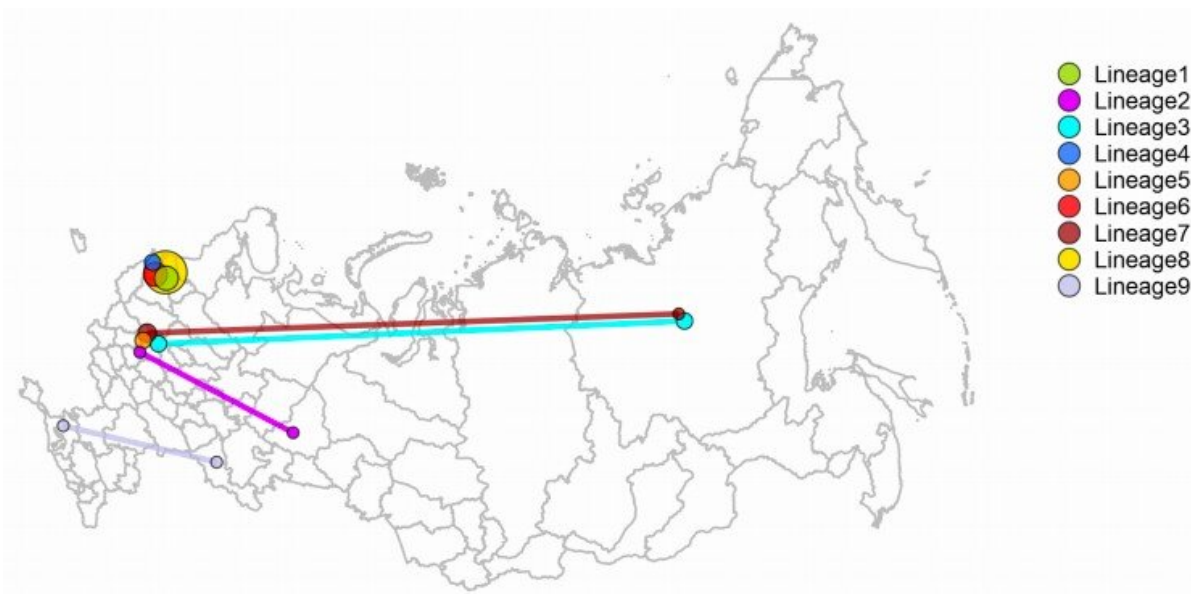


Russia's COVID-19 strain did not come from China

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Credit: Skolkovo Institute of Science and Technology

Scientists from the Skoltech Center for Life Sciences (CLS) and their colleagues from the Higher School of Economics (HSE), Smorodintsev Research Institute of Influenza (RII) in St. Petersburg and the Kharkevich Institute for Information Transmission Problems of RAS (IITP RAS) in Moscow undertook the first study of COVID-19 genomic epidemiology in Russia. The researchers performed genetic analysis of 211 virus samples taken from patients in Russia between March 11 and

April 23. Their findings confirm the assumption that COVID-19 made its way into Russia from Europe in late February and early March.

Right now, Russia ranks fourth in the world in terms of COVID-19 case count, although the outbreak occurred in Russia later than in many neighboring countries. A possible reason is that Russia has shut down its border with China early. However, it is only through [genetic analysis](#) of viral samples that one can obtain precise data on the spread of the [virus](#) and the efficiency of various infection control methods. Viruses mutate fast, so by studying viral mutations and comparing viral genome sequences, one can reconstruct the evolution and spread of the virus in a population.

A group of researchers from Skoltech CLS, HSE RII, and IITP RAS led by Georgii Bazykin, a professor at Skoltech, looked at the pattern of COVID-19 spread in Russia at the early stages of the pandemic. By combining [genetic data](#) on the strains circulating in Russia with travel history data, the scientists concluded that Russia's viral diversity results from at least 67 distinct virus imports into different Russian cities in late February and early March. It was found that, unlike many other countries, Russia got its virus from Europe and not China. Importantly, many early imported COVID-19 cases did not lead to transmission within Russia. However, at least nine different coronavirus strains that are currently circulating in Russia have not been encountered elsewhere. A separate analysis concerns the major COVID-19 outbreak at the Vreden Russian Research Institute of Traumatology and Orthopedics in St. Petersburg where over 400 people got infected at the institute's hospital. It was discovered that the Vreden hospital's viral strain has subsequently spread over St. Petersburg, contributing to the overall epidemiological situation in the city.

"It's not just about the history; genomic epidemiology also helps interpret future events. For example, imagine that Russia opens its

borders, and case counts start to rise. Is this a coincidence, or do those cases originate from newly imported virus? By comparing the genomes of new and old viruses, we will be able to tell," explains professor Bazykin.

More information: Andrey B Komissarov et al. Genomic epidemiology of the early stages of SARS-CoV-2 outbreak in Russia, (2020). [DOI: 10.1101/2020.07.14.20150979](https://doi.org/10.1101/2020.07.14.20150979)

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