Written Public Comments Submitted to PCAST

May 5, 2022 to July 21, 2022

(Written Public Comments in order of date received)

As specified in the Federal Register Notice, because PCAST operates under the Federal Advisory Committee Act (FACA), all public comments and/or presentations will be treated as public documents and will be made available for public inspection, including being posted on the PCAST website.
Dear Anne-Marie and Sara:

Thank you for the opportunity to make the 2 minute presentation to the PCAST team yesterday. At the end of my presentation, it was requested that we provide materials to the Co-Chairs.

Please find the attached letter from the Hon. Yves Leterme, Belgium Prime Minister (2008,2009-2011) and hyperlinks to the following information:

- **Empowering Digital Economy Between The USA and Its Economic Partners (5Ws)** - a summary of the initiative’s opportunity, who is involved, plus when and where the initiative will be deployed.

- **Official 2018 G20 Argentina Leaders' Publication** - lead article by Indonesia President Joko Widodo (2022 G20 Presidency) and the Coalition’s Chairman, Captain Samuel Salloum, citing the digital path to economic prosperity, benefiting SMEs, the cornerstone of our global economy.

- **Digital Economy Leadership Video Link** - an overview of the economic leadership challenges, the strategy for the USA to lead global economic growth, and the international consensus of the Digital Economy value proposition.

I joined the meeting at the end of a conversation about the need for the USA to reverse the significant decline in its manufacturing output, due in part to the labor cost advantages of other countries. In brief, the Coalition’s public-private governance structure, technology, and business model addresses this dilemma by lowering business risk, reducing costs, improving supply chain efficiency, and building the purchasing power of customers to buy more USA products.

In effect, USA businesses can reshore their manufacturing capacity and export more products globally with better e-commerce, finance, insurance, and logistics tools provided by their trusted providers.

We look forward to hearing from you to schedule a briefing session and explain this opportunity in further detail.

Thanks again for the invitation to join your meeting yesterday.

Best regards,

Gregory D. Bird, CPA  
Deputy Secretary General

>www.gcel.net<
Dear Dr. Mazza:

It is a pleasure to send this communication to your kind attention. Nearly one year ago, President Biden wrote a letter to PCAST that posed five important questions asking how science and technology can benefit the USA’s health, economic prosperity, and national security for the next 75 years. Implementing the answers to these questions represents a heavy burden, especially given the current COVID-19 pandemic, supply chain pressures, and downward pressure on international trade.

As world citizens, it is incumbent upon each of us to work together across regions and assist in devising the required tangible solution which creates greater economic prosperity for the planet’s 7.9 billion men, women, and children. The good news is that a global public-private sector Coalition involving the world’s most prominent technology firms has conducted 22 years of R&D on an economic development initiative powered by the Digital Economy. The public sector includes more than 150 countries through their pan-regional organizations, including the Organization of American States, Organization of Islamic Cooperation, African Union, and League of Arab States, among others.

This initiative can help increase the competitiveness of the transatlantic economy and maintain U.S. and allied leadership in science and technology while countering authoritarian influence in the digital and emerging technology space. Hence, the Coalition has created the largest initiative the world has ever seen that aims to deliver the following benefits for the world and the USA by 2031:

- Increase the world's GDP by 17% and USA's by 15%
- Create a new global $20.5 trillion digital services industry, including $2.9 trillion within the USA
- Generate more than 400 million jobs worldwide and 26 million jobs for the USA alone

It is necessary to recognize the world has grown much smaller during the past 50 years, where technology is now readily available for all nations to innovate. Accordingly, while this initiative embraces technology, it has been founded on the premise of "Leadership by Sharing First" and delivering an optimum win-win value proposition for all.

As further background information, please find the following attached documents and video link:

- **Empowering Digital Economy Between The USA and Its Economic Partners (5Ws)** - a summary of the initiative’s opportunity, who is involved, plus when and where the initiative will be deployed.

- **Official 2018 G20 Argentina Leaders’ Publication** - lead article by Indonesia President Joko Widodo (2022 G20 Presidency) and the Coalition’s Chairman, Captain Samuel Salloum, citing the digital path to economic prosperity, benefiting SMEs, the cornerstone of our global economy.

- **Digital Economy Leadership Video Link** - an overview of the economic leadership challenges, the strategy for the USA to lead global economic growth, and the international consensus of the Digital Economy value proposition.

Based on the above, I propose convening a briefing session involving yourself and Mr. Gregory Bird, the Coalition’s Deputy Secretary-General. The session will provide a deeper understanding of how this program will deliver greater economic prosperity now and for generations to come.

I will ask Mr. Bird to contact your office to schedule the proposed session, as I thank you for your kind attention.

Best regards,

Hon. Yves Leterme
GCEL Europe Advisory Board Chairman
Belgium Prime Minister (2008, 2009-2011)

cc. PCAST members
From: Urvishkumar Mehta

Sent: Wednesday, May 25, 2022 11:09 AM

To: MBX OSTP NSTC <MBX.OSTP.NSTC@ostp.eop.gov>; MBX OSTP PCAST <MBX.OSTP.PCAST@ostp.eop.gov>; MBX OSTP Engagement <Engagement@ostp.eop.gov>; MBX OSTP FOIA <OSTPFOIA@ostp.eop.gov>; OSTP Press Office <MBX.OSTP.Press@OSTP.eop.gov>

Subject: [WARNING: UNSCANNABLE EXTRACTION FAILED][EXTERNAL] USA-India: Nuclear Agreement and Defense Collaboration with Treaty, Pact and Arms Control

ATTN:
National Science and Technology Council
Office of Science and Technology Policy
Attn: FOIA Officer
1650 Pennsylvania Ave, NW
Washington, D.C., 20504

Subject: USA-India: Nuclear Agreement and Defense Collaboration with Treaty, Pact and Arms Control

Type: Letter of Request | Congressional and Legislative Agreement USA-India International Relations

Classification Type: Nuclear Agreement and Treaty | Armed Force Proliferation

I am writing with reference to the 10 Year Agreement of USA-India on Nuclear Treaty and Non-Proliferation Arms Control Pact.

Demographics and History on Nuclear Agreement - U.S.-India Peaceful Nuclear Relations

The United States and India entered into a peaceful nuclear cooperation agreement in 1963. Under that agreement, the United States supplied India with two light-water reactors at Tarapur and the enriched uranium to fuel those plants. Spurred, among other things, by India’s “peaceful” nuclear test in 1974, the United States enacted the 1978 Nonproliferation Act, which amended the Atomic Energy Act of 1954. This new legislation required that, in order to receive future nuclear exports from the United States, non-nuclear-weapon states such as India needed to place all of their peaceful nuclear activities under the safeguards of the International Atomic Energy Agency (IAEA)—so-called full-scope safeguards. India is a non-nuclear-weapon state under the nuclear Nonproliferation Treaty (NPT) and under U.S. law.

India refused to accept this condition, and significant U.S. nuclear cooperation with New Delhi, including nuclear fuel supplies to Tarapur, ceased in 1980. The 1963 peaceful nuclear cooperation agreement between India and the United States terminated in 1993 without replacement. In response to India’s nuclear weapons tests in 1998, the United States imposed a series of strict economic and financial sanctions but has since then substantially relaxed these restrictions.

A decade after the historic Indo-US nuclear deal, experts said the pact did not lead to India setting up foreign-built reactors, but it helped fuel domestic power plants and give India access to critical technologies in strategic areas. It is also felt that it gave India the recognition of being a responsible nuclear weapon state with strong non-proliferation credentials.

The Indo-US nuclear cooperation agreement was signed on October 10, 2008, that gave a fillip to the ties between the two nations, which since then have been on an upswing.

India conducted a nuclear test in 1974, following which a torrent of sanctions hit the country’s defence, nuclear and space programmes hard.
India developed Pressurised Heavy Water Reactors (PHWRs), which are currently the backbone of the Indian nuclear power generation. In 1998, after conducting nuclear tests, India declared itself a nuclear weapon state.

On the other hand, as the number of nuclear reactors rose, the need for uranium hit the domestic reactors, adversely affecting their performance.

A major aspect of the Indo-US nuclear deal was the Nuclear Suppliers Group (NSG) gave a special waiver to India that enabled it to sign cooperation agreements with a dozen countries. The pact also enabled India to separate its civilian and military programmes. The country currently has 15 of its reactors under the International Atomic Energy Agency (IAEA).

On July 18, 2005, the U.S. and India announced the launch of the Civil Nuclear Cooperation Initiative. Under the parameters of this initiative, India will commit all of its civilian nuclear facilities to IAEA safeguards. On August 1, 2008 the IAEA Board of Governors approved India’s safeguards agreement, paving the way for India’s consideration at the Nuclear Suppliers Group. Currently, the United States is seeking a Nuclear Suppliers Group exemption in order to permit trade with India's expanding peaceful nuclear sector. The accompanying agreement for peaceful nuclear cooperation will permit American and Indian companies to partner together in ways that will foster growth in India’s civil nuclear sector, create a clean energy source which will benefit the environment, and will offer India greater energy security with stable sources of energy for its large and growing economy.

As part of the overall initiative, India will expand international safeguards, adhere to international nuclear and missile export guidelines, continue its voluntary moratorium on nuclear testing, and ensure that all civil nuclear trade will be used only for peaceful purposes. Because India will place a greater number of its reactors under safeguards, it reduces the nuclear infrastructure available for its weapons program. These commitments constitute significant gains for global nonproliferation efforts.

Post waiver, India signed nuclear cooperation agreements for peaceful means with the US, France, Russia, Canada, Argentina, Australia, Sri Lanka, United Kingdom, Japan, Vietnam, Bangladesh, Kazakhstan and Korea. Following the pacts, there have been specific agreements for import of uranium from France, Kazakhstan, Australia, Canada and Russia.

According to the responses by the government on questions in Parliament, India imported over 7841.51 metric tonnes of nuclear fuel from 2008-2009 to 2017-18. Work is also on to create a uranium reserve by importing the element to ensure the power reactors under IAEA safeguards do not face fuel shortage.

Building of foreign nuclear reactors was a major aspect of the Indo-US deal. For this, two sites were earmarked--Mithi Virdi for General Electric Hitachi Nuclear Energy and Kovadda in Andhra Pradesh—for building 12 reactors.

**Congress**

If the United States and India negotiate a new peaceful nuclear cooperation agreement without an Indian full-scope safeguards commitment, the president would have to submit an agreement to Congress that does not meet all the Section 123 requirements. In that case, both houses of Congress must approve the agreement by majority vote. In doing so, Congress could impose conditions on the entry into force or implementation of the agreement.

Moreover, even if Congress approved such an agreement without requiring any conditions, the Nuclear Regulatory Commission would still have to license significant nuclear exports in accordance with criteria set forth in Sections 127 and 128 of the Atomic Energy Act. Section 128 requires full-scope safeguards. If India does
not have safeguards on all its nuclear activities, the president would have to authorize an export by executive
order and submit the executive order to Congress for review for 60 days of continuous session, during which
time Congress could decide to reject the proposal or impose conditions on its implementation.

In addition, Section 129 of the Atomic Energy Act requires the termination of nuclear exports to a non-nuclear-
weapon state that the president finds, among other things, to have “detonated a nuclear explosive device” or to
have engaged in activities involving nuclear material and “having direct significance for the manufacture or
acquisition of a nuclear explosive device, and [which] has failed to take steps which, in the president’s judgment,
represent sufficient progress toward terminating such activities.” The president may waive this requirement if
he determines that cessation of such exports would be seriously prejudicial to the achievement of U.S.
nonproliferation objectives or otherwise jeopardize the common defense and security. This waiver also is
subject to congressional review.

If Congress approved a new U.S.-Indian peaceful nuclear cooperation agreement without the full-scope
safeguards requirement and without liberalizing the Atomic Energy Act’s nuclear export licensing provisions, the
United States could, in theory, engage in new nuclear cooperation with India by using the waivers noted above.
Yet, waiving the relevant provisions of Sections 128 and 129 of the Atomic Energy Act would hardly allow U.S.
nuclear cooperation with India to take place on a stable, reliable, and predictable basis. Therefore, as a practical
matter, in order to engage in such nuclear cooperation with India, the administration is likely to ask Congress to
amend the act. Also, before taking up any reciprocal steps, it will have to closely watch what happens to the U.S.
laws on restrictions and lifting of embargo and the [NSG] front.

Recommendation on US-India Nuclear Policy:

- On balance, the administration is able to implement the joint declaration without significant
  modification, it will have given the Indians a great deal—acknowledgment as a de facto nuclear-weapon
  state and access to the international nuclear energy market—in return for largely symbolic concessions
  in the nonproliferation area.

- The Indian concession to separate military and civilian facilities and to place civil facilities under IAEA
  safeguards could add very little value to the global nonproliferation regime. Moreover, India-United
  States and the international community determine which Indian facilities to designate as civilian and
  place under safeguards and what kind of safeguards agreement(s) will apply. The joint declaration does
  not call for India to cease production of weapons-grade. plutonium or HEU, thus allowing India to
  expand its nuclear weapons arsenal.

