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BIOTECH EXPRESS

COVID-19 Hoax: A look at the other side of Anti-Covid groups who are questioning its existence, science and mandates

Guest Articles
New developments led by Prof Gajendra Raghava, IIIT-D in Computational biology

Flavr Savr Tomato's journey as the first biotech food crop- success, demise, and recent research

Dr G Taru Sharma appointed new Director of DBT-NIAB, India

Event Report: International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH2021)

Event: FABA Hosts Investment in Innovation Meet with AWEX

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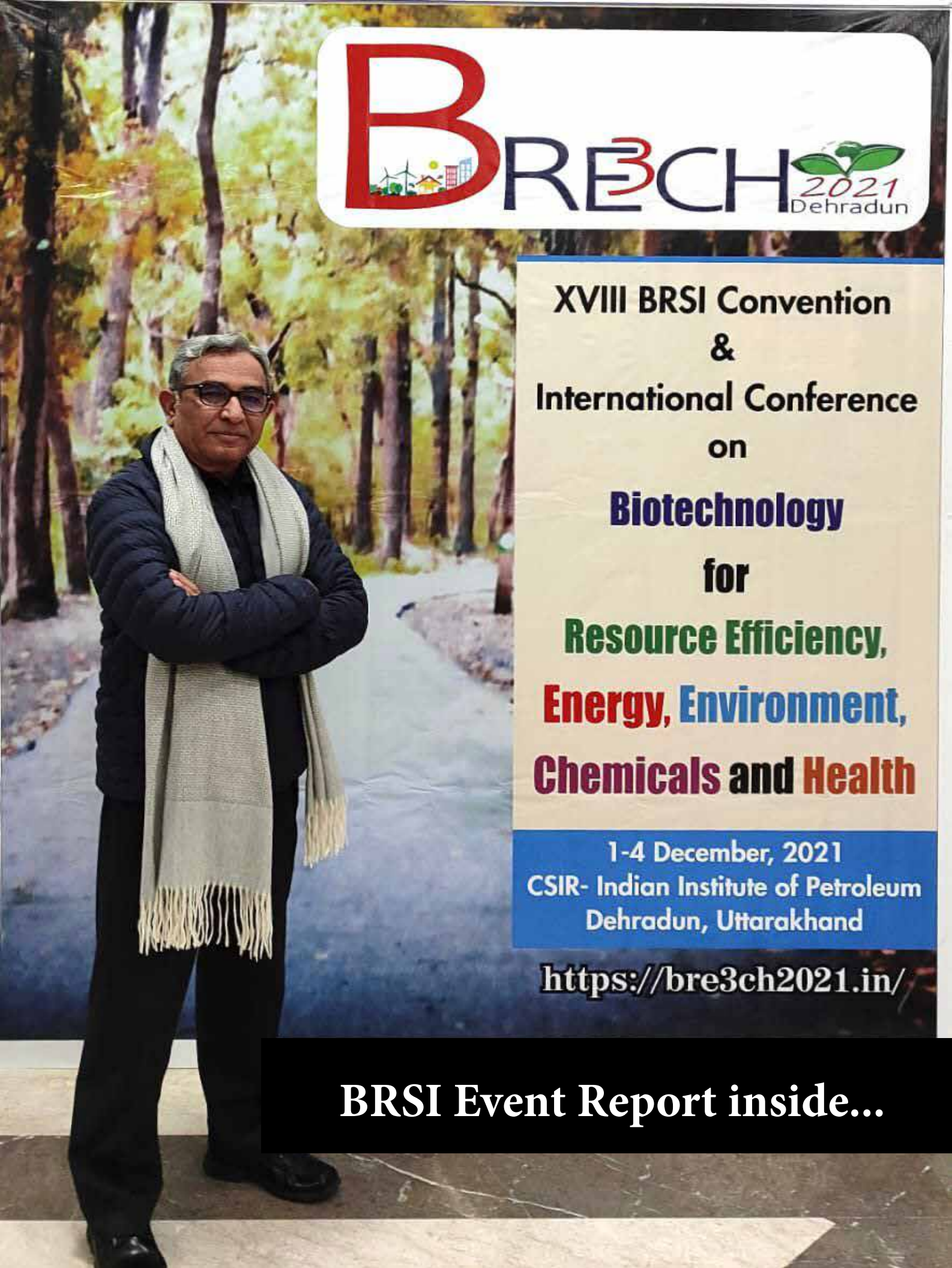
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Editorial

COVID-19 Hoax: A look at the other side of Anti-Covid groups who are questioning its existence, science and mandates

by Kamal Pratap Singh

Keywords: Testing, Transmission, lockdown, Epidemiological data, Task forces, Lobbying and Pharma profiteering, Vaccination, Govt fines and terrorist charges, Legal proceedings

People and organizations all around the world are now questioning COVID-19 existence and hype that have been created by scientific personalities at the top of whom is Dr Fauci, a topmost health professional in USA who is followed by scientific fraternity around the world. But this hype is now diminishing after few pioneer people from US itself starts questioning work ethics of Fauci and NIH which according to them is nothing but a stunt to impress the political leaders to gain their positional advantages like funding etc., to propagate the agenda of population control and pharma profiteering. Though the big individuals are Senator Rand Paul and Jim Jordan from USA but in press media *Biotech Express magazine* which is a dedicated Biotechnology news portal started questioning about the very existence of COVID-19 and mitigatory measures protocols, science behind

decisions etc. since the start of pandemic, however it has to keep low because of fear of terrorist charges announced by political leaders as we discuss in article. How we done this silently is the topic of this article in which we will further discuss who and how other media and people around the world are thinking and acting the same and what are its results.

"Real America is done with #COVID19," Jim Jordan tweeted, ignoring data, experts and reality. "The only people who don't understand that are Fauci and Biden."

Lockdowns

The pioneer virologist who suggested needing not to panic over covid was Prof Ramareddy Guntaka, a renowned vaccinologist who through Biotech Express wrote a letter to PM of India suggesting a fair mechanism to control its transmission without creating panic. He wrote, "for any virus to make it a epidemic or pandemic, would usually take about a decade. These viruses, like other RNA viruses, have unusually high rate of mutation, which make them constantly change. Obviously this virus caused mild or asymptomatic disease in 85% of the individuals, especially the people aged below 50 years. Last but not least he added, people should refrain from watching too much media and social media. Panic and anxiety may worsen the situation and contribute to progress the ailment especially in people with other pre-existing health conditions".

In as early as March 2020, sensing the need of mental health measures, our board member with other experts described how to overcome the psychiatric issues associated with lockdown and other covid related fears through a dedicated article. This was the first article in the world that discussed mental health issues which were observed a year after since the pandemic start and become a major issue other than COVID situation.

In May 2020 issue, Biotech Express discussed how politics of different task forces of COVID-19 messed up the mitigation strategies. In the same issue we again published letter of Prof Guntaka where he suggested if we minimize political interference and influence in healthcare and other science and technology agencies and give highest priority to high quality research, India can be in the forefront of Research and Development. Locking down 130 crores of people in their homes and putting millions of policemen to achieve this, will not solve the problem. It is a big mistake. It might be prudent to do for 2 to 3 weeks initially but prolonged lock down will not do any good; it will only prolong the pandemic. In the same issue we brought forward the issue of faulty testing when two Chinese companies — Livzon Diagnostic Inc and Wondfo — which supplied 6.0 lakh kits to India on April 16, say that they were validated by NIV, Pune and then cleared by ICMR for supply were reported to be faulty and were supplied at higher rates. According to details provided in the Delhi High Court, the kits procured from China were also delivered at high cost, whose delivered cost was ₹245 a test, were sold to ICMR for ₹600 a test — a mark up of 145%.

Drugs

Plasma therapy which was played over and over again is now found lethal in COVID therapy, Biotech Express reported this in May 2020. Similarly we highlighted the issue of Remdesivir and Hydroxychloroquine when these 2 out of 4 COVID-19 Solidarity trial drug candidates failed to achieve result, later all four failed but Hydroxychloroquine was still promoted. Further, HCQ was linked to increased risk of cardiac arrhythmias but prominent personalities like Brazil President Bonsaro promoted it until the end of 2020.

Similarly other COVID-19 drug attracted huge criticsm like Biocon's Itolizumab when Dr Jammi Nagaraj Rao, a public health physician, independent researcher and epidemiologist in the UK, wrote for *The Wire Science*: [Biocon's] trial is seriously deficient in its design. Its defects – particularly the extremely small sample size (n=30) – largely invalidate the claims made in the press release from Biocon … The researchers have also not published data that would allow independent experts to assess their claim in the press release, that "Itolizumab demonstrated statistically significant advantage over the control arm, in one month mortality rate". With such data and without further larger trials, it is difficult to see how the company can fulfil its ambition to "take this therapy to other parts of the world impacted by the pandemic". … The irony is that Itolizumab may well be a breakthrough.

Another story of self proclaimed Ayurveda doctor, Baba Ramdev was shattered to promote CORONIL. Later he apologized for the same and even becoame the reason

for the resignation of health minister of India, the more details were covered in the article "Indian Medical Association furious after Union Health Minister Harsh Vardhan 'promoting' Patanjali's Coronil"

Biotech Express for the first time in July 2020 issue discussed all scams reported in COVID-19 pandemic related to Statistics on Pandemic, Treatments, Accusations of Money making, Media Bias etc. in a consolidated article toward diagnosis, Clinical Trial, Research methodology, Research Publications etc.

In Nov 2020 WHO shows no effect on patients but Veklury had become the First FDA Approved Treatment for COVID-19 which showed how FDA was reluctant to scientific results. In Dec 2021 Biotech Express published an article "Why every nation is in hurry to release COVID-19 drug/vaccine despite many concerns?" In this article the author discussed how some organizations came up with magical treatment and how these products were criticized and soon vanished from the news headlines, even though there was urgent need of treatment and speedy approval. It also also took a look at the aspects of pharma profiteering and lobbying, based on the many reports that signifies pharma/healthcare profiteering and lobbying that was aimed at financial gains in this COVID pandemic. For example, the great scientist was also found to do so when in a CBS interview, Fauci first suggested that the British regulators had failed to scrutinise the Pfizer vaccine data carefully enough and had waved the vaccine through. Later he apologized for casting doubt over UK's approval of Pfizer vaccine.

Now universally accepted that vaccine can be harmful and have side effects, it was first discussed in Biotech Express by Dr Seema P Upadhaye. Author pointed out that the lack of transparency in releasing crucial information and data could lead to stricter scrutiny by regulators in many countries and mistrust among people. As we see now vaccine hesitancy has become prevalent as shown by protests and deterrents which implies that pharma companies have lost trust.

Coming forward, in March 2021, some countries paused Dosing of AstraZeneca Vaccine due to Clotting Concerns, Multiple countries across Europe and parts of Asia have suspended the use of AstraZeneca's COVID-19 vaccine over fears the medication leading to the development of blood clots in some patients who have received the medication.

Denmark was first to announce its suspension but the World Health Organization issued a statement that there is no reason to stop using the vaccine because, as of this time, "no causal link has been established," the Washington Post reported.

Chennai-based volunteer was the first one to report side effects in Astrazeneca vaccine, served a Rs 5 crore compensatory legal notice to the Serum Institute of India (SII) against the neurological complications, he claimed to have developed after being administered a test dose of Oxford-AstraZeneca 'Covishield' vaccine for coronavirus. He also sought to cancel the approval for its testing, 'manufacture and distribution', failing which he said he would take legal action against the institute

Its Just for restricted use in an emergency situation! DCGI said after approval of Bharat Biotech & Serum Institute COVID-19 vaccines. Scientists criticized 'rushed' approval of Indian COVID-19 vaccine without efficacy data. AIPSN, India reacts on Hasty Regulatory Approvals in India for Covid-19 Vaccines

In May 2020, Dr. Francis Collins on NIH Blog wrote that "Nearly Everyone Who Recovers From COVID-19 Makes CoV Antibodies: A recent study in Nature Medicine that showed specifically, the researchers determined that nearly all of the patients studied produced a type of antibody called IgM, which is the first antibody that the body makes when fighting an infection but this fact of natural immunity was ignored and vaccines were promoted.

Similarly scientist around the world made promise that COVID will go in summer but when summer came in May 2020 studies found that heat has no effect on covid and thus lockdown is needed further. Later an article in Biotech Express completely shuttered the fact that high temperatures is ineffective against coronavirus and that the novel coronavirus can survive in both the high and low temperatures in an article "CORONAVIRUS AND THE HEAT - REALISTIC PERSPECTIVE" by by Rama S Verma, Depart-

ment of Biotechnology, Indian Institute of Technology, Madras, Chennai, India.

Data Flaws

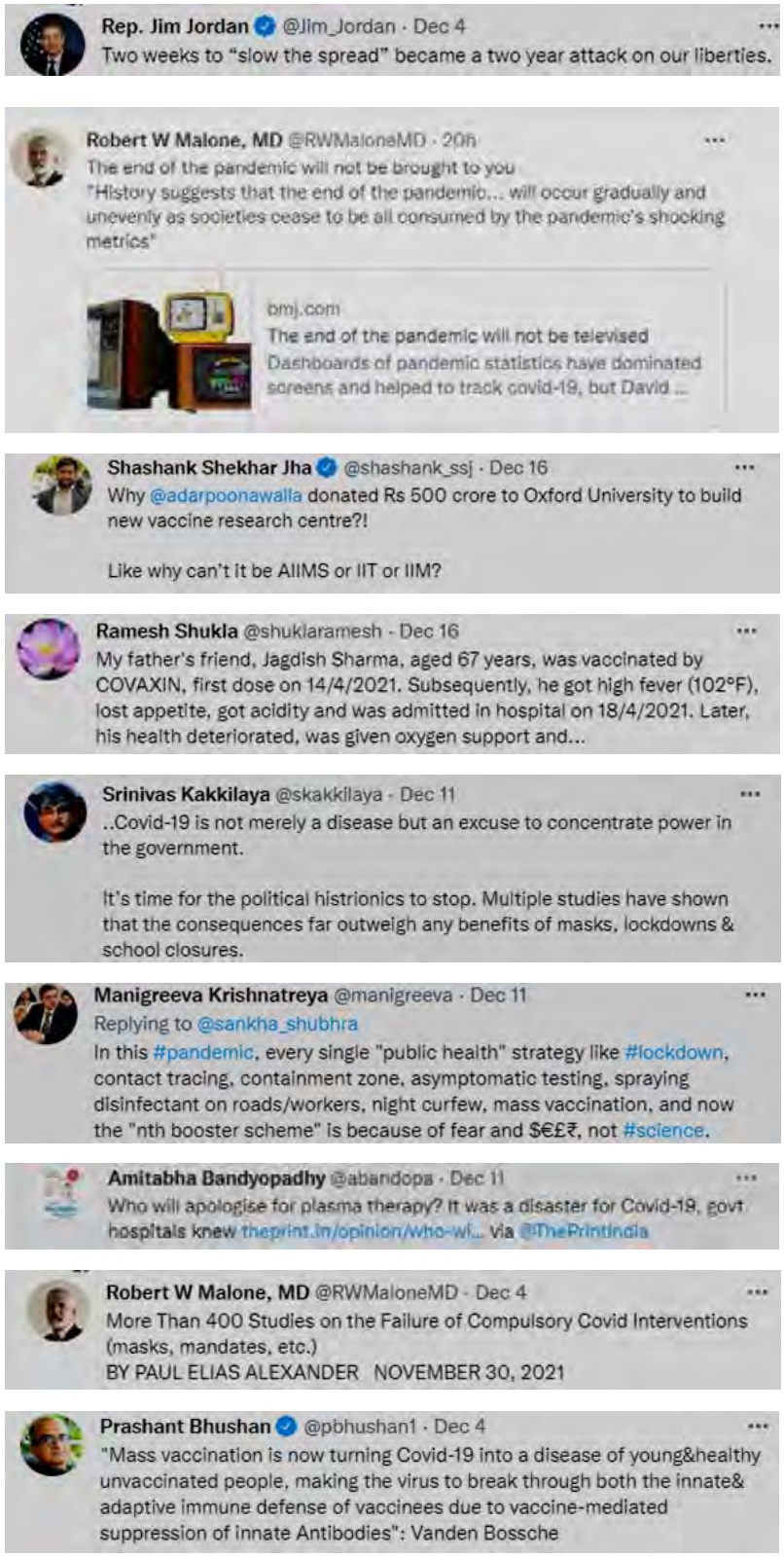
In regard to data flaws, Biotech Express reported an article by MRIDULA CHARI & NITIN SETHI published on 15th May, 2020, the Centre's database of Covid-19 cases ridden with unverified data, duplicate names and other flaws. "The ICMR database had duplicate names, wrong and vague phone numbers and address details," a senior officer of an eastern state told Article 14 on 3 May.

As per article, Article 14 sent emails seeking comment to India's Health Minister Harsh Vardhan, Health Secretary Preeti Sudan, ICMR Director General Balram Bhargava and ICMR chief of Epidemiology and Communicable Diseases Raman Gangakhedkar about the discrepancies in the two databases. The secretary, who heads the ministry of health and family welfare (MOHFW) forwarded our email to others in the ministry and ICMR and copied us. Bhargava replied to the email thread saying, "The matter… is related to MOHFW and not to ICMR." Bhargava did not reply to a separate email with questions connected to the ICMR.

