The COVID-19 pandemic is due to infection caused by the novel SARS-CoV-2 that impacts the lower respiratory tract. The spectrum of symptoms ranges from asymptomatic infections to mild respiratory symptoms to the lethal form of COVID-19 which is associated with severe pneumonia, acute respiratory distress and fatality. To address this global crisis, up-to-date information on the viral genomics and transcriptomics is crucial for understanding the origins and global dispersal of the virus, providing insight into viral pathogenicity, transmission and epidemiology, and enabling strategies for therapeutic interventions, drug discovery and vaccine development. Therefore, this study provides a comprehensive overview of COVID-19 epidemiology, genomic etiology, findings from recent transcriptomic map analysis, viral-human protein interactions, molecular diagnostics, and the current status of vaccine and novel therapeutic intervention development. An extensive list of resources that help the scientific community access numerous types of databases related to SARS-CoV-2 OMICs and approaches to therapeutics related to COVID-19 treatment is also provided.

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If you are interested in sharing your COVID-19 related research, please send your contribution to research.office@uaeu.ac.ae