MEGA JOURNAL OF CASE REPORTS

OPEN ACCESS

Research Article

Compiled Date: February 19, 2025

Quantum Metamaterial is the New Mechanism to disclose Conscious Telepathy

Abdelrazak Mansour Ali[1,*], Mohamed Abdeltawab Ibrahim[2] and Radwa Abdelrazak Ali[3]

[1]Department of Pediatrics, International Center for Population Studies & Research, Al-Azhar University, Egypt

[2]Department of Medicine, Ministry of Health, General Director of Marsa Alam Hospital, Quality Management Consultant, Egypt

[3]George Mason University, Neuroscience specialty, National Institute of Health, Research Department, USA

***Corresponding author:** Abdelrazak Mansour Ali, Department of Pediatrics, International Center for Population Studies & Research, Al-Azhar University, Cairo, Egypt

Abstract

Entanglement is a primary feature of quantum mechanics that is; if two particles, such as a pair of photons or electrons become entangled, they remain connected even when vast distances separate them, regardless of how far apart they are in space. The strange part of quantum entanglement is that when you measure something about one particle in an entangled pair, you immediately know something about the other particle. Human psyches are linked together via an unseen linkage that consists of basic shared perceptions, instincts, patterns of thinking, behavior, and a pool of common knowledge. It may function as a common information network, enabling us to connect and collect information out of time and space. It is assumed that activated specific brain regions might connect and collect the information from a common information network that is difficult to understand within the conventional time and space concept. Data indicates that an emotional link rather than physiological, biological, or genetic factors have been suggested to play an important role in the

communication of telepathic experiences between emotionally linked persons. We represent a novel mechanism that uncovers the phenomenon of telepathy which could be explained in the light of interactions between the quantum entanglement and frequency of microtubule vibrations of neurons as follows.

- Closely related individuals such as twins or the mother with her kids have identical genetic and microtubule vibrational configurations. This would significantly impose a pattern of resonance of microtubes and thus telepathic experience among the closely related, emotionally linked persons. The background of emotional bond between person's empathy has been reported as a significant indicator of their emotional dynamics.
- The resonance of the vibrational microtubules in neurons would amplify the signal of consciousness activities so that the transfer of information from the individual who is considered the sender of the signal is significantly enhanced. The receiver person would receive the robust amplified signal through the cosmic network of consciousness according to quantum entanglement mechanics because the sender and receiver persons are emotionally linked and quantumly entangled. The result is recognition of the consciousness dynamic activities of the received signal.
- In case, telepathy occurs between genetically nonrelated individuals such as friends, where the genetic microtubule configuration is not identical, it is the emotional link, and harmony resonance of microtubules that develop over time among sincerely connected friends. The long-standing intimate relationship among friends could modulate their microtubule vibrations to get harmonically tuned and resonant microtubules.

Keywords; Quantum; Brain; Microtubules; Consciousness

Abbreviations: IoT = Internet of Things; MTM = Metamaterial; MAP = Microtubules Associated Proteins; Orch OR = Orchestrated Objective Reduction

Introduction

The topic of quantum entanglement is the heart of the disparity between classical and quantum physics: entanglement is a primary feature of quantum mechanics that is not present in classical mechanics [1]. When two particles, such as a pair of photons or electrons become entangled, they remain connected even when vast distances separate them, regardless of how far apart they are in space. The strange part of quantum entanglement is that when you measure something about one particle in an entangled pair, you immediately know something about the other particle, even if they are millions of light years apart. This odd connection between the two particles is instantaneous, seemingly breaking a fundamental law of the universe. Albert Einstein famously called the phenomenon "spooky action at a distance" [2]. This strange connection between the two particles occurs instantaneously, and it seems to break Einstein's relativity that the speed in the universe does not exceed the speed of light. Because scientists are unable to determine the force that can transfer information at this astronomical speed, they called this energy the "cosmic web". Because experiments

were conducted on a pair of particles that were separated from a single particle, it is logical to apply the quantum entanglement process to all particles in the universe, including the souls of living beings, most notably humans because all particles in the universe were created from the initial particle at the "Big Bang" billions of years ago. Practical examples that can only be solved by quantum entanglement on the physical level are "the Internet of things" which encompasses electronics, communication, and computer science engineering. Internet of things" has been considered a misnomer because devices do not need to be connected to the public internet and be individually addressable [3,4]. The field has evolved due to the convergence of multiple technologies, including ubiquitous computing, commodity sensors, and increasingly powerful embedded systems, as well as machine learning [5]. Older fields of embedded systems, wireless sensor networks, control systems and automation (including home and building automation) independently and collectively enable the "Internet of Things" [6]. In the consumer market, "IoT" technology is most synonymous with "smart home" products, including devices and appliances (lighting fixtures, thermostats, home security systems, cameras, and other home appliances) that support one or more common ecosystems and can be controlled via devices associated with that ecosystem, such as smartphones and smart speakers [7].