In September 2020, Trump officials were found to interfered with CDC reports on Covid-19 when Michael Caputo, a former Trump campaign official with no medical or scientific background, was installed in April as the Health and Human Services department's new spokesperson, there had been substantial efforts to align the reports with Trump's statements, including the president's claims that fears about the outbreak are overstated, or stop the reports altogether. Caputo and his team have attempted to add caveats to the CDC's findings, including an effort to retroactively change agency reports that they said wrongly inflated the risks of Covid-19 and should have made clear that Americans sickened by the virus may have been infected because of their own behavior, according to the individuals familiar with the situation and emails reviewed by POLITICO.

Bihar's principal health secretary Pratyay Amrit stated that "serious discrepancies" in Covid-19 test data has been found in Jamui's Barhat and

Some infamous Anti COVID tweets



Sikandra including False phone numbers, fake names.

Experts in India claimed that Lack of transparency on COVID vaccine goes against Centre's draft science policy. They added that the news on the "Emergency Use Authorisation" (EUA) to the two COVID-19 vaccine candidates, whose efficacy data is either currently unavailable or disputable in the Indian context, leads one to wonder if there is an inconsistency between policy and practice.

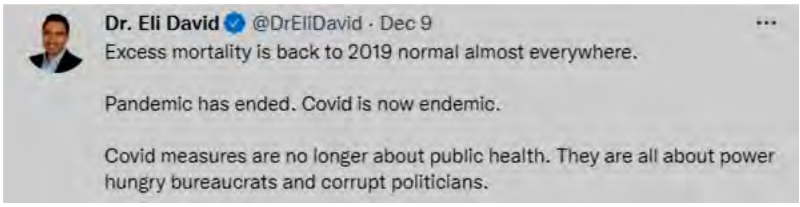
Research Journals

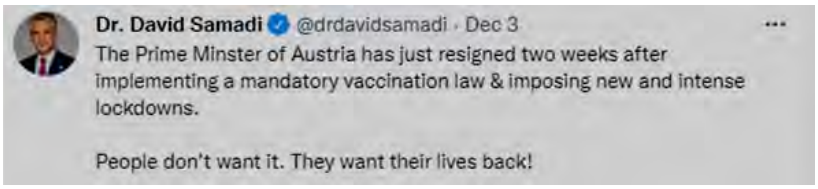
Not only prominent scientists, the ethics of some prominent journals were also exposed in an article in Biotech Express in as early as June 2020 "Are FDA and WHO Puppet of The Lancet, NEJM and such journals? The case of HCQ". The study concluded that from March 12 to June 14 the decision over HCQ was accepted and rejected several times just because someone is saying something while FDA and WHO scientists could not get the time to verify the facts by themselves before going to further conclusion. First HCQ was accepted because of several reports from different trials but was rejected just because Lancet published a heart attack story of bogus trial. But when this Lancet story was unsurfaced, FDA and WHO once again gained trust and start advocating HCQ. Lastly ,without any further solid basis they rejected HCQ trials again. It is to note that on May 30, CSIR, India chief criticises HCQ trial suspension by quoting The Lancet's study 'sloppy' and thus was one of the whistleblower. Shekhar Mande, Anurag Agrawal, physician and Director, Institute of Genomics and Integrative Biology as well as Rajeeva Karandikar, Director, Chennai Mathematical Institute, signed a letter and said the World Health Organization's decision to suspend trials of the drug was a "knee-jerk" reaction.

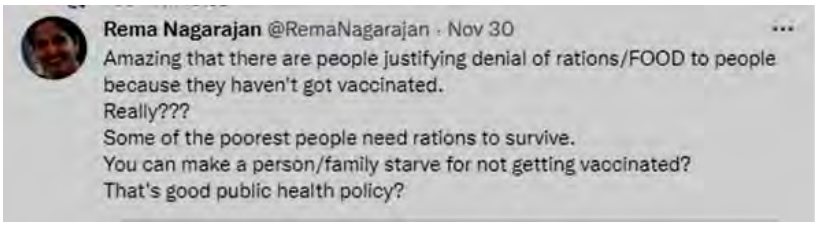
Preprint servers were considered the main culprit behind misinformation during covid-19 pandemic and no govt. put a brake onto it. The preprints which later got completely ignored were first described untrustworthy by Biotech Express in a separate article in June 2020" Does information from preprints servers serves purpose in a pandemic like COVID19?".

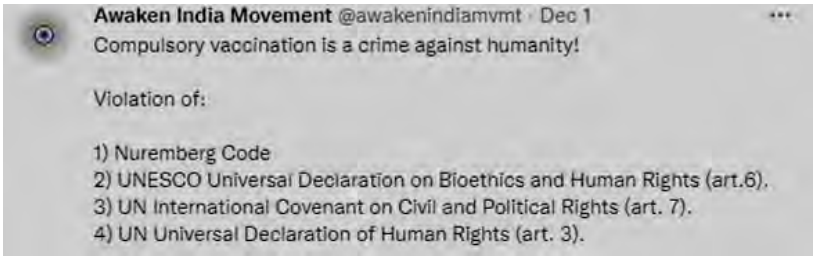
The main points were Preprints publish articles

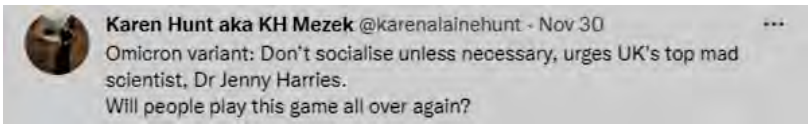
Some infamous Anti COVID tweets







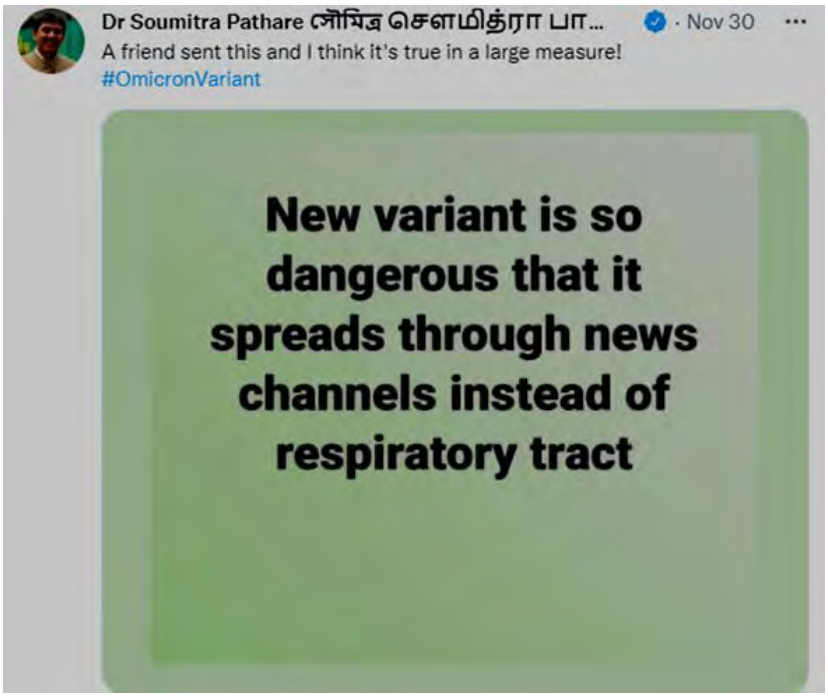




without peer review. Important articles are retracting from these servers too. Unlike normal journal which shows only published articles, preprints accumulates unpublished and unverified research on their servers which becomes available for public interpretation.

In this article the authors showed that how the articles on COVID-19 got retracted as soon as they published. This paper conclude that Preprint servers though are good for free rapid publications had have many drawbacks which outweigh its benefits like the process can compromise with quality, absence of peer review leads to delayed or afterward assessment, unclean study becomes available in public domain, many studies goes in PseudoJournals etc. Later in July 2020, New journal launched to scrutinize Covid-19 preprints papers.

Some infamous Anti COVID tweets



Funding

Funding was seen a major issue to get attention in whole of the pandemic where some organizations got huge funding for various purposes but used for other purposes. PSA India is one of them which received Rs. 100 crore fund from PM CARES for COVID19 vaccine development but till date no study or press release has been published in public domain toward the utilization of this amount. Dr K Vijayraghavan (PSA to PMO) was visible on national TVs to much extent until the announcement of 12 or 13 May 2020, when he got 100 crore Rs. for the development of vaccine against COVID19. Since then it is very difficult to find him on any national news platform to see what developments he is directing toward the assigned tasks of vaccine development, communicated Sumit Kumar to Biotech Express. It is nowhere understood from the above points that why the scientist sitting on topmost scientific position of country is not talking about science and its development. He added, it is not discussed what initiatives he has taken to identify vaccine candidate, what facilities they are using and when the vaccine will probably come.

Many companies also got huge funding from public money for development of drugs but have showed no results till now or there have been controversial results which have tailor made like J&J Secures Additional $1 Billion in Funding for COVID-19 Vaccine but has no product in the market.

In Feb 2021, millions earmarked for public health emergencies were used to pay for unrelated projects in USA. US inspector general says “The investigation, conducted by the inspector general of the Department of Health and Human Services and overseen by the Office of Special Counsel, centered on hundreds of millions of dollars intended for the development of vaccines, drugs and therapies by the Biomedical Advanced Research and Development Authority or BARDA, an arm of the federal health department” were used for other purposes.

Different govts. in world were seen to push anti covid narrators inside jail for their statements the glimpses of which can be seen in the article “Turkish scientists and physicians face criminal investigations after criticizing COVID-19 policies”

Task Forces

In an attempt to find working of Task forces, an RTI was filed but Health Ministry replied that it does not know where covid vaccine expert group’s records are, revealed RTI by Venkatesh Nayak of the Commonwealth Human

Rights Initiative who had approached the ministry seeking details of the constitution and working of the expert group such as dates of meetings, a copy of the detailed agenda circulated in relation to every meeting, presentations made before its members, and material it had shared with the Ministry of External Affairs (MEA).

In another breaking story the working of task forces were questioned when Gagandeep Kang resigned from director's position of DBT- THSTI amid COVAXIN turmoil. In April 2020, Kang was heading a national task force on COVID-19 vaccines and drug research set up by the ICMR. However, subsequently, the task of overseeing indigenous vaccine research in the country was handed over to the department of biotechnology, headed by Dr. Renu Swarup who was not a vaccine researcher. Though Kang did not mention any reason for her resignation, experts pointed out that handing over the project to Dr Swarup could be the reason.

So till now we have seen that almost everything about covid has been questioned and it is not possible to include all of them in a single article. Even FDA has asked for 55 years time to realease documents related to Pfizer trial.

Current Scenario

All the controversial news and reports are not included in the current article but it is imperative that Biotech Express indeed has raised these questions in a timely manner when all other media houses were promoting Corona and still doing so in case of Omicron. Through these articles and news we would guess that every science revolving around covid-19 is either questioned and found non-scientific or is in the process of same. It includes Testing, Transmission, lockdown strategies, Epidemiological data, Task forces, Lobbying and Pharma profiteering, Vaccination, Govt fines and terrorist charges etc. which were found after some organizations in world started to take action through legal proceeding in which Indian Bar Association and Awaken India Movement are pioneer.

Recently, in last September 2021 NIH Director Francis Collins resigned after Paul and Jordan dragged him but stubborn Fauci is still on the position, though now he is fading his effort after much criticism. Recently after promoting vaccine to most extent he said that booster is not required. It is not only Fauci that was zeroed in for covid controversies, the USFDA, WHO and other promoinent organizations are also getting continuous attacks from some notable scientists around the world for the measures they have taken, for example placing Omicron in Variant of concern list recently even when African scientist said that the cases reported were mild.

In India, AIM is the pioneer organization that criticized govt policies and decisions toward pandemic measures. It is also important to note that from last 1 year the protest of Sanyukta Kisan Morcha yield no transmission of virus though it has gathering of millions of people from every corner of India.

So what does it tell about scientific decisions? Is it an indication that scientists are incapable of doing their job of studying transmission mechanism or were they just obeying the agenda of govt. i.e. to control the citizens? These scientists are from all over the ministry of Health and its departments like DBT, DST, ICMR, CSIR etc. which discussed a lot but did nothing to stop or treat the virus if it existed. Moreover they created panic by giving false narratives around covid transmission and virulence and masking without giving much attention to the scientific experiments. Most of these govt. department were discussing only of sanitizers and masks when western countries were busy making vaccines.

These all govt labs have world class facilities where thousands of researchers are working but when the turn of vaccine development came ICMR simply transferred the virus to Bharat Biotech. Not Just development for manufacturing too govt. did not use its own facility of BIBCOL, Indian Immunologicals etc. but gave contracts to SII, Bharat Biotech among others to produce vaccine required for procurement. For this the govt also gave thousand of crores to these companies which bear no fruit because only Bharat Biotech was able to develop vaccine in record time and for COVISHIELD the profit was shared by foreign company Astrazeneca for the vaccine produced by Serum institute. Recently SII donated Rs 500 crores to Oxford Institute.

Nobody, including govts and its scientists paid no heed to retracted scientific reports about unsuccessful testing, lockdown, drugs, masks, vaccination but continue to advise govts. to mandate such measures.

Why this all was followed?

The scientists says, reasons are also simple, people were fearful because they were not scientists or doctors so they had to follow these scientists who were propagating corona narratives, moreover anti-covid individuals were warned of anti-terrorist charges upon speaking. Later on these fearful people found that more people were dying of lockdown measures, oxygen shortage drained health-care facilities etc. Now reports are coming of deaths due to vaccination too. People also followed govt protocols because the lockdown etc. were mandatory with hefty fines on negligence, punishment/jail for not following protocols and even charges of terrorism on speaking up against govt measures. This all led people to remain silent until now.

Now what changed people?

People saw that people were not dying of covid (CDC report in early 2020 which showed that the death rate was much in elderly only and just 2% of people were died because of COVID), other infections and mortality were included in COVID deaths, testing can give false positives, masks were not mandatory for leaders during rallies and huge gatherings and protests, epidemiological data and other data were not made public for public scrutiny and when made had huge problems in them like in case of Pfizer vaccine, vaccination is not preventing deaths and side effects of it, philanthropic organizations like Bill and Melinda gates foundation is not working to end the pandemic but has strategies to take it over and over again, and last but most important is the profiteering of pharma companies and continuous push by them even after so many side effects and deaths due to their vaccines.

Conclusion

It is imperative that vaccine hesitancy has grown to its full extent and people are no more comfortable with scientists and pharma professionals which led to a major problem. Though the Anti Covid movement started legally in USA when senator Rand Paul and Jim Jordan first questioned Fauci about his flip flop statements and dragged him to the parliament for questioning where he was seen to keep himself away from the very basis science questions and the CDC director, the FDA people and others were questioned but none of them were able to answer simple scientific question posed in front of them. The most laughable, the CDC director did not know how many CDC employees were vaccinated at the time of this question.

Similar situation has arisen in many parts of the world as can be seen by protest and court cases. The Paul and Jordan inspired many people around the world to start protest against their govts., the people in all major countries are now protesting against mask and vaccine mandates by saying that we are not puppets. Not only ordinary citizens have understand the game but the scientists with lawyers have come forward against these govts. policies. So getting vaccinated, obeying mask and lockdown mandates, obeying testing while travelling prohibition have become basic questions to the independence and liberty of citizens of any country.

Note: These are author's personal views, the publishing platfrom and its associates are not anyhow responsible for the content of this article.

Guest Article

New developments led by Prof Gajendra Raghava, IIIT-D in Computational biology

by Swati Kaushik

Healthcare is an essential component in all human beings' lives as each individual wishes to have a happy, healthy, and wealthy lifespan. A team led by Prof. Gajendra P. S. Raghava has developed a collation of computational tools that could be beneficial for biologists and non-biologists.

The recent review published in Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery throw light on how computational resources play a vital role in healthcare. The Healthcare sector became more digitalized and advanced due to the evolving informatics-based fields like medical informatics, bioinformatics, cheminformatics, pharmacoinformatics, immunoinformatics, and clinical informatics. These domains generate a huge amount of biological and clinical data, such as electronic health records, biomedical images, and genomics. Globally, several researchers are developing various tools, software, and methods that can compile, store, annotate and analyze generated data and make it approachable.

"In the present scenario, there is a limited number of open-source software than commercial ones available for scientific and academic purposes. Our group is adherent

of public domain software and thus initiated a web-portal Computational Resource for Drug Discovery (CRDD), an important insilico module under Open Source Drug Discovery (OSDD). The ideology behind this is to promote the open-source/ freeware software", said Gajendra P. S. Raghava, Professor, and Head of Department of Computational Biology at Indraprastha Institute of Information Technology, New Delhi.

The advanced review entitled "Computational Resources in Healthcare" focused on summarizing various freeware and open-source computational tools widely implemented in different healthcare sectors. This study revolves around some major areas of healthcare like drug discovery, vaccine design and development, biomarker discovery, and Internet of Things (IoT) in healthcare.

