



## Multi-dimensional Factors Driving the Pandemic and How their Impact Decides any Return to the Pre-COVID-19 World!

**Kholis Abdurachim Audah<sup>1</sup>, Dickson Achimugu Musa<sup>1</sup>, David Adebayo<sup>1</sup>, Syed Mahmood Ahmed<sup>2</sup>, Alex Diaz<sup>2</sup>, Abhishek Gupta<sup>2</sup>, Percy Ichchaporia<sup>2</sup>, Anthony Lai<sup>2</sup>, Lori McGrew<sup>3</sup>, Moyosola Otusanya<sup>3</sup>, Srinath Nissankararao<sup>3</sup>, Elizabeth Parrish<sup>3</sup>, Jean Plante<sup>4</sup>, Asmaa Rabit<sup>4</sup>, David Sherman<sup>4</sup>, Ralph Sherman<sup>4</sup>, Sandeep Singh<sup>4</sup>, Sina Varmaghani<sup>4</sup>, Collin C White<sup>4</sup>, Nirmali Wijegoonawardana<sup>4</sup>, Rebecca Xu<sup>4</sup>, Hafiz Yahya<sup>4</sup>, Poorna CR Yalagala<sup>4</sup>, Osama Youssef<sup>4</sup>, Alan Thatcher<sup>5</sup>, George Perry<sup>6</sup>, Ferez Soli Nallaseth<sup>7\*</sup>**

<sup>1</sup>Director of Research and Community Service of the Swiss German University, Indonesia

<sup>2</sup>Deputy Dean, Ibrahim Badamasi Babangida (IBB) University, Lapai, Nigeria

<sup>3</sup>VP - Science (Africa) and Director of Sub Saharan Institute for Diseases and LSINJ Field Operations in Africa

<sup>4</sup>Expert: Literature Survey, Professor of Pharmacology and Director of Biochemistry and Molecular Biology, Lincoln Memorial University's DeBusk College of Osteopathic Medicine, Executive VP LSINJ, USA

<sup>5</sup>Editor Squash Mad and Co-Author, USA

<sup>6</sup>Semmes Foundation Distinguished University Chair in Neurobiology, UT San Antonio, TX, Former Vice President for Executive Decisions in the LSINJ, USA

<sup>7</sup>Founding President, CEO, CSO and CFO for the LSINJ, USA

**\*Corresponding Author:** Ferez Soli Nallaseth, Founding President, CEO, CSO & CFO for the LSINJ, USA.

Full positions and external affiliations of current and former Board Members of the LSINJ:

<https://www.lifesciencesinstitutenj.com/board-members>

<https://www.lifesciencesinstitutenj.com/board-members-on-sabbatical#h.hwbm7od8kmzh>

Posted with permission from Publisher, Editor and Owner Alan Thatcher serialised versions of the article published in Squash Mad magazine (<https://squashmad.com/>).

**Received:** January 27, 2021

**Published:** February 25, 2021

© All rights are reserved by **Ferez Soli Nallaseth., et al.**

**Snapshots of relevant developments in the laboratory and the field that are driving the COVID-19 Pandemic and its containment (Page numbers 1-5):**

The virus, which causes the respiratory infection Covid-19, was first detected in the city of Wuhan, China, in late 2019. It then spread quickly across the globe in the first months of 2020. Listed are 3 data snapshots of the magnitude, rate and extent of its global impact as well as international effort(s) at containment.

**Figures last updated on 02 August 2020, 18:46 BST**

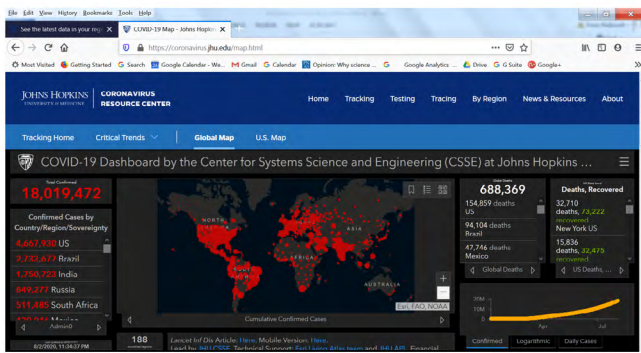


Figure 1: <https://coronavirus.jhu.edu/map.html>

Between January and July 2020, an estimated 67,753 research papers and 19,789 preprints have been published on COVID-19.