There are several concerns about the risks associated with the growth of IoT technologies especially in areas of privacy and security [8]. Because of their interconnected nature, IoT devices are vulnerable to security breaches and privacy concerns. At the same time, the way these devices communicate wirelessly creates regulatory ambiguities, complicating jurisdictional boundaries of the data transfer [9].

Discussion

Objective data indicates that substantial percentages of the general population experience the feeling described as having undefined communication with other persons who are not in contact with them [10].

Telepathy, or Extrasensory Perception (ESP), is the perception that occurs independently of the known sensory processes. Usually included in this category of phenomena are telepathy, or thought transference between persons, clairvoyance, or supernormal awareness of objects or events not necessarily known to others, and precognition. Scientific investigation of these phenomena dates from the late 19th century [11]. Freud remained ambivalent about telepathy because of its unavoidable association with other occult phenomena, as he wanted to delimit psychoanalysis as a material science [12]. The electrical nature of the brain allows not only for sending signals but also for the receiving of electrical pulses. Two of the three subjects are designated as "Senders" whose brain signals are decoded using real-time EEG data analysis. The decoding process extracts each Sender's decision which is transmitted via the internet to the brain of a third subject, the "Receiver" who cannot see the game screen. The senders' decisions are delivered to the Receiver's brain via magnetic stimulation of the occipital cortex. The receiver integrates the information received from the two senders and uses an EEG interface to decode this information into the original words [13]. The magnetic field resulting from the action potentials created in neurons is one of the tools where the brain of one animal can affect the brain of another. Cryptochrome, which exists in the retina and at different regions of the brain, has been confirmed to perceive magnetic fields and convert magnetic fields

into action potentials. Recently, iron particles (Fe3O4) functioning as magnets have been found in various parts of the brain, and are postulated as magnetic field receptors. Newly developed supersensitive magnetic sensors made of iron magnets that can sense the brain's magnetic field have suggested the idea that these Fe3O4 particles or magnets may be capable of perceiving the brain's extremely weak magnetic field signal. These extremely weak magnetic fields could transmit vital and accurate information to another brain **[14].** Data indicates that the emotional link rather than physiological, biological, or genetic link did play an important role in the communication of telepathic experiences between emotionally linked persons. The background of the emotional bond between the person's empathy has been reported as a significant indicator of their emotional dynamics that can be affected by various drugs **[15].** Empathy is defined as the ability to sense other people's emotions, and to imagine what someone else is thinking or feeling, also called "Cognitive empathy" or "perspective taking". If we look from this point of view, it can be hypothesized that there is a thin border between empathy and telepathy **[15].** It has been recently suggested that superior cognitive empathy is associated with special abilities, indicating that people with telepathy might be able to activate specific brain regions related to the empathy circuit. Studies have already shown that the right hemispheric region of the brain plays an important role during the processes of both empathic and telepathic experience **[16-18].**

Many studies in cognitive neuroscience indicate that the processing of symbolic and unconscious components is associated with the activity in the structures of the right hemisphere. This is especially important since both the telepathic experience and cognitive emphatic abilities are localized on the same hemispheric region suggesting that there might be a functional link between the activation of the unconscious part of the brain and these exceptional abilities **[19].** Based on these data it can be assumed that activated specific brain regions might connect and collect the information from a common information network that is difficult to understand within the conventional time and space concept. This theory resembles the theory of collective unconsciousness of Jung **[20].** Transpersonal experiences are often characterized by a profound sense of interconnectedness with the world around us and sometimes the oneness with beings. These transpersonal dynamics help to explain the oscillation that occurs between aspects of consciousness, mythology, and ideology **[21].** Jung's collective unconscious theory hypothesized that human psyches are linked together via an unseen linkage that consists of basic shared perceptions, instincts, patterns of thinking, behavior, and a pool of common knowledge that may function as a common information network. Jung hypothesizes that everyone inherits a collective memory from past members of the species that contributes to the collective memory and affects other member's species in the future **[20].**