"Drugs play an important role in treating any disease," says Neelam Sharma from IIIT Delhi and one of the first co-authors of the paper. The drug development process is a time-consuming and costly affair, and thus a number of resources have been developed to facilitate it. In this study, the authors have summarized major resources commonly used for drug discovery.

"To fight any disease, one should have strong immunity, and vaccines play an important role in boosting it," says Dr. NaoremLeimarembi Devi from IIIT Delhi and one of the first co-authors of the paper. The use of vaccines has efficaciously controlled contagious diseases like polio and smallpox. The conventional approach for vaccine development is a tedious process; thus, computational tools and databases make it easier to overcome the shortcomings and enhance the possibility of discovering potential vaccine candidates.

Several tools and databases are available for the identification of disease biomarkers which aids in disease diagnosis. Besides this, IoTs is an emerging field that has completely transformed the healthcare industry by bringing patients, doctors, and hospitals together. "IoT-based healthcare systems include mobile apps (AarogyaSetu), wearable devices (Fitbit) and telemedicine (eSanjeevaniOPD) has revolutionized the healthcare facilities and management," says Satakshi Gupta from IIIT Delhi, one of the authors of the paper.

The researchers have further compiled all the computational resources related to healthcare in a single health portal named "PHI: Portal for Health Informatics," accessible at https://webs.iiitd.edu.in/. The overall aim of this web portal is to help scientific and non-scientific communities working in the healthcare sector to have a glimpse of a wide range of open and freely available resources.

About Prof. Gajendra P.S. Raghava

Prof. Raghava is a Professor & Head at Department of Computational Biology, Indraprastha Institute of Information Technology (IIIT-Delhi), India. Before joining IIIT-Delhi in 2017, he was working as Chief Scientist at Bioinformatics Centre, CSIR-Institute of Microbial Technology (IMTECH), Chandigarh, India. He did M.Tech from Indian Institute of Technology (I.I.T.), New Delhi in 1986 and Ph.D. in Bioinformatics (1996) from IMTECH, Chandigarh. He worked as Postdoctoral fellow at Oxford university, Oxford and European Bioinformatics Institute, Cambridge UK (1996-98). Worked as Bioinformatics specialist at UAMS, USA (2002-3 & 2006) where he establish bioinformatics infastructure.

Prof. Raghava has published more than 250 research papers in reputed journals with avargae impact factor around 4.0 Most of papers are highly cited, total citations nearly 20,000 with h-index 73 and g-index 195 as per google scholar.

Prof. Raghava is a strong suporter of open source software and open access, all resouces develoed at his group are free for scientific use. His group developed more than 250 web servers and 40 databases in the field of computer-aided drug/vaccine design (probably highest number of services developed/maintained from a single group in the world). These services are heavily used by scientific community, nearly 150,000 hits per day.

EVENT

XVIII BRSI Convention
&
International Conference
on
Biotechnology for Resource Efficiency, Energy, Environment, Chemicals and Health (BRE3CH2021)

December 1-4, 2021; CSIR-Indian Institute of Petroleum, Dehradun, India
www.bre3ch2021.in

The XVIII BRSI convention and the International Conference on Biotechnology for Resource Efficiency, Energy, Environment, Chemicals, and Health (BRE3CH2021) was jointly organized by the CSIR-Indian Institute of Petroleum, Dehradun, Uttarakhand, India and the Biotech Research Society, India (BRSI) in association with the International Bioprocessing Association, France; the Centre for Energy and Environmental Sustainability (CEES)-India; CDC Jaipur and International Solid Waste Association (India chapter). The event was hosted by CSIR-IIP, Dehradun. Dr. Anjan Ray, Director, CSIR-IIP, Dehradun was the Patron of the event. Prof Sudhir Sopory, President of the BRSI was the conference chair, and Professor Ashok Pandey, Distinguished Scientist, CSIR-IITR was the conference General Chair and Prof Huu Hao Ngo, University of Technology Sydney, Australia; Prof Claude Gilles Dussap, Universite Clermont Auvergne, France and Prof Samir Khanal, University of Hawaii, USA were the conference international chairs. Professor Sunil K Khare of IIT Delhi, and Dr. Vivek Agrawal, CMD, CDC Jaipur were the conference Co-chairs. Dr. Thallada Bhaskar of CSIR-IIP was the Chairman of, Local Organizing Committee. Dr. Debashish Ghosh, CSIR-IIP was the convenor of the conference. Dr. Binod Parameswaran, CoE, BRSI, and Pr. Sc. CSIR-NIIST, Dr. Vivekanand, MNIT Jaipur, Dr. Bhavya B Krishna, Sr. Sc., CSIR-IIP, and Professor Kamlesh Chaure, AKS University, Satna were the co-convenors of the conference.

The conference was actively supported by NIT, Srinagar, Uttarakhand; ICWM (Indian Chapter); AKS University, Satna; AFSTI. Biotech Express was the media partner. Several academic journals, namely, Bioresource Technology, Bioresource Technology Reports, Systems

BRSI Awards and Fellowships

FELLOWS

- **Prof K S Rangappa,** Distinguished Professor, CSIR-Emeritus Scientist, and Asutosh Mookerjee Fellow of ISCA at the University of Mysore
- **Dr Jitendra Kumar Sundaray,** Head, Division of Fish Genetics and Biotechnology at ICAR-Central Institute of Freshwater Aquaculture, Bhubaneswar, Odisha
- **Prof Pradeep Verma,** Department of Microbiology, Central University of Rajasthan
- **Prof Kaustubha Mohanty**, Department of Chemical Engineering and Head of School of Energy Science & Engineering, Indian Institute of Technology Guwahati
- **Dr Prakash M Halami,** Chief Scientist and Head, Microbiology & Fermentation Technology Department as well as Department of Food Protectants, CSIR-Central Food Technology Research Institute, Mysore
- **Prof KM Gothandam,** Department of Biotechnology, School of BioSciences and Technology, Vellore Institute of Technology, Vellore
- **Prof Birinchi Kumar Sarma**, Department of Mycology & Plant Pathology, Banaras Hindu University, Varanasi.
- **Prof Pravindra Kumar,** Head at the Department of Biosciences and Bioengineering, Indian Institute of Technology, Roorkee

YOUNG SCIENTIST AWARD

- **Dr Akanksha Singh,** Scientist, division of Crop Production and Protection, CSIR- Central Institute of Medicinal and Aromatic Plants, Lucknow

WOMAN SCIENTIST AWARD

- **Prof Shilpi Sharma,** Department of Biochemical Engineering and Biotechnology, Indian Institute of Technology Delhi

INDUSTRIAL MEDAL AWARD

- **Dr Saurabh Saran,** Principal Scientist, Fermentation Microbial Biotechnology Division, CSIR- Indian institute of Integrative Medicine, Jammu.

AU-CBT EXCELLENCE AWARD

- **Mrs Sulogna Chatterjee,** Environmental Biotechnology at the Department of Energy and Environmental Engineering, CSIR- Indian Institute of Chemical Technology, Hyderabad
- **Mr Avnish Kumar,** CSIR-SRF, Material Resource Efficiency Division at CSIR-Indian Institute of Petroleum, Dehradun

PROFESSOR SB CHINCHOLKAR MEMORIAL AWARD

- **Dr R Sindhu,** DST WOS-B Scientist, CSIR-National Institute for Interdisciplinary Science and Technology, Trivandrum

BHU CENTENNIAL AWARD

- **Prof Arun Goyal,** Department of Biosciences and Bioengineering, Indian Institute of Technology, Guwahati

MALAVIYA MEMORIAL (SENIOR FACULTY) AWARD

- **Prof Rizwan H Khan**, Interdisciplinary Biotechnology Unit, Aligarh Muslim University, Aligarh

MALAVIYA MEMORIAL (YOUNG FACULTY) AWARD

- **Dr Lalit M Pandey**, Associate Professor in the Department of Biosciences and Bioengineering, Indian Institute of Technology Guwahati

SBS-MKU GENOMICS AWARD

- **Dr Aravind Madhavan,** ICMR-DHR Young Scientist at Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram

Event


INTERNATIONAL CONFERENCE
on
BIOTECHNOLOGY FOR RESOURCE EFFICIENCY,
ENERGY, ENVIRONMENT, CHEMICALS AND HEALTH
1 - 4 December 2021
BRECH 2021
Dehradun

Event

Microbiology & Biomanufacturing, Bioenergy Research, Journal of Food Science and Technology, Indian Journal of Experimental Biology and Journal of Energy and Energy and Environmental Sustainability will bring out special issues based on the presentations made in the conference.

BRE3CH2021 was conceptualized to provide a platform to bring the stakeholders, including the researchers, policy planners, and industry personnel to discuss and share the thoughts for future projects by collaboration in the area of bioenergy/biofuels/ biotechnology & microbiology, etc. This International conference focused on recent developments in the frontier areas of biotechnology/biofuels/biochemicals and brought together scientists, engineers, and other experts from across the world to deliberate on global developments in the field of biotechnology, covering industrial, agricultural, environmental, interdisciplinary biotechnology. The theme of the conference was divided into seven subthemes, and all deliberations were categorized under them.
The conference was opened on 1st December 2021 at 1630 h IST in Dr BR Ambedkar International Training Center at CSIR-IIP, and Drs. Thallada Bhaskar and Debashish Ghosh gave a glimpse of the technical details and organization of the conference in their opening remarks. In this conference, there were 12 plenary talks, 104 invited talks, 10 short orals, and 269 flash talks and posters, which were deliberated in four parallel sessions from 2nd to 4th December 2021. Prof. Sudhir K Sopory, the president of BRSI welcomed all the delegates, which included about 300 participating virtually from 33 countries and about 100 from India attending physically. Dr. Anjan Ray, Director, CSIR-IIP and Professor Huu Hao Ngo, the conference international chair & President IBA welcomed the delegates. The guest of Honour, Professor Tej Pal Singh inspired the gathering through his motivating talk. Afterward, Professor Ashok Pandey, Distinguished Scientist, CSIR-IITR, and conference General Chair addressed the gathering. This was followed by the electronic release of the BRSI Year Book and BRE3CH2021 Abstract book.

The star attraction of the opening session was the BRSI awards function, in which the names of the winners of the annual awards of BRSI for the year 2020-2021 were announced and were felicitated. Dr. P Binod, COE, BRSI conducted the award ceremony as Master of the ceremony. Following is the list of awards winners.

After the awards function, there were three lectures by the awardees. The first talk was by Dr. Saurabh Saran, Pr. Sc., CSIR-IIIM, Jammu (Industrial Medal Award Winner). The second lecture was given by Woman Scientist Award Winner, Prof. Shilpi Sharma, IIT Delhi; and the third lecture was given by Dr. Akansha Singh, of CSIR-CIMAP (Young Scientist Award Winner).

In the following two and half days, in four parallel sessions, the delegates witnessed 30 minutes plenary lectures (12 talks), 104 Invited talks (20 minutes each), 104 short orals (10 minutes each), and 269 flash talk and posters (4 minutes each).

The on-site and virtual management of the scientific program of the conference was moderated by Drs. Bhavya B Krishna, and Vinod Kumar (Hall A); Sunita Virjani, and Sindhu R (Hall B); Vivekanand, and Dharmendra Tripathi (Hall C); Kamlesh Choure, and Archana Tiwari (Hall D). The poster sessions were moderated by Drs. Rakesh K Mishra, Vikash Kaushal, and Arvind Madhavan.

During BRE3CH2021, there was no physical presentation of posters. All presenters submitted their e-posters on the BRE3CH2021 website (Authors' self-dashboard in the BRE3CH2021 portal). The posters were evaluated online; all the poster presenters also presented their work under Rapid presentations (5-slides in 3-minutes and 1 minute Q&A). All the short orals and Rapid presentations & posters were evaluated by the juries for selecting BEST PAPERS under different scientific themes to give awards as BEST ORAL PRESENTATION and BEST RAPID PRESENTATION & POSTER (RPP), which were sponsored by the (i) Khanal Foundation (a certificate and cash of Rs 2500 to each winner), (ii) Centre for Energy and Environmental Sustainability- India, comprising a certificate and a book published by Elsevier, (iii) Taylor & Francis (a certificate and a book published by T&F) and BRSI (a certificate).

The closing/valedictory session was held on 4th December 2021 at 1315 h IST in which Best Paper Awards were conferred. Also, the venue for the XIX Convention of the BRSI was announced by Prof Sunil Khare, Vice-President of BRSI which was Indian Institute of Technology, Guwahati, Assam, India to be held on December 7-11 December 2022. Professor Latha Rangan will be the convenor of the event and Professor Kaustubha Mohanty co-convener.

The BRE3CH2021 was organized under the hybrid mode, following full safety and precautions protocols

EVENT

FABA Hosts Investment in Innovation Meet with AWEX

The Federation of Asian Biotech Associations (FABA) hosted "Investment in Innovation" meet with AWEX- Centres Regionaux de Namur et de Libramont (Wallonia Trade and Investment Agency) team members in hybrid mode along with the representatives from Pharma/Biotech companies, startups/ established, and R&D institutions in Hyderabad on 22nd November, 2021 at The Plaza Hotel.

The AWEX team consisted of:

1. Ms. Emmanuelle Timmermans, Trade and Investment Commissioner
2. Ms. Evgeniya Ulkina, Area Manager, India
3. Mr. Joachim Galand, Senior Project Manager
4. Ms. Sukanya Dutta, Investment Advisor, Embassy of Belgium, Walloon Export and Foreign Investment Agency.

The visit of AWEX team was aimed at discussing:
• Investment in Innovative companies in life sciences, pharmaceuticals, vaccine, R&D institutions;
• Start-ups that potentially incubate in Europe;
• Companies with interest in Europe, not only in sales but also for clinical trials, R&D, bio supply chain etc.;

The meeting started with a formal welcome address and introduction of FABA to Team AWEX by Prof. Pallu Reddanna, Executive President and Dr. Palakodeti Ratnakar, Secretary General, FABA. After a formal welcome, Mr. Joachim Galand briefed the members about the Mission of AWEX Wallonia, which has a large life sciences sector. Their goal is to match the right partner with Belgium, which provides a platform for affordable R&D, production and marketing. This is evident by the establishment of global Vaccine producers such as AstraZeneca and Pfizer, as well as other industries such as GSK and other significant corporations in Wallonia. It has an ideal ecosystem that includes
large industries, SMEs, startups, and academic organizations.

The AWEX team generously extended invitation to the members visiting Europe to stop by at Belgium where they will be provided free tour of the facility and networking opportunities through B2B meetings. For the companies interested in partnering with Wallonia, they will provide assistance in all aspects of the biotechnology business. The involvement of Hyderabad biotech cluster in this association is a very strategic engagement for mutual benefit and development. Connecting Hyderabad with Europe and assisting in the development of ties will indeed be intriguing for the organisations involved.

The meeting was attended, physically as well as online, by a large number of startups and established companies, and R&D institutions. Some of these include:

• ReaGene Innovations represented by Dr. Uday Saxena
• Issar Pharmceuticals represented by Dr. Ramakrishna Reddy
• Vyas Cancer Research Park by Dr. Mandar Kulkarni
• UR Scientifics represented by Dr. Jaganmohan Reddy
• VeGen Technologies by Dr. Prashanth
• CCMB represented by Dr. Archana Shiva
• IICT represented by Dr. Shailaja
• Biotechnology Industry Research Assistance Council (BIRAC), autonomous unit of the Department
of Biotechnology, Government of India represented by Dr. Manish Diwan
• Scion Laboratories represented by Mr. Bhasker Rao
• Abynome Biosciences represented by Mr. Upender Reddy
• University of Hyderabad represented by Prof. Pallu Reddanna
• Sudarshan Biotech Pvt. Ltd., represented by Dr. KN Reddy

After formally introducing their units, the members briefed AWEX team about their interests in Wallonia investments and collaborations. Dr. Manish Diwan explained the contribution of BIRAC in promoting the start-up ecosystem in the country and opined a greater scope for connecting with the start-up ecosystem in Wallonia. He said that he would be delighted to explore the possibility of international innovation exchange. Dr. Shailaja explained that IICT is a research and development agency that develops technologies to Pharma and Biotech companies around the world.

Prof. Pallu Reddanna said that this is the beginning of the relationship, and FABA will play a lead role in connecting the Hyderabad Innovation Cluster with counterparts in Wallonia and Europe. Dr. Palakodeti Ratnakar added that FABA may well be viewed as a model association and a knowledge partner for AWEX. The meeting ended with a thank you note to all by Dr. Nidhi, Academic Coordinator of FABA Academy.

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Guest Article

Flavr Savr Tomato's journey as the first biotech food crop- success, demise, and recent research

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Abstract

Calgene Inc. created FlavrSavr, the first genetically engineered biotech food, to improve the flavour and taste of fresh market tomatoes with prolonged shelf life. The FDA (Food and Drug Administration, USA) approved its commercial release in 1994. These transgenic tomatoes sold for a higher price at the grocery than regular tomatoes, but it was just a momentary success. This product disappears from the market just after three years from its release, because of some scientific and technical reasons. Today's biotech companies have learned from FlavrSavr's shortcomings and paved their path towards advanced research on tomato improvement for various aspects such as shelf life, fruit ripening, lycopene content, pest and disease resistance, and nutritional quality improvement to develop nutrient-dense superfoods. This article will serve as the foundation for a fundamental understanding of the first transgenic food, emphasizing on its development, regulatory and food safety assessment, reasons for commercial success and failure, and current findings on shelf-life enhancement.