Figure 3:

Figures last updated on 17 May 2020, 18:46 BST

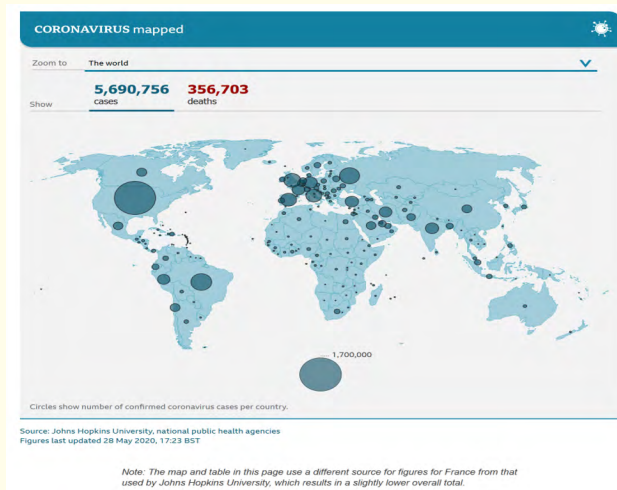


Figure 2: Source: Johns Hopkins University, national public health agencies.

Figures last updated 17 May 2020, 18:46 BST.

### Highlights from 40 COVID-19 Research Papers Published in July 2020

By Margaretta Colangelo, B.A., Co-Founder and Managing Director at Deep Knowledge Ventures.

LinkedIn Pulse Post Article published on August 2, 2020.

<https://www.linkedin.com/pulse/highlights-from-40-covid-19-research-papers-preprints-colangelo/>;

<https://www.sciencemag.org/news/2020/05/scientists-are-drowning-covid-19-papers-can-new-tools-keep-them-afloat>

Reported by New York Times, Coronavirus in the U.S.: Latest Map and Case Count March 3, 2020.

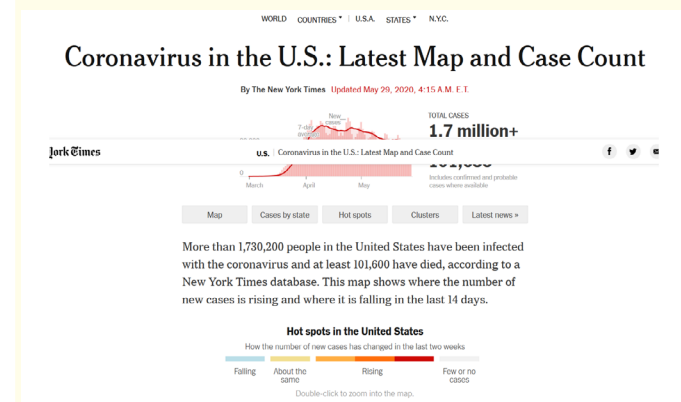


Figure 4: <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>

## Abstract

There are many and continuously emerging dimensions to the SARS-CoV-2 virus and the COVID - 19 Pandemic that it has caused. They go far beyond the boundaries of Health, Medical and Economic causes and consequences. No human activity, which includes Squash, is carried out in isolation and so remains unaffected by these dimensions driving the Pandemic. Breaking minimal constraints and crossing basic boundaries has societal consequences, but particularly so for personnel in the Essential and Health Services who risk their lives to ensure the safety and well-being of their fellow humans - every hour and every day! We review a small and representative segment of all these dimensions included as links from a diversity of sources that document the progression as well as the consequences of the COVID-19 Pandemic for Humankind.