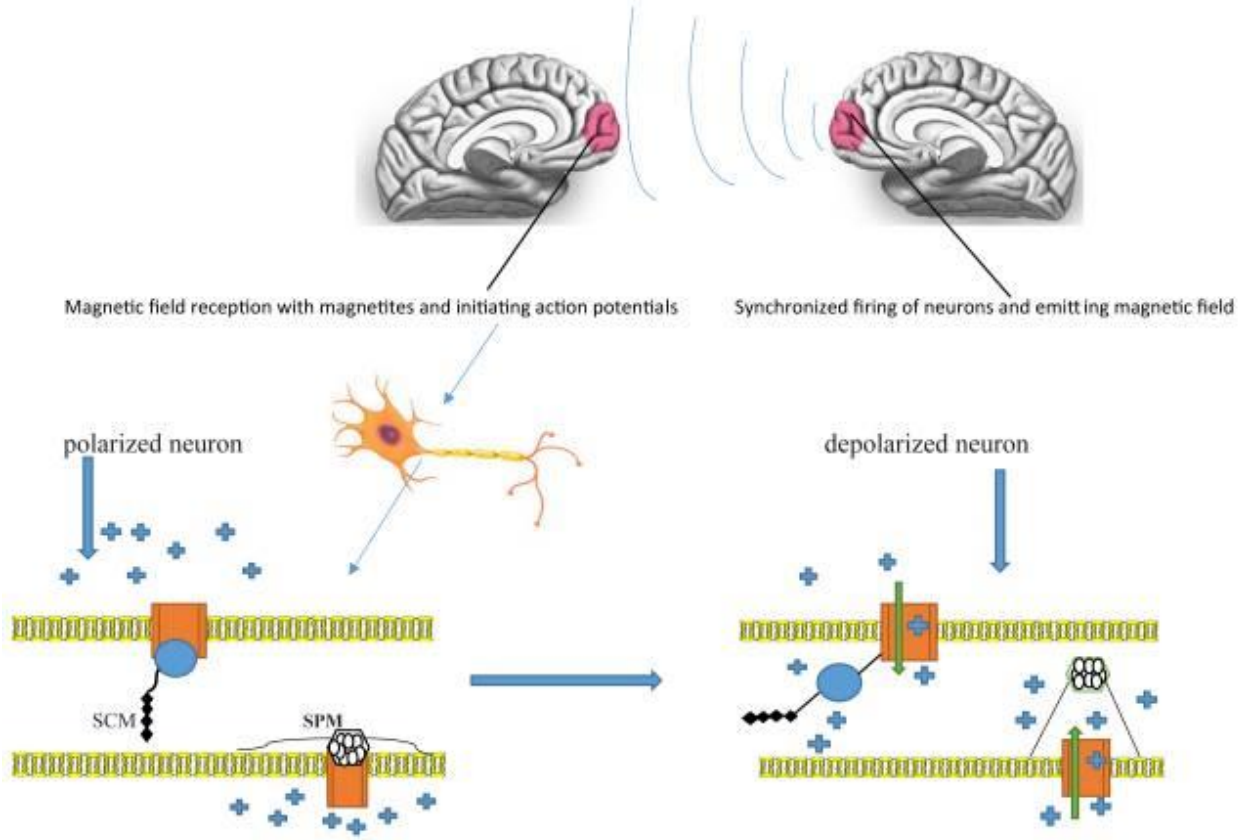

Figure 1: The brain magnetics are potentially able to recognize dramatically weak magnetic fields of the brain that have not been discussed so far.

Consciousness: Although the communication of nerve cells with each other is done through electrochemical signals, consciousness is formed due to external stimulation represented by the transfer of information from the cosmic network to the network of consciousness of the individual (which is part of the cosmic network) in a complex dynamic form that is cast, and its signals are broadcast to nerve cells. Results establish that consciousness rests on the brain's ability to sustain rich brain dynamics and pave the way for determining specific and generalizable fingerprints of conscious and unconscious states. **[22,23].** Switching between collective dynamics induces flexible reorganization of information sharing and routing patterns. Complex systems with a communication function often show characteristic dynamics, such as oscillatory or synchronous collective dynamics. Information is carried in the presence of these dynamics within and between neural circuits, living cells, ecological or social groups, as well as technical communication systems. Interestingly, local interventions within one sub-network may remotely determine nonlocal network-wide communication **[24].** A theory has recently been formulated in which space time and gravity emerge from microscopic quantum information more specifically from quantum entanglement via entanglement entropy. Perception of

and interaction with the environment requires an exchange of information. Via biochemical projection, information is given an interpretation that is necessary to make life and consciousness possible **[25].**