Keywords- FlavrSavr; Polygalacturonase gene; Antisense RNA technology; Shelf-life; Transgenic

Introduction

The first commercialized and best-known example of a transgenic plant product is Calgene's FlavrSavr tomato. It is the early example and hallmark of antisense RNA technology. Flavr Savr is the apex of revolutionary work begun in the late 1980s on the polygalacturonase gene involved in tomato fruit ripening. Reducing the amount of polygalacturonase in tomatoes helps to develop ripe fruit which remains intact for long period. Regular tomatoes shriveled and went bad during transportation, but Flavr Savr withstands the rigors of shipping.

Before Flavr Savr

Two decades ago, there was a healthy plant called tomato in the field of one farmer. It used to bear fresh and healthy fruits every year. Farmer used to harvest those tomatoes and sell them to the nearby market, but half of his produce was getting wasted during the process of transportation.

Once, an agriculture extension officer named Bella went for a field survey to one village. While she was passing the tomato field, she felt some voice coming behind "Hey! look at me once, I'm here". Bella turns around and found that one tomato plant was talking to her. She replied 'Hello Love Apple, how are you doing? Tomato plant replied "I am Cv. Ailsa Craig, perfectly fine but I want to share one problem of my grower" and he continued… I am very perishable in nature; have a short shelf-life to remain firm and ripe; I can't even travel the nearby market distance; Meanwhile, half of my products get damaged during transportation; and this causes post-harvest losses to my grower. Please help me to overcome his production losses.

Bella took that plant's seed (Cv. Ailsa Craig) with her to California. She visited Calgene Inc., a biotechnology company based in Davis, California (started in the 1980s) where,William Hiatt (Head of tomato research) and his co-workers started to work on that tomato cultivar for further improvement to resolve the problem. They tried to find the root cause of this problem, which is majorly associated with the process of ripening. Tomato ripening process involves three different enzymes viz., Phytoene synthase (Promote lycopene synthesis that gives red coloration), Polygalacturonase (degrades the cell wall and led to fruit softening), and ACC oxidase (catalyzes ethylene formation that triggers fruit ripening), coded by pTOM5, pTOM6 (Located on chromosome no.10) and *pTOM* gene respectively.In accordance to increase the shelf-life of tomatoes, the process of fruit softening should be delayed by targeting the expression of the Polygalacturonase (*PG*) gene.

By 1987, Calgene researchers identified and cloned a tomato fruit *PG* gene to suppress polygalacturonase accumulation in ripening tomatoes by introducing a reverse-orientation copy of the gene, an "antisense" copy designed to prevent or drastically reduce the formation of Polygalacturonase. In 1992 they come up with the world's first genetically engineered whole food i.e., Flavr Savr tomato (also known as CGN-89564-2; pronounced "flavor saver"), given the stamp of approval by the U.S. Food and Drug Administration for human consumption.

The Flavr Savr

Bella:What is this Flavr Savr? Calgene Researcher: It is the genetically modified version of the tomato cultivar that you had brought to our lab. Bella: How you develop this? Calgene Researcher: The FLAVR SAVR™ tomato (*Lycopersicon esculentum*) is developed through a specific genetic modification to exhibit decreased polygalacturonase (PG) activity. Look, Regulating the expression of specific genes by antisense RNA is a naturally occurring mechanism in bacteria. The same mechanism of antisense RNA technology is used for the first time to developthe Flavr Savr tomato.

Bella: What is antisense RNA technology? Calgene Researcher: Antisense RNA is a single-stranded RNA that is complementary to the "sense" mRNA sequence strand to inhibit gene expression in many different organisms including plants, flies, worms, and fungi. Using antisense RNA to inhibit particular gene expression is called antisense RNA technology. In the case of Flavr Savr, the *PG* gene was isolated from tomato and reintroduced in antisense/reverse orientation to suppress polygalacturonase expression.

Bella: How this tomato is different from the conventional one? Calgene Researcher: This transgenic variety of tomato ripens normally (ripens on the vine) but doesn't soften, experiences less pectin breakdown, and, therefore, has increased thickness and consistency that benefits all stages of harvesting and processing. This is also resistant to rotting (Kramer et al., 1992) and has a longer shelf life (2 weeks) than normal tomatoes. Flavr Savr represents a unique combination of traditional plant breeding technologies and the techniques of molecular biology and genetic engineering (Kramer and Redenbaugh, 1994).

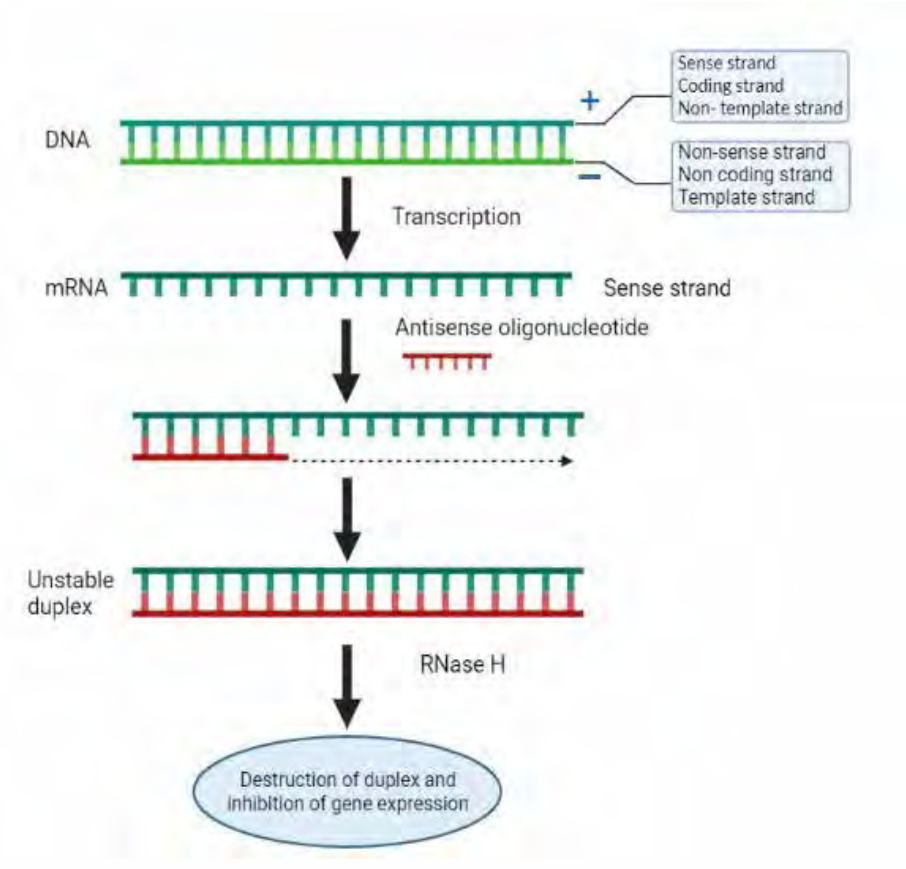

Fig. 1. Antisense RNA technology

Development of Flavr Savr

Firstly, the PG gene was isolated from a conventional tomato cultivar and reintroduced into a tomato in reverse orientation as the FlavrSavr™ gene. Different binary vectors (pCGN1547, pCGN1548, pCGN1549, pCGN1557, pCGN1558, pCGN1559 and pCGN1578) were developed which contain PG encoding gene in the antisense orientation (Transcription of the antisense-PG gene did not result in the expression of any novel protein) to a constitutive promoter (CaMV 35S) and kanamycin-resistant marker gene (*Kan*^{r}– *NptII* gene) used for selection and genetic analysis.

Initial transgenic lines were developed by *Agrobacterium*-mediated transformation using PG antisense construct pCGN1416 and pCGN1436 (Sheehy et al., 1988). Approximately 50 independent transformation events were generated for line selection. Transformed lines were selected based on the level of polygalacturonase activity. Homozygous progeny of selected transformants was then used to produce seed for further field testing and development.

The mechanism of decreased PG activity in the FLAVR SAVR™ tomato is likely linked to the hybridization of antisense and sense mRNA transcripts, resulting in a decreased amount of free positive sense mRNA available for protein translation. The measured level of PG activity in transgenic FLAVR SAVR™ tomato was found to be less than 1% of PG activity found in the unmodified parental line.

Regulatory and food safety assessment

Bella: Being a transgenic product, is it safe for human consumption as well as for the environment? Calgene Researcher: When you develop any genetically engineered plant, you have to go through different regulatory and food safety assessments before its commercial release. We are very transparent about the process of Flavr Savr tomato development, from the day of the beginning. Firstly, we did environmental release analysis by conducting field trials in different locations and next to food safety assessments.

Environmental release

More than 10 experimental field trials and over 400 acres of commercial production have been conducted by Calgene Inc. with Flavr Savr tomato cultivars in the principal tomato-producing regions of California, Florida, and Mexico to determine the phenotypic effect of transgene and transformation pro-

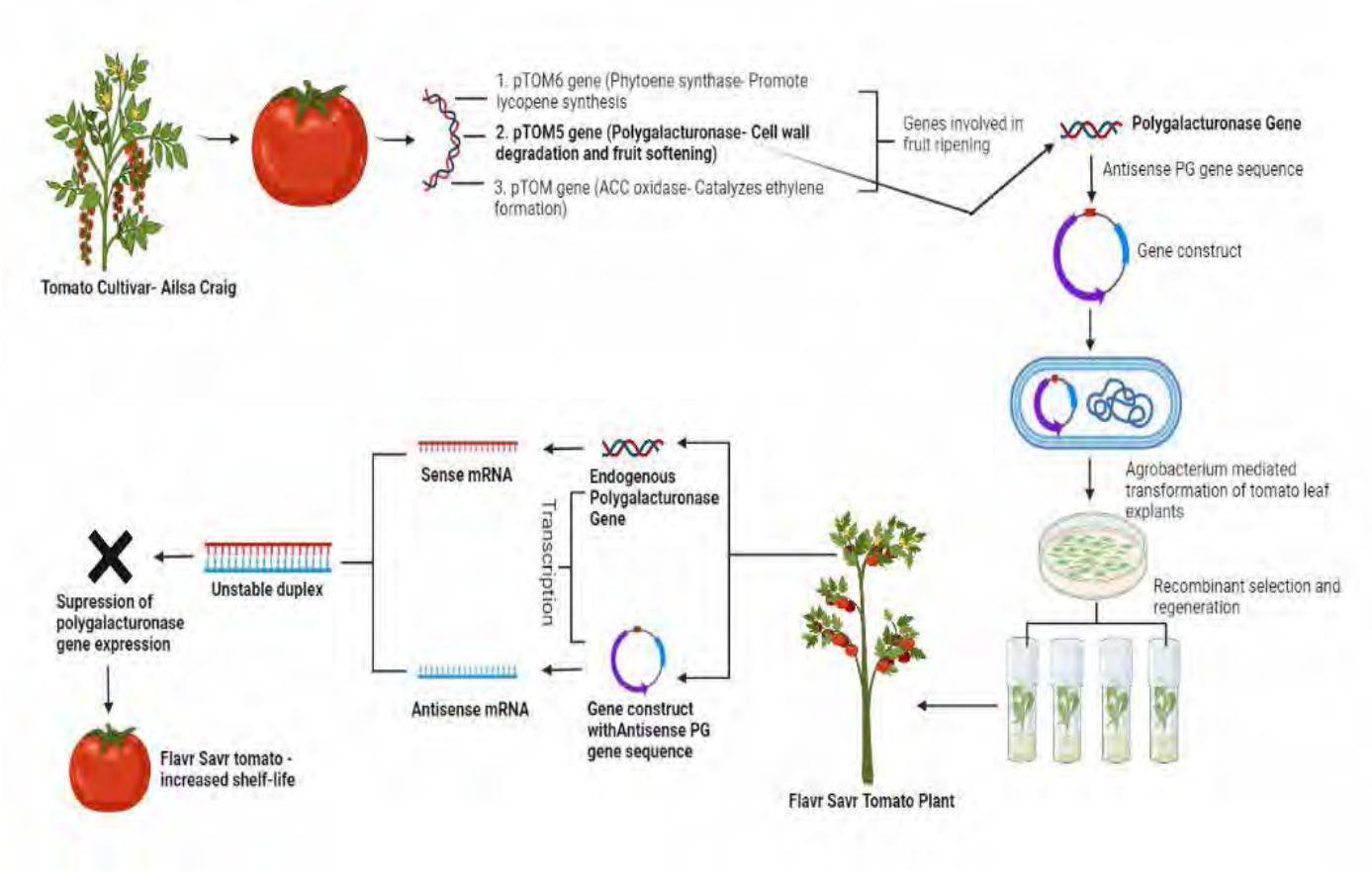

Fig. 2. Development of Flavr Savr- The first application of antisense RNA technology

cess on overall horticultural performance. The first Calgene field trial of Flavr Savr tomato plants was conducted in Guasave, Sinaloa, and Mexico for its field holding ability and quality of processed juice. The phenotypic evaluation demonstrated that the absence of PG in the ripening fruit imparted improved field holding and firmness as well as improved resistance to certain post-harvest fungal pathogens (Kramer et al., 1990, 1992). Based on the results from eight contained field trials, in October 1992 the U.S. Department of Agriculture determined that the PG-antisense tomato lines are not a "plant-pest" risk and deleterious to the environment and no longer required permits for field testing or transport [not a regulated article under USDA Animal and Plant Health Inspection Service (APHIS) regulations].

Food Safety

FlavrSavr's data was submitted to the U.S. Food and Drug Administration for further safety assessment as two separate requests, first as-*Kan*^{r} Gene: safety and use in the production of genetically engineered plants (26 November 1990), and second as Flavr Savr tomato: Status as food (12 august 1991).

Bella: What about the concern related to the use of *kan*^{r} gene [APH (3') II]? Calgene Researcher: We have conducted an acute toxicity study which showed no toxicity and mortality in rat-fed flavr Savr tomatoes which contain kan^r gene, our results demonstrated that the enzyme get inactivated by pepsin in simulated gastric and intestinal fluids. No possibility of glycosylation and subsequent increase in antigenic capacity of APH (3') II because of the absence of necessary sequence information for transport to subcellular locations at which glycosylation takes place. In fact, this protein is produced naturally by bacteria found in the human gut. The US Food and Drug Administration approved the introduction of kanamycin resistance gene constructions needed to create the PG antisense gene.

Bella: Is there any possibility of transfer of this gene from the engineered plant into gastro-intestinal micro-organisms? Calgene Researcher: Zambryski and his co-workers in 1982 provided one piece of evidence that once inserted DNA is integrated into the plant host genome, it cannot be remobilized even if acted on again by *vir* genes. To date, such horizontal gene flow remains speculative with no actual examples.

Bella: What about its nutritional contents? Will they remain the same or be altered? Calgene Researcher: To demonstrate the qualitative and nutritional equivalence, all nutrients of Flavr Savr tomato (Including tomatine level- Alpha-tomatine is the principal naturally occurring glycoalkaloid in tomato, decreases as the fruit matures so that the amounts in vine-ripened red tomatoes are negligible) were measured and compared with control tomato fruits. Other than reduced polygalacturonase activity (softening rate and viscosity), the macro-and micronutrients, pH, total acidity, total solids, and sugars, and other agronomic characteristics of the FLAVR SAVR™ tomato were comparable to unmodified varieties.

On May 18, 1994, the FDA completed its evaluation of the Flavr Savr tomato and the use of APH (3') II, concluding that the tomato is "as safe as tomatoes bred by conventional means" and "that the use of aminoglycoside 3'-phosphotransferase II is safe for use as a processing aid in the development of new varieties of tomato, rapeseed oil, and cotton intended for food use". FDA even found that no special labeling was necessary on the genetically engineered tomatoes because there was no evidence of health risks and nutritional content was the same as naturally-produced tomatoes. No unintended changes were detected.

Commercial release of Flavr Savr

The sale of FLAVR SAVR tomatoes (first genetically engineered whole food to be sold in commerce) began on 21st May 1994 under the brand name MacGREGOR'S TOMATOES. Consumer'sand food manufacturers'acceptance has been overwhelmingly positive because of the new alternate or additional choice. Their marketing was offering consumers a better experience. Initially, the fruit was available in only two stores, one in the midwest (Chicago area) and the other one in California (Davis). The first three days of the sale saw over 3000 pounds of sale from each store. Despite objections raised by some GM critics, the launch of FlavrSavr generated mostly favorable publicity and initially brisk sales, even after being priced 70% more per pound than conventionally grown tomatoes.Thirteen months after the modified tomatoes were brought to market Calgene and Monsanto designed a deal to expand Flavr Savr distribution into more supermarkets and concluded in March of 1996.

