1163-92-779 **Abba Gumel***, School of Mathematical and Statistical Sci., Tempe, AZ, **Enahoro Iboi**, Spelman College, and **Calistus Ngonghala**. *To mask or not to mask: that's the question for the COVID-19 pandemic.*

The novel coronavirus that pandemic, which started as an outbreak of pneumonia of unknown cause in the city of Wuhan in December 2019, has become the most important public health and socio-economic challenge humans have faced since the 1918 Spanish flu pandemic. Within weeks of emergence, the highly-transmissible and deadly COVID-19 pandemic spread to almost every part of the world, so far accounting for nearly 30 million confirmed cases and over 900,000 deaths, in addition to causing severe economic burden globally.

This talk is focused on the use of mathematical models, of the form of deterministic systems of nonlinear differential equations, to provide insight into transmission dynamics and control of COVID-19 in the US, and to use the models to assess the impact of various non-pharmaceutical interventions for controlling and mitigating the spread of the pandemic in the United States. It will be shown that, like its coronavirus cousins (SARS and MERS), COVID-19 is a respiratory disease that is controllable using basic public health interventions. (Received September 12, 2020)