Entanglement could occur through qubits. A qubit is a subatomic particle, like the spins of electrons or the spins of nuclear components such as protons or neutrons. The spin of all those fermions (electrons, protons, or neutrons) could contain a positive or negative charge in individual particles. Upon entanglement of two of those particles with different charges, the result is a null charge. Spin changes could be used to look at an entangled stage. Furthermore, qubit is the basic unit in quantum computing, showing two relevant features: superposition and entanglement **[26].**

In the mid-1990s, Penrose and Hameroff suggested that microtubules inside our brain neurons *orchestrate* quantum vibrational super positions through resonance, entanglement, and memory, guiding wave function evolution to the threshold for "orchestrated OR" events to result in moments of full, rich conscious experience (more like music than random notes and tones). Sequences of such moments would give rise to our "stream of consciousness **[27].** In quantum theory, a particle does not really exist as a tiny bit of matter located somewhere but rather as a cloud of probabilities. If observed, it collapses into the state in which it was observed. Penrose has postulated that "each time a quantum wave function collapses in this way in the brain, it gives rise to a moment of conscious experience. Thus, consciousness arises when translating gravitationally induced wave function collapse in the fundamental structure of space-timeinto consciousness **[28].** The tubulin dimers have pockets that contain delocalized electrons **[29].** The electrons of the mentioned pockets could represent quantum states and become quantum superposed **[30].** Therefore, these electrons represent coherent quantum super positions called qubits. Brodziak presented the description of the recall of mental images from memory in several articles and assumed that these electrons can be quantum entangled **[31].**

In one of their first papers related to the 'Orch OR' theory, the authors presented intuitively understandable drawings **[32].** We present herein **Figures 2 and 3**, a simplified modification of these drawings.