The puree

In the UK, Zeneca introduced a tomato paste (in 1996) from PG antisense tomatoes grown and processed in California in collaboration with the grocery chains Sainsbury's and Safeway. More than 1.8 million cans which were clearly labeled as made with genetically modified tomatoes, were sold from 1996 to early 1999. The paste was sold alongside its conventional equivalent but at a cheaper price and initially outsold the non-GM variety by 2:1. The sale of this product declined drastically in 1998. Sainsbury's experience illustrates a fundamental shift in public perceptions which has subsequently occurred. Sainsbury's and Safeway both pledged that none of their house brand products would contain genetically modified ingredients to satisfy the stated concerns of some customers rather than for any reason of food safety.

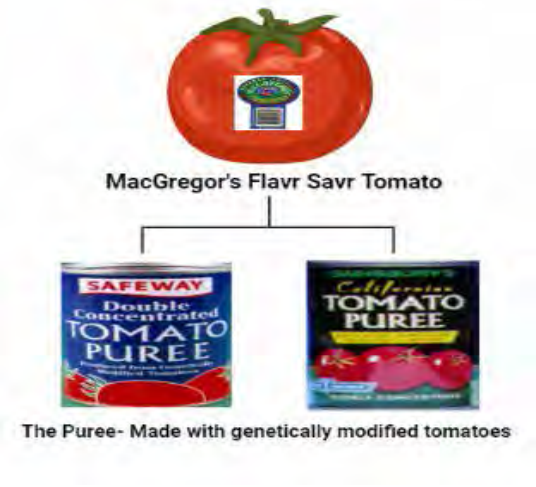

Fig. 3. The puree

Demise in the sale of Flavr Savr

Bella was very happy about the commercial success of the Flavr Savr tomato, as this will help the farmers to minimize their production and post-harvest losses. But it turned out to disappoint researchers in that respect, as the antisense PG gene had a positive effect on shelf life, but not on the fruit's firmness, so the tomatoes still had to be harvested like any other unmodified vine-ripe tomatoes. An improved flavor, later achieved through traditional breeding of Flavr Savr and better-tasting varieties would also contribute to selling Flavr Savr at a premium price at the supermarket.

FLAVR SAVR tomato resulted in scientific success, a temporary sales success, and then commercial demise. The failure of the Flavr Savr has been attributed to Calgene's inexperience in the business of growing and shipping tomatoes. Flavr Savr tomatoes were costing $10 per pound to produce but were being sold for only $1.99 per pound at the market (A fact shared by Calgene researcher Belinda Martineau in her 2001 book, FirstFruit*)*. High production costs, as well as company's inexperience in tomato growing, handling, shipping, and transport, led to financial troubles for the Flavr Savr.

Changing consumer perceptions of genetically modified crops is also one of the reasons (House of Commons UK Report). Dr. Arpad Pusztai case played a major role in changing public perception towards transgenics because at that time New York Times broadcasted one news regarding Dr. Arpad Pusztai's claim about detrimental health effects in lab rats fed a diet of genetically modified potatoes. Later on, his initial claim was "contradicted by his own evidence". There is very little known about the long-term effects of genetically modified foods, such as the Flavr Savr tomato. According to Action-bioscience, there have been acute toxicity studies conducted with male and female rats for the tomato. These studies claim that the tomato has no toxic effects, but many people see flaws in the study. There was an unacceptably wide range of rat starting weights and no histology of the intestines was done. There were many factors that make the studies done invalid.

Flavr Savr failed because it made a minimal impact on shelf-life/fruit softening, and the transgene was put into some very poor germplasm (Harry J. Klee, Ph.D., Monsanto's chief tomato scientist). Faced with a cost gap it could not close, a stock price that plunged from $25 to $4 a share, and growing competition, Calgene had little choice but to sell. Calgene was taken over by Monsanto on April 1997. Flavr Savr disappeared from shelves for good in 1997, just three years after its introduction. Calgene pioneered a cutting-edge technology but applied it in the wrong market.

"Flavr Savr is almost like a unique experiment that ushered in the GM world. But Flavr Savr was a boutique product. It was not a commodity product,"(-Jon Entine, executive director of the Genetic Literacy Project at University of California, Davis). Despite its scientific and commercial shortcomings, Flavr Savr succeeded in helping to establish FDA's approach to regulating genetically modified crops and foods.

Today there are no genetically engineered tomatoes on store shelves, instead, most supermarket tomatoes are still grown and harvested for yield more than taste, the way they were before the Flavr Savr was born. It was like a flame out early in the GMO story.

Current status of tomato research- The science continues to evolve

Zhang and his co-workers in 2018 described the novel GRAS gene, designated as *SlFSR (fruit shelf-life regulator)* specifically increased during fruit ripening. RNAi repression of *SlFSR* resulted in reduced expression of multiple cell wall modification-related genes, decreased the activities of PG (Polygalacturonase), TBG (tomato β-galactosidase), CEL (cellulase), and XYL (β-D-xylosidase), and significantly prolonged fruit shelf-life. His findings reveal some of the genetic mechanisms underlying fruit cell wall metabolism and suggest that the *SlFSR* gene is another potential biotechnological target for the control of tomato fruit shelf-life (Zhang et al., 2018).

Scientists (Ling et al., 2021) at the University of Oxford's Department of Plant Sciences have discovered a protein located in the plastids of tomato

Table 1. Approved transgenic tomato events

Event Name	Developer	Gene(s)	Trait(s)	Approval
1345-4	DNA Plant Technology Corporation, USA	*acc truncated*	Delayed ripening/Senescence	Canada-1995 Mexico-1998 USA-1995
35-1-N	Agritope Inc. (USA)	*sam-k*	Delayed ripening/Senescence	USA-1996
5345	Monsanto Company	*cry1Ac*	Lepidopteran insect resistance	Canada-2000 USA-1998
8338	Monsanto Company	*accd*	Delayed ripening/Senescence	USA-1995
B	Zeneca Plant Science and Petoseed Company	*PG (sense or antisense)*	Delayed fruit softening	Mexico-1996 USA-1995
Da	Zeneca Plant Science and Petoseed Company	*PG (sense or antisense)*	Delayed fruit softening	Mexico-1996 USA-1995
Da Dong No 9	Institute of Microbiology, CAS (China)		Modified product quality	China-1999
F (1401F, h38F, 11013F, 7913F)	Zeneca Plant Science and Petoseed Company	*PG (sense or antisense)*	Delayed fruit softening	Canada-1996 Mexico-1996 USA-1995
FLAVR SAVR™	Monsanto (including fully and partially owned companies)	*PG (sense or antisense)*	Delayed fruit softening	Canada-1995 Mexico-1995 USA-1994
Huafan No 1	Huazhong Agricultural University (China)	*anti-efe (Microparticle bombardment of plant cells)*	Delayed ripening/Senescence	China- 1997
PK-TM-8805R(8805R)	Beijing University	*cmv cp*	Viral disease resistance	China-1999

(Source: http://www.isaaa.org/gmapprovaldatabase/)

cells, called *SP1*[this SP1 protein controls a regulatory pathway called chloroplast-associated protein degradation (CHLORAD) proteolytic pathway, which was discovered by the group in 2019]. The overall process of fruit ripening in tomatoes (including color changes and softening) can be changed by knockdown of the plastid ubiquitin E3 ligase *SP1*, or its homolog *SPL2* (delays tomato fruit ripening), whereas overexpression of *SP1* accelerates ripening, as judged by color changes. This new finding reveals an important regulatory or controlling role of plastids in the fruit ripening process in tomatoes. They demonstrated that *SP1* triggers broader effects on fruit ripening, including fruit softening, and gene expression and metabolism changes, by promoting the chloroplast-to-chromoplast transition. It has real potential as a technology for crop improvement to develop early or late fruiting varieties of fleshy fruits, or to improve the transport-

ability or shelf-life of fruit by delaying ripening without compromising the quality of the ripe fruit.

A spatiotemporally regulated CRISPR/Cas9 toolkit in which Cas9 expression is driven by a fruit-specific promoter (*phosphoenolpyruvate carboxylase 2* gene promoter) was recently reported to confer fruit-specific gene editing in tomatoes (Feder et al. 2020).

Recently Japan launches the world's first direct-consumption genome-edited tomato. Sanatech Seed's Sicilian Rouge High GABA tomato was developed using CRISPR-Cas9 gene-editing technology. The tomato contains high levels of gamma-aminobutyric acid (GABA- 4 to 5 times more than normal tomato), an amino acid believed to aid relaxation and help lower blood pressure.

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Featured Biotech News

Penn State Louisville names first female Indian origin president Neeli Bendapudi in 166 years history

December 12, 2021

Pennsylvania State University hired its first female president and first president of color in the school's 166-year history.

Neeli Bendapudi, who currently leads the University of Louisville, was named as the replacement for outgoing Penn State president Eric J. Barron. Penn State's board of trustees unanimously approved her appointment at a meeting in State College.

Bendapudi, 58, who started her academic career as professor of marketing but also has worked in the private sector, was born in India and has led the Kentucky school since 2018.

"It's truly the honor of a lifetime," Bendapudi said taking the podium at the trustees meeting after she was hired. "I'm in awe of Penn State's 'we are' spirit and the transformative power of a Penn State education and of the Penn State community, which is like no other anywhere."

Dr G Taru Sharma appointed as new Director of DBT-NIAB, India

She has took over the charge of Director NIAB w.e.f. December 7, 2021.

December 8 2021

Dr G. Taru Sharma is an Indian biologist well known for her studies on germ cell marker genes, buffalo embryo genomics and stem cell therapeutics in livestock and pets.

She is an elected fellow of the National Academy of Agricultural Sciences and National Academy of Sciences (NASI). The Department of Biotechnology of the Government of India awarded her the National Bioscience Award for Career Development, one of the highest Indian science awards, for her contributions to biosciences in 2006 for her significant contributions in functional genomics of the pre-implantation buffalo embryos.

Dr Sharma born on 4 August 1965 in Mathura did her early schooling in Mhow and Graduation and PG studies at the Kishori Raman Girls College in Mathura and Agra College. Her doctoral research was at the Indian Veterinary Research Institute (IVRI) and after securing a PhD in 1990, she did her post-doctoral work as a research scientist at the Centre for Biotechnology of the National Dairy Development Board. In 1991, she joined the Central Institute for Research on Goats of the Indian Council of Agricultural Research (ICAR) but moved to the Indian Veterinary Research Institute, another ICAR institution in 2000 where she headed one of its department till joining NIAB.

She has been awarded Punjabrao Deshmukh Women Agricultural Scientist Award by Indian Council of Agricultural Research and Women Empowerment and Livelihood Award (WEAL) from the Indian Society for Integrated Women & Child Development (ISIWCD) during the World Women Summit. She has been awarded fellowship by FAO and also got honorary appointment to the professional Women's Advisory Board by the American Biographical Institute.

The biotech industry is shifting extremely rapidly Rajesh Gokhale, secretary, DBT during Global Innovation Summit 2021

November 30, 2021

Rajesh Gokhale, secretary, Department of Biotechnology "The biotech industry is shifting extremely rapidly and unless we open up our regulatory processes we will lag behind in doing cutting-edge innovation in the sector" during the Global Innovation Summit held by the Indian Pharmaceutical Alliance (IP Alliance).

Innovators need to feel confident, and regulators and innovators should not have any barriers during the process of new drug innovation, stated Drugs Controller General of India (DCGI), Dr V G Somani, during the session on creating regulatory ecosystem.

"We had to devise a methodology where we as a regulator, became a facilitator. Without compromising on quality of data and models required, we multiplied efforts and reduced redundant efforts. In the last two years, more than 180 subject expert committee meetings were held," added Dr Somani.

Dilip Shanghvi, managing director, Sun Pharmaceutical Industries, is of the view that the research linked incentive is a very good effort to recognise the efforts of the pharmaceutical industry.

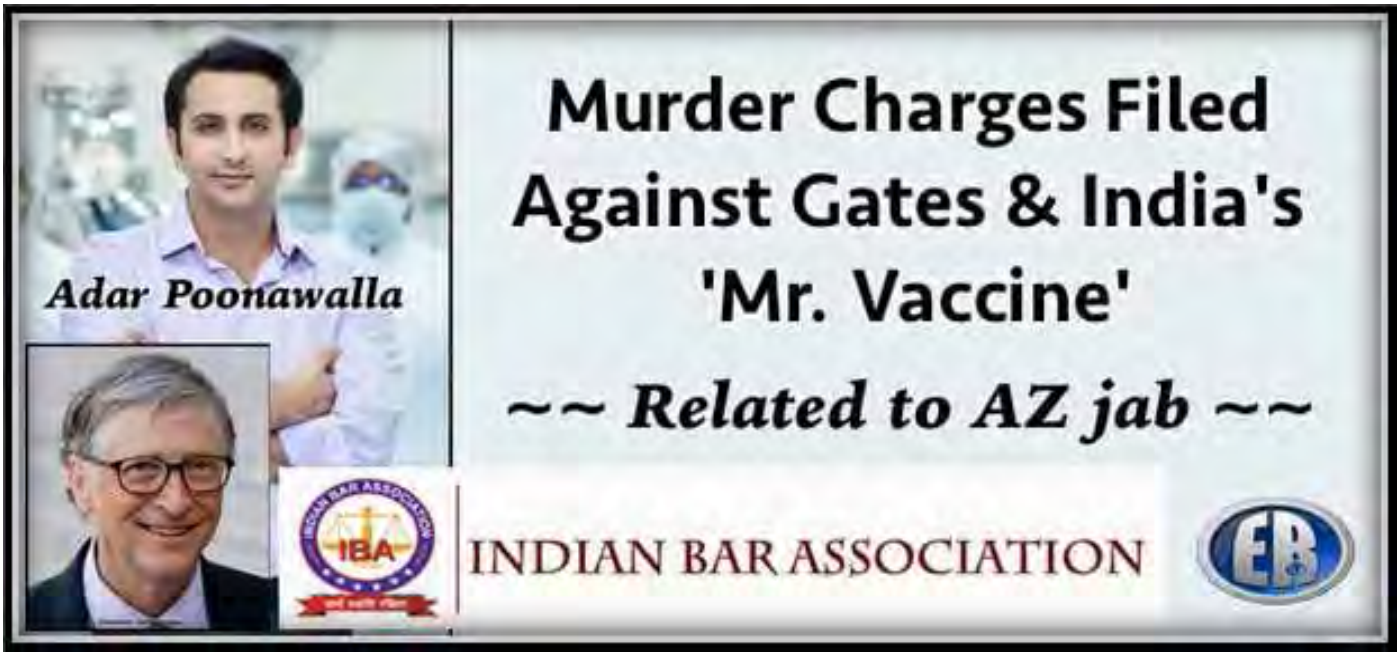
Glenn Saldanha, managing director, Glenmark Pharmaceuticals added, during Covid, Indian drug regulators were quick to approve drugs and we are on right track towards creating a research ecosystem in India.

'The dialogue between the industry and regulator on innovation should be ongoing. We have to work together to drive the industry'," added Sanjay Singh, CEO, Gennova Biopharmaceuticals.

"We are at an inflection point. The future is in innovation and India has all elements like talent and capability and intent to move forward with innovation," added Satish Reddy, chairman, Dr Reddy's Laboratories at the closing remarks.

The Indian Pharmaceutical Alliance represents research-based pharmaceutical companies in India. It is an alliance of 24 leading Indian pharmaceutical companies, committed to patient care in India and across the world.

WORLD'S FIRST VACCINE MURDER CASE AGAINST BILL GATES, ADAR POONAWALLA FILED IN INDIA'S HIGH COURT



November 30, 2021

Petitioner [Kiran Yadav Vs. State and ors. Criminal Writ Petition (St.) 18017 of 2021] has sought prosecution of AstraZeneca's (Covishield) manufacturer Bill Gates, his partner Adar Poonawalla and other Government officials and leaders involved in the murder of a 23 year old man, who lost his life because of vaccination. The deceased took the Covishield vaccine by believing in the false narrative that the vaccine is completely safe and also owing to the compliance requirement set by the Railways that only double vaccinated people would be allowed to travel.

Petitioner has also sought Lie Detector, Narco Analysis Test of accused Bill Gates and others.

The Government of India's AEFI (Adverse Event Following Immunisation) Committee has recently admitted that the death of Dr. Snehal Lunawat, was due to side effects of the Covishield vaccine. The said report has exposed the falsity of the claim made by vaccine syndicate that vaccines are totally safe. Petitioner has claimed Rs. 1000 crores ($ 134 million USD) compensation and has asked for interim compensation of Rs. 100 crores ($ 13.4 million USD).

In a case before the American Court regarding the side effects of MR vaccines, the Court accepted the settlement of compensation of 101 Million US Dollars (around Rs. 752 Crores) to the victim. In another case in America, the CIA, FDA's office of criminal investigation, recovered around 10.2 Billion US Dollar (around Rs.76,00 crores) from Pharma Company GlaxoSmithKline for various offences including suppression of side effects of the medicines and putting the life of Americans in danger.

If any person is vaccinated by suppressing the facts or by telling a lie that the said vaccines are completely safe, amount to the consent being obtained under deception. In India, vaccination under deception or by force/coercion or by putting certain stiflingconditions, is a civil and criminal wrong. [Registrar General Vs. State of Meghalaya 2021 SCC OnLineMegh 130]

Based on the above said legal position the petitioner asked for registration of an F.I.R. under Section 52, 115, 302, 409, 120(B), 420, 34, 109 etc. of IPC and section 51(b), 55 of the Disaster Management Act, 2005 against concerned officials who were marketing the vaccines as completely safe.