**Keywords:** COVID-19; SARS-CoV-2;

## Introduction (Page numbers 5 - 7)

Government responses, responses of private citizens, nations and populations, virology, epidemiology, containment options ('flattening the curve'), lack of healthcare infrastructure (pandemic management labs and resources, vaccines, and pharmaceuticals), shortages and delayed delivery of personal protective equipment (PPE) and equipment (ventilators) have put Patients, Healthcare and other Essential Workers either at risk or cost them their lives. Like all viruses the SARS-CoV-2 virus that causes the COVID-19 Pandemic is an inert particle armed with a genetic code which can be activated under a range of appropriate environmental and health conditions. The difference between SARS-CoV-2 and other virions is the extremely wide spectrum of conditions under which it can unleash Armageddon. On August 2<sup>nd</sup> 2020 at 18.46 BST the global attributions of COVID-19 to infections and fatalities stood at 18,019,472 cases while the numbers of fatalities stood at 688,369 respectively (Johns Hopkins University of Medicine, COVID - 19 Case Tracker - screen print posted above). These figures were elevated from global attributions of COVID-19 to infections and fatalities at 5,690,756 cases with the numbers of fatalities registering at 356,703 on May 17<sup>th</sup> 2020 at 18.46 BST (Johns Hopkins University of Medicine, COVID - 19 Case Tracker - screen print posted above). Over a mere 2.5 months these global figures had magnified 3.2x and 1.9x respectively. Others are coping with the variables in an effort to find an answer in research labs, in vaccine and pharmacological reagent production.

Yet in actions representative of the best in humans, essential support for those at risk, range from an internationally coordinated

and defiant emotional outpouring at dusk time to financial and material resources which have flowed from Private Citizens to Billionaires, Musicians and Orchestras.

In this highly fluid situation, there are facts that can be and are being double checked by professionals, scientists, news media, health personnel and government or civil servants all the way up to Prime Ministers and Presidents. Whereas their actions are part of the process of variable scrutiny to which any Public Servant is subject, ultimately they do not have the luxury of time for controlled measurements vetted for contradictions and inconsistencies in meeting an ongoing crisis. They have to work and risk their lives in an atmosphere where some, with a nihilistic mentality, willfully spew factually unfounded contradictions, rumors, disinformation and even fear among those who are trusting. No one is spared infection and or fatality in COVID - 19 although those at the low end of the socioeconomic spectrum are most vulnerable to its impact! The current situation poses an existential threat and we have to rely on the Judgement and Leadership of the Health and Political community. This is preferable to triaging and making false choices being currently debated, such as that between the economy and survival. The effects of the Pandemic could have been mitigated by foresight.

In this long article we are merely cataloging links from various news and social media, opinion pieces and data papers from scientific journals and magazines, under specific segments of topics. These segments include many if not all dimensions related to the COVID-19 Pandemic, as they have progressed from January to August 2020.

The aim of this article is to provide a representative, relevant, unbiased resource that captures the progression of the Pandemic in assisting the Squash (or for that matter any) Community in making informed decisions. Some articles are now factually superseded or subsumed e.g. by the advent of the antiviral drug Remdisivir and new more reliable tests for detecting the virus. Others include new results qualifying usefulness of concepts and containment methods such as 'Herd Immunity.' All of them continue to be included in the article along with the new results for reasons of Historical perspective since the advent of the virus and its initiation of the Pandemic is driven by a multitude of interdependent factors. This inclusion reveals the complexity, fluidity and progression of the COVID-19 Pandemic and underscores the incremental process of the maturation of the measures that will be required for bringing containment of the causal SARS-CoV-2 virus.

Extracts of exceptional articles are included to greater and even complete lengths while other articles are limited to titles, links and common descriptions. As some links have relevance under more than one topic, for convenience they are included under all those topics.

A simple cautionary note, this article is neither a formal scientific paper nor a review nor a policy manual! The reasons for these qualifications are the simple constraint provided by keeping up with the relevance, standards and sheer volume of publications! Between January and July 2020, an estimated 67,753 research papers and 19,789 preprints have been published on COVID-19. <https://www.linkedin.com/pulse/highlights-from-40-covid-19-research-papers-preprints-colangelo/>; <https://www.sciencemag.org/news/2020/05/scientists-are-drowning-covid-19-papers-can-new-tools-keep-them-afloat>) (Via Co-Founder and Managing Director at Deep Knowledge Ventures Margaretta Colangelo, B.A.). New Artificial Intelligence tools are being developed to cope with this problem.

For want of a better choice the article is presented under the following 8 major segments and 2 ancillary segments. Some sub-segments, along with standard abstracts, introductions, summary and conclusions are also included.

