

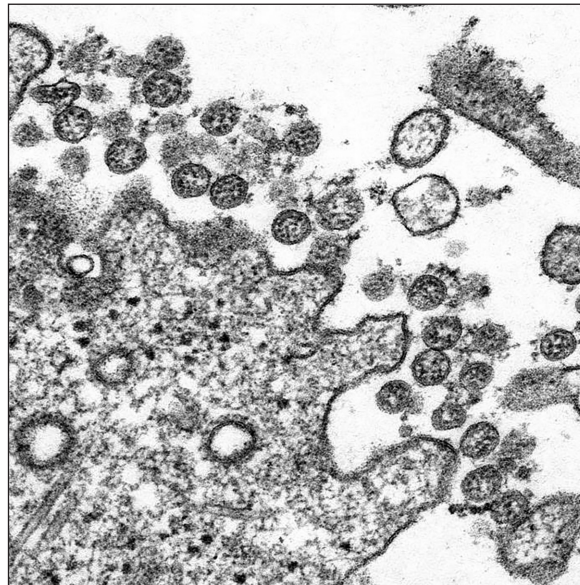
## COVID-19 Photos' Gallery

ISI-SENAI-CIMATEC Group<sup>1\*</sup>, Development and Innovation Laboratory Group of Butantan Institute<sup>2</sup>

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The images available below is part of our research from March to June 2020, to present a gallery photo of the SARS-CoV-2, the virus that causes COVID-19. We aimed to show with high-resolution images of the viral structures, proteins, how the virus attacks the cells, and the face of the virus that is causing the highest and severe pandemic of the last 100 years, which led a huge impact in public health systems, the way of life of the society and the negative perspective for the global economy for next future. Our Group searched the images in the main database (PubMed/Medline, Elsevier Science Direct, Scopus, Isi Web of Science, Embase, Excerpta Medica, UptoDate, Lilacs, Novel Coronavirus Resource Directory from Elsevier), in the high-impact international scientific Journals (Scimago Journal and Country Rank - SJR - and Journal Citation Reports - JCR), such as The Lancet, Science, Nature, The New England Journal of Medicine, Physiological Reviews, Journal of the American Medical Association, Plos One, Journal of Clinical Investigation, and in data from Center for Disease Control (CDC), National Institutes of Health (NIH), National Institute of Allergy and Infectious Diseases (NIAID) and World Health Organization (WHO), using the terms Coronavirus, SARS-CoV-2, severe acute respiratory syndrome coronavirus, 2019-nCoV, 2019 novel coronavirus, Wuhan coronavirus, n-CoV-2, n-Covid-2, Covid, n-Sars-2, COVID-19, coronavirus, corona virus, coronaviruses, images and photos, from March to June 2020. We used the tools MeSH (Medical Subject Headings), AND, OR, and characters [,“,; / . However, the Center for Disease Control (Figures 1, 2, and 3) and the gallery photo of the National Institute of Allergy and Infectious Diseases (NIAID) (Figures 5 to 30), both from the USA, presented the best images. **Keywords:** COVID-19. Images. CDC. NIAID. Database. SARS-CoV-2. 2019-nCoV.

**Figure 1.** Transmission electron microscopic image of an isolate from the first U.S. case of COVID-19, formerly known as 2019-nCoV. The spherical extracellular viral particles contain cross-sections through the viral genome, seen as black dots.