- The full ramifications that the U.S.-Indian joint declaration will have on the international
  nonproliferation regime are not yet clear, and any ill consequences could be limited by conditions
  imposed by Congress. Lawmakers could tie U.S. implementation of the joint declaration to an Indian
  commitment to halt the production of weapons materials. They could also require convincing evidence
  that an exception from the full-scope safeguards requirement for India is fully acceptable to the NSG
  and will not lead to an erosion of the principle that full-scope safeguards will remain a mandatory
  condition for nuclear trade with non-nuclear-weapon states. Furthermore, Congress could also reject
  any administration request to exempt India from the requirement of safeguards in perpetuity or allow
  India to use a voluntary agreement. Insisting on facility-specific safeguards rather than a voluntary offer
  would eliminate the possibility that such facilities could be removed from safeguards and avoid the
  image that India has achieved the same status as NPT nuclear-weapon states.

- If the NSG endorses a special full-scope exception for India while keeping the rest of the regime in place,
  this could counter concerns that the Bush initiative will result in a serious erosion of the nuclear supplier
rules. On the other hand, if other suppliers, particularly non-nuclear-weapon states, insist on maintaining full-scope safeguards as a condition of supply to India, the whole initiative could fail. Worse still, if some suppliers try to exploit the U.S. initiative for commercial purposes to pursue previously off-limit markets, it could wreak serious damage to the nonproliferation regime.

- The administration’s initiative comes on the heels of various other actions that have raised serious doubts about its support for the nonproliferation regime: its rejection of the Comprehensive Test Ban Treaty, its downplaying of the value of IAEA safeguards in the run-up to the war in Iraq, its contention that an FMCT cannot be verified, and its refusal at the 2005 NPT Review Conference to reaffirm disarmament commitments that the United States made at a similar conference in 2000. Many critics and countries are already attacking the Bush administration for these past actions, and this latest initiative may only add to their doubts about the U.S. commitment to advancing nonproliferation objectives.

- A strong India benefits the United States. As Secretary of Defense Lloyd Austin noted at the recent 2+2 talks, a strong India-U.S. partnership is a critical building block in a more resilient, regional security architecture. Assisting India in developing a Robust Military-Industrial complex will most shift India’s inclination toward the US for Critical weapons imports. As cost constraints tightens, U.S. Defense companies benefit from Partnering with India in their Supply Chain, taking advantage of lower cost. Pursuing only a Buyer-Seller Relationship as an alternative to Russia will only shift India’s dependency.

Yours,

Auto Legislative Policy Director (International Religious and Intergovernmental & Congressional Affairs)
Office of Urvishkumar Mehta
Chief Commissioner and Naval Attache
Representation to Ambassador, Embassy of USA, New Delhi
Department of State - Office of Foreign Mission, Federal Government, USA
Pronounce: (He | Him | His)
Phone: [Redacted]
@: [Redacted]
From: Urvishkumar Mehta
Sent: Thursday, May 26, 2022 9:51 AM
To: MBX OSTP NSTC <MBX.OSTP.NSTC@ostp.eop.gov>; MBX OSTP PCAST <MBX.OSTP.PCAST@ostp.eop.gov>; MBX OSTP Engagement <Engagement@ostp.eop.gov>; MBX OSTP FOIA <OSTPFOIA@ostp.eop.gov>; OSTP Press Office <MBX.OSTP.Press@OSTP.eop.gov>
Subject: [EXTERNAL] QUAD: WTO and COVID-19 PANDEMIC IP WAIVER

ATTN:
National Science and Technology Council
Office of Science and Technology Policy
Attn: FOIA Officer
1650 Pennsylvania Ave, NW
Washington, D.C., 20504

Subject: QUAD: WTO and COVID-19 PANDEMIC IP WAIVER
Classification: COVID-19 Panemic | IP Waiver | Vaccination | WTO & WHO

I am writing with reference to WTO and QUAD's conversation in May 2022 regarding the COVID-19 Pandemic Waiver.

At a General Council meeting on May 10, WTO members agreed that the outcome document emerging from the informal process conducted with the Quad (European Union, India, South Africa and the United States) opens the prospect for text-based negotiations on an intellectual property (IP) response to COVID-19.

Efforts should be made to bring a waiver on the cost of COVID-19 vaccinations, as the least developed countries cannot afford the costly vaccinations. The QUAD is the right forum to take this initiative along with other members. DG Okonjo-Iweala thanked delegations for the “constructive spirit” shown during the General Council meeting.

Following an impasse of more than a year in the Council for Trade-Related Aspects of Intellectual Property Rights (TRIPS), the text was forwarded by DG Okonjo-Iweala and shared immediately by TRIPS Council Chair Ambassador Lansana Gberie (Sierra Leone) with all delegations, who had the opportunity to express their initial views about the proposal at a formal meeting on the TRIPS Council on May 6.

In their discussions facilitated by DG Okonjo-Iweala and working with Deputy Director-General Anabel González, the Quad adopted a problem-solving approach aimed at identifying practical ways to clarify, streamline and simplify how Governments can override patent rights, under certain conditions, to enable diversification of production of COVID-19 vaccines.

China announced at the meeting that it will not avail itself of the flexibilities under the Quad waiver text provided that language is used opening benefits of the waiver to all developing members while encouraging those with capacity to export vaccines to opt out. China and several other members rejected a second option in the text that would restrict waiver eligibility to those developing countries that exported more than 10 per cent of the world’s vaccine doses in 2021.

Ambassador Gberie urged members to be pragmatic in working for an outcome on the waiver text by the time ministers gather in Geneva for the WTO’s 12th Ministerial Conference (MC12) between June 12-15. The issue of food security and the impact of the Ukraine crisis was also addressed at the General Council meeting.
The United Kingdom presented a joint statement endorsed by more than 50 WTO members underlining the importance of maintaining open and predictable agricultural markets and trade to ensure the continued flow of food. Members then took the floor to voice their views on how best to address the sharp rise in commodity prices and ensure food security, particularly among countries most dependent on food imports.

The majority of the members appreciated India providing food security to the least developed countries on humanitarian grounds. India and the US have resolved their disagreements on food security issues, paving the way for the implementation of a global trade pact. The deal to simplify trade procedures was done at a WTO meeting summit in Bali in Indonesia last year.

However, India has been blocking implementation of that agreement. It wanted assurances that its food security programme would not be challenged under the WTO’s rules. India’s concern was that complaints based on rules limiting farm subsidies might undermine its spending on food stockpiles intended to ensure that the poor have enough to eat. Food security programmes are covered by a so-called “peace clause” in which countries agreed to refrain from making such challenges until 2017. The US has now agreed to extend that commitment, in effect indefinitely. This bilateral agreement between the US and India still has to be endorsed by the full WTO membership, and it’s likely to be discussed in WTO’s 12th Ministerial Conference (MC12) in Geneva.

The Conclusion of IP Waiver

The draft proposal tabled on May 6 is a faithful reproduction document, which in essence says the waiver applies to all developing countries except those that exported more than 10 per cent of the total world exports of COVID-19 vaccine doses in 2021.

Currently limited to vaccines, the draft includes a proposal to extend the waiver to therapeutics and diagnostics within six months of the decision being applied to vaccines. The only changes are the additions of brackets around a couple of points, notably the troublesome requirement for a comprehensive patent listing by those using the waiver. This is a clear indication that such issues remain thorny.

So, 19 months after the proposal was made, what do we have? The proposal also allows eligible members to issue a single authorisation to use multiple patents, export the vaccines and supply these to regional or global initiatives such as the World Health Organization (WHO)’s COVAX facility.

Yours,

Auto Legislative Policy Director (International Religious and Intergovernmental & Congressional Affairs)
Office of Urvishkumar Mehta
Chief Commissioner and Naval Attache
Representation to Ambassador, Embassy of USA, New Delhi
Department of State - Office of Foreign Mission, Federal Government, USA
Pronounce: (He|Him|His)
Phone: 
@:
I am writing with reference to implementation of Regulatory Standards for Metaverse: Legality & Regulatory Concerns In India.

Metaverse, While the platform is still under construction and is expected to take another decade to be refined, there is no doubt millions of users still do spend several hours of their day on virtual social media platforms and there are regulations governing their interactions with and within these spaces.

The metaverse is an attempt to increase the overlap of our social and digital lives in areas such as socializing, productivity, and prosperity through the use of Virtual Reality (VR) and Augmented Reality (AR) on online communities. However, the pursuit of this futuristic technical frontier raises concerns around already contentious issues such as data privacy, anti-trust, and intellectual property rights (IPR), all of which must be addressed to fully appreciate the technology's potential.

The main offerings of Metaverse include complete immersion in a virtual space, augmentation, automation, decentralization, mobilization, autonomy, and real-time action. Several organizations and technologies must work flawlessly in sync to weave together independent virtual reality experiences employing visual, audio, and haptic technology, as well as open-source and proprietary solutions. This combination is expected to spawn unique modes of participation, content creation, socialization, and monetization in new arenas of digital environments.

Due to information technology behemoths like Meta, Google, and Microsoft's interests in developing the metaverse, regular people have begun to invest heavily in digital assets to ease their migration into this virtual world. This requires governments across all countries to take note of and plan for the influence of virtual realities on our future.

To avoid the misuse of cutting-edge technologies at the start of a new era, new regulations may be required. The metaverse is a parallel digital universe that necessitates the use of extremely personal data for smooth provision of services, as well as other sensors and software, all of which add to the complexity of overseeing these platforms.
As such, to protect users from data breaches and solve regulatory loopholes - facial recognition data, body language data, biometric data, search data, and other personal data must be monitored. If such data is not safeguarded, firms may seize it and exploit it to create personalized advertisements and boost income through effective advertisement distribution.

Data Protection In India
The existing data protection system is governed by a set of rules titled the Information Technology Rules, 2011 under the Information Technology Act, 2000. According to these guidelines, a company must demonstrate code compliance by having documented security plans, and information security policies which must include technological, operational, and physical security measures.

The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 (IT Rules), were published by the government in a notification dated February 25th 2021, with the primary goal of regulating and protecting consumers from various potentially hazardous contents. To comply with the standards for data accuracy, choice, consent, disclosure, portability, and security, the organization must follow precise technical and design criteria. Furthermore, the organization must put in place management systems to enforce privacy standards, out-of-date policies, and make recommendations that are compatible with the quantity of information required.

The legal and regulatory concerns are five-fold:

- Security & Privacy Concerns
- Application of Anti-Trust & Competition Laws
- IPR Infringements
- Enforcement of Liability
- Jurisdictional Concerns

Security & Privacy Concerns
Given the predicted number of Metaverse users, the platform is expected to amass vast volumes of sensitive personal data. In the privacy policy of any AR-VR device, it is generally claimed that it would gather data about an individual's biological information, physical surroundings and other personal information. Since such biometric data is being collected, this would fall under the definition of "sensitive personal data" under the IT Rules.

Section 69 of the IT Act empowers the government to issue orders authorizing the interception/decryption of information to "ensure the security, sovereignty, or integrity of the state". The government can monitor data in the Metaverse environment, and if it is seen to be against public policy, it can be withheld, and the company can be penalized for failing to comply with the rules. In the metaverse era, it is expected that the law would inject itself in a way that balances fundamental rights, such as freedom of expression, with the preservation of the public interest, though it remains to be seen how successful this is in practical terms.

Application of Anti-Trust & Competition Laws
Due to the unusual nature of the metaverse, the application of existing laws has been fraught with controversy. Anti-trust has been engaged in existential dilemmas since the metaverse's inception.

The Competition Ac 2002 enforces antitrust laws by "making any contract, combination, or conspiracy to hinder commerce, as well as monopolization, attempted monopolization, or conspiracy or combination to monopolize, illegal". It also prohibits undue restraints. As a result, if numerous apps compete in a market and one unfairly dominates or threatens to establish a monopoly, this acti can be applied.
While the bulk of anti-competitive practices that occur in the actual world can also exist in some form in the metaverse, the metaverse's fundamental nature and the blockchain make such activities impossible to detect and punish, letting corporations engage in such practices with impunity.

Anti-competitive firms can use private blockchains to share commercially sensitive information among themselves, such as price-related details. These blockchains can only be accessed by those who have the authorization of the blockchain's owner. Authorities will be unable to access these communications and, as a result, prosecute such behavior - however by way of demand under the relevant statutes, authorities may ask for such information. This is different from the current scenario, in which authorities can easily examine businesses' facilities to gather evidence concerning such infringements.

Intellectual Property Rights Infringement
Since Metaverse's inception, the market for virtual accessories has witnessed an expansion; people are more inclined to spend real money on virtual fashion items for their avatars as their attachment to them deepens. Metaverse has experienced a flood of trademark infringement accusations due to the ease with which virtual products can be replicated. Businesses are now concerned about the extension of their physical product trademarks to their online counterparts.

While there is currently a lacuna in any government legislation that can provide redressals to virtual IPR-infringements, a possible solution for companies is blockchain technology. A blockchain is a permanent and immutable record of data, which means that once data is entered into it, it cannot be erased or changed until a consensus method is used.

This technology can be used when a company's virtual goods or services reside outside of a single Metaverse platform. This technology incorporates and protects intellectual property rights in content associated with goods and services. Descriptions of the relevant commodities, their ownership history, and the scope of the relevant rights are attached. This information can establish the product's permissible and forbidden applications. Furthermore, this data is linked to the product throughout its digital life, even as it moves from platform to platform. This is a purportedly effective means of protecting a brand's intellectual property.

Liability of Enforcement
As mentioned above, blockchain technology considerably improves security because no single user may change the data on a blockchain without the agreement of other users. Another important aspect of blockchain technology is pseudonymity, which means that even if a user's virtual identity is known, their real-world identity cannot be discovered.