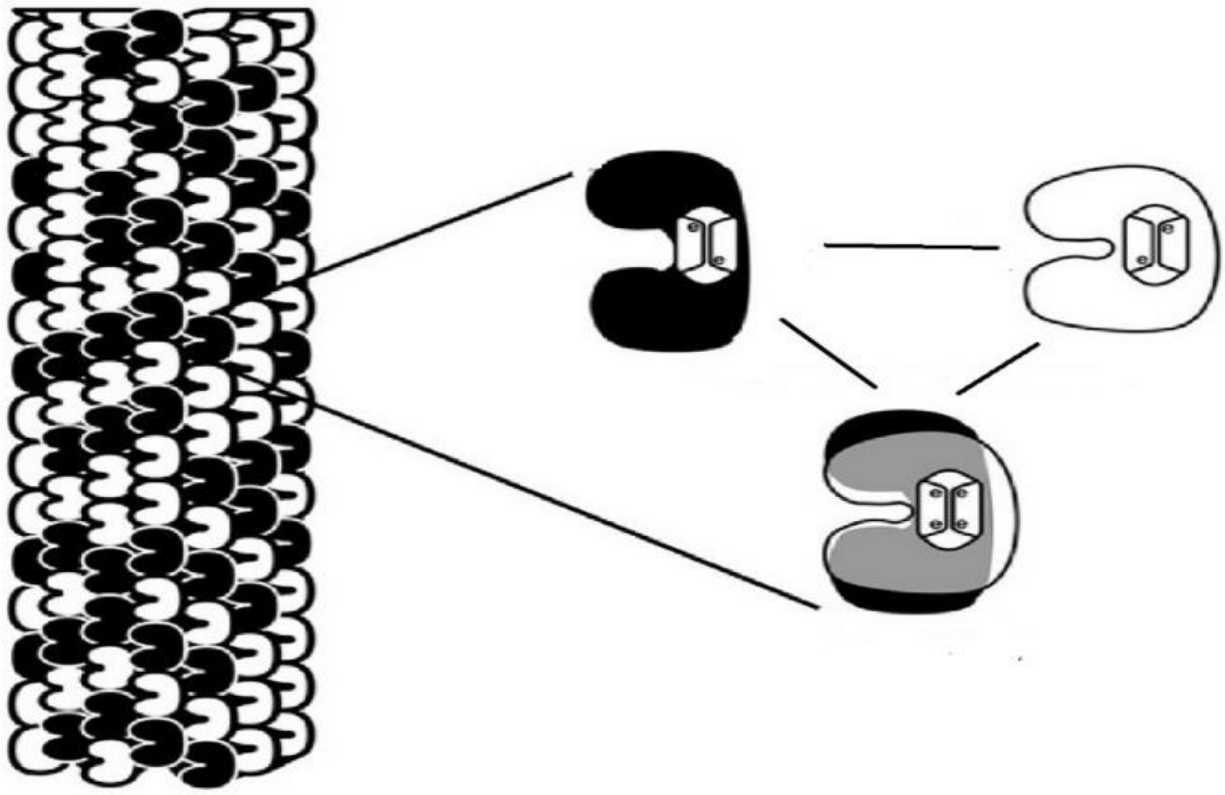

Figure 2: The brain magnetics are potentially able to recognize dramatically weak magnetic fields of the brain that have not been discussed so far.