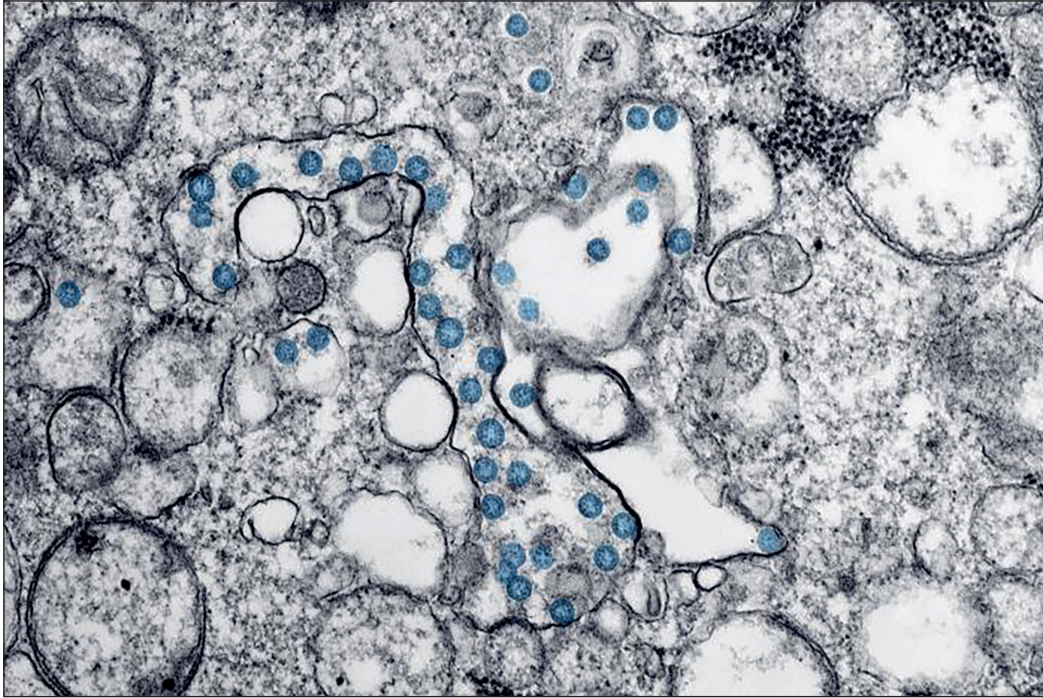
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J Bioeng. Tech. Appl. Health

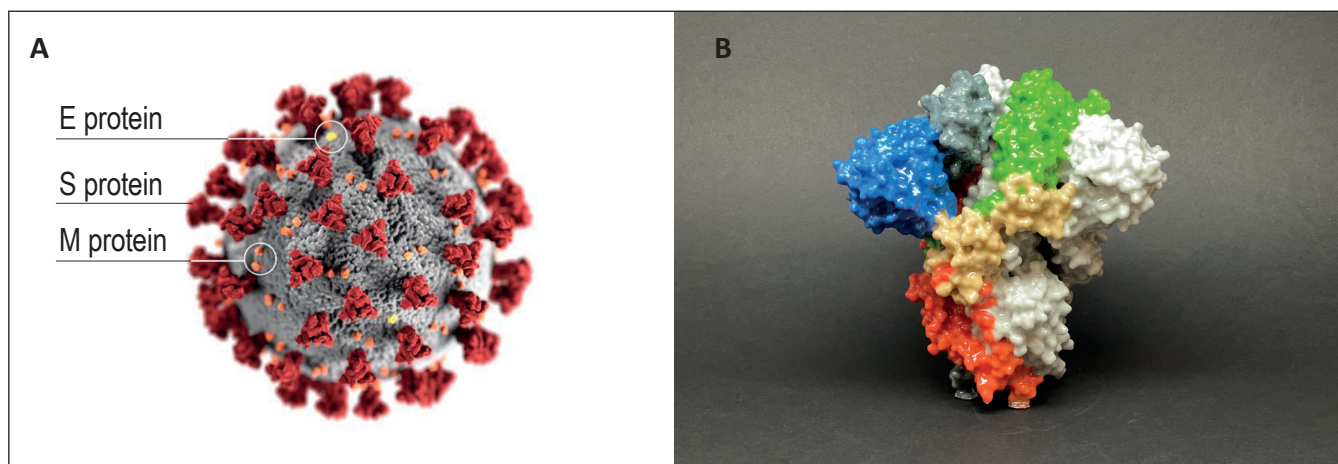
2020;3(1):91-97.