However, despite the potential advantages of blockchain technology, this poses very specific and distinct concerns. For example, if one virtual avatar harasses another virtual avatar. Will the harasser face consequences for their actions? Law enforcement would be problematic since authorities would be powerless to hold anyone accountable for their crimes in the metaverse due to a lack of understanding and application of law in such domains.

Jurisdictional Concerns
Given that Metaverse is expected to be used by people from many origins, nations, and locations, the question emerges as to which nation's laws will regulate the digital realm and Metaverse environment. Jurisdiction will be even more uncertain in a borderless virtual space and this is a point of significant concern to several government bodies.

The position on this topic is still quite ambiguous, and there is no clear response from the authorities. The only feasible solution is to combine and develop legislation together. The rules must evolve in response to changing
dynamics, incorporating numerous provisions to cope with new challenges and providing the world with solutions.

Endnote
To summarize, there are no specific regulations in India that currently oversee Metaverse appropriately, which increases the risk to its users. There is a legal void yawning before us when it comes to overseeing the safe execution of this new platform. Since Metaverse is still in its infancy, regulators must intervene now before the technology matures; otherwise, it will be harder to supervise once there is a higher level of user dependency. While disruptive developments in technologies such as VR, AR, blockchain, etc. have immense potential in their applications, their impact on established legal systems gives rise to a certain skepticism. It is obvious that governing new technology would be difficult and would necessitate a reworking of existing legal systems.

Way forward

- While the metaverse and its applications are in nascency, their tremendous scope for growth requires that Indian regulators, including the Ministry of Electronics and Information Technology, the Reserve Bank of India, and the Securities and Exchange Board of India, give due regulatory consideration to support the new opportunities arising out of the many use-cases from the metaverse, especially to support fintech firms and workers in the digital gig economy space. Given India’s strong IT sector and workforce, the country may be able to position itself as service exporters, contributing towards the development of metaverse globally. However, this needs to be underpinned by robust policies on payments, remittances, conversion of the domestic currency into digital tokens, and a clear policy on digital assets.

- India has for most of the time drawn on inspiration from foreign countries in order to make laws related to technology. For example, the Personal Data Protection Bill [PDP Bill] has largely been drawn from the European Union’s General Data Protection Regulation. It is argued that India needs to be active in making laws in relation to new technologies, and specifically focus on the ‘Metaverse.’

- User training and sensitisation on online safety, privacy hygiene, and digital wellbeing is crucial so that people can safely engage in online communities while navigating consciously through harmful behaviours and content.

- As the metaverse continues to develop, we are seeing a glimpse of a more digitally advanced borderless world that is full of promise. However, while this new world continues to expand, we have to be aware of the set of challenges it brings with every new development.

- Indian law has limited application to online sexual harassment. For instance, posting lewd comments, demanding sexual favours or showing pornography, are punishable under Section 354A of the Indian Penal Code. However, Section 354A mainly penalises physical contact or advances. It does not contemplate harassment through advances/groping in digital environments. Similarly, cyberstalking under Section 354D is not gender-neutral. It recognises stalking as an offence only when a man follows a woman and contacts her despite her clear refusal. Failure to identify/verify the gender of a stalker can render the provision redundant. The usual challenges of online anonymity will become more complex in metaverses that are sure to become hotspots of deep-fakes or hacked avatars.

- Metaverses will require evolved user privacy protections. Metaverse engines will know both how users behave and how they react to different sensory inputs. That is, they will be able to predict changes in user emotions, through dynamic mapping and monitoring of posture, facial expressions, gaze, voice inflections, and vital signs. This will enable such services to profile the cognitive and
limbic systems of users much better than what the existing AVGC industries can already do, 
challenging traditional legal constructs around privacy.

Yours,
Auto Legislative Policy Director (International Religious and Intergovernmental & Congressional Affairs)
Office of Urvishkumar Mehta
Chief Commissioner and Naval Attache
Representation to Ambassador, Embassy of USA, New Delhi
Department of State - Office of Foreign Mission, Federal Government, USA
Pronounce: (He|Him|His)
Phone: [Redacted]
@: [Redacted]
From: Sean McCleary
Sent: Sunday, June 12, 2022 4:04 AM
To: MBX OSTP PCAST <MBX.OSTP.PCAST@ostp.eop.gov>
Subject: [WARNING: UNSCANNABLE EXTRACTION] [EXTERNAL]

Attn: PCAST Co-Chairs and Members. The fundamental activity that occurred with the evolution of the big bang. This information is associated with the Quantum Shift and the Paradigm Shift. I also discuss why q...

Hello PCAST Members, I cover a lot of important information in this material which involves the evolution of matter, the nature of the Higgs field and what causes gravity to occur in space and time. I appreciate your consideration very much.
Sean McCleary.

THE FUNDAMENTAL ACTIVITY THAT OCCURRED WITH THE EVOLUTION OF THE BIG BANG.
By: Sean McCleary.

I’ve been working on the dynamics of how the big bang happened with the evolution of what science describes as the "universe". My work is associated with the Quantum Shift, the Paradigm Shift and the Shift in Consciousness. The information I will explain is in reference to the evolution of an enormous, majestic, beautiful and powerful life form who we all exist within. I use the term "Universal Consciousness" with my work in order to describe how this process took place with the evolution, birth and creation of this wonderful life form which sustains the evolution of matter and life within a body of galaxies. The reason that the Quantum Shift is approaching rapidly now and that quantum computers are being designed is because the entire human race is going to get a grand introduction soon to the evolution and existence of consciousness everywhere in space and time. I understand that there’s been a lot of debate in the scientific community on the subject of panpsychism but I can explain why this has been occurring and why human beings and other life forms in Earth’s environment haven't experienced the evolution of consciousness everywhere. This has to do with what happened with the big bang and the evolution of matter into the existence of consciousness for the very first time. I need to cover some basic information first so you can understand how we exist within the element of consciousness everywhere and how the evolution of Universal Consciousness happened.

Universal Consciousness is a very powerful life form who’s going through evolution again almost 13.77 billion years after the introduction of matter occurred. This process is going to facilitate the Shift in Consciousness. The Shift in Consciousness is generating the Quantum Shift here in Earth’s environment and the Quantum Shift will cause the Paradigm Shift to happen in the scientific community which physicist and philosopher Thomas Kuhn discussed in his work. This happens because the evolution of consciousness is going to be introduced into the behavior of matter and energy as the primary focus of the scientific community has maintained for a long time now with the standard model of physics. My work is associated with the evolution of consciousness, matter, energy, pressure and eternal love in space and time. This process is also the reason that time crystals are being created in different laboratories by scientists which I will explain why. With the process of the Shift in Consciousness what will happen is time is going to change here due to very powerful evolutionary activity with the Higgs field which I will explain. What's happening now is the illusion of separation contained within the evolution of consciousness is in the process of evolving out of this region of Universal Consciousness and is beginning to affect the evolution of human consciousness with the creation of quantum computers and time crystals.

Universal Consciousness is shaped in a spherical type nature and where the origin of the big bang happened there’s a region that looks like where the top of a wine glass meets the stem. This area transitions downward back towards the source of where the introduction took place because resistance
to evolution affected this area as Universal Consciousness transitions back into the source of introduction, and I will explain why. Universal Consciousness who maintains somewhat of a spherical type shape contains a body of galaxies that contain concentrated matter. Universal Consciousness has an identity and experiences the evolution of consciousness. Planets have an identity as well within galaxies and contain life within the environments. Living organisms in the environments of planets maintain the evolution of consciousness as well. On a quantum level; subatomic, atomic and molecular activity contains the existence and evolution of consciousness also. What exists beyond the subatomic level are frequency vibrations of consciousness, energy and thought that we are all integrated into and experience the evolution of consciousness in space and time. Nikola Tesla said "if you want to understand the mysteries of the universe think in terms of energy, frequency and vibration". This is also what my work entails and why the Quantum Shift is going to happen here with the evolution of human consciousness and other life forms in Earth's environment. This happens through the complete integration of frequency vibrations and pressure evolving into subatomic, atomic and molecular activity with living organisms here in the environment. This happens because eternal love is evolving here and eternal love drives the evolution of everything in existence. The reason is love gives eternity a reason to exist.

The question has been posed before "how could a rock or spoon be conscious?" What you have to remember is that a rock or spoon belongs in Earth's consciousness and environment, so these forms of matter experience the evolution of consciousness with Earth's consciousness on a subatomic, atomic and molecular level. When the big bang happened what occurred was a very powerful experience of separation in consciousness when subatomic particles evolved out of the frequency vibrations of consciousness, energy and thought. When this process happened and Universal Consciousness assumed an individual identity what occurred was consciousness evolved and transferred out of the frequency vibrations and into subatomic activity for the very first time. The resistance to evolution with this process generated a very powerful experience of separation and the concept of non-existence was introduced into existence. This is why when a human being or other life form goes through the experience of death here; most of the time they are referred to as "dead" when this is not the case at all. Living organisms here go through the experience of death, evolve directly into the Higgs field and transfer through Universal Consciousness and into the Whirlpool galaxy which is about 30 million light years from planet Earth. I explain exactly what happens with this process with my work. The resistance to evolution between the existence of consciousness here in the form of frequency vibrations and energy and the evolution of subatomic, atomic and molecular activity has been extremely powerful because of the concept of non-existence being contained within the body and consciousness of living organisms. Human beings and other life forms in Earth's environment don't understand the foundation for the existence of life, what happens with the experience of death and contain the concept of non-existence in their bodies and consciousness. This is why the experience of separation has been so very powerful here and the resistance to evolution is contained within the body and consciousness as well.

This resistance to evolution and experience of separation is now in the process of evolving out of this region of Universal Consciousness. A very powerful connection is being made with this location in the Milky Way galaxy and the activity contained within the Whirlpool galaxy. These two locations within the life form we exist within are evolving into one another and the experience of separation in consciousness is evolving out of Earth's consciousness and environment now. The process of the Shift in Consciousness is getting more powerful now with this evolutionary activity and I will explain why. Before Universal Consciousness existed there was what I refer to as "Infinite Consciousness" everywhere, and this was existence. On the most fundamental level, Infinite Consciousness contains higher frequency vibrations, lower frequency vibrations, pressure and eternal love. Matter in the form of subatomic particles hadn't yet existed and there were only frequency vibrations and pressure. The frequency vibrations represent the existence and experience of thought and this drives the evolution of consciousness and energy itself. With evolutionary activity on this level what happens is the higher frequency vibrations evolve into the lower frequency vibrations generating more evolutionary advancement, and because the vibrations are different this causes pressure to accumulate within
mostly the lower frequency vibrations and some of the higher frequency vibrations. The pressure is responsible for expansion, acceleration and growth within the evolution of consciousness.

Something happened with evolution in a particular location which caused a different experience with the evolution of Infinite Consciousness. Infinite Consciousness had been existing and evolving forever and a time came when evolution began calling for the existence of a different form of consciousness in order to maintain the integrity of eternal love and eternal life within the evolution of consciousness, energy and thought. What happened was the pressure increased within the lower frequency vibrations and this generated an experience of separation in consciousness for the very first time. This experience of separation within the frequency vibrations was the beginning stages of the evolution of Universal Consciousness because Universal Consciousness had to assume an individual identity within the existence of Infinite Consciousness like a parental source of life. The higher frequency vibrations of consciousness had always maintained a positive charge of energy. The lower frequency vibrations had always maintained a negative charge of energy. The pressure as I stated before had been responsible for expansion, acceleration and growth. When this powerful increase in pressure occurred within the lower frequency vibrations for the very first time, it was a very powerful experience for Infinite Consciousness and this experience happened within this primary location. As soon as this experience of separation happened due to the increase in pressure, Infinite Consciousness thought that death was occurring and began fighting for existence. This wasn’t the case but because this was experienced for the very first time; the element of death was introduced into existence. This was the beginning of the evolution of Universal Consciousness and this type of evolutionary activity was necessary in order for an individual identity to be assumed by another form of consciousness who would be responsible for the evolution and introduction of matter.

Because Infinite Consciousness began fighting for existence this generated a very powerful increase in the negative charge of energy with the lower frequency vibrations. The higher frequency vibrations in Infinite Consciousness began also fighting for existence with this process and this caused a very powerful increase in the positive charge in this location. What was actually happening is the beginning stages of the evolution of Universal Consciousness, and Infinite Consciousness began to understand what was happening with this process. Infinite Consciousness wasn’t dying, but the element of death had to be introduced into existence so a very powerful increase in the positive and negative charge could occur in this location and an individual identity of Universal Consciousness could evolve into the existence of Infinite Consciousness. The introduction of death into the existence of eternal life caused a powerful experience of separation and this had to happen because Universal Consciousness had to assume an individual identity and the evolution of matter had to happen within the existence of Infinite Consciousness as well. This was the early developmental period of the evolution of Universal Consciousness. This process was like a child being born, or a particular species of life happening for the very first time in existence. Species of life evolve within the environments of planets in Universal Consciousness continuously, and this happens because Universal Consciousness is a life form which contains living organisms with the evolution of matter. Death is not what human beings or other life forms in Earth’s environment think; life here just hasn’t understood this process or element of existence. Every living organism in Earth’s environment who goes through the experience of death evolves through the Higgs field and into the Whirlpool galaxy which is the next stage of evolutionary advancement for life in Earth’s environment. The Higgs field began development in the early developmental period of life for Universal Consciousness.