(However, as the COVID - 19 Pandemic is predicted to continue building, we begin with a section on simple 'frequently asked

questions addressed by the New York Times' with relevant advice emerging from the BBC, US CDC and the JHU Coronavirus Resource Center).

### **The Pandemic in 10 Representative Segments - Table of Contents: (Page numbers 7 - 16)**

#### **Frequently asked 'how to' questions (Page numbers 10 - 16)**

(a) New York Times Article: The Corona Outbreak: Frequently asked questions and advice, and The Coronavirus Outbreak (b) from the BBC (<https://www.bbc.com/news/health-51048366> ), (c) the US Centers for Disease Control (<https://www.cdc.gov/> ) or US Healthcare [www.Healthcare.gov](http://www.Healthcare.gov) and (d) The Johns Hopkins University School of Medicine Coronavirus Resource Center (<https://coronavirus.jhu.edu/map.html> ) (e) Coronavirus: How exposed is your job? (<https://www.bbc.com/news/uk-52637008> ), (f) Johns Hopkins UHM: BBC Informatic on Coronavirus Global Spread: [https://www.bbc.com/news/world-\(51235105?intlink\\_from\\_url=https://www.bbc.com/news/world/asia&link\\_location=live-reporting-story\)](https://www.bbc.com/news/world-(51235105?intlink_from_url=https://www.bbc.com/news/world/asia&link_location=live-reporting-story)).

#### **Examples of exceptional human spirit**

Emerges as support for and defiance for those who are endangered, (Page numbers 16 - 39): (a) Conversations on multiple dimensions of the Pandemic from Town Hall to Intercontinental Governance; (b) Specific sub-topics: (i) Health and Essential services personnel risking lives for patients and 'flattening the curve', (ii) Self- Isolated populations in Europe and USA breaking out in evening shows of support - as did Orchestras and Musicians.

#### **Squash and the (SARS-CoV-2) virus induced COVID - 19 Pandemic (2020) (Page numbers 39 - 48)**

(i) Roundup of select articles (and/or comments) covering the relevant news and issues on the courts, by Alan Thatcher, Ferez S. Nallaseth, James Roberts, Richard Millman, Harry Leitch, Amanda Sobhy, Jahangir Khan, Sourav Ghosal, Jerome Elhaik, Maria Toor Pakai, Rod Bannister, Nick Matthew, Daryl Selby, Laura Massaro, Danny Lee, Alex Wall, Tony Griffin, Alexia Clonda, Alex Wan, (ii) Economic Impact of Pandemic (Specific topic # 6), (iii) Comments on a proposal offsetting the economic impact of the pandemic on Squash (comments extracted from article in Squash Mad entitled 'How we can approach a 'New Normal' in Squash..' by Richard Millman).

### Multiple dimensions of the COVID - 19 Pandemic (Page numbers 48 - 311)

(i) Overview: How can the virus be stopped? How long can the Pandemic Last? (ii) Dynamics of transmission: infections and transmission, infections and dispersal of the virus by symptomatic and asymptomatic patients, fetuses, children and elderly or weakened individuals are likely or known to be, infected, (iii) Social distancing, glove and mask utility, contact tracing, isolation, testing - all vital in 'Flattening the Curve' and so preventing saturation of Health/Medical resources, (iv) Lack of: Pandemic containment research labs, availability of PPEs, Ventilators, Testing kits and Vaccine - complexities and development, results and the known the leakage of masks were thought to be serious impediments to managing crises in its early days and directly responsible for magnitude of infections and fatalities of Pandemic, (v) Projection of aerosols beyond the current 6 feet (even continuing beyond 12 feet) of social distancing; (viral) matter, (vi) Viability of the virus on hard or inanimate (hard, wooden and metallic) surfaces for up to 72 hours, (vii) Testing kits and vaccine development: reliability of tests and accuracy of numbers recovered from testing, (viii) What does 'Herd Immunity' mean - is it working? Apparently not in France and Spain, (ix) Slowing the COVID-19 Pandemic with at least 70% of the population attaining immunity to SARS-CoV-2 coronavirus either conferred by vaccines or recovery post-infection by 'Herd Immunity' - which still does not mean that a second infection cannot occur, (x) Resistance to immune systems in immune-privileged tissues undermined and the mutated virus avoiding vaccines/immune-surveillance subverting a major arm of detection, testing and vaccination, (xi) Dangers of reopening too soon - second and third waves of infections, endemic COVID-19 in pockets of populations allowing 2<sup>nd</sup> and 3<sup>rd</sup> waves currently underway and expected to peak in the flu season with the full impact of twin impacts, (xii) Complications and prospects for vaccine and pharmacological drug development; (Food and Drug Administration (FDA) has approved Remdesivir after accelerated evaluation - marginally effective (~3%), but does help recovering patients), (xiii) SARS-CoV-2 source - Wuhan, derived from Pangolins in Wet Markets? Where did it start? Is the SARS-CoV-2 really responsible for COVID - 19 Pandemic? Debated, (xiv) SARS-CoV-2 transmission: Zoonoses - Animals (Pets) to Humans (unknown) and Reverse Zoonoses - Humans to Animals (Pets) - confirmed as likely, (xv) Therapeutic or preemptive prospects, (Town Hall discussion), (xvi) Johns Hopkins UHM Pandemic Tracker, BBC and NYT reports on: postpandemic recovery.