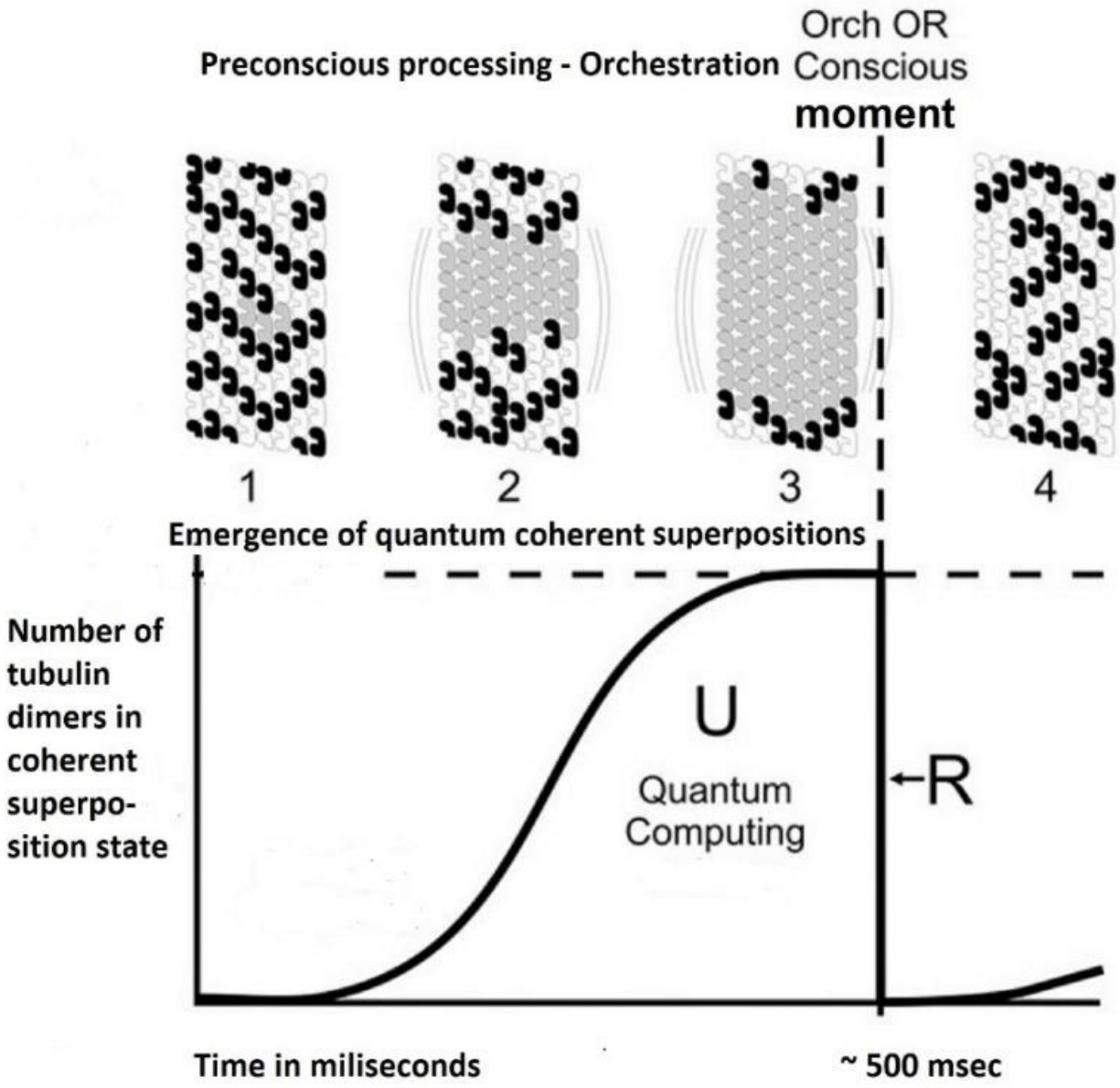

Figure 3: Symbolic illustration of the essence of Roger Penrose and Stuart Harmeroff's 'Orch OR' theory. The authors assume that in the microtubules of neurons repetitive cyclic quantum information processing is realized, which consists in increasing the quantum coherence of the tubulin dimers, interrupted by the OR operation, causing the conscious moment. In larger synchronized sets of neurons, the termination of orchestration by OR moment occurs after approx. 300 to 500 Ms.

The authors of the theory believe that the basic process that establishing consciousness is cycles of increasing synchronization, as they said 'orchestration' (Orch), which they equate with achieving quantum coherence and subsequent moments of decoherence **[33].** Denoted as the OR operation **[34-36].** Considering the processes occurring simultaneously in many neurons of the

afferent pathways, signals coming through the synapses stimulate the orchestration process and when the threshold in a particular neuron is reached, the so-called Objective Reduction (OR) occurs. This is equivalent to making a choice or decision. The obtained state is then transmitted to the axon hillock region. The quantum processing in dendritic and somatic microtubules determines axonal firings, which determines conscious behavior **[37].** An interesting consequence of the theory is that consciousness occurs based on discrete events called "conscious moments", which happen at a frequency of about 24–90 Hz. Thus, consciousness emerges as a result of discrete events like the sequential frames of a movie. This synchronization happens in the parietal and frontal lobes of the brain. It is generally known that the activity of the neural network is synchronized. The registration of EEG waves in the alfa, gamma, and delta range is a manifestation of this synchronization. Large amounts of data have also already been collected on the synchronous operation of neurons in different, sometimes distant centers of the brain, but active during specific distinguished activities. It is assessed by measurements of the so-called connectivity **[38,39].** The authors of the theory consider the phenomena which could be responsible for this synchronization. They emphasize the role of gap junctions, which exist between adjacent neurons. They assume that quantum states in the microtubules of a neuron can be enhanced by entanglements and tunneling through the gap junctions of adjacent neurons. They evidenced that gamma waves the known correlation of consciousness, rely on gap junctions. They also assume that spatially separated microtubules of different neurons can be quantum entangled.

In Orch OR, terahertz quantum vibrations originate among pi electron resonance clouds in tubulins, extending to neighboring tubulins in helical pathways reaching mesoscopic and macroscopic scales—the "quantum underground" **[27].** Terahertz quantum vibrations are proposed to resonate and interfere in a fractal-like hierarchy with self-similar dynamics spanning gigahertz, megahertz, kilohertz, and hertz frequencies across progressively larger, and slower scales into the range of EEG and cognitive events. This scale-invariant hierarchy would enable Orch OR to operate and occur at times $t = \hbar/E_G$, across multiple scales, providing a spectrum of repetitive conscious moments, and stream of consciousness, **(Figure 4 and 5).**