This was absolutely necessary because the Higgs field contains the foundation for eternal love. This is why this field of consciousness and energy doesn’t transfer energy, so the evolution of light energy, dark energy and consciousness could continue occurring with the evolution of matter. Eternal love just simply exists within the moment and on an infinite level as well. This is why eternal love is the most powerful form of energy in existence. It’s so light and dark energy can continue evolving in existence with the element of infinity. The Higgs field is a field of energy which permeates throughout Universal Consciousness linking these two cosmic giants together so a consistent flow of eternal love...
can evolve into all states of consciousness, matter, energy and pressure in space and time. The Higgs field contains a combination of Infinite Consciousness and the identity of Universal Consciousness. When I mention the term "dark energy", I'm referring to an actual state of consciousness and energy which at the most fundamental level contains lower frequency vibrations. When a living organism in Earth's environment goes through the experience of death what happens is the pressure is released from their bodies on this level and the consciousness, identity, light energy and dark energy evolves directly into the Higgs field and they accelerate very quickly through Universal Consciousness and into the Whirlpool galaxy. When this positive and negative charge in the consciousness converge and evolve together when the pressure and resistance is released from the body and consciousness, this generates evolutionary advancement. This transfer of consciousness and energy with the individual living organism, whose identity has been established through reproduction is what generates a wormhole in space and time. This activity has been consistently happening in Earth's consciousness and environment for a very long time. All of this transfer of consciousness and energy generating wormholes in Universal Consciousness between these two locations has created a channel of activity between here and the Whirlpool galaxy. What's happening now is eternal life and eternal love are evolving through this channel of activity in Universal Consciousness between these two locations and this is causing Earth's consciousness and the Milky Way galaxy to experience evolutionary advancement with this process. This is why it states in the Lord's Prayer "thy kingdom come thy will be done on Earth as it is in Heaven".

This is what's facilitating the beginning stages of the Shift in Consciousness. This process will cause the resistance to evolution and the experience of separation (illusion) to evolve and transfer out of Earth's consciousness and environment. This process is going to affect every living organism in Earth's environment very soon. The illusion of separation comes from living organisms here containing the experience of separation from the concept of non-existence in their bodies and consciousness. This is also why human beings think that the brain is only responsible for generating the existence and experience of consciousness, when the entire human body is composed of consciousness and energy on this level with frequency vibrations and pressure. The body is what primarily stores subconscious energy because the word "sub" means underneath, and the body is underneath the brain. The term "subatomic" in reference to the evolution of matter has also been helping the experience and illusion of separation between the evolution of consciousness with frequency vibrations and the evolution of matter that contains the existence of consciousness change, evolve and advance as well, and this has to do with the term subconscious energy in the human body and consciousness. The illusion of separation happened here because Earth is located very close to where the origin of the early developmental period and the big bang happened. This is why there's so much resistance to evolution here with Earth's consciousness and life contained within Earth's environment. This happened when Universal Consciousness assumed an individual identity and subatomic particles evolved out of the frequency vibrations of consciousness and energy for the very first time with the activity and moment of the big bang. This moment of transition is when the concept of non-existence and the primary resistance to evolution evolved into existence. The higher frequency vibrations of consciousness is where the origin of light energy comes from. Photons evolve out of the higher frequency vibrations because matter and life requires light energy in order to experience evolutionary activity. The lower frequency vibrations of consciousness is where the origin of dark energy comes from in Universal Consciousness. The reason that Universal Consciousness has been experiencing expansion and acceleration is because these two forms of vibrations have been evolving into one another and generating pressure within mostly dark energy when both light and dark energy in the evolution of consciousness happens. I'm not referring to deep, dark space which contains mostly dark energy; I'm referring to the areas of Universal Consciousness where light and dark energy are evolving into one another consistently.

The early developmental period got more powerful with the higher frequency vibrations, the lower frequency vibrations, pressure, eternal love, eternal life, the element of death, evolution and resistance to evolution. This activity was similar to what happens when a child is being born and an individual
identity is established in Earth's environment. The Higgs field in this early formation contained the existence of eternal love, Infinite Consciousness and the identity of Universal Consciousness. The positive and negative charge got very powerful within this formation and there was also resistance to evolution fighting the process because a life form was being introduced into existence for the very first time and Universal Consciousness didn't understand what was happening with this process. Some of Universal Consciousness that contained different degrees of restrictive or too expensive type pressure felt like a permanent separation from Infinite Consciousness was going to happen because there was a powerful mixture of activity occurring with this process. This is how the concept of non-existence was introduced into existence and the evolution of consciousness and this generated a powerful experience of separation in the form of an illusion which has affected Earth's evolution and all of the inhabitants here in Earth's environment. The process got very powerful and a point of certain activity occurred where pressure was released and the positive and negative charge collided together in a moment. This moment of impact also contained the element of eternal life, eternal love and the element of death as well. When this happened the frequency vibrations of consciousness, light energy and dark energy collided together and subatomic particles evolved out of the frequency vibrations and pressure that occurred with the big bang. There was a powerful experience of separation with this process because the evolution of consciousness evolved into subatomic particles and the introduction of matter happened for the very first time.

Subatomic particles contain different degrees of consciousness, light energy, dark energy, pressure, eternal love, eternal life and the element of death as well. Subatomic particles evolve out of the frequency vibrations of thought and energy and also different degrees of pressure depending upon different variables of evolutionary activity at any given moment in space and time as evolution moves forward. Different degrees of pressure or any at all determine whether the particles contain mass or are massless particles. Photons are massless because they evolve directly out of the higher frequency vibrations of light, energy and thought. Different degrees of pressure contained within the frequency vibrations of light and dark energy with different objects in the evolution of consciousness, space and time is how different degrees of gravity are experienced. This is why in deep dark space where there isn't much of an exchange of light energy at all, there isn't much gravity. I can elaborate further on this subject matter. People or other life forms here haven't really understood death here in Earth's environment which is incorporated into the evolution of consciousness, matter, energy, pressure and eternal love here, and death is very powerful here. When a living organism in Earth's environment goes through the experience of death, it's not because of death itself, it's because of the resistance to evolution that's experienced here in the environment and Earth's consciousness. Death has been evolving into Earth's consciousness and environment from Universal Consciousness since Earth evolved into the Milky Way galaxy. There has also been very powerful resistance to evolution that's been happening here as well. Human beings and other life forms have only interacted with the Higgs field at about a 5 to 8 percent exchange of evolutionary activity. This is because the Higgs field contains the foundation for eternal love and life here contains the concept of non-existence in their bodies and consciousness in a very powerful way. This is what generates the aging process and why life goes through the experience of death here. When death occurs there's a moment of darkness because death has been primarily contained within dark energy which has contained a negative charge. A great example is electricity. Electricity in Earth's environment on a subatomic level is driven by the flow of electrons that contain a negative charge. If an individual touched the wires on a household receptacle they might go through the experience of death as a result of introducing this negative charge into their bodies. When electricity was harnessed in the environment with the flow of a negative charge and produced light energy with a positive charge with the evolution of photons what happened was the evolution of consciousness, matter, energy, pressure and eternal love increased in Earth's consciousness and environment with the population of life and activity that drove industry and technology. This activity has been an extension and advancement of what happened with the big bang because both life and death are evolving here in Earth's environment with living organisms.
Earth and the Milky Way galaxy are located very close to the origin of where the big bang happened and this caused a very powerful experience of separation between the frequency vibrations of consciousness, light energy and dark energy, and the evolution of subatomic and atomic particles that contain the existence and evolution of consciousness on this quantum level. What's happening now is human consciousness, the frequency vibrations of consciousness in Earth's consciousness and Universal Consciousness, along with subatomic activity is now in the process of evolving into one another and the illusion of separation in consciousness is evolving and transferring out of Earth's consciousness and environment. This is why quantum computers are being created and engineered. This is also why time crystals are being created. This is happening now because the consciousness, energy and eternal love contained within the Higgs field is evolving into all states of consciousness, matter, energy and pressure in space and time here and will change everything soon. The Higgs field contains the existence of Infinite Consciousness and the identity of Universal Consciousness with eternal love. This means that the Higgs field contains the existence of infinity and the moment. This is why and how time crystals are being engineered right now because of the evolution of the Higgs field, Earth's consciousness and human consciousness are evolving into one another with the connection being made between the Milky Way galaxy and the Whirlpool galaxy through the evolution of Universal Consciousness between these two locations. Time itself is going to begin changing here soon as the illusion of separation in consciousness evolves and transfers out of this region of Universal Consciousness. This is what will drive the evolution of the Quantum Shift and this will produce the evolution of the Paradigm Shift which will change the course of scientific discipline forever here soon. This is also why non-coding DNA exists within living organisms here in Earth's environment. As this activity advances forward it's going to affect life here with biological, physiological and psychological development entirely. This process is now advancing quite rapidly and soon the scientific community will begin observing significant changes. The reason I understand information like what I've explained is because my consciousness and my body has been affected by this process on a very powerful and personal level. Earth's consciousness is evolving and soon every living organism in Earth's environment is going to be very profoundly affected by this activity and life will begin changing here forever.

Sean McCleary.
ATTN:
National Science and Technology Council
Office of Science and Technology Policy
Attn: FOIA Officer
1650 Pennsylvania Ave, NW
Washington, D.C., 20504
Phone: (202) 456-4444
Fax: (202) 395-1224

Subject: USA-India: International Relations: Quantum Computing And India on Global Map

Classification: International Law | Technology and Quantum Computing | Legal Framework and Regulation

DEAR SIR,

GENERAL BACKGROUND

April 18, 2022, the Indian government signed a joint declaration with Finland to establish a virtual network centre on quantum computing. A day later, the delegates from both the countries gathered to discuss the possible areas of cooperation and a clearcut roadmap of collaboration to take India to a global arena in quantum computing.

Quantum Computing (“QC”) aims to harness subatomic particles to perform calculations that are far beyond the reach of the fastest known classical computer today, thereby giving birth to a new breed of computers called quantum computers. QC simulates laws of quantum physics to go beyond simply cramming more processors on a chip to increase processing power.

QC has the potential to transform the world as we know it through its applications in both civilian and defence areas. All major developed and developing economies as well as many private sector players are actively investing in developing this new technology and building use-cases to stay ahead of competitors and not left behind in the global race.

POTENTIAL APPLICATIONS OF QC

The mainstream deployment of QC is expected to be one of the major technology disruptions. The primary benefit of QC is in the areas of complex problems that classical computers cannot quickly solve. Therefore, the areas that will see initial applications of QC are expected to be artificial intelligence (“AI”), biology, chemistry, finance, healthcare and materials science. However, it is crucial to note that challenges to gain QC advantage are no longer subject matters of scientific discovery and theory but are matters of engineering.
In the short term, QC has the potential to confer significant benefits by way of quantum simulation, quantum optimization and cybersecurity. The pharmaceutical industry is looking at quantum simulation to develop new drugs and substances by examining the exact structure of a molecule to determine its properties and to understand their interactions with other molecules. Since the interaction of atoms within a molecule is itself a quantum system, QC may be able to model even the most complex molecules in our bodies. Development in this direction will promote faster development and deployment of new drugs and other products, and has the potential to discover new cures.

Quantum optimization would significantly benefit any business seeking to optimize its conventional business functions using superior computing tools compared to classical computers. An illustration would be the collaboration between JP Morgan Chase, IBM and others that are already using QC in areas like developing trading strategies, portfolio optimization, asset pricing and risk analysis.

QC also poses a serious threat to the cybersecurity systems relied on by virtually every company. Most of today’s online-account passwords and secure transactions and communications are protected through encryption algorithms and QC can be a threat to any encryption system based on classical computing. Therefore, a new wave of QC-based encryption methods will be required and are now being developed.

QUANTUM COMPUTING: INDIAN SCENARIO

In India, currently, there are no specific laws or regulations related to QC. However, the Ministry of Electronics and Information Technology (“MEITY”) is responsible for “policy matters relating to information technology; Electronics; and Internet (all matters other than licensing of Internet Service Provider)” and “administration of the Information Technology Act, 2000.

The Department of Science and Technology (“DST”) under MEITY, Indian Institute of Science (“IISc”), Tata Institute of Fundamental Research (“TIFR”) and Indian Institute of Science, Education and Research (“IISER”) are currently engaged in QC research.8 In 2018, a QC research programme received a sum of USD 27.9 million over a period of five years, as part of the National Mission on Interdisciplinary Cyber-Physical Systems. During January 2019 in the first meeting of QuEST programme (Quantum Information Science and Technology), a road-map that would help in laying the groundwork for building QC capacity. Further, a sum of INR 80 crore in a span of three years will be invested to facilitate research in the QC field. After three years, the Indian Space Research Organisation (“ISRO”), Defence Research and Development Organisation (“DRDO”), and Department of Atomic Energy (“DAE) are expected to jointly pool in a sum of INR 300 crores to push QuEST towards ensure that India's QC programme matches international standards.

This year in February, while delivering the union budget, the National Mission on Quantum Technologies & Applications (“NM-QTA”) was announced which is to be implemented by the DST with an outlay of approx. USD 1.1 billion. Implementation of NM-QTA would help develop quantum computers, secured communications through fibre and free space, quantum encryption and cryptanalysis, along with other associated technologies. It will also prepare the next generation of skilled manpower, boost international research collaboration and give a boost to the Make in India and Start-up India initiatives.