### Biological and Medical Impact of the SARS-CoV-2 virus (Page numbers 311 - 351)

How, what, when and where of an inert particle, with embedded code, that can mushroom into a Pandemic: infecting multiple tissues (lungs, liver, blood system, digestive system), including breaching immune privileged tissues (eyes, brain, testis) being breached it could remain undetected and endemic; mutating virus and so possibly enhancing its potency by contributing to avoidance of the immune surveillance, endemic state in populations, its environmental resistance, drug resistance, virulence and pathogenicity; several collateral health conditions such as socioeconomic, physiological and microbiota health of infected patients are now the accepted target moves unpredictably!; Zoonoses and Environmental Impact - Where and how did it start still unsure? Bats, Pangolins, Cats, Tigers and illegal international trade in protected species which bear a higher (frequency of) viral and parasite burden,

### Economic impact of the Pandemic

(Segment #6 related to Specific Segment #3 on Squash, (Page numbers 351 - 371).

### Leaders, Leadership, Domestic Politics and Geopolitics driving or containing the COVID - 19 Pandemic (Page numbers 371 - 426)

(i) From Vaccines to Dissemination of 'Herd Immunity', (ii) Socioeconomics, Sociopolitics and Policy decisions of Governments - good, bad and ugly (Xenophobia) that either fanned or tamped down the flames of the Pandemic as well as, (iii) Fatalities of Physicians 'falling out of windows', (iv) armed resistance to the 'lock-down' perceived and presented as a conspiracy of the elites, (v) Socioeconomics, Sociopolitics and Policy decisions of Governments.

### What if we are all wrong? Dr. Thomas Wilckens, MD

(Article posted and comments exchanged on LinkedIn), (Page numbers 426 - 439).

### Ancillary segment

Fair questions by Players and Coaches on (FSN) Ferez's qualifications and knowledge of the game (Squash) as well as the Pandemic entitling the positions he has taken (Page numbers, 439 - 443, Internal Links)

### Ancillary segment

Ferez, what do you know about virology and epidemiology that

qualifies you to make these proposals? Such proposals as restraining play until Science, Medicine, Technology and Policy ensure safety, non-transmission, non-recurrence and a responsible re-opening of villages, towns and cities - let alone Squash Courts? How do you know that the health and essential services personnel are being further burdened by Squash Players being on court?

### Ancillary segment

Ferez, 'How is your own game?' As a scientist what could you know about Squash - now and in your peak - playing days? Why are you qualified to advise the Pros? What was your peak level of play? What do you know about intensity, training (on and off the court) and performance in match play? Or the joys and pains of losses that the Pros know well - on and off the court?

### Note

Besides a para from the beginning and another from the end of this section (segment 9: internal links) all of section 9a and 9b and the links therein will be accessible via a single link in the text and posted on the website (<https://sites.google.com/site/ferezn-squashdocs/>):

### A humanistic perspective

Letter by Coronavirus, By Poet Vivienne R Reich (communicated by Prof. Dhanjoo Ghista, PhD) (Page numbers 443 - 445).

Summary and inferences (Page numbers 445 - 447)0

Acknowledgements (Page numbers 447 - 448).