All these images is public for free. Credit: Public Health Image Library (PHIL) ([www.cdc.gov/subtopic/images](http://www.cdc.gov/subtopic/images)) and NIAID (<https://www.niaid.nih.gov/news-events/novel-coronavirus-sarscov2-images>). © 2020 by SENAI CIMATEC.

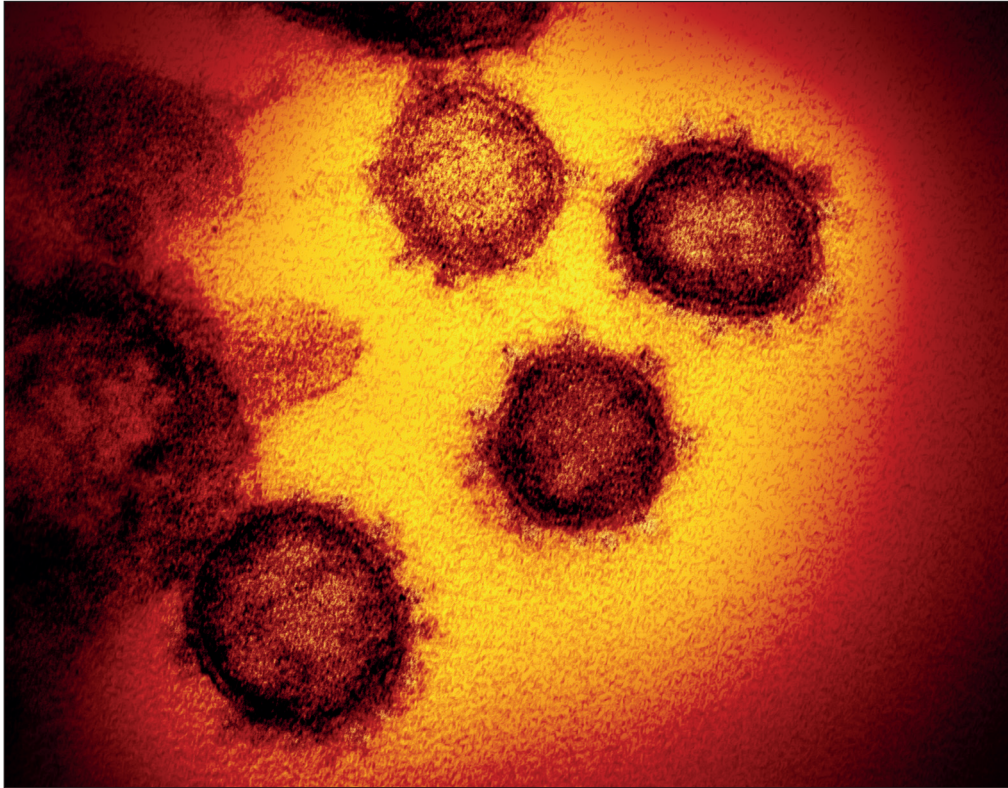
**Figure 2.** Transmission electron microscopic image of an isolate from the first U.S. case of COVID-19, formerly known as 2019-nCoV. The spherical viral particles, colored blue, contain cross-section through the viral genome, seen as black dots.



**Figure 3. A.** This illustration, created at the Centers for Disease Control and Prevention (CDC), reveals ultrastructural morphology exhibited by coronaviruses. Note the spikes that adorn the outer surface of the virus, which impart the look of a corona surrounding the virion, when viewed electron microscopically. In this view, the protein particles E, S, and M, also located on the outer surface of the particle, have all been labeled as well. A novel coronavirus, named Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2), was identified as the cause of an outbreak of respiratory illness first detected in Wuhan, China in 2019. The illness caused by this virus has been named coronavirus disease 2019 (COVID-19). **B.** Structure of protein domains of COVID-19.



**Figure 4.** Transmission electron microscope image reveals the virus particles emerging from the surface of cells grown in the laboratory - the peaks on the outer edge of the virus particles give the names of the coronaviruses, in the form of a crown.



**Figure 5 to 30.** Transmission electron microscope image and the drawings of COVID-19, presenting the COVID-19 isolated and cells' infection by the virus.