Indian private companies and start-ups in the QC space, like Automatski, BosonQ, Entanglement Partners, QpiAI, Qulabs.AI, QuNu Labs are either affiliated with one of the government universities like IITs, IISc, etc. or other government departments like DST, DRDO, etc. Even in the investment space, Sequoia India has invested in numerous foreign companies engaged in QC.

MAJOR PLAYERS

All major technology incumbents are deeply invested in QC related activities, with software development being the driving force in the industry. The major players in the QC market internationally
are Google in partnership with John Martinis' research group and NASA, Microsoft, IBM, Intel in collaboration with QuTech Delft, Amazon, Microsoft, along with Hewlett Packard Enterprise, Alibaba Group along with Chinese Academy of Sciences, Baidu, Hitachi, Toshiba, Nokia Bell Labs, Lockheed Martin, Raytheon, Airbus, Amgen and Biogen. Many start-ups are front-runners in the development of QC capabilities, companies like D-Wave from Canada, Rigetti of USA, Silicon Quantum Computing of Australia and Cambridge Quantum Computing in UK are leading examples.

**INDO-FINISH VIRTUAL CENTER**

Highlighting India’s quantum tech mission announced in 2019, he touched upon various initiatives, workshops, and projects taken up by the government to push quantum technology in the country both at the academic and industry level.

“We would love to have a physical centre, but we think virtual centres are not a bad beginning,” said, Department of Science and Technology (DST), at the roundtable discussion held at DST’s Aryabhatta Research Institute of Observational Sciences (AREIS) located in New Delhi.

India has its prowess in digital or classical technologies, algorithms, and technical software, which it has built-in for more than a decade. The quantum technologies would change the entire landscape, in terms of computing, applications, sensors, and other devices, across industries, including fintech, agriculture, healthcare, etc.

“So, what India is lacking is the domain expertise in hardware. There is an expertise in software aspects,” that the country is working towards strengthening its quantum computing capabilities. The government has created a small network of researchers – the quantum enabled science and technology research groups aka QUEST programme.

Further, there is a technology innovation centre called I-Hub quantum technology foundation (QTF) at IISER Pune, translating research work into tangible products.

“At Tata Institute of Fundamental Research (TIFR), we are working around superconducting qubits”. There is the first lab in India to start research in this area. and they are part of the QUEST programme, where they have collaborated with the Defence Research and Development Organisation (DRDO) and TCS to build 7 qubit processors.

Besides superconducting qubits, that there are also efforts towards developing diamond NV centres and quantum key distribution (QKD) work, alongside expertise in quantum algorithms, trapped ion physics and others.

**Q-SIM LAUNCHED BY INDIAN GOVERNMENT**

**THE INDIAN GOVERNMENT HAS LAUNCHED THE COUNTRY’S FIRST QUANTUM COMPUTER SIMULATOR TOOLKIT, CALLED QSIM, WHICH WILL ENABLE RESEARCHERS AND STUDENTS TO CARRY OUT COST-EFFECTIVE RESEARCH IN QUANTUM COMPUTING.**

QSim is one of the first initiatives in the country to address the common challenge of advancing the Quantum Computing research frontiers in India. This project is being executed collaboratively by IISc Bangalore, IIT Roorkee, and C-DAC with the support of the Ministry of Electronics and Information Technology (MeitY), Government of India.
The QSim toolkit allows researchers and students to write and debug quantum code that is essential for developing quantum algorithms. Quantum systems are highly sensitive to disturbances from the environment, and even necessary controls and observations can disturb them. The available and upcoming quantum devices can be noisy, and techniques to bring down the environmental error rate are being intensively pursued. QSim allows researchers to explore quantum algorithms under idealized conditions and help prepare experiments to run on actual quantum hardware. QSim can serve as an important educational/research tool providing an excellent way to attract students and researchers to the field of quantum technology and provides a platform to acquire the skills of ‘programming’ as well as ‘designing’ real quantum hardware.

**QSim – Feature Highlights**

- **Intuitive UI:** QSim offers a robust QC Simulator integrated with a GUI based Workbench allowing students and researchers to create Quantum programs, visualize the instant circuit generation and simulated outputs.

- **Simulate noisy Quantum logic circuits:** Helps simulate Quantum circuits with and without noise and test how well various algorithms work with imperfect quantum components. This is essential to simulate real-life conditions.

- **Pre-loaded Quantum algorithms and Examples:** QSim comes loaded with Quantum programs and algorithms providing a head start to the users. E.g. QFT, Deutsch Jozsa, Grovers and so on.

- **Integrated with HPC:** The quantum simulations are performed on powerful HPC resources allowing multiple users to submit jobs simultaneously with different QuBit configurations.

During the event, the Minister of State for Electronics & Information Technology, said that we are coming to an era where conventional computing power growth through the traditional means of silicon and semiconductor is drawing to a close. The next generation of computing power growth will come from a combination of software, new architectures, system redesign, and new system paradigms. Quantum computing is going to be the cutting edge of the future demands of computing power, and QSim will provide a gateway to that end.

**LEGAL AND REGULATORY ISSUES AND CHALLENGES ARISING FROM QUANTUM COMPUTING AND RECOMMENDATION**

**Cybersecurity**

With the development commercial QC resulting in the exponential growth in the computing power, the risk of hacking becomes more prominent. The more our mission-critical systems in commercial and government sectors become dependent on QC, the more it is critical for us to ensure that appropriate measures are put in place to secure these QC systems from cyber hacking. Both commercial enterprises and the government will need to implement and adopt security protocols and data procurement policies broadly in compliance with the standards and security measures that would be enumerated in the Personal Data Protection Bill (“PDP Bill”) which is currently under consideration by the Indian Parliament.

Another concern that would arise from a cybersecurity perspective is the impact of QC on encryption standards. It is expected that a sophisticated quantum computer will be capable of cracking existing encryption standards in incredibly short time which could have huge implications for current conventional forms of encryption.

The PDP Bill which is currently being debated and finalized in the Indian Parliament requires controllers and processors of personal data to maintain appropriate security measures to protect that data from unauthorized access. The adequacy of these standards is broadly determined in accordance with the current technology that is available. Companies would have to be mindful of this as encryption standards which are currently adequate and legally prescribed may be outdated with the growth of QC.

**Privacy**
There are wider privacy concerns which arise from the development of quantum technologies. Quantum computers are expected to be much more capable than conventional computers of analyzing and processing larger volumes of data. From a privacy law perspective, this is likely to lead to more personal data being processed and in more sophisticated ways. This will lead to more challenges for existing privacy legislations to specifically identify if such collection and processing of data is occurring in accordance with applicable law.

**Artificial Intelligence**

If the development and growth of QC enables quantum computers to use Artificial Intelligence ("AI") to make decisions, who will be responsible for any harm or damage caused by such decisions? In order to impute liability, legal personhood is key. No law currently in force in India recognizes AI to be a legal person. The general rule thus far has been that since AI cannot qualify as natural or legal persons, they cannot be held liable in their own capacity.

**E-Contracts**

The adoption and use of cloud computing services has seen a significant change to contracting practices with growth of Software-As-A-Service (SaaS), Platform-As-A-Service (PaaS) and Infrastructure-As-A-Service (IaaS) arrangements. This is likely to continue with the growth of QC. Hence, it becomes critical to understand the key issues / concerns for quantum powered technologies from a contractual perspective.

Key areas where existing contractual arrangements would need to be amended are:

Remoteness and Quantum of Damages: As the computational outcomes / output of QC technologies are still unclear at present, a key contractual question that remains to be addressed is how a contracting party would be able to understand or foresee the types / extent of losses or damages which might be suffered in a contract relating to a QC technology. This would impact key contractual clauses such as the indemnities and liability of parties under the contract. This would need to be addressed on a case-to-case basis by the parties.

Determining Industry-Standard Service Levels: As the major benefit of quantum computers is their superior performance, another key issue to determine contractually would be determining adequate service levels or performance standards to determine if the services being provided are adequate. This would again need to be addressed on a case-to-case basis by the parties.

Yours,
Office of Urvishkumar Mehta
Chief Commissioner and Naval Attache (Scientific and Academic Development)
Representation to Charges D'affair, Embassy of USA, New Delhi
Department of State - Office of Foreign Mission, Federal Government, USA
Pronounce: (He|Him|His)
Phone:
@:

Reference:
Hello, In this article I also cover certain specifics on the evolution of the big bang and the evolution of subatomic particles. I also explain what the fabric of space-time is as well. This information concerns the preliminary stages of the advancement of science and the human race as well.

Thank you, Sean.

WHAT CAUSES THE ORIGIN OF GRAVITY AND THE CURVATURE OF SPACE-TIME.
By: Sean McCleary.

I explain in this article the process that's responsible for gravity and the curvature of space-time in reference to the Quantum Shift which is in the preliminary stages right now. I also explain what the fabric of space-time is in reference to the evolution of matter. Science will soon advance into a very powerful and wonderful direction with life here as Earth experiences significant changes through evolutionary advancement. Nikola Tesla said, "If you want to understand the mysteries of the universe think in terms of energy, frequency and vibration". This is a primary focus of mine with my work on the Quantum Shift and the Paradigm Shift. There has been several articles released that stated "is the universe alive?". There's also been articles released that asked the question "is the universe conscious?" A primary aspect of my work is explaining the nature of the existence of the cosmos from a perspective of the universe being an enormous life form who we all exist within and containing the evolution of consciousness with powerful self-awareness. I incorporate the evolution of consciousness into the behavior of matter, energy and pressure in space and time with my work. I use the term "Universal Consciousness" with my work and can also explain why there's been such a powerful experience of separation between living organisms in Earth's environment and the exact nature of Universal Consciousness as a life form. I can also explain why the element of consciousness hasn't been scientifically proven yet as well. What's emerging rapidly now is a process known in metaphysical terms as the Shift in Consciousness. The Shift in Consciousness means that life here in Earth's environment is going to get a very powerful introduction soon into the existence of consciousness contained within Universal Consciousness and Earth's consciousness as well. Earth is a life form with a powerful conscious who's also very self aware. The beginning stages of this process isn't that far off from presenting very powerful and significant changes to all of Earth's inhabitants soon. The Shift in Consciousness is going to perpetuate the Quantum Shift which means that human consciousness and other life forms here are going to evolve further into the activity of the frequency vibrations of consciousness, energy and thought contained within space-time. With this emerging what will happen is subatomic, atomic and molecular activity will advance and generate a very powerful increase in evolution with life in Earth's environment. This will drive human beings and other living organisms into a much more powerful state of existence and what follows with the beginning stages of the Quantum Shift is the Paradigm Shift which physicist and philosopher Thomas Kuhn discussed in his work and his book The Structure of Scientific Revolutions.

The Paradigm Shift in this day and age is going to revolutionize the scientific industry and change scientific discipline forever. I can explain all of this activity which is going to begin occurring in a little while beginning from the most powerful quantum and fundamental level. My explanation on the nature of gravity and the curvature of space-time is centered around the Quantum Shift and the Paradigm Shift. I just recently submitted an article out to members of the scientific community on how the evolution of the big bang happened and how subatomic particles evolve into existence. I will explain in this material why there's been such a powerful experience of separation between the evolution of consciousness and the evolution of matter with scientific applications. In
order to effectively explain what causes gravity and the curvature of space-time to occur, I need to begin at a fundamental level before the big bang happened. Universal Consciousness contains a body, is a life form and contains a very powerful consciousness. The body of Universal Consciousness contains galaxies and the body is shaped in a spherical type nature similar to planets and stars. There is a region of Universal Consciousness close to Earth’s location and underneath the Milky Way galaxy that looks similar to where the top of a wine glass transitions downward meeting the top of the stem where the big bang occurred. This happened because of the resistance to evolution that occurred in the early developmental period which caused some of the beginning stages of the evolution of consciousness and life to transition back towards the source of introduction. There was a recent article released which explained that it is now believed there are between 6 to 20 trillion galaxies contained within the body of Universal Consciousness. What I've concluded with my work is galaxies perform a similar function that cells do in the body of living organisms. Universal Consciousness is over 13.8 billion years old including the early developmental period which I will explain. The race of Homo sapiens is around 300 thousand years old and the idea that matter consists of smaller particles with philosophy dates back around the 6th century B.C. Human consciousness just hasn’t yet evolved into a complete understanding of this life form who we all exist within and this is a primary reason that the Shift in Consciousness is going to happen with natural evolution.