Full Length Paper (Page numbers 1 - 449) Multi-dimensional factors driving the pandemic and how their impact decides any return to the pre- COVID-19 world!.

[https://docs.google.com/document/d/1hRp-7x05Y\\_wYVRn-u5UA\\_n5rmJAvu8xAj/edit](https://docs.google.com/document/d/1hRp-7x05Y_wYVRn-u5UA_n5rmJAvu8xAj/edit)

### Summary and Inferences

This is an effort to project the complexity, fluidity, unfolding and daunting nature of the COVID-19 Pandemic as well as its ostensible cause, the SARS-CoV-2 virus. We have compiled a series of selected and representative articles from news sources, social media and scientific journals. Included are those from past, sometimes subsumed results, findings and interpretations. These have deliberately been included to emphasize the incremental, unpredictable

and complex nature of the unfolding Pandemic. These articles have been compiled in eight main segments (1 - 8) ranging from the containment of the SARS-CoV-2 virus to domestic politics and geopolitics in managing the crisis that contribute to the factors driving or containing the COVID-19 Pandemic. Of necessity they include safety measures as well as those ranging from the fields of virology, epidemiology, and basic sciences. An additional segment (9) establishes the relevant oncourt and scientific credentials of one of the co-authors (FSN) and closes with a more philosophical and poetic riposte to the Pandemic forwarded by Prof. Dhanjoo N. Ghista. In addition to a graphical snapshot of the unfolding Pandemic these ten segments are listed below:

- Frequently asked 'how to' questions.
- Examples of exceptional Human Spirit emerges as support for and defiance for those who are endangered.
- Squash and the (SARS-CoV-2) virus induced COVID - 19 Pandemic (2020).
- Multiple dimensions of the COVID - 19 Pandemic.
- Biological and Medical Impact of the SARS-CoV-2 virus.
- Economic impact of the Pandemic (Segment #6) related to Specific Segment #3 on Squash.
- Leaders, Leadership, Domestic Politics and Geopolitics driving or containing the COVID - 19 Pandemic.
- Dr. Thomas Wilckens, MD (Article posted and comments exchanged on LinkedIn) - What if we are all wrong?
- Fair questions by Players and Coaches on (FSN) Ferez's qualifications and knowledge of the game (Squash) as well as the Pandemic entitling the positions he has taken.
- A Humanistic Perspective - Letter by Coronavirus, By Poet Vivienne R Reich (communicated by Prof. Dhanjoo Ghista, PhD).

These segments have covered either all or most of the issues that have emerged during the progression of the Pandemic. Without restating the original (561 + 92 page insert on FSN = ) 653 page document it is clear that the spread of the virus as well as the Pandemic can be slowed and the 'curve flattened' with common sense combinations of measures such as social distancing, use of Personal Protective Equipment and social distancing or even social

isolation.

Furthermore, it is important to emphasize a simple cautionary note. This article is neither a formal scientific paper nor a review nor a policy manual nor does it pretend to project an authoritative analyses for a plausible societal response nor does it pretend to prescribe an approach to successfully containing and terminating the COVID-19 Pandemic. We are simply presenting relevant and even contradictory findings and perspectives in as unbiased a delivery as is possible.

As long as they remain plausible we have simply presented many including sometimes contradictory and conflicting positions that have been published in various news, social and scientific media as long as they are submitted or posted by those who display restraint and responsibility! At least one practical reason for these qualifications is the simple constraint provided by any meaningful attempt at keeping up with the relevance, standards and sheer volume of scientific publications let alone those emerging from news and social media! Between January and July 2020, an estimated 67,753 research papers and 19,789 preprints have been published on COVID-19 (Margaretta Colangelo, 02<sup>nd</sup> August 2020, [https://www.linkedin.com/pulse/highlights-from-40-covid-19-research-papers-preprints-colangelo?trk=portfolio\\_article-card\\_title](https://www.linkedin.com/pulse/highlights-from-40-covid-19-research-papers-preprints-colangelo?trk=portfolio_article-card_title) ). This figure does not include postings and discussions on the news and social media. We have even included articles and results that are now subsumed as they graphically illustrate the complexities and so the incremental progress being made in containing the Pandemic.