Bill Gates and Adar Poonawalla, the partners in manufacturing the Covishield (AstraZeneca) vaccine are made accused for their involvement in conspiracy.

Source: https://indianbarassociation.in/worlds-first-vaccine-murder-case-against-bill-gates-adar-poonawalla-filed-in-indias-high-court/

VACCINE NOT MANDATORY: ADVERSE EVENTS, DEATHS AFTER IMMUNISATION, CENTRE TELLS SUPREME COURT, INDIA

DECEMBER 1, 2021

Covid-19 vaccine was not mandatory, but voluntary, the Centre has said in a submission in the Supreme Court on Monday. On its part, SC said that it would examine any vaccine mandate issued by the executive, if challenged on the ground that it violated personal liberty guaranteed to all citizens under the Constitution.

The court was reacting to advocate Prashant Bhushan's submission that state governments were linking vaccination to travel, jobs et al. The Union health ministry said that only 2,116 adverse events following immunisation, including deaths, were reported from across the country. "The percentage of such effects having serious/severe effects (including deaths) in case of covidshield and covaxin was less than 0.01 %, the government claimed." The 2,116 cases were reported from 1,193,844,741 doses of vaccines administered so far. "This again is in the caveat that any such serious/severe effect including death cannot be attributed to vaccination."

The government also denied that the vaccine was mandatory. "It is not linked to any benefits or services." However, people are being encouraged to vaccinate themselves as any individual's health may adversely impact the entire society, it said. No indemnity has been granted to any company manufacturing the drug.

The clinical data generated by trials reside with the sponsor and the data can be submitted to regulatory authorities for obtaining licenses. This data can be verified but there is no provision under which the regulatory authority can ask for the full data on clinical trials, the government said.

The court led by Justice L Nageswar Rao will now hear the case again on December 13.

Read more at: https://economictimes.indiatimes.com/news/india/vaccine-not-mandatory-2116-adverse-events-deaths-after-immunisation-centre-tells-sc/articleshow/87994260.cms?utm_source=contentofinterest&utm_medium=text&utm_

It was unfortunate that Omicron had been hyped as "this extremely dangerous virus variant" Coetzee, the discoverer of variant

November 30, 2021

Angelique Coetzee, chair of the South African Medical Association said it was unfortunate that Omicron had been hyped as "this extremely dangerous virus variant" with multiple mutations while its virulency was still unknown. The World Health Organization has designated it a variant of concern, and scientists are working to assess its behaviour.

Coetzee, a South African doctor who raised the alarm over Omicron said dozens of her patients suspected of having the new variant had only shown mild symptoms and recovered fully without hospitalisation.

Coetzee alerted health officials of a "clinical picture that doesn't fit Delta" — South Africa's dominant variant — on November 18, when she received the first seven of her 30-odd patients. She said South African scientists had by then already picked up on the variant, then just known as B.1.1.529, which they announced on November 25.

A top adviser to the South African government Virologist Barry Schoub, the head of South Africa's Ministerial Advisory Committee on COVID-19 vaccines on the coronavirus pandemic said that while the new Omicron variant of the virus — first documented in his country — was worrying, he did not believe the strain would lead to a major new wave of serious illness.

Source: https://www.cnbctv18.com/healthcare/unfamiliar-but-mild-symptoms-south-african-doctor-shares-her-observation-on-omicron-covid-variant-11629902.htm

Lara Logan compared Fauci to Josef Mengele, the Nazi "Angel of Death"

December 3, 2021

A Fox News commentator stoked outrage by comparing Dr Anthony Fauci, Joe Biden's chief medical adviser, to Josef Mengele, the Nazi "Angel of Death". Lara Logan, a host on the Fox Nation streaming service, was discussing Omicron on Fox News Prime Time on Monday night, amid fears that the new variant will trigger a new wave of Covid cases and further deepen political divisions over how to respond. The danger from Omicron is not clear but the World Health Organization has issued warnings about transmissibility and potential reaction to vaccines.

Though WHO has put Concern, Angelique Coetzee, chair of the South African Medical Association who reported Omicron said it was unfortunate that Omicron had been hyped as "this extremely dangerous virus variant" with multiple mutations while its virulency was still unknown and symptoms are very mild which does not even required hospitalization.
Hegseth asked Logan: "What's your take on where we are, where we're going?"

"Well, it's very simple, Pete," said Logan. "You just have to look at Africa. They didn't have the death rates from Covid that were predicted. And what is happening over time, is that the entire response to Covid and everything that we were told about it from the beginning, is being exposed and it's falling apart, the lies are coming apart. "And really now there's no justification for putting people out of their jobs or forcing vaccine mandates for a disease that ultimately is very treatable … and has death rates that compare very much to seasonal flu.

"And so in that moment, what you see on Dr Fauci, this is what people say to me, that he doesn't represent science to them. He represents Josef Mengele, Dr Josef Mengele, the Nazi doctor who did experiments on Jews during the second world war and in the concentration camps, and I am talking about people all across the world are saying this."

Logan also claimed responses to Covid had affected "civil liberties, the suicide rates, the poverty, it has obliterated economies", and said: "People see that there's no justification for what has been done.

"So as [scientists like Fauci are] being exposed and the control is slipping away, lo and behold, another variant surfaces, and nobody should be surprised by that because there will be more variants until the end of time. We'll never be free of them."

Logan's disapproval of the government's implementation of preventative measures has been echoed by several of her colleagues. Earlier today, Fox News senior political analyst Brit Hume said that the "cure" for COVID "is worse than the disease." Likewise, Republican Chris Christie blamed Biden's "inconsistent leadership" for the virus' continuation and resulting restrictions. From the very start, Senator Rand Paul and Jim jordan are also criticizing Fauci's measure, trying to prove that Fauci's measures have killed millions of people around the globe.

Unvaccinated people are not dangerous; vaccinated people are dangerous for others: Immunization expert Christian Perronne

DECEMBER 1, 2021

World Health Organization European Advisory Group of Experts in Immunization former Vice President Professor Christian Perronne said that all vaccinated people must quarantine over the winter months or risk serious illness.

Perronne specializes in tropical pathologies and emerging infectious diseases. He was Chairman of the Specialized Committee on Communicable Diseases of the High Council of Public Health.

Confirming the rapidly deteriorating situation in Israel and the UK, the infectious disease expert stated: "Vaccinated people should be put in quarantine, and should be isolated from the society."

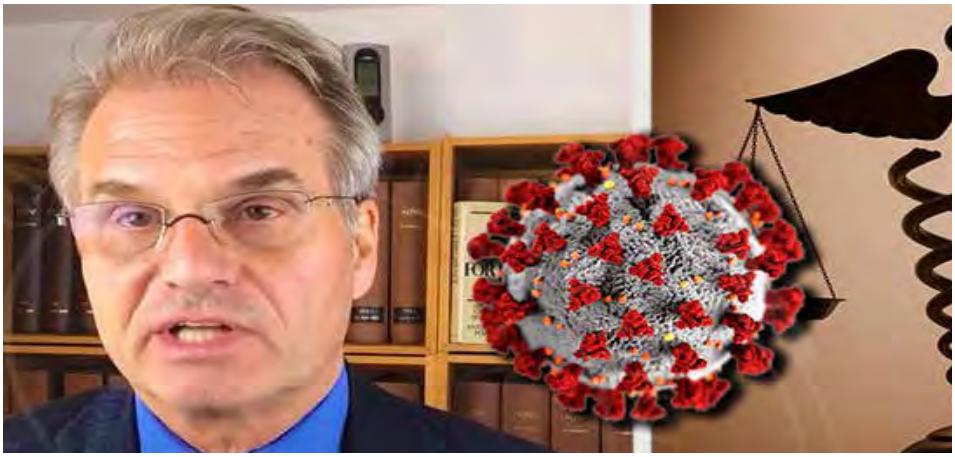
He went on to say: "Unvaccinated people are not dangerous; vaccinated people are dangerous for others. It's proven in Israel now – I'm in contact with many physicians in Israel – they're having big problems, severe cases in the hospitals are among vaccinated people, and in UK also, you have the larger vaccination program and also there are problems."

The current working group on the COVID-19 pandemic in France was reported to be "utterly panicked" on receipt of the news, fearing pandemonium if it follows the guidance of the experts.

Israeli doctor Kobi Haviv told Channel 13 News: "95% of seriously ill patients are vaccinated. Fully vaccinated people account for 85-90% of hospitalizations. We are opening more and more COVID branches. The effectiveness of vaccines is declining or disappearing."

Source: https://americasfrontlinedoctors.org/2/frontlinenews/immunization-expert-unvaccinated-people-are-not-dangerous-vaccinated-people-are-dangerous-for-others

TEAM OF 1,000 LAWYERS AND 10,000 MEDICAL EXPERTS START NUREMBERG 2 TRIAL AGAINST WORLD LEADERS FOR CRIMES AGAINST HUMANITY



NOVEMBER 24, 2021

A team of over 1,000 lawyers and over 10,000 medical experts led by Dr. Reiner Fuellmich have begun legal proceedings against the CDC, WHO & the Davos Group for crimes against humanity. Dr. Reiner Fuellmich is a Leading German lawyer and member of the German Corona Investigative Committee, Dr. Reiner Fuellmich specialises globally on the prosecution of fraudulent corporations.

Fuellmich and his team present the faulty PCR test and the order for doctors to label any co-morbidity death as a Covid death as fraud.

The PCR test was never designed to detect pathogens and is 100% faulty at 35 cycles. All the PCR tests overseen by the CDC are set at 37 to 45 cycles. The CDC admits that any tests over 28 cycles are not admissible for a positive reliable result. This alone invalidates over 90% of the alleged covid cases / "infections" tracked by the use of this faulty test.

In addition to the flawed tests and fraudulent death certificates, the "experimental" vaccine itself is in violation of Article 32 of the Geneva Convention. Under Article 32 of the 1949 Geneva Convention IV, "mutilation and medical or scientific experiments not necessitated by the medical treatment of a protected person" are prohibited. According to Article 147, conducting biological experiments on protected persons is a grave breach of the Convention.

The "experimental" vaccine is in violation of all 10 of the Nuremberg Codes which carry the death penalty for those who seek to violate these International Laws.

The "vaccine" fails to meet the following five requirements to be considered a vaccine and is by definition a medical "experiment" and trial:

- Provides immunity to the virus: This is a "leaky" gene therapy that does not provide immunity to Covid and claims to reduce symptoms yet double-vaccinated are now 60% of the patients requiring ER or ICU with covid infections.

- Protects recipients from getting the virus: This gene-therapy does not provide immunity and double-vaccinated can still catch and spread the virus.

- Reduces deaths from the virus infection: This gene-therapy does not reduce deaths from the infection. Double-Vaccinated infected with Covid have also died.

- Reduces circulation of the virus: This gene-therapy still permits the spread of the virus as it offers zero immunity to the virus.

- Reduces transmission of the virus: This gene-therapy still permits the transmission of the virus as it offers zero immunity to the virus.

Source: https://www.marktaliano.net/team-of-1000-lawyers-and-10000-medical-experts-start-nuremberg-2-trial-against-world-leaders-for-crimes-against-humanity/

The Prevailing Corona Nonsense Narrative by Dr. Thomas Binder, a Swiss doctor

December 3, 2021

Dr. Thomas Binder, a Swiss cardiologist and member of D4CE, has written a strong and accessible piece debunking the prevailing corona narrative for the general public.

Thomas has documented three events which presaged the current corona fake pandemic:

- The conjuring up, in 2006, of a fictitious epidemic of whooping cough, based on nothing more than PCR Testing: "Faith in Quick Test Leads to Epidemic That Wasn't".
- The Swine Flu Scandal, 2009: "Profiteers of Fear – The Swine Flu Racket" (German).
- "Event 201:" Corona Pandemic Simulation, 2019. See the movie "Event 201: Corona Pandemic from the Drafting Table," produced in German with English subtitles.

Thomas also counters the "top 10" myths about the prevailing corona narrative with the following arguments:

1. There is no epidemic of COVID-19 in any country – in most countries, there has been no excess mortality.
2. It is wrong to test symptomatic people for only one of all respiratory viruses, and it is even more wrong to test asymptomatic people.
3. The Corman-Drosten PCR protocol, which was hastily developed and prematurely adopted by the WHO, is technically flawed and not fit for the purpose of diagnosing an infection with the virus.
4. Asymptomatic transmission of respiratory viruses is not epidemiologically relevant.
5. Effective prevention measures and treatments for COVID-19 do exist.
6. SARS-CoV-2 mutate slowly but inexorably. Therefore, even the most effective vaccines will always lag behind the new variants.
7. SARS-CoV-2 is becoming more and more contagious indeed, but less and less dangerous, following the laws of evolution.
8. SARS-CoV-2 does not occur perennially but seasonally from late fall to early spring.
9. The basic and cross-immunity protect 80-90% of the population from contracting the seasonal beta corona and influenza viruses, which also applies to SARS-CoV-2.
10. It is not possible to stop the alleged pandemic of the alleged killer virus through vaccination, since the vaccines, aside from causing grave disease, have also proven ineffective.

At the end of the article, Thomas supports his conclusions using real-time ICU occupancy data from Zurich ETH. The near-real-time monitoring of intensive care occupancy by ETH Zurich, dated November 26th, 2021, exposes the fundamental fraudulence of the prevailing corona narrative. The graph shows that each of the alleged spikes of COVID-19 cases is always mirrored by a decline in non-COVID cases, indicating misdiagnosis of other respiratory infections as COVID.

Source: https://www.thomasbinder.ch/post/the-prevailing-corona-nonsense-narrative

Biotech Industry News

Eli Lilly Focuses on Obesity and Diabetes with $1.5 Billion Deal

Eli Lilly forged a multi-year collaborative partnership with China-based Regor Therapeutics Group to discover and develop new therapies for metabolic disorders. The partnership could be worth more than $1.5 billion to the three-year-old Regor, which has offices in Boston.

The partnership allows both companies to benefit from existing compounds and technologies to develop new assets. The companies did not identify specific targets in their announcement, but they noted that working together will allow them multiple shots to "maximize patient treatment choice." Common metabolic disorders include diabetes, obesity, and nonalcoholic steatohepatitis (NASH). These types of metabolic disorders impact the lives of millions of people across the globe. With its insulin products, Eli Lilly is well-established in the diabetes space.

Ruth Gimeno, Ph.D., vice president, diabetes research and clinical investigation at Lilly, said the company would expand treatment options for patients with metabolic diseases through collaboration with Regor. She said Regor's CARD platform and technology would allow the company to accelerate innovation and deliver breakthrough therapies in obesity and diabetes.

The two companies are no strangers. In February of this year, Lilly Asia Ventures, a venture program of Eli Lilly, was the lead investor in Regor's $90 million Series B financing round.

Under the terms of the agreement, Lilly will take the lead in accessing Regor's intellectual property to begin researching and developing new assets. Lilly will be able to leverage Regor's CARD (Computer Accelerated Rational Discovery) platform to accelerate the development of these assets. Lilly will market the drug globally, except in China, Macau, Hong Kong, and Taiwan if an asset is taken through clinical development and commercialization.

Company that Owns All Mainstream Media, COVID Vax Manufacturers Approaches $10 Trillion in Assets

December 1, 2021

BlackRock—owner of FOX News,

CNN, ABC, CBS, MSNBC, Pfizer, Moderna, AstraZeneca, J&J—predicted to cross $10 trillion in managed assets by end of 2021.

QUICK FACTS:

- BlackRock Inc., the world's largest money manager, is nearing the extraordinary milestone of $10 trillion in assets under management, Pensions & Investments (P&I) reported Friday.
- BlackRock declared $9.46 trillion in AUM (assets under management) as of Sep. 30.
- But according to a P&I estimate based on market returns and averaging recent inflows, "BlackRock's AUM is around $9.9 trillion as of mid-November."
- "And if those trends hold," P&I predicts, "BlackRock could cross the $10 trillion mark before the end of the year, according to P&I estimates."
- "To put that number in perspective, consider that only two countries—the U.S. and China—boast higher GDP than $10 trillion as of 2020," the piece goes on to say.
- BlackRock owns major shares of Fox Corp, CNN, ABC, CBS, and MSNBC.
- BlackRock also owns major shares of Pfizer, AstraZeneca, Moderna, and Johnson & Johnson.

India's Zydus Cadila transfers plasmid DNA vaccine technology to Korea

Enzychem Lifesciences and Cadila Healthcare, a part of the Zydus Group in India, have entered a Manufacturing License and Technology Transfer Agreement for the world's first plasmid DNA vaccine (ZyCoV-D®).

Following the results of a large clinical trial involving nearly 30,000 subjects, ZyCoV-D® was recently granted emergency use approval (EUA) by India's national regulatory agency for subjects 12 years and above.

Under the terms of this agreement, Zydus shall transfer its manufacturing technology and provide technical assistance to Enzychem.

Both Zydus and Enzychem believe that this partnership will lead to estimated manufacturing of 80 million or more doses of the plasmid DNA vaccine in 2022.