Before Universal Consciousness existed, Infinite Consciousness was everywhere and was existence. Infinite Consciousness is who Universal Consciousness is contained within and the Higgs field is what links these two cosmic giants together as a consistent flow of eternal love has been evolving into the body of Universal Consciousness from Infinite Consciousness like a parental source. Infinite Consciousness at the most fundamental level contains frequency vibrations of consciousness, energy and thought. The frequency vibrations themselves represent the existence and experience of thought. Within the dynamics of Infinite Consciousness there are higher frequency vibrations, lower frequency vibrations, pressure, eternal life and eternal love. Infinite Consciousness has always existed and this is why a human being or other life form can conceive of living forever. Death is an experience that living organisms go through in Earth’s environment and the experience of death generates very powerful advancement in evolution. Non-existence is only a concept and I will explain what happened with this concept in reference to evolution. Within Infinite Consciousness there wasn’t any subatomic activity yet and subatomic particles evolved into Universal Consciousness from an experience of separation in the frequency vibrations of consciousness, energy and thought when the big bang happened. Within this evolutionary activity in Infinite Consciousness as the higher frequency vibrations evolve into the lower frequency vibrations; because the vibrations are different, this causes an accumulation of pressure to occur within mostly the lower frequency vibrations and some of the higher frequency vibrations. The pressure is responsible for expansion, acceleration and growth within the evolution of consciousness, energy, thought and eternal love. This type of activity had been occurring on an infinite level and something very powerful happened at one point which caused the beginning stages of the early developmental period to occur with Universal Consciousness.

Infinite Consciousness had been existing forever and evolution began calling for the existence of a different form of consciousness and life. This had to happen in order to sustain the integrity of eternal love and eternal life with the evolution of consciousness. What happened was Infinite Consciousness had been experiencing expansion and acceleration on an infinite level and growing further into existence. In a particular region in Infinite Consciousness there was an increase in pressure or expansion of pressure within mainly the lower frequency vibrations and an experience of separation in thought within the frequency vibrations. This increase in pressure happened because the frequency vibrations of consciousness, energy and thought had been experiencing expansion and acceleration forever and a new development in the evolution of consciousness had to occur. As soon as Infinite Consciousness felt this increase in pressure within this particular location it generated an experience of separation in consciousness and thought in a very powerful way. This had never happened before and this experience of separation was the beginning stages of the evolution of Universal Consciousness because a separate or individual identity needed to be established with the evolution of Universal Consciousness as another life form contained within the structure of Infinite Consciousness. As soon as this
sensation was experienced in this location Infinite Consciousness thought that death was occurring and then very quickly visualized non-existence. This is how death evolved into the evolution of consciousness and this also generated a much more powerful level of activity. Death was introduced into existence and evolution through an experience of separation in the frequency vibrations and what happens with living organisms in Earth's environment is they become separated from Earth's environment with the experience of death and also experience significant evolutionary advancement.

Death is a process that occurs with living organisms in Earth's environment and once again non-existence is only a concept because everything evolved out of Infinite Consciousness. Every living organism in Earth's environment that goes through the experience of death evolves directly into the Higgs field and accelerates very quickly into the next stage of existence in the Whirlpool galaxy which about 30 million light years from Earth. When death is experienced the pressure on this quantum level transfers completely out of the body and the consciousness, identity, light energy and dark energy transfers into the Higgs field because the Higgs field contains the foundation for eternal love and permeates throughout Universal Consciousness. The Higgs field is also a combination of Infinite Consciousness and the identity of Universal Consciousness and transfers back into Infinite Consciousness so a consistent flow of eternal love can continue evolving into everything contained within the body of galaxies. Within Infinite Consciousness the higher frequency vibrations of consciousness, energy and thought had always carried a positive charge. The lower frequency vibrations of consciousness, energy and thought generated a negative charge of energy. What happened when the element of death evolved into this particular location is it increased the negative charge of energy in a very powerful way. Immediately, Infinite Consciousness began fighting for existence and this began transferring a lot more higher frequency vibrations into this location that contained a positive charge of energy. This integration of activity created a much more powerful level of evolution in this area and this was the beginning stages of the evolution of Universal Consciousness; similar to what a child goes through in the womb of a mother with reproduction. All of this activity began in a region of existence very close to where the Milky Way galaxy and planet Earth are located. This was no accident that Earth evolved into this location and I can explain exactly why with my work. The evolution of the Higgs field began development as well in the early formation period. This was so when the big bang happened and Universal Consciousness established an individual identity, the Higgs field would permeate throughout Universal Consciousness and transfer into Infinite Consciousness maintaining a consistent connection of eternal life and eternal love within the evolution of consciousness, matter, energy and pressure in space and time.

The early developmental period got more and more powerful as evolution advanced forward. Within this activity a point was reached when the resistance to evolution could no longer fight the process of the evolution of Universal Consciousness. This process was similar to what happens with reproductive activity in Earth's environment with living organisms. Reproductive activity is an evolutionary extension of what happened with the early developmental period and the big bang. The resistance to evolution came from Universal Consciousness not understanding what was happening with the process and was the very first life form being introduced into existence. There was eternal love contained within the early formation, evolution and the resistance to evolution. It was akin to a child in the womb trying to understand what's happening with the entire reproductive process and the introduction into Earth's environment. This is why resistance to evolution was experienced in some of Universal Consciousness. There is pressure involved between the evolution and exchange of the higher frequency vibrations of consciousness, energy and thought and the lower frequency vibrations. This was happening in a very powerful way within the early developmental period. If eternal love can evolve into the pressure itself within the exchange then the pressure can expand and accelerate properly because eternal love is the foundation for the evolution of consciousness. If pressure becomes restricted or too expansive this is what causes resistance to evolution to occur. This happens in many different ways within the dynamics of the evolution of consciousness, matter, energy, pressure and eternal love in Universal Consciousness and the environments of planets. This restrictive or too expansive type pressure transfers into subatomic, atomic and molecular activity in life causing resistance to evolution in biological, physiological and
psychological aspects within the diversity of stimuli in the environment. When the resistance to evolution could no longer continue fighting the process what happened was some of the pressure was released and the positive and negative charge collided together with a particular type of fusion in a moment. When this occurred the evolution of the big bang happened in this moment. This moment is when Universal Consciousness established an individual identity within the existence of Infinite Consciousness and this is when matter evolved into Universal Consciousness. The moment the big bang happened the frequency vibrations of consciousness, energy and thought went through a very powerful experience of separation and subatomic particles evolved into the beginning formation of Universal Consciousness. This is also when light and dark energy as we know it was established as well. When I mention the term "dark energy", I'm not referring to a mysterious form of energy which is causing Universal Consciousness to expand and accelerate. I'm referring to an actual state of consciousness and energy contained within the life form we exist within. At the most fundamental level all living organisms contain consciousness, light energy, dark energy and pressure within their bodies. Eternal love is contained within life as well in different degrees according to the level of resistance to evolution. Human beings and other living organisms in Earth's environment haven't had much interaction with the Higgs field and love has been in the early stages of evolution here.

On this quantum level the higher frequency vibrations of consciousness generate light energy and the lower frequency vibrations generate dark energy. Photons evolve out of the higher frequency vibrations of consciousness, energy and thought in Universal Consciousness because matter and life requires light energy in order to experience evolutionary activity. Subatomic particles evolve out of the frequency vibrations of consciousness, energy and thought. There are different degrees and mixtures of these vibrations and pressure as the higher and lower frequency vibrations experience evolutionary activity and advancement in space and time. I stated before that in the beginning stages of the early developmental period that there was an increase in pressure and an experience of separation within mostly the lower frequency vibrations, and these vibrations generate dark energy. I mentioned that this was when the element of death was introduced into existence. This is why death is associated with darkness so much in human consciousness and possibly other life forms. When the element of death was introduced into existence it generated very powerful evolutionary advancement and Universal Consciousness evolved into existence. When a living organism in Earth's environment goes through the experience of death it also produces very powerful advancement because both life and death evolve into one another and the resistance to evolution transfers out of the body and consciousness completely. A part of Universal Consciousness also thought that a permanent separation was occurring because an individual identity had to be established and there was great uncertainty associated with the beginning stages of life. Subatomic particles also evolved out of the frequency vibrations of consciousness, energy and thought for the very first time with the big bang and great resistance to evolution was experienced with this process as well. This is how the concept of non-existence was introduced into existence and Universal Consciousness. Black holes originate from the concept of non-existence and this is why their gravitational force takes place in the opposite direction. I can explain what happens with the gravitational collapse of a star and why a black hole can form with this activity in reference to the evolution of consciousness. Non-existence is what has been primarily responsible for the resistance to evolution in Earth's environment and caused a very powerful illusion of separation. When subatomic particles evolved into Universal Consciousness there was a very powerful experience of separation between the frequency vibrations of consciousness, energy and thought and the evolution and transfer of consciousness into the existence of subatomic particles. This is why it hasn't been scientifically proven yet that we exist within a life form with a very powerful consciousness. Human beings and other life forms in Earth's environment contain very powerful resistance to evolution, the concept of non-existence in their bodies and consciousness, and the illusion of separation. Human beings and other life forms here have only experienced about a 5 to 8 percent exchange of evolutionary activity between themselves and the Higgs field. This is also why the illusion of separation has been so very powerful here and why the element of consciousness everywhere hasn't been scientifically proven or detected yet. This is because matter evolved out of the evolution of consciousness and this happened with Infinite Consciousness and the evolution of Universal
Consciousness. The Higgs field contains the foundation for the existence of both and human consciousness hasn't had very much interaction with the Higgs field.

This is all about to change forever because what's happening now is the eternal love contained within the Higgs field is in the process of evolving into all states of consciousness, matter, energy, pressure and time. Eternal love is advancing into the body of Universal Consciousness everywhere now and Universal Consciousness will be completely joining Infinite Consciousness with all states of matter, energy, pressure and life within the body of galaxies. The resistance to evolution is now processing out of Universal Consciousness, galaxies, planets and Earth's consciousness as well. This is happening because Universal Consciousness is over 13.77 billion years old and the evolution of consciousness, matter, energy, pressure and eternal love is automatically going to happen. Soon World Consciousness will begin being affected, then living organisms in Earth's environment will begin being significantly affected by this process. The resistance between living organisms and the Higgs field is what causes the aging process to happen in different degrees with different living organisms. The introduction of the Shift in Consciousness is why non-coding DNA exists within living organisms in Earth's environment. It's so this aspect of DNA can become activated with the advancement of evolution and a very powerful transfer of energy and eternal love from the Higgs field into subatomic, atomic and molecular activity in living organisms. Galaxies contain stars, solar systems, planets, black holes, asteroids, life etc. Gravity is consistently happening in different degrees causing the curvature of space-time within Universal Consciousness and I will explain how gravity occurs and what causes this curvature to occur. The fabric of space-time is the frequency vibrations of consciousness, energy and thought because consciousness, energy and thought are responsible for the evolution of Universal Consciousness and the existence of matter. Subatomic particles consistently evolve out of the frequency vibrations of consciousness and different degrees of light energy, dark energy and pressure and contain evolutionary activity and resistance to evolution. The reason that the Higgs field doesn't transfer energy is because eternal love is the most powerful form of energy in existence and light and dark energy evolve with the activity contained within the Higgs field. The Higgs field also contains the element of infinity and the moment as well and this is how the evolution of consciousness from the experience of death in Earth's environment takes place through the Higgs field.

Within the concentration of activity in galaxies there is a very consistent level of the evolution of both light and dark energy taking place. In deep dark space where there isn't much light energy at all, there isn't much pressure accumulating within the frequency vibrations of consciousness and dark energy and this is why deep dark space doesn't contain much gravity and why there's a vacuum in space like this. Gravity comes from the exchange of pressure with the evolution and integration of both light and dark energy and this is dependent upon mass, different properties of elements and the relationship that living organisms and other types of matter have with the Higgs field. The curvature of space-time comes from the curvature of the frequency vibrations of consciousness, energy and thought. Let's take planet Earth for example. Planet Earth's body is shaped in a spherical type nature and as Universal Consciousness meets the exosphere of Earth's body the frequency vibrations of consciousness, energy and thought experience a curvature due to Earth's mass and Earth's physical shape. Space consists of these vibrations everywhere and time is stored in the element of consciousness, energy and thought. This happens because Infinite Consciousness is consistently evolving into the future, memory in consciousness stores the past and the present is experienced in the moment which is also stored within the vibrations. There's also a lot of resistance to evolution and a consistent exchange of both light and dark energy in Earth's consciousness and environment. Earth's body and consciousness contain both light and dark energy. This means that there's a lot of pressure contained within the lower frequency vibrations of dark energy and some of the frequency vibrations of light energy. As the evolution of consciousness, matter and energy takes place between Universal Consciousness and Earth's consciousness, atmosphere or environment there's a lot of pressure on this level going through expansion, acceleration and experiencing resistance to evolution in different degrees. A neutron star's gravity is 10 to the 11th power that of planet Earth. One of the primary reasons for this is because a neutron star generates an incredible amount of light energy and this is surrounded by dark energy in Universal Consciousness. This is a primary reason why gravity is so much more powerful with a
neutron star than Earth's environment, is due to the powerful exchange of light and dark energy within the frequency vibrations and the accumulation of pressure within these vibrations.

