 pandemic, and how methods developed in this field are now being applied in entirely new areas, like looking at infections in mosquitoes.