Accordingly, Enzychem shall pay Zydus license fees and royalties for the commercialization of the Plasmid DNA-based COVID-19 vaccine made in Korea and exported to a number of countries, including low-medium income countries (LMICs) in Latin America and Asian New Southern Policy member countries.

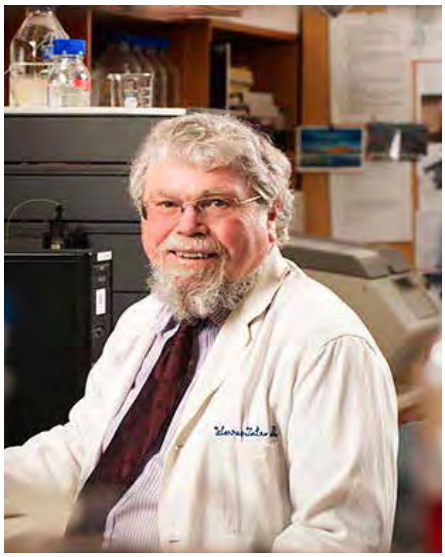
Dr Sharvil Patel, Managing Director, Cadila Healthcare Ltd., said, "Our aim is to provide new innovations and novel technologies that can support people with better approaches to healthcare. This agreement enables people in South Korea and other key markets of Enzychem, the access to a safe, well tolerated and efficacious vaccine with a novel platform to fight COVID-19."

Biotech Research and Govt.

Vaccination exemptions for chronic fatigue sufferers urged by New Zealand health expert

November 27, 2021

One of the country's leading biomedical scientists has written to the Prime Minister and Director General of Health urging vaccination exemptions for chronic fatigue syndrome sufferers.



The University of Otago's Emeritus Professor Warren Tate says he is aware of serious reactions triggered by the Pfizer vaccine in several people who have the condition. He believes some of those with the disease shouldn't be expected to be vaccinated.

There are an estimated 25,000 people with myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) in New Zealand. Tate is considered a pre-eminent authority in the country on the disease.

Most ME/CFS sufferers develop the illness as a post-viral response. Tate says the physiology of sufferers is profoundly disrupted and at the core of their disease is a dysfunctional immune system, making inoculation with the vaccine potentially dangerous.

"The ME/CFS community, a good proportion of them, should be given medical exemptions because it's quite dangerous for them to have vaccinations when they've got a disturbed immune system," Tate told RNZ.

"A number of people got in touch with me and they'd had very serious effects unfortunately from taking the vaccination."

No need to panic, Indians may be protected from Omicron: virologist Shahid Jameel

December 3, 2021

Very large number of Indians are likely to remain protected from Omicron or any other variant of COVID-19 and there is no need to panic, eminent virologist Dr Shahid Jameel has said.

"While we should be cautious, there is no need to panic. India's second wave due to the Delta variant was huge, infecting more people than we imagined. This is reflected in the fourth National Se-

ro-survey that showed 67 percent of Indians to have COVID-19 antibodies. That is about 930-940 million people at a time when the vaccination levels were very low, and so it came mainly from infection," he told PTI in an interview.

"More recently, Delhi showed 97 percent with antibodies, Mumbai around 85-90 percent and so on. All this means that a very large fraction of Indians will be protected from severe disease caused by Omicron or any other variant," Jameel said.

Vaccination does not even slow down the pandemic: according to The Lancet

December 1, 2021 An amazing Lancet letter "The epidemiological relevance of the COVID-19-vaccinated population is increasing" was just published. The largest significance is that the article WAS ALLOWED TO BE PUBLISHED BY LANCET. This means that the tide of scientists being scared by government/globalists/Big Pharma funding is turning, and the truth is coming out at the highest levels of science such as the Lancet.

The article is great, but the things it is saying are a regular subject of our discussion. These are:

- In the UK it was described that secondary attack rates among household contacts exposed to fully vaccinated index cases was similar to household contacts exposed to unvaccinated index cases (25% for vaccinated vs 23% for unvaccinated).
- 12 of 31 infections in fully vaccinated household contacts (39%) arose from fully vaccinated epidemiologically linked index cases.
- Peak viral load did not differ by vaccination status or variant type
- In Germany, the rate of symptomatic COVID-19 cases among the fully vaccinated ("breakthrough infections") is reported weekly since 21. July 2021 and was 16.9% at that time among patients of 60 years and older. This proportion is increasing week by week and was 58.9% on 27.
- In Israel a nosocomial outbreak was reported involving 16 healthcare workers, 23 exposed patients and two family members. The source was a fully vaccinated COVID-19 patient. The vaccination rate was 96.2% among all exposed individuals (151 healthcare workers and 97 patients). Fourteen fully vaccinated patients became severely ill or died, the two unvaccinated patients developed mild disease
- US Centres for Disease Control and Prevention (CDC) identifies four of the top five counties with the highest percentage of fully vaccinated population (99.9–84.3%) as "high" transmission counties
- A similar situation was described for the UK. Between week 39 and 42, a total of 100.160 COVID-19 cases were reported among citizens of 60 years or older. 89,821 occurred among the fully vaccinated (89.7%), 3,395 among the unvaccinated (3.4%). This reinforces opinion that the Covid Cult is coming apart at the seams and the failure of "Covid vaccines" is no longer a secret. The key to any sort of narrative revolution of information warfare is NOT to convince your crazy Fauci-worshipping neighbor. The point of it is to convince decision makers and opinions makers that they are holding onto untenable positions.

Another large recent study of Lancet found that fully vaccinated individuals with breakthrough infections have peak viral load similar to unvaccinated cases and can efficiently transmit infection in household settings, including to fully vaccinated contacts.

Genital necrosis with cutaneous thrombosis reported after COVID-19 vaccination

December 3, 2021

An 84-year-old Japanese woman presented to department with a three-day history of genital necrosis. She had received her first dose of Pfizer–BioNTech BNT162b2 mRNA COVID–19 vaccine 26 days before admission. Nine days after the vaccination, she developed increasing pain in her genital region.

Thrombosis is a rare complication of COVID-19 vaccines that typically affects cerebral and visceral vessels. However, skin involvement is largely unknown. In this paper the authors describe a case of genital necrosis associated with cutaneous thrombosis following COVID-19 vaccination.

Dermatological examination revealed extensive necrosis with surrounding purpura that involved the mons pubis, labia majora, and perineum.

A small but increasing number of thrombotic events have been reported since the launch of mass vaccination campaigns against COVID-19. Adenovirus vector-based vaccines (AstraZeneca and Johnson & Johnson) are associated with severe thrombosis with thrombocytopenia, while mRNA-based vaccines (Pfizer–BioNTech and Moderna) are also associated with some thrombotic events, which do not always accompany thrombocytopenia. The exact pathogenesis remains unknown, but platelet activation is thought to be a key feature underlying these events.

According to authors, to the best of their knowledge, this is the first case of extensive skin necrosis after COVID-19 vaccination that developed outside the injection site.
Source: https://onlinelibrary.wiley.com/doi/epdf/10.1111/jdv.17837

Face Masks "Made No Meaningful Difference": Oxford Professor

December 1, 2021

University of Oxford Professor Jim Naismith asserts that despite England dropping its mask mandate and Scotland keeping its rules in force, official data shows this "has made no meaningful difference" to infection rates.

According to Naismith, Director of the Rosalind Franklin Institute and Professor of Structural Biology at the University of Oxford, masks are largely pointless. Naismith goes on to argue that new face mask mandates imposed in England today are "unlikely to have much of an impact" in fighting off the spread of the Omicron variant. Despite flatlining case numbers and declining deaths, partly achieved because England chose to lift lockdown restrictions in the summer unlike many European countries, mask mandates are once again back in force.
"The ONS survey results on prevalence shows that the Scottish and English approach to masking, although formally different since July, has made no meaningful difference to Delta," writes Naismith. "In both countries very high levels of prevalence have continued for months. Thus the new changes announced are unlikely to have much of an impact if Omicron does indeed spread rapidly," he added.

Naismith's verdict on face masks is backed up by UK government SAGE adviser Dr Colin Axon, who dismissed masks as "comfort blankets" that do virtually nothing, noting that the COVID-19 virus particle is up to 5,000 times smaller than the holes in the mask.

Public health officials like Dr. Hillary Jones (and even Dr. Fauci himself) originally were correct in saying that face masks were pointless. However, as soon as they 'got the memo' that face masks were a tool of population control to keep people scared and compliant, their rhetoric on face coverings did a complete 180.

Fresh doubts over data integrity in Pfizer mRNA trial

December 1, 2021

Leaked documents have cast fresh doubts over the integrity of data arising from Pfizer's pivotal COVID-19 vaccine trial and suggest problems at Ventavia are ongoing.

Earlier this month, whistle-blower Brook Jackson, raised serious concerns about 'falsified data' in Pfizer's mRNA trial (Comirnaty) to The BMJ. The concerns were corroborated by two former Ventavia employees.

Ventavia, the Texas-based company at the centre of the controversy, released a statement claiming that, in respect of Ms Jackson, "no part of her job responsibilities concerned the clinical trials at issue."

Undeterred, Ms Jackson fired back. Ventavia and its spokesperson Lauren Foreman, were served with a cease-and-desist letter, by attorney Robert Barnes, acting on behalf of whistle-blower, Ms Jackson. Of Ventavia's claims, the demand letter says: "This statement is false. This statement impugns the reputation of my client, Brook Jackson, and falsely implies she publicly misrepresented her work on the clinical trials." Attorney Barnes is calling for Ventavia to immediately issue a public retraction and to "formally and publicly apologise" to Ms Jackson. Her letter of offer for employment indicates Ms Jackson was hired as a "regional director" by Ventavia on 7 Sept 2020. She has almost two decades of experience in clinical trial co-ordination and management behind her.

Leaked documents support Ms Jackson's observations and raise even more questions.

There were multiple examples of "laboratory processing logs" filled in by staff which contained glaring inconsistencies and anomalies in specimen handling. Ventavia appeared to be aware of the need to make improvements and Ms Jackson was recruited for the very purpose of improving their quality control.

Among the documents is a list of Ventavia's outstanding "action items", which include discussions with trial co-ordinators about the integrity of data. The list was dated 11 August 2020 and shows that Ventavia had concerns about data falsification even before Ms Jackson's arrival. Ms Jackson said the work environment at Ventavia was chaotic, that they were understaffed and that trial participants would be left, unmonitored in the hallway, due to a back log of visits and a lack of space.

The issues were so egregious according to Ms Jackson, that she suggested Ventavia "immediately pause the recruitment of trial participants," in order to address the issues.

The breaches included improper informed consent forms (ICFs), unblinded staff (vaccine assignment was indicated on the forms), and mismatched signatures (according to Ms Jackson, staff would forge patient signatures if they were missing).

Ms Jackson says that when she raised her concerns with Ventavia, the environment became hostile. After filing a formal complaint with the FDA on 25 Sept 2020, she was fired the same day. The FDA did not investigate the site, despite receiving credible allegations of clinical trial misconduct.

The documents show that the problems were not limited to a single issue or employee, but were pervasive and persistent, putting patients at risk and likely to impact data integrity.

Leaked documents now suggest that problems with quality control in the current phase III trials were not corrected following Ms Jackson's complaint.

Fact Check: Does india.com spreads fake news about COVID pandemic?

December 4, 2021

Recently Biotec Express access two articles, this and this on https://www.india.com which has published December 2, 2021 on news about lockdown and extended Section 144 till December 31. It is to note that no other media house has reported about the same nor we could not find any notifications about this on the website of Administration of Uttar Pradesh's Gautam Buddh nagar and Agra administration.

The news read like this, Keeping in mind the ongoing COVID pandemic and the threat of Omicron variant, the Police Commissionerate of Uttar Pradesh's Gautam Buddh Nagar extended Section 144 till December 31. Notably, these restrictions have been imposed head of Christmas and New Year celebrations. "Section 144 CrPC has been implemented in Gautam Buddh Nagar till December 31 keeping the law and order situation in mind," the Gautam Buddh Nagar Police said.

Similar type of news was created toward notice of Agra administration but upon research the news was turn out to be fabricated, there is no such announcement from Agra administration on their website.

Our analysis found that www.india.com is spreading fake news about lockdown to create panic among the individuals. The news has been twisted after including some points from the administrations' actions about various measures they have taken for testing and tracing but lockdown has not been implemented anywhere.

Do not Push COVID vaccine for Children, trial size is laughable, says Indian Experts

November 30, 2021

Global evidence available so far has suggested that the Sars CoV-2 virus that causes Covid-19 has infected kids but it hasn't caused any severity among them. The mortality rate is as low as two children per 10 lakh. However, in India, the government hasn't released any data (like other COVID data) on the mortality of children due to Covid-19 in both the first and the second waves.

The seroprevalence survey conducted in various parts of the country including Delhi has also shown that 70 per cent to 90 per cent of kids have already been exposed to the virus and they have developed natural antibodies.

Dr Amitav Banerjee, Clinical epidemiologist, In Dr D Y Patil Medical College, Pune, points out physiological as well as epidemiological evidence which suggests that kids don't need vaccines. "They have very well-developed thymus glands which produce very good T-Cell and memory cell immunity. They also lack ACE-2 receptors on which the spike protein of the virus latches in the lungs," Dr Banerjee said. He added, "Also, they have got a very high melatonin level that is very protective against the virus. So physiologically they are very well-protected by the nature." " , said.

Experts like Dr Sanjay K Rai, Professor, Centre for Community Medicine, All India Institute of Medical Sciences (AIIMS), New Delhi and Dr Jayaprakash Muliyil, who is chairman of the Scientific

Advisory Committee of the National Institute of Epidemiology, are of the view that the risk of Adverse Event Following Immunization (AEFI) is very low but it is not zero at all. "In such scenarios, we should look at a comparative picture of risk from Covid-19 as well as AEFI. If the latter outweighs the former, then vaccination is a costly and risky exercise with no benefits," Dr Rai said.

Dr Muliyil also feels that the death among kids, especially below 12, is almost zero and "there is no reason to vaccinate kids as they are not vulnerable to Covid-19," he said.
Dr Banerjee seconds the view that the vaccine's side effect is not negligible. "There has been adverse effect from the vaccine particularly Myocarditis after the launch of vaccinations for children in some countries," he said. Once the mass vaccination process started, countries reported several types of side effects, including changes to women's menstrual cycles in the UK and blood clotting from the AstraZeneca (Covishield) vaccine among others. In April 2021, various European countries restricted the use of AstraZeneca (Covishield); it is not recommended for the young, based on safety concerns.

Bhaskaran Raman, a faculty in the Department of Computer Science and Engineering at IIT Bombay, said, "Data from various countries such as the USA, Israel, and Canada show that this risk of Myocarditis to kids from the mRNA vaccine is about 1 in 6000. Considering this, many European countries recently stopped the use of the Moderna vaccine for those under 30,". Raman has been carrying out a data study of various countries on the impact of vaccination. He said, "It is important to note here that the above risks were not signalled in the initial vaccine trials: the trial size itself was too small to uncover rare risks (32,449 for AstraZeneca/ Covishield). That these risks have been found after mass vaccination is deeply concerning."

He added, "The trial sizes for kids' vaccines (525: Covaxin, 1000: ZyCov-D), are laughably small, except that this is no laughing matter. Such low trial sizes cannot capture anything but the most obvious risks. Would we discover other risks of Covaxin or ZyCov-D after vaccinating millions of children? This is a very worrying unknown indeed."

Raman in his data research has found that in the USA, for kids aged 5-14, Covid represents a lower risk than each of the following: flu/pneumonia, drowning, heart disease, homicide, suicide, traffic accidents, and cancer.

"In the context of India, other com-

parisons are even starker: nearly 9 lakh children die of hunger-related causes every year. Almost 2000 infants die every single day in India, of preventable malnutrition-related causes: infant mortality rate of nearly 3% is about 1000-2000 times more than the risk of Covid death for kids!" Raman said.

COVID cases surges in Africa after anti covid group start questioning about low number of cases

November 30, 2021

The impact of the pandemic in sub-Saharan Africa remains markedly lower compared to the Americas, Europe, and Asia. Several factors were discussed for this decrease including age demographics, lack of long-term care facilities, potential cross-protection from previous exposure to circulating coronaviruses, limitations of SARS-CoV-2 testing which may have resulted in an undercounting of deaths, and effective government public health responses, according to a research paper.

But the factors involved in the study have raised serious questions in the minds of people who are against lockdown, vaccine mandates and other mandates that governments and public health agencies are pushing. On being anonymous one doctor said that there are many questions for each factor but let us discuss it in simple terms one by one and the solutions are applicable anywhere else in the world.

Age: If young age of 18 or less is better for not having infection like in Africa then there is no need of vaccinating children in the age group 5-18.

Lack of long-term care facilities: The paper showed that long-term care facilities pose significant risks for infectious diseases. In sub-Saharan Africa, provision of care is mostly left to families. This limits the number of formal caregivers and thus reduces the chance of transmission. This proved that people in Africa are recovering from infection on their own but not by medical interventions so people in other continents can do so.

Cross-protection from previous exposure to circulating coronaviruses: By now more than 90% of population in any major country is exposed to coronavirus, thus if Africans have the natural immunity then other people would also experience the same which in turn suggest for no vaccination of already exposed individual.

limitations of SARS-CoV-2 testing: This can be a major reason for less reporting of number of cases but as many of us question about the false positive it can be a another reason of high reporting of number of cases in other countries where testing is done in vast population.