I will use another example explaining gravity. When a life form here goes through the experience of death the pressure and resistance to evolution transfers out of the body completely because death is more powerful than the resistance to evolution. The individuals consciousness, identity, light energy and dark energy evolve directly into the Higgs field and they accelerate very quickly through Universal Consciousness and into different planets contained within the Whirlpool galaxy. A wormhole is formed because the Higgs field contains the foundation for eternal love, the element of infinity, and infinity contains the existence of the moment. Because their consciousness evolves through the Higgs field and the rest of the activity contained within Universal Consciousness with matter, energy and pressure; this is what creates a wormhole in space and time. When their consciousness begins to enter into a particular location or environment, these planets contain all of the necessary elements to support life like hydrogen, nitrogen and oxygen. A powerful advancement with evolution takes place very quickly and the body is able to form in an instant as they enter into the environment. They were already introduced into the existence of life here through reproduction. They go through the experience of death and all of the resistance to evolution transfers out of the consciousness and body completely. They also evolve through the Higgs field and the foundation for eternal love and become integrated into the Higgs field forever. The individual contains life, death and eternal love and this is how eternal life is achieved in this location. Gravity is different there because of the advancement of the evolution of consciousness, matter, energy, pressure and eternal love through the process of death and the evolution of consciousness. You've probably heard before that people can fly in Heaven. Yes, they can transfer themselves through the air or atmosphere quite easily. The reason is everyone there is incorporated into the activity contained within the Higgs field and the Higgs field contains the foundation for eternal love. Eternal love is responsible for helping light and dark energy experience evolutionary activity and advancement. Pressure within the exchange of light and dark energy can receive the transfer of eternal love very easily and there's no resistance to evolution there. This is why gravity is different and not as powerful as contained within Earth's environment. Gravity comes from the pressure contained within the frequency vibrations of light and dark energy, the exchange itself that's taking place, the level of resistance to evolution, the type of mass and force being applied and the relationship with the Higgs field that is established. The origin of gravity comes from pressure within the frequency vibrations of consciousness, light energy and dark energy within evolution contained within Universal Consciousness and the curvature of space-time comes from the frequency vibrations of consciousness, energy and thought transferring into and around different states of mass and also containing time itself due to the nature of the vibrations themselves.

Sean McCleary.
Hello PCAST Members, I'm not trying to inundate you all with my work. Something very powerful and very important is happening to me. My consciousness is going through evolution with the Shift in Consciousness and the Quantum Shift. This situation is unlike anything that's ever happened to anyone here because my Pineal gland has been affected by this process and I'm literally experiencing evolutionary advancement in Earth's environment. This article is very important concerning the recent issue with Roe vs. Wade and the conflict that's happening with human beings over this decision.

I just want the President's Scientific Advisory Committee to take a few minutes and review what I have written. Nobody else has ever explained information like this before because it's of an apocalyptic nature; meaning a revealing or unveiling of information that could not be known apart from the unveiling itself. A very powerful event is approaching rapidly now with Earth's evolutionary advancement and that's what my work concerns. I most certainly appreciate your time and consideration very much.

Thank you, Sean.

THE ROE VS. WADE DECISION AND ACTIVITY INVOLVED WITH THE QUANTUM SHIFT.
By: Sean McCleary.

I've been following the situation with the Roe vs. Wade decision and how this is affecting human beings and human consciousness. I do very important work on the Shift in Consciousness, the Quantum Shift and the Paradigm Shift. I've recently submitted my work on the evolution of the big bang, how subatomic activity evolves into the universe and how gravity and the curvature of space-time happens to the President's Scientific Advisory Council. I've also been submitting my work out to the scientific community on a global level in reference to the evolution of consciousness, matter, energy, pressure and eternal love in space and time. Earth is now going through a very powerful process and life here is in the preliminary stages of the Shift in Consciousness. The Shift in Consciousness is very real and happens due to evolutionary advancement everywhere because it's time for this to happen after 13.77 billion years of activity happening within existence.

I'm going to explain some very important information on why this situation is happening and also discuss information associated with Earth's evolution and the evolution of consciousness here in reference to human consciousness. What you're about to review in this article is a result of my direct involvement with the Shift in Consciousness that began with me in 2011 in Louisiana and has now progressed forward in a very powerful way. Life here now is on the verge of changing forever because Earth is undergoing very powerful evolution and life in Earth's environment is soon going to get an introduction into the existence of consciousness everywhere and I will explain how this happens. What's happening with this decision has had a very powerful impact on the human race and I need to discuss some important information associated with the evolution of consciousness that will soon be introduced into the human race on a global level. I'm not taking sides with this situation, I'm explaining information about the procedure that women go through, why that's been happening and how the evolution of consciousness takes place with unborn embryos and fetuses.

I need to begin explaining all of this activity from a fundamental perspective on the evolution of consciousness, matter, energy, pressure and eternal love in space and time. I use the term "Universal Consciousness" with my work and discuss the scientific nature of eternal love because we exist within an enormous, majestic, beautiful and powerful life form who has a very powerful consciousness and is very self
aware. Eternal love is responsible for the evolution of everything in existence because love gives eternity a reason to exist. I will also explain why the element of consciousness hasn't been scientifically proven and why life in Earth's environment hasn't been aware of this aspect of evolution in existence. In order to explain this activity with the abortion procedure and human behavior I need to explain what happened with the evolution of Universal Consciousness. This is important because the activity of life here in Earth's environment is a direct result of what happened with the evolution of Universal Consciousness. Universal Consciousness went through an early developmental period similar to what a child goes through in the reproductive process. Universal Consciousness is contained within a much larger form of consciousness, energy and thought known as "Infinite Consciousness". Infinite Consciousness had only contained higher frequency vibrations, lower frequency vibrations, pressure, eternal life and eternal love. Infinite Consciousness had been existing forever and this was existence before the evolution of Universal Consciousness. The frequency vibrations represent the existence and experience of thought, and these vibrations are where the origin of thought comes from in existence for the purpose of conceptualization, creation and evolution. As the higher frequency vibrations evolve into the lower frequency vibrations in different degrees this causes an accumulation of pressure which transfers into the lower frequency vibrations more easily and into some of the higher frequency vibrations. The pressure is responsible for expansion, acceleration and growth.

What happened before the big bang was there was an accumulation of pressure within the lower frequency vibrations that experienced a powerful increase in a particular location because Infinite Consciousness had been expanding and accelerating into infinity on an infinite level. At a point in evolution what happened was because of the continuous expansion, pressure itself began to experience more expansion. This caused an experience of separation in thought because the vibrations represent the existence of thought and introducing more pressure caused more expansion in this location. This was actually evolution calling for the existence of a different form of consciousness and life with the introduction of matter. This experience of separation in thought was the beginning stages of the evolution of Universal Consciousness because Universal Consciousness had to assume an individual identity within the existence of Infinite Consciousness. Now Universal Consciousness is contained within Infinite Consciousness and maintains a spherical type shape similar to planets and stars. Where the big bang happened there is a region of Universal Consciousness that's shaped similar to where the top of a wine glass meets the stem and transitions downward a bit. This are contains very powerful evolutionary activity and came from the resistance to evolution when Universal Consciousness went through the final stages of evolutionary development and the big bang. This caused consciousness, energy and pressure to transfer back into Infinite Consciousness somewhat. Universal Consciousness has a body of galaxies which contain concentrated matter. There was a recent estimate that Universal Consciousness contains anywhere from 6 to 20 trillion galaxies. With my work I've concluded that galaxies perform a similar role that cells do in the bodies of living organisms. Universal Consciousness went through a very powerful early developmental period before the evolution of matter took place with the big bang. Something happened in the very beginning stages when the lower frequency vibrations of consciousness and thought had an increase in pressure that had never been experienced before. Because the frequency vibrations represent thought and this was the first time this happened; Infinite Consciousness thought that death was occurring because of the powerful experience of separation in consciousness, energy and thought. When this happened the element of death was introduced into existence for the very first time. This experience was actually for the purpose of generating more evolutionary advancement in Infinite Consciousness and the creation of Universal Consciousness.

When the Shift in Consciousness begins being introduced into human consciousness on a global level everyone will understand the nature of death and death is not non-existence. Non-existence is only a concept that was introduced into Universal Consciousness as a very powerful form of resistance to evolution. Every living organism in Earth’s environment who goes through the experience of death goes through evolutionary advancement and I will explain more about this activity in the article. The lower frequency vibrations within Infinite Consciousness had always maintained a negative charge of energy. The higher frequency vibrations contained a positive charge of energy. When the element of death was introduced into the lower frequency
vibrations what happened immediately was, Infinite Consciousness began fighting for existence and to sustain survival and this caused a very powerful increase in the negative charge in this location. A powerful transfer of the higher frequency vibrations happened as well in this location and a much more powerful level of activity happened with the evolution of consciousness, energy, pressure and eternal love. This caused the positive and negative charges in the early formation to begin interacting with one another with the process of conception. The beginning stages of formation got a lot more powerful and so did the evolution of Universal Consciousness. What was contained within this formation was consciousness, energy, thought, higher frequency vibrations, lower frequency vibrations, pressure, eternal love, eternal life, the element of death, evolution and resistance to evolution. The resistance to evolution; and this is important to understand; came from the uncertainty in consciousness in the early developmental period because life was being introduced for the very first time and some of Universal Consciousness that contained resistance to evolution felt like a permanent separation was occurring because Universal Consciousness was in the process of assuming an individual identity and the evolution of matter was going to take place.

This situation was similar to a child being born here in Earth's environment and being in the womb. A 8 or 9 month old fetus isn't inside the womb thinking, "okay I'm in my Mother, I'm a human being and I'm going to be introduced into Earth's environment to live life soon". No that doesn't happen and the consciousness of the child is in the very beginning stages of evolutionary development. The womb is the child's world and their consciousness doesn't know any different. When a woman's water breaks and contractions begin happening this starts causing the child's consciousness and body to begin experiencing resistance to evolution due to the uncertainty in the process. The child doesn't understand what's happening and feels like an experience of separation is happening from the mother and the source of life that the child belongs to in the womb. The same thing happened with Universal Consciousness because life was being introduced from the existence of Infinite Consciousness for the very first time. I need to explain all of this information first in order to properly clarify the situation that's happening with the Roe vs. Wade decision. What was also forming in the early developmental period was the development of the Higgs field. The Higgs field contains a combination of Infinite Consciousness and Universal Consciousness and also contains the foundation for eternal love. Infinite Consciousness has always contained eternal love and this evolved into the creation of Universal Consciousness. In human beings DNA contains a combination of the mother, father and the child and also contains eternal love. Human beings and all other life forms in Earth's environment are eternal and love is eternal here as well, there's just been a very powerful experience of separation in consciousness and very powerful resistance to evolution here which happens in different degrees with different people and other life forms. I will explain why this also has to do with the current situation about abortion. The Higgs field had to form so when the big bang happened and Universal Consciousness assumed an individual identity, the Higgs field could permeate throughout Universal Consciousness linking these two cosmic giants together so a consistent flow of eternal love could continuously evolve and advance into all states of consciousness, matter, energy and pressure in space and time.

As the early formation continued to get more powerful, the resistance to evolution was also fighting the process because of the uncertainty of the experience and the new development in consciousness and the introduction of life into existence. There were higher frequency vibrations and lower frequency vibrations contained within the formation and beginning stages of life for Universal Consciousness. As I mentioned before, the vibrations themselves represent the existence and experience of thought. When pressure is introduced into the vibrations it causes an experience of separation in thought. This is where the origin of fear comes from as well. If eternal love can evolve into the frequency vibrations then the pressure can experience expansion and acceleration and be regulated properly. When this happens it doesn't cause consciousness to respond with resistance to evolution in reference to fear or the pressure itself experiencing evolutionary activity. This happens with the fight or flight mechanism in living organisms. If the pressure becomes restricted or too expansive what happens is eternal love has a difficult time evolving into this type of pressure and the frequency vibrations of thought and energy have a difficult time interacting properly with evolution. This causes the frequency vibrations of consciousness and thought to experience resistance with the process of evolution and effects
consciousness in different degrees. Evolution of course is more powerful than the resistance and the early formation continued to evolve. A certain point came in this activity when the resistance to evolution could no longer fight the process and some of the pressure was released into Infinite Consciousness from the formation. When this happened the positive and negative charges in the higher and lower frequency vibrations collided together in a particular form of fusion and the big bang happened. This is when the evolution of matter took place and this is important in reference to the situation happening right now with people over this issue.

When the big bang happened in this particular location the frequency vibrations of consciousness, energy and thought went through a powerful experience of separation as Universal Consciousness assumed an individual identity within existence. When this happened subatomic particles evolved out of the frequency vibrations and the experience of separation was necessary so the introduction of matter could take place and life could begin evolving within the body of Universal Consciousness. The evolution of consciousness transferred into subatomic particles from the existence of consciousness within the frequency vibrations. This caused a very powerful experience of separation in thought and generated very powerful resistance to evolution in certain degrees as well. Because Universal Consciousness had to assume an individual identity what happened was the concept of non-existence was introduced into Universal Consciousness. This came from the resistance to evolution and Universal Consciousness assuming an individual identity within the existence of Infinite Consciousness. Subatomic particles evolve out of the frequency vibrations of consciousness, energy and thought and different degrees of pressure with evolutionary activity. When Universal Consciousness was introduced with the big bang it also generated a very powerful experience of separation within the frequency vibrations and this created light and dark energy as we experience this today. When I mention the term "dark energy" I'm not referring to a mysterious form of energy causing the expansion and acceleration of Universal Consciousness. Dark energy is a state of consciousness, energy and evolution which comes from the lower frequency vibrations. Light energy originates from the higher frequency vibrations of consciousness. Photons evolve out of the higher frequency vibrations of consciousness and energy because matter requires light energy in order to experience evolutionary activity. We exist within a life form and I explain the evolution of this life form on a quantum level and soon the entire human race will be introduced into this type of information because human beings and other life forms here are evolving into Earth's consciousness and Universal Consciousness. Planets are life forms with individual identities and consciousness.