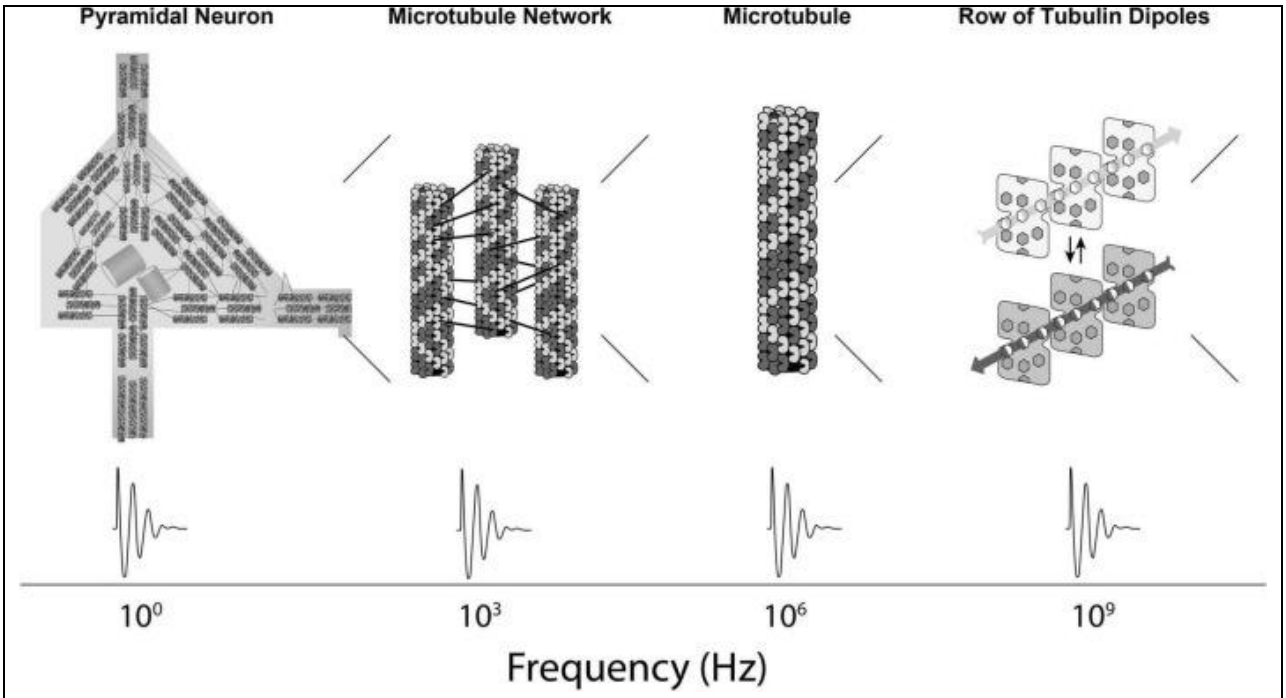

Figure 4: The first part of a proposed spatiotemporal hierarchy in which Orch OR mediated consciousness can occur, starting here inward from the level of neurons: From left to right, a cortical pyramidal neuron showing internal networks of mixed polarity microtubules, a network of mixed polarity microtubules, a single microtubule, and a row of tubulins within a microtubule with the schematic display of collective dipoles among pi electron resonance rings. Below—frequency dynamics at relevant scales.

.