There are many and continuously emerging dimensions to the SARS-CoV-2 virus and the COVID - 19 Pandemic that it has caused. They go far beyond the boundaries of Health, Medical and Economic causes and consequences. No human activity, which includes Squash, is carried out in isolation and so remains unaffected by these dimensions driving the Pandemic. Breaking minimal constraints and crossing basic boundaries has societal consequences, but particularly so for personnel in the Essential and Health Services who risk their lives to ensure the safety and well-being of their fellow humans - everyhour and everyday! In fact a report by the W.H.O. reported in CBS News today (September 18<sup>th</sup> 2020) stated that COVID-19 is spreading at "alarming" rates in Europe.

Government responses, responses of private citizens and populations, virology, epidemiology, containment options ('flattening the curve'), lack of healthcare infrastructure (pandemic management labs and resources, vaccines, and pharmaceuticals), shortages and delayed delivery of personal protective equipment (PPE) and equipment (ventilators) have put Patients, Healthcare and other Essential Workers either at risk or cost them their lives. Like all viruses the SARS-CoV-2 virus that causes the COVID-19 Pandemic is an inert particle armed with a genetic code which can be activated under a range of appropriate environmental and health conditions. The difference between SARS-CoV-2 and other virions is the extremely wide spectrum of conditions under which it can unleash an Armageddon in Health Care. On August 2<sup>nd</sup> 2020 at 18.46 BST the global attributions of COVID-19 to infections and fatalities stood at 18,019,472 cases while the numbers of fatalities stood at 688,369 respectively (Johns Hopkins University of Medicine, COVID - 19 Case Tracker - screen print posted above). Others are coping with the variables in an effort to find an answer in research labs, in vaccine and pharmacological reagent production.

Yet in actions representative of the best in humans, essential support for those at risk, as an internationally coordinated and defiant emotional outpouring at dusk time to financial and material resources which have flowed from Private Citizens to Billionaires, Musicians and Orchestras.

In this highly fluid situation, there are facts that can be and are being double checked by professionals, scientists, news media, health personnel and government or civil servants all the way up to Prime Ministers and Presidents. Whereas their actions are part of

the process of variable scrutiny to which any Public Servant is subject, ultimately they do not have the luxury of time for controlled measurements vetted for contradictions and inconsistencies in meeting a crisis. They have to work and risk their lives in an atmosphere where some, with a nihilistic mentality, willfully spew factually unfounded contradictions, rumors, disinformation and even fear among those who are trusting. No one is spared infection and or fatality in COVID - 19! The current situation poses an existential threat and we have to rely on their Judgement and Leadership. This is preferable to triaging and making false choices such as the economy or survival which can be mitigated by foresight.

In this long article we are merely cataloging links from various news and social media, opinion pieces and data papers from scientific journals and magazines, under specific segments of topics. These segments include many if not all dimensions related to the COVID-19 Pandemic and as they have progressed from January to August 2020.

The aim of this article is to provide a representative, relevant, unbiased resource that captures the progression of the Pandemic in assisting the Squash (or for that matter any) Community in making informed decisions. Some articles are now factually superseded or subsumed e.g. by the advent of the antiviral drug Remdisivir and new more reliable tests for detecting the virus. Others include new results qualifying usefulness of concepts and containment methods such as 'Herd Immunity' All of them continue to be included in the article along with the new results for Historical perspectives since the advent of the virus and its initiation of the Pandemic. This inclusion reveals the complexity, fluidity and progression of the COVID-19 Pandemic and underscores the incremental process of the maturation of the measures that will be required for bringing containment of the causal SARS-CoV-2 virus.

Extracts of exceptional articles are included to greater and even complete lengths while other articles are limited to titles, links and common descriptions. As some links have relevance under more than one topic, for convenience they are included under all those topics.

<https://www.linkedin.com/pulse/highlights-from-40-covid-19-research-papers-preprints-colangelo/>;[https://www.sciencemag.org/news/2020/05/scientists-are-drowning-covid-](https://www.sciencemag.org/news/2020/05/scientists-are-drowning-covid-19-papers-can-new-tools-keep-them-afloat)

19-papers-can-new-tools-keep-them-afloat ) (Via Co-Founder and Managing Director at Deep Knowledge Ventures Margareta Colangelo, B.A.) New Artificial Intelligence tools are being developed to cope with this problem.