After discussing the points presented in paper the doctor suggested why Africa has got huge count recently

1. Vaccine selling: We have seen that how pharma companies are profiteering from the pandemic. We also know that Africa is a developing country with low per capita so people are not able to pay for vaccination but since GAVI and other alliances have promised vaccine equity, they are bound to supply the Africans with vaccine that should come from COVID vaccine manufacturers which got huge fundings from alliances for vaccine

development and manufacturing but they have not kept their promise of supplying vaccine for COVAX facility supporting vaccine equity. Recently WHO Director called it a COVID Scandal.

2. Answer to Anti COVID groups: Many people including researchers analyzed that Africans have low COVID infections and soon after cases begin to rise. Since this is a media pandemic where data transparency is far from reach we cannot believe if the data from Africa is coming out right or tailor made.

Lockdowns, force vaccination and other mandates have made people furious and starting again with this Omicron will only increase the frustration among people which is directly responsible for long term neurological damages.

The health agencies should publicize the data so that people would understand that how this virus do not spread in political and leaders' gathering without masks and other measures but affect common people who have to struggle hard for their bread and butter.

Sources:
1. https://qz.com/africa/2049407/why-has-covid-19-had-less-of-an-impact-in-africa/
2. https://science.thewire.in/health/covid-19-africa-lower-impact-possible-reasons/
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Japan Health ministry warns of vaccine's side effects

December 10, 2021

Japan's health ministry has listed inflammation of the heart muscle and of the outer lining of the heart in younger males as possible serious side effects of the Moderna and Pfizer COVID vaccines.

It says that as of November 14, out of every one million males who had the Moderna vaccine, such side effects were reported in 81.79 males aged 10 to 19 and 48.76 males in their 20s. The figures were 15.66 and 13.32 respectively for those who had the Pfizer vaccine.

The ministry held a panel of expert on Saturday and proposed warning of the risk by printing "serious side effects" on the documents attached to the vaccines.

It will also require hospitals to report in detail incidents involving people who developed the symptoms within 28 days after being vaccinated, according to the law. The plan was approved by the panel, and the ministry will notify municipalities.

US Lawmaker Introduces Bill to Force Employer to Pay as Much as $1 Million Per Vaccine Injury If It Enforces Biden's Mandate

November 30, 2021

A state lawmaker in Oklahoma is bringing forth a bill to fine employers as much as $1 million per vac-

cine injury if they enforce Biden's unlawful federal vaccine mandate. Oklahoma's Senate Bill 1106, the "Citizen Health Mandate Protection Act," was submitted on Friday by State Sen. Rob Standridge. It is aimed at both public and private entities and individuals that mandate vaccines or other medical treatments as a condition of employment.

Employers who force medical treatments onto unwilling employees could be liable for $1 million in punitive damages if injured by that treatment, including forced Covid vaccinations.

"Many Oklahomans may not know that COVID-19 vaccines have already been given liability protection from the federal government," Standridge said. "If an employee is required to receive the vaccine or some other medical treatment as a condition of employment and it causes that person harm, our citizens need to know they'll have some recourse that will provide them with meaningful relief. That's what my legislation will do."

Oklahoma is quickly becoming one of the basest states in the nation. The state's governor Kevin Stitt has also drawn the line on the Pentagon's mandatory vaccination of National Guard troops.

As reported earlier, the Oklahoma National Guard unit has made itself clear to the Department of Defense it has no intention of enforcing its Covid-19 vaccine mandate. The commanding officers are allowing the troops to opt out of the requirement, in accordance with the governor's mandate.

"The Oklahoma National Guard has rejected the Defense Department's requirement for all service members to receive the coronavirus vaccine and will allow personnel to sidestep the policy with no repercussions, a potential blueprint for Republican governors who have challenged Biden administration mandates," the Washington Post reported.

"Brig. Gen. Thomas Mancino, appointed this week by Gov. Kevin Stitt (R) as adjutant of the state's 10,000 National Guard soldiers and airmen, on Thursday notified those under his command that they are not required to receive the vaccine and won't be punished if they decline it," the report added. "It's an extraordinary refusal of Pentagon policy and follows Stitt's written request to Defense Secretary Lloyd Austin seeking suspension of the requirement for Guard personnel in the state," the Post commented. Additionally, Oklahoma Attorney General John O'Connor is filing a lawsuit against Ascension Healthcare to try to block the company from firing employees who do not get a COVID-19 vaccination. Ascension Healthcare is one of the largest healthcare networks in the country. Oklahoma is providing a new approach to fighting President Biden's unlawful mandates. The state governor can issue its own mandates and then dare the federal government to see them in court.

Misinformation fuelled by 'tsunami' of poor research, says science prize winner Elisabeth Bik

December 1, 2021

A "tsunami" of poor quality research is fuelling misinformation and could undermine trust in science, the winner of the prestigious John Maddox prize has warned. Elisabeth Bik, a Dutch microbiologist turned science sleuth who on Wednesday evening won the John Maddox prize for standing up for science in the face of harassment, intimidation and lawsuits, said the intense pressure to publish papers is leading to a "dilution" of the

quality of scientific literature.

This risks flawed work being "amplified by bad actors" such as those seeking to stoke fears about vaccination. "The danger with social media is that even a mediocre or bad or flawed paper can be taken by people who have different agendas and brought into the spotlight and celebrated as the new truth," Bik said. "That is a new danger that has not been there before."

She cited a recently retracted paper linking the HPV vaccine to female infertility and another that appeared to overstate the risk of myocarditis from Covid vaccines.
Bik has been recognised for her work exposing problems including image doctoring, plagiarism, data manipulation and unsound methodology.

After raising serious concerns about claims that hydroxychloroquine was effective in treating Covid infections, Bik faced online harassment and threats of violence. Larger trials found no evidence to support the use of hydroxychloroquine to treat Covid patients.

The controversial French professor behind the work, Didier Raoult, threatened legal action against her, which she described as "scary and intimidating".
In general, Bik said, the intense demand for solutions to the global pandemic has created a new pressure for scientists to deliver breakthroughs.

Protesters against vaccine mandate in Belgium clash with police

December 5, 2021

Belgian police fired water cannon on Sunday to disperse protesters opposed to compulsory health measures against the coronavirus pandemic. Some 8,000 people marched through Brussels towards the headquarters of the European Union, chanting "Freedom!" and letting off fireworks. The crowd was smaller than the 35,000 vaccine and lockdown sceptics who marched last month.

Several European countries have seen demonstrations in recent weeks as governments respond to a surge in COVID cases with tighter restrictions. The demonstrators opposed compulsory health measures, such as masks, lockdowns and vaccine passes, and some share conspiracy theories.

Protesters carried signs saying "No to Vaccine Mandates" or "Jesus Protects the Children, not Vaccines." Many ignored mask requirements.

Parents, some of whom brought small children to the protest, chanted their belief that the vaccine would make their toddlers sick.

Off-duty firefighters in uniform, marched at the head of the protest as it wound its way through the city, to demand the right to refuse vaccination.

The measures imposed to fight COVID in Belgium were decided by the country's own national and regional governments, but the European Union has also attracted the sceptics' anger.

Separately, police in Austria said some 40,000 gathered in capital Vienna on Saturday to denounce a lockdown set to come into force on Monday and compulsory vaccination starting in February.

Slovenia Covid Scandal: Whistleblower Nurse Says Politicians Receive Saline Instead of mRNA Vaccine

A whistleblower nurse telling the public that politicians and other high ranking citizens receive saline instead of the mRNA experimental medication. In a video on Facebook, which has been deleted by YouTube, the woman claiming to be the head nurse of the University Medical Center in Ljubljana, which takes care of receiving and managing the jab bottles for politicians, resigned and gave a press conference on the scandal.

During the conference she showed codes on the bottles where each contains 1, 2 or 3 digits, and then explained the meaning of those numbers. Number 1 is the placebo, saline, 2 is a the mRNA and number 3 is an mRNA stick that contains the onco gene, she explains. She says she personally witnessed the jab of all the politicians and tycoons and everyone who received the number 1 bottle, claiming they received the saline solution, a placebo. This explains why the same person administers the jab to politicians when they take pictures for the media.

Source: https://dailytelegraph.co.nz/covid-19/crisis-in-slovenia-whistleblower-nurse-says-politicians-receive-saline-instead-of-mrna-jab/

Japan Starts Sale of Genome-Edited High-GABA Tomato

November 22, 2021

Sanatech Seed Co., Ltd., together with its partner for sales Pioneer EcoScience Co, Ltd., has announced that the commercial sales of Sicilian Rouge High GABA, their genome-edited tomatoes with increased gamma-aminobutyric acid (GABA) will begin on September 15, 2021.

Developed in collaboration with the University of Tsukuba, the genome-edited high-GABA tomato was launched in seedling gardening kits in May 2021 and was received positively by their home gardener consumer panel.

The overwhelming response and strong interest from this group prompted commercial sales in September.

A puree product made of the same tomato will also be available at a later date.

Sanatech Seed's Sicilian Rouge High GABA tomato was developed using CRISPR-Cas9 gene editing technology. The tomato contains high levels of gamma-aminobutyric acid (GABA), an amino acid believed to aid relaxation and help lower blood pressure.

Biotech Research

Breast cancer classified into 12 unique biological groups

Researchers at UNC Lineberger Comprehensive Cancer Center have taken a major step forward in melding two key methods for studying breast cancer: one by genetic analysis and the second by looking at the architecture of cells, or their pathology. The investigators were able to link the two thanks to a decade-long effort made possible by the federally funded resource of The Cancer Genome Atlas (TCGA) Breast Cancer Data set. The scientists found much agreement between genetic and pathologic classifications but developed a novel way to use data from both systems to arrive at a classification method that divides breast cancers into 12 distinct biological groups.

TCGA's 10,000-plus tissue repository of 33 different types of cancer types allowed the investigators to explore the previously known, but rarer breast pathologies. However, obtaining a sufficient number of samples to adequately study rarer types and subtypes of cancer was a challenge. But the TCGA Breast Cancer team, led by Perou, was able to obtain enough samples for at least six rare breast cancer subtypes, each of which yielded interesting and unique molecular features.

For their next efforts, the researchers plan to delve deeper into the molecular features and cellular origins of metaplastic breast cancers. They are also interested in why some of the 12 biological groups show evidence of immune cells that are capable of infiltrating tumor cells, and why others tend not to have these immune infiltrates. This line of research has therapeutic implications as there are treatments that have been developed that target immune cells in breast cancers.

Journal Reference: Molecular analysis of TCGA breast cancer histologic types. Cell Genomics, 2021; 1 (3): 100067 DOI: 10.1016/j.xgen.2021.100067

Elevated heart rate linked to increased risk of dementia

Having an elevated resting heart rate in old age may be an independent risk factor of dementia, according to a study at Karolinska Institutet in Sweden published in the journal Alzheimer's & Dementia: The Journal of the Alzheimer's Association. Since resting heart rate is easy to measure and can be lowered through exercise or medical treatment, the researchers believe that it may help to identify people with higher dementia risk for early intervention.

In this study, the researchers examined if resting heart rate in 2,147 individuals 60 years old or older and living in Stockholm could be linked to dementia and cognitive decline independent of other known risk factors, such as cardiovascular disease.

The study, which followed the participants for up to 12 years, showed that individuals with a resting heart rate of 80 beats per minute or higher on average had 55 percent higher risk of dementia than those with a heart rate of 60-69 beats per minute. The association remained significant after adjusting for potential confounders such as various cardiovascular diseases. Still, the researchers caution that the result may have been affected by undetected cardiovascular events and the fact that more participants with cardiovascular disease died during the follow-up period and thus didn't have time to develop dementia.

The study cannot establish a causal relationship, but the researchers offer several plausible explanations for the association, including the effect of underlying cardiovascular diseases and cardiovascular risk factors, stiffened arteries, and imbalance between sympathetic and parasympathetic nerve activities.

Journal Reference: Association of resting heart rate with cognitive decline and dementia in older adults: A population-based cohort study. Alzheimer's & Dementia, 2021; DOI: 10.1002/alz.12495

Poor Biotech Research

How Adverse events in Covid-19 vaccine trials under-reported, according to PLOS journal

November 25, 2021

There are serious concerns about publication bias or selective omission of data, whereby adverse events are less likely to be published than positive results. A systematic review in PLOS journal analysed 28 studies and found that adverse events were less likely to appear in published journal articles than unpublished studies (e.g. industry-held data).

How? Let us understand by following examples:

Remote reporting to limited problems
In the Pfizer and AstraZeneca vaccine trials, participants were given digital apps to record adverse events remotely – a more convenient, time efficient and cost-effective way of gathering patient data. A major problem however, is that the pre-determined options on the digital apps have a narrow focus on particular adverse events. For example, the app only allows a participant to record what the company deems as 'expected' events such as fever, pain at injection site, temperature, redness, swelling, fatigue, headache, diarrhoea, chills, muscle and joint pain. But if they experience a serious adverse event like myocarditis or early signs of transverse myelitis, Guillain-Barre Syndrome, a myopathic disorder, myocarditis or thrombosis, there is no option for them to record it on the app. (Case in point: Brianne Dressen, a participant in the AstraZeneca (AZD1222) trial.)

Blaming an underlying condition
One of the participants in the trial was 13-year-old Maddie De Garay. She was randomly assigned to the vaccine group and following her first injection, Ms De Garay suffered a severe adverse reaction, leaving her in a wheelchair and fed by a nasogastric tube. The doctor decided that a pre-disposition to "hysteria," was to blame for her physical disability but Dr David Healy, a psychiatrist based in Ontario, Canada, subsequently conducted a thorough review of Ms De Garay's medical records, including an interview with her family and found no such history of pre-existing conditions or mental illness.

Failure to count deaths
When publishing deaths in the AstraZeneca trial for example, investigators excluded any deaths that occurred immediately after the first dose of the vaccine, up to 14 days after the second dose of the vaccine. In other words: 1) first injection, 2) wait for three weeks before having second injection, 3) wait a further two weeks. That is a total of five weeks where deaths were not published.

Authors retract, resubmit "very poorly conducted" meta-analysis of COVID-19 treatment

A journal has retracted a meta-analysis on Covid-19 after concerned readers complained about the quality — or lack thereof — of the study.

The article, "A meta-analysis of granulocyte-macrophage colony-stimulating factor (GM-CSF) antibody treatment for COVID-19 patients," appeared in Therapeutic Advances in Chronic Disease, a SAGE title.

According to the retraction notice: At the request of the Journal Editor, SAGE Publishing and the authors, the following article has been retracted. The authors of the journal were notified of errors in their meta-analysis, after publication, through a letter to the Editor https://journals.sagepub.com/doi/full/10.1177/20406223211050495 and an independent email from Dr Stefan Steidl, Vice President, Disease Biology & Translational Research, on 27 August 2021.

When re-examined, the authors noted that they had mistakenly included several studies evaluating the role of IL-6 inhibitors and concluded that they needed to do an updated search and analysis. For this reason, the article has been retracted and will be republished, if appropriate, following additional peer review of the new data.

It is the 198th retraction of a paper about COVID-19, according to Retraction Watch count.

Highly cited cancer immunologist "seriously breached" research conduct code: Australia institute

QIMR Berghofer in Brisbane "has commissioned an independent external investigation after a number of complaints relating to the research conduct of a former employee Professor Mark Smyth," the institute said in a statement.

The external investigation, led by a retired appeals court judge, Robert Gotterson, followed a preliminary investigation, according to QIMR Berghofer, which said it "has referred the findings to the Crime and Corruption Commission in accordance with its legislative obligations." The institute has "also organised for an independent review into a broad range of issues arising out of the Panel Report" that will be conducted by former federal court judge Bruce Lander.

Smyth was elected to the Australian Academy of Science in 2017. In 2020, he was appointed to the scientific advisory board of Shanghai-based EpimAb Biotherapeutics.

Student of yoga tourism won't get PhD as he earns five retractions

According to Retraction Watch, for Pramod Sharma, the study of yoga tourism has proven to be a downward-facing dog. Last year, the Indian Institute of Technology (IIT) in Roorkee blocked Sharma – who posed as a legit yoga researcher but in reality stole other people's work – from receiving his PhD after determining that his thesis was "plagiarized and lacks originality." What's more, according to the institution, a 2018 article by Sharma contained a "discrepancy in data…casting a doubt on the validity of the results."

Journals have now retracted five papers by Sharma, although earlier concerns about the work didn't reach his PhD committee in time to prevent him from defending his thesis in 2019.

After reviewing the IIT report on the Sharma case, RW pulled out a couple of the choicest passages: Conclusion: Thesis has used Items which were already used by earlier papers and items used to measure these variables were almost similarly used by the thesis. Therefore, it can be concluded that thesis is conceptually plagiarized from these papers and Mr Pramod Sharma has smartly rephrased sentences to bypass similarity-check requirements.

Conclusion: There is discrepancy in data presented in the paper published by Pramod Sharma and his Thesis. Without an explanation proffered in the Thesis or the paper, the data and the results obtained are questionable."

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