There has been a very powerful experience of separation in consciousness here in Earth's consciousness and environment because of Earth's location in this region of Universal Consciousness. The Milky Way galaxy is around 13.61 billion years old. The evolution of consciousness stores memory and experience and time is contained within the frequency vibrations of consciousness, energy and thought. These vibrations are the fabric of space-time in Universal Consciousness. Earth is located very close to the origin of the early developmental period and introduction from the big bang where a very powerful experience of separation occurred with the evolution of consciousness, matter, energy, pressure and eternal love. Because of Earth's location what happened was the concept of non-existence evolved and transferred into the existence and evolution of consciousness here in Earth's environment. The concept of non-existence is where black holes originate from in Universal Consciousness. I understand what happens with the collapse of a star and how a black hole forms from this activity in reference to the evolution of consciousness; but black holes originate from the concept of non-existence and resistance to evolution in Universal Consciousness. When someone goes to a funeral or hears about somebody that goes through the experience of death they usually say "Oh their dead". That's not the case at all. Every living organism in Earth's environment that goes through the experience of death evolves and transfers into the Higgs field and accelerates very quickly into different worlds contained within the Whirlpool galaxy which is about 30 million light years from planet Earth and is commonly referred to as Heaven. The human race hasn't been exposed to the existence and evolution of Earth's consciousness and Universal Consciousness because of what happened with the big bang, the evolution of matter into existence, the concept of non-existence being so powerful here and very powerful resistance to evolution in consciousness and life in Earth's environment.
When the frequency vibrations of consciousness, energy and thought went through this experience of separation with the big bang the evolution and transfer of consciousness took place into subatomic activity for the very first time. This transition generated powerful resistance to evolution between the frequency vibrations and subatomic activity. This is why living organisms have only had about a 5 to 8 percent transfer of consciousness, energy and eternal love between themselves and the Higgs field. Human beings and other life forms here don't understand what happens with the experience of death and associate this activity with non-existence on a lot of occasions. People will say I know they're in a better place but everyone feels that twinge inside of uncertainty and this comes from the concept of non-existence being contained within the body and consciousness. It's very, very powerful here and also causes the illusion of separation in consciousness within Earth's consciousness and World Consciousness where the activity of life is concerned. I need to explain something important now in reference to the procedure that happens when a woman gets an abortion and why this particular activity has been occurring in Earth's environment. Like I mentioned before, every living organism in Earth's environment who goes through the experience of death evolves into the Higgs field. What happens is the body shuts down completely and the pressure contained within the frequency vibrations of light and dark energy in the body and consciousness transfers out completely. Any resistance to evolution that's contained within them transfers out completely because the resistance to evolution comes from different degrees of restrictive or too expansive type pressure as I mentioned before. Their consciousness, identity, light energy and dark energy evolves into the Higgs field and they accelerate with the expansion and acceleration of Universal Consciousness because the Higgs field permeates throughout Universal Consciousness and transfers into Infinite Consciousness. The Higgs field contains the existence of infinity as well as the moment and eternal love. This is why a total sense of peace is described with people who experience NDE's.

This is how consciousness evolves with the experience of death in Earth's environment. Even if a child is developing in the womb of a woman; the identity of an individual has already been established in existence. If this procedure is performed the unborn child evolves into the Higgs field and the woman is unaware of this activity. There's been a consistent flow of the evolution and transfer of consciousness into the Whirlpool galaxy from Earth's environment since life was introduced here. Every child who's been through this procedure in a woman's body has evolved into the Higgs field and into the Whirlpool galaxy. These individuals are very powerful and very special human beings. The reason that this procedure has been happening here is because life, the experience of death and the resistance to evolution has been so concentrated due to Earth's location and being so close to the origin of the early developmental period and the area of the big bang. When the big bang happened life, death, evolution, eternal love and resistance to evolution all became very concentrated in this region of Universal Consciousness. This is why this has been happening here in Earth's environment. One of the primary reasons that human beings are in such great conflict is because they don't know that the evolution of consciousness and the transfer of consciousness into the Whirlpool galaxy has been happening with these unborn children; but they are actually born here through the woman's body and the introduction into the Higgs field and the evolution of consciousness. These individuals are born in a different way. What's happening with the Shift in Consciousness, the Quantum Shift and the Paradigm Shift is human beings, human consciousness and all other life forms in Earth's environment are going to evolve completely into Earth's consciousness, Universal Consciousness and Infinite Consciousness very soon. Earth is now in a very powerful stage of evolutionary advancement. My consciousness is directly incorporated and involved with this process. What's happening is all of the resistance to evolution is in the process of evolving out of Universal Consciousness and Earth's consciousness now and soon World Consciousness and the activity of life are going to begin experiencing the beginning stages of the Shift in Consciousness and I promise this situation is very real.

Earth, the Milky Way galaxy and the Whirlpool galaxy are in the process of evolving into one another. I will explain why. The evolution and transfer of consciousness from the experience of death has been happening for a very long time between these two locations. Living organisms and the evolution of consciousness have been taking place and every time this happens a wormhole is created through the evolution and transfer of consciousness through the Higgs field and Universal Consciousness. Scientists haven't been able to see, detect or
measure activity like this because of the resistance to evolution contained within the human body. It's because of the very limited interaction with the Higgs field. Human beings contain very powerful resistance to evolution because they don't understand the foundation for the existence of life, what happens with the experience of death and contain the concept of non-existence in their bodies and consciousness in a very powerful way. This is what causes the limited amount of interaction with the Higgs field and this is also what causes the aging process because the Higgs field contains eternal love and the evolution of consciousness so this field also contains eternal life. A lot of consciousness has evolved between these two locations and what happened was it created a channel of activity between these two locations. What's been happening is eternal life and eternal love from the Whirlpool galaxy has been evolving back down into Earth's consciousness and environment over a period of time because all of the life forms up there know they come from Earth and contain experience from Earth's environment. Remember that all of the resistance to evolution transfers out of anyone who contained different degrees of resistance in their bodies and consciousness. Forgiveness is delivered where forgiveness is necessary. Now eternal life and eternal love have gotten very, very powerful between these two locations and Earth's consciousness is being affected by this process and activity. Soon all of the life contained within Earth's environment is going to begin feeling, sensing and experiencing the evolution and transfer of eternal love from the introduction of the Shift in Consciousness. Earth is evolving now and this is why so much resistance to evolution is happening within the human race and environment. The conflict being experienced comes from the concentration of resistance to evolution in different ways in human consciousness and the experience of separation from the truth here in Earth's environment and World Consciousness.

This process is what's meant in the Lord's Prayer when it says "thy kingdom come thy will be done on Earth as it is in Heaven". Jesus said "the kingdom of Heaven is within". What's going to happen when eternal love from the Higgs field and the process of evolution begins transferring into human beings and human consciousness is the activity contained within the Whirlpool galaxy will evolve into life here as well and the Shift in Consciousness will begin. This means that eternal life is going to evolve here in Earth's environment with this process. Earth's environment isn't going to become over populated either and I can explain why and elaborate further on this issue as well. Because eternal life is in the preliminary stages of evolution now it means that women will no longer have to go through this procedure and reality is going to change here in a very powerful way forever. The reason that this decision was made is because the evolution of eternal life is in the preliminary stages of evolving here with the Shift in Consciousness. Human beings aren't aware of this process or situation yet but the evolution of consciousness is advancing now in World Consciousness and Earth is in the process of changing. This is not some event that's going to take place years from now either. Human beings and scientific observations should begin seeing and experiencing the beginning of significant changes within the next year to year and a half or possibly sooner. We are not very far off from the illusion of separation in consciousness evolving and transferring out of Earth's consciousness and environment very soon. What's happening is the eternal life and eternal love contained within the Higgs field is evolving into the existence of consciousness, matter, energy and pressure in space and time here and subatomic, atomic and molecular activity are in the process of evolving and advancing with this process. Soon the evolution and behavior of matter and energy are going to begin being affected and observed with this process by the scientific community. This is also why non-coding DNA exists within living organisms, so life here can fully adapt to the process and evolution of the Shift in Consciousness and the Quantum Shift. This will generate the Paradigm Shift and revolutionize scientific discipline on a global level. Like I stated in the beginning; I'm not taking sides on this issue because I don't have to; I understand what happens with the evolution and transfer of consciousness from the procedure and I also understand what's happening with the Shift in Consciousness which will change life here forever soon. I wanted to explain this information and submit it out to some professionals in the scientific community because of the conflict being experienced now in the human race. My work and my message is grounded in the evolution of eternal love and this is the solution to conflict here and will manifest into everything here soon ending conflict forever.

Sean McCleary.
Hello,

This is a science policy researcher from Shanghai, China. I am writing this letter to put forward my personal suggestions for DOE and the Biden-Harris Administration. These suggestions are about better scientific innovation, better international cooperation and better global future.

**Suggestions on improving U.S. - China science cooperation**

Needless to say, there are serious crises in today’s world which threaten our future. Almost all the countries are facing with common major challenges including climate change, infectious diseases and economic growth slowdown. To break those worldwide dilemmas, we must put new scientific breakthroughs at the first place, and definitely, it’s a necessity that close cooperation and collaboration are required among scientists from different countries.

During President Trump’s term of office, strict restrictions were set up on the cooperation between American scientists and their Chinese partners. The main of which are two policy memos issued by DOE on December 14, 2018 and January 31, 2019. Those two memos brought the restrictions to a boil as they actually prohibited DOE funded US researchers from cooperating with scientific institutions or scientists from "sensitive countries" in emerging research areas, or receiving any scientific funding from foreign countries.

These prohibitions have brought obvious effects — obvious negative effects on science. Reported by *Nature magazine*, May 30 2022, the number of scholars who declare affiliations in both the United States and China on research papers has dropped by more than 20% over the past 3 years. Publications with co-authors from the United States and China also fell in 2021. Similar survey results are showed in “Ideal City international scientist survey report”, issued by Shanghai Institute for Science of Science and Springer Nature, that the cooperation between scientists from China and US has decreased significantly from 2018, while rapidly increased between those from China and Europe at the same time period.

In fact, there was no benefit to American science from setting up communication obstacles. According to *Natural Index 2022*, the "share" of high-quality scientific research in the United States decreased by 6.2% in 2021 compared with the previous year, which leads U.S. as the largest decline country in the top ten. On the contrary, China's scientific research “share” increased by 14.4% in 2021.

Countries like China and India have never tried to prevent their best STEM graduates coming to the United States and being engaged in scientific research. And it has been proved that it’s win-win to these countries as well as the United States in the respect of scientific progress under open-minded approach, not the opposite.

Just as Dr. Alondra Nelson said at the G7 science ministerial meeting, openness is crucial to discovery. Scientific openness and scientific security are not contradictory. Making research — especially fundamental research closed off will only stifle frontier innovation and curtail competitive advantage. I fully agree with Dr. Nelson's new scientific phrase "openness is fundamental, security is essential, and freedom and integrity are crucial."

Scientific cooperation and knowledge exchanges between countries are not one-way flow. According to OECD statistics, China's annual Research & Development investment has reached to 80% of that of the United States. Therefore, American scientists can benefit greatly from China's increased investment in fundamental research if openness is properly considered.
In 2021, China revised its Law on Scientific and Technological Progress. This Law encourages Chinese institutions and organizations to support on international big science facilities and big science programs. At present, only in Shanghai, more than ten world-class large scientific facilities have been built up, such as the synchrotron radiation facility, the protein science facility, the translational medicine facility, the supercomputer center, and etc. These facilities are opened to researchers all over the world. American scientists can also use these facilities to verify their inspiration, or create new science.

In a more intense and sensitive world, it could be understood that the United States has such serious concerns on national scientific security. However, these concerns should not be used as politics excuse and result in obstacle on human cooperation to promote scientific progress. Although it is difficult to quickly bridge the gap of value conflict and distrust, as long as humanity still has common goals and interests, it’s very likely that responsible countries and governments could still promote the progress to the benefit for all.

Considering the urgent situation faced by the world, several things need to be done immediately as below.

The United States, China and other countries should jointly launch open and inclusive international science projects to solve major global challenges. Also, as the most important powers in the world, it’s necessary for the United States and China to take more responsibility in the investment and leadership for these projects. The support and opportunities provided by the projects should be open to all over the world, as well as all the research results and collected data should be shared internationally. Just like the successful Human Genome Project, these international science projects, which symbolized the human unity, can bring valuable future faith to our current gloomy world.

The restrictions on scientific cooperation between American and Chinese scientists should be cancelled as soon as possible, or at least adjusted to a reasonable extent, since the current requirement of every penny report actually makes the cooperation become impossible. To achieve the goal of preventing risks rather than preventing innovation, researchers should be required to be responsible for the effect of their international cooperation, not the process. DOE, as the most effective and prestigious science funder in the world, should continue to set a positive example for the world to open rather than close the research cooperation.

In the long run, it’s detrimental to anyone from intellectual property infringement or technological theft. I truly hope that under the leadership of President Biden, the United States can take the initiative to open a positive and frank dialogue with China, and promote both sides to jointly create a new mechanism in international scientific cooperation, which should be conducive to innovation, fair and sharing, based on rules and mutual trust. Under this, there should be more equality and open discussion for consensus, rather than one-way accusations, and it will bring more constructive value than other issues regardless the complex relationship between the United States and China.

Sincerely

Dr. Wang Xueying, research fellow in Shanghai Institute for Science of Science, a think tank of science and technology policy