It is our hope that all forms, serialised versions of this article will serve some useful purpose for the Public Interest. We include the original sponsors of this article, namely the Squash Mad magazine, its Editor Alan Thatcher and Squash Mad Correspondent and author Dr. Ferez S. Nallaseth M.S., Ph.D. Furthermore the article has been to is to be re-configured as a White Paper by the Vice President for Executive Affairs and Scientific Editor, Dean Emeritus and Prof. George Perry Ph.D., President, C.E.O., C.S.O. and C.F.O. Dr. Ferez S. Nallaseth M.S., Ph.D. and all the Board Members of the nonprofit private foundation Life Sciences Institute of New Jersey.

### Acknowledgements

Initiating Co-Author - Alan Thatcher (), *Alan Thatcher*, Owner, Editor and Publisher of Squash Mad, <https://squashmad.com/>; Alan's Blog: <https://squashmad.com/category/alans-blog/>; Alan Thatcher email: [alan@squashmad.com](mailto:alan@squashmad.com);

### Full Length Article (Page numbers 1 - 418 (with inserted links = ) 510

'Multi-dimensional factors driving the pandemic and how their impact decides any return to the pre- COVID-19 world!'

[https://docs.google.com/document/d/1hRp-7x05Y\\_wYVRnu5UA\\_n5rmJAvu8xAj/edit?rtfpof=true](https://docs.google.com/document/d/1hRp-7x05Y_wYVRnu5UA_n5rmJAvu8xAj/edit?rtfpof=true)

Editor and Principal Author - Ferez S. Nallaseth, MS, PhD; Founding President, CEO, CSO and CFO; Life Sciences Institute of New Jersey (Nonprofit), 2468 U.S. Highway 206, Box 1367, Belle Mead, NJ 08502, USA; <https://www.lifesciencesinstitutenj.com/>; Ferez's SquashDocs website: <https://sites.google.com/site/ferezn-squashdocs/>

The authors gratefully acknowledge the contributions of various sources for the their reports and articles that are included in this article

### Squash news media

- Daily Squash Report
- Professional Squash Association Reports



- Squash Mad Online
- Squash Player
- Squash Site
- U.S. Squash
- World Squash Federation

#### Science journals and media

- BioRxiv - the preprint server for biology (Cold Spring Harbor Laboratory)
- Cell
- Cold Spring Harbor WireX
- Harvard Health Newsletters
- <http://microbe.net/2020/04/08/covid19-journal-club>
- Johns Hopkins University Coronavirus Resource Center
- microBEnet: the microbiology of the Built Environment network
- MIT News
- Nature
- PNAS, USA
- Science News
- PLOS Journal

- Bloomberg News Online
- British Broadcasting Corporation online (BBC online)
- Cable News Network (CNN)
- Columbia Broadcasting System News (CBSN)
- Google News
- Los Angeles Times
- Microsoft National Broadcasting System cable news (MS-NBC)
- National Broadcasting Company (NBC)
- San Diego Tribune
- Shutterstock
- The Atlantic Online
- The Daily Telegraph
- The Guardian
- The New York Times
- The Observer
- The San Diego Union-Tribune
- The Washington Post

#### Organizations

- European Commission
- Life Sciences Institute of New Jersey (LSINJ)
- National Institute of Allergy and Infectious Diseases (NIAID)
- National Health Services of the United Kingdom (NHS)
- National Institutes of Health (NIH)
- U.S. Centers for Disease Control and Prevention (CDCP)
- U.S. Food and Drug Agency (FDA)
- World Economic Forum (WEF)
- World Health Organization (WHO)

#### News media

- Agence France-Presse
- American Broadcasting Company (ABC)
- Apple News Online

#### Assets from publication with us

- Prompt Acknowledgement after receiving the article
- Thorough Double blinded peer review
- Rapid Publication
- Issue of Publication Certificate
- High visibility of your Published work

**Website:** [www.actascientific.com/](http://www.actascientific.com/)

**Submit Article:** [www.actascientific.com/submission.php](http://www.actascientific.com/submission.php)

**Email us:** [editor@actascientific.com](mailto:editor@actascientific.com)

**Contact us:** +91 9182824667