

PATRICIA BEST, Department of Biology, Fairmont State University, Fairmont WV, 26554, and DR. RACHEL COOK, Dept of Biology, Fairmont State University, Fairmont WV, 26554. Analysis of SARS-CoV-2 Variant of Concern Mutations in West Virginia.

The SARS-CoV-2 virus, which causes COVID-19, has led to a pandemic that has impacted the world for over two years. With new variants and mutations on the rise, the objective of this project was to determine how the variants of concern (VOC) that were discovered in West Virginia differed from the original SARS-CoV-2 strain found in Wuhan, China. Using the NCBI SARS-CoV-2 database, sequences were selected and sorted based on the location of the mutation in the genomic sequence. Complete nucleotide sequences of the surface glycoproteins from West Virginia patients were identified. These sequences were then compared to the first recorded accession of each VOC in the NCBI database. The genomic sequences were analyzed, and a phylogenetic tree and protein alignment of each VOC were produced. The preliminary results show that all four of the VOCs shared more than 99% similarity with the reference sequence.