Co-Editors' Preface and Statement

The Impact of the COVID-19 Pandemic on the Content and Logistics of this Special Edition on Building and Leveraging Ecosystems and Clusters

Journal of Commercial Biotechnology (2021) 26(1), 1–2. doi: 10.5912/jcb964

On March 11, 2020, the World Health Organization (WHO) Director General Dr. Tedros Adhanom Ghebreyesus addressed the global media: "WHO has been assessing this outbreak around the clock and we are deeply concerned both by the alarming levels of spread and severity, and by the alarming levels of inaction. We have therefore made the assessment that COVID-19 can be characterized as a *pandemic*."[1] While the existence, transmissibility, treatment, and potential impact of severe acute respiratory coronavirus SARS-CoV-2 were real questions since the virus was first recognized in December, 2019,[2] much of the media coverage was driven by global public health concerns and international/national political posturing. However, it was a different date that catalyzed commercial biotechnology.

In first few days of January, 2020, Fuhan University Professor Yong-Zhen Zhang's lab at the Shanghai Public Health Clinical Center received a sample from a Wuhan patient suffering from the virus. Some forty hours later, the lab had decoded its complete genome, and soon realized that it shared some 80% of the genome of SARS-CoV, commonly referred to as "SARS", which had been discovered and decoded in 2002. Several days later, on January 11, 2020, University of Sydney Professor Edward Holmes, a colleague of Professor Zhang's, asked if he could release the decoded genome on the Internet.[3] Within minutes, the full genomic sequence of the SARS-CoV-2 coronavirus was released on the open Internet forum, Virological,[4] and deposited in GenBank,[5] the genetic sequence database maintained at the National Center for Biotechnology Information, part of the National Library of Medicine at the National Institutes of Health (NIH). Of importance, GenBank[6] is part of an international collaboration which is comprised of the DNA Data Bank of Japan (DDBJ) and the European Nucleotide Archive (ENA). According to the NIH website, "These three organizations exchange data on a daily basis."[6]

It was at this moment in time, on January 11, 2020, that the bioentrepreneurs of this world, the research scientists in every university and at every institute, and biotechnology companies, large and small, got to work. Now, they had something to work with.

Journals, on the other hand, do not move at such lightning speed. This special edition focuses on "Building and leveraging the innovation ecosystem and clusters: universities, startups, accelerators, alliances, and partnerships", and it has been in planning for nearly a year and half at this writing, well before COVID-19 made its appearance. Known to the editors throughout that period are numerous individual bioenterprises and research efforts, which have pivoted to address some aspect of the COVID challenge, while other efforts have been delayed.

And yet a "pivot" is not a final outcome, nor does a delay necessarily spell failure. This special edition is about the disposition of clusters and innovation ecosystems which entered this time. The articles you will read address capabilities which are *collectively* powerful, as opposed to individually capable. To be sure, it is not a predictor of the status of these innovation ecosystems and clusters in the post-COVID period, but certainly, it is a test. In that way, this is an opportune time to record their potential and to begin to study their resilience.

All signs tell us that this is a period of accelerated and positive innovation within the field of commercial biotechnology, and in many ways, it may be changed forever.

Wherever efforts to address COVID challenges were identified at the time of article submission, they are clearly marked.

Arthur A. Boni

Moira A. Gunn

Co-Editors of A Special Edition of the Journal of Commercial Biotechnology

"Building and leveraging the innovation ecosystem and clusters: universities, startups, accelerators, alliances, and partnerships"
November, 2020

1. World Health Organization. (2020). WHO Director-General's opening remarks at the media briefing on COVID-19 – 11 March 2020. Posted March 11, 2020. WHO Director-General's opening remarks at the media briefing on COVID-19 – 11 March 2020.
2. World Health Organization. (2020). Pneumonia of unknown cause – China. Posted January 5, 2020. WHO | Pneumonia of unknown cause – China.
3. Campbell, C. (2020). Exclusive: The Chinese Scientist Who Sequenced the First COVID-19 Genome Speaks Out About the Controversies Surrounding His Work, Time, August 24, 2020. Zhang Yongzhen Speaks Out About Controversies Around His Work | Time.
4. Viological.org, (2020). Novel 2019 coronavirus genome – SARS-CoV-2 coronavirus – Virological.
5. GenBank. (2020). Severe acute respiratory syndrome coronavirus 2 isolate Wuhan-Hu-1, complete genome (Updated Version). https://www.ncbi.nlm.nih.gov/MN908947.
6. National Institutes of Health/National Library of Medicine/National Center for Biotechnology Information. (2020). GenBank Overview. GenBank Overview (nih.gov).