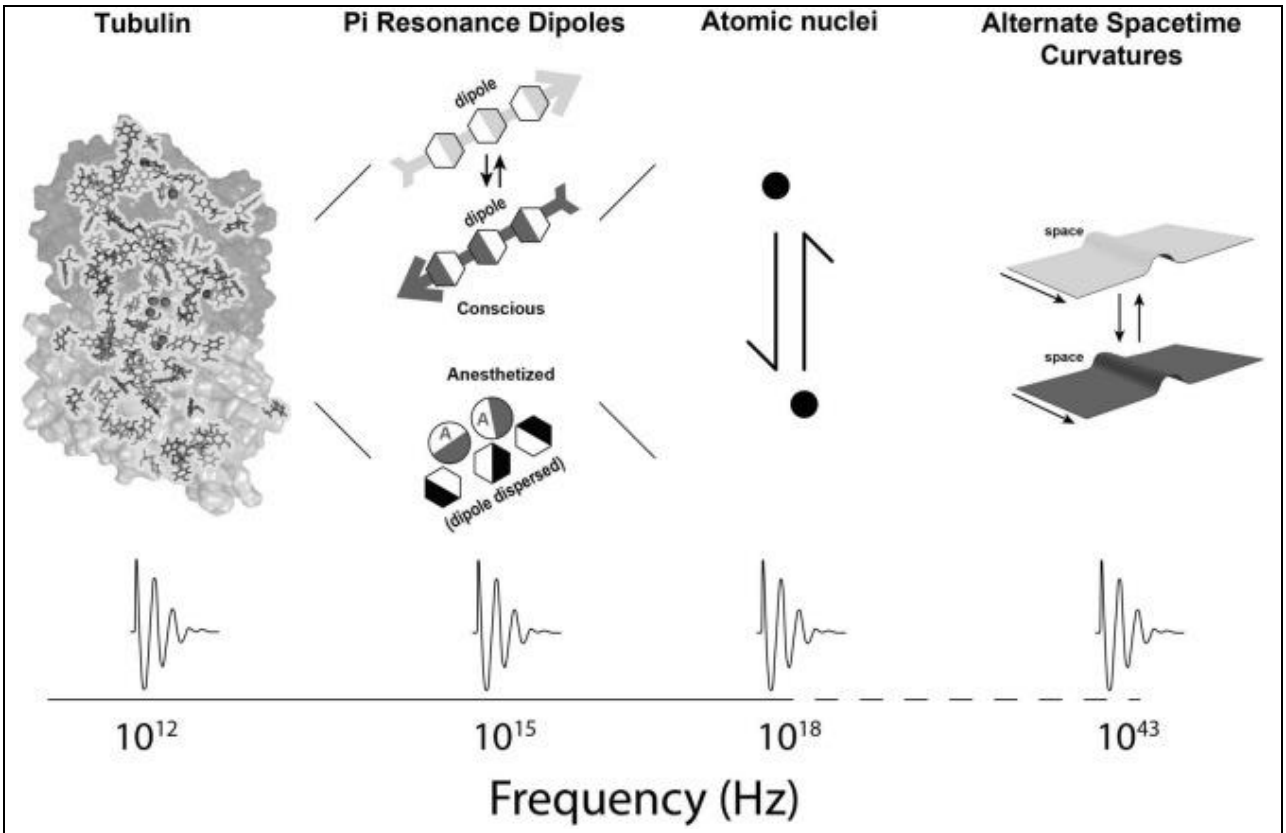

Figure 5: The second part of a spatiotemporal hierarchy in which Orch OR mediated consciousness can occur: From left to right, a single tubulin protein showing internal pi resonance amino acids, pi resonance dipoles with the effect of anesthetic gases dispersing dipoles, atomic nuclei, and (much smaller) curvatures in fundamental space time geometry. At the bottom, dynamical patterns of activity are shown at different spatiotemporal levels (hierarchical frequencies taken from **[40-45].**

Irrespective of Orch OR, information processing relevant to cognitive and conscious brain functions seems likely to extend inward in faster, smaller-scale dynamics to cytoskeletal microtubules. There is evidence for a microtubule-based, scale-invariant hierarchical system **[40-43].** When Alternating Current ("AC") electrical energy is applied to tubulin and/or microtubules, there is generally poor conductance (tubulin and microtubules are good insulators). However, at certain, specific "resonant" applied AC frequencies, conductance is extremely high, and microtubules are excellent ("ballistic") conductors. These resonant frequencies show self-similar repeating conductance patterns from the quantum world to the Electroencephalogram ("EEG"). From terahertz through gigahertz, megahertz, kilohertz, and hertz, conductance at each of these frequencies showed self-similar "triplet-of-triplet" resonance patterns. Other work indicates microtubules have endogenous oscillations in these same frequencies, which can regulate slower membrane and synaptic activities [e.g., **44,45**]. Singh et al, and Celardo et al described that microtubules may also host quantum optical states such as sub-radiance and super-radiance **[46,47].** A study demonstrated that anesthesia works by binding

microtubules inside neurons, thus providing important evidence for a quantum theory of consciousness while reviving a focus on microtubules in anesthesia **[48].** It was suggested that MTs may play a role at the cellular-molecular-quantum level in the consciousness process. electrical oscillations are an intrinsic property of brain MT bundles, which may have important implications in the control of various neuronal functions, including electrical activity that may aid and extend to higher brain functions such as memory and consciousness **[49].** Avila et al found that neuron MTs could form functional assemblies with specific frequencies that can be regulated by neuronal brain MAPs such as tau protein which has a role in consciousness disorders, such as AD. The Propofol-induced anesthesia may activate protein kinase-like GSK3β, also known as tau kinaseI, and the kinase will modify tau protein at specific residues that are found in AD, preventing the normal assembly of MTs. Thus, tau protein may play a role in consciousness **[26].** In summary. Human psyches are linked together via an unseen linkage that consists of basic shared perceptions, instincts, patterns of thinking, behavior, and a pool of common knowledge that may function as a common information network. Microtubules inside brain neurons *orchestrate* quantum vibrational super positions through resonance, entanglement, and memory, guiding wave function evolution to the threshold for orchestrated events to result in moments of full, rich conscious experience. At certain, specific "resonant" applied AC frequencies, conductance is extremely high, and microtubules are excellent conductors. These resonant frequencies show self-similar conductance patterns repeating in the brain, from the quantum world to the Electroencephalogram ("EEG"). Microtubules may also host quantum optical states such as sub-radiance and super-radiance. MTs could form functional assemblies with specific frequencies that can be regulated by neuronal brain MAPs such as tau protein which has a role in consciousness disorders, such as AD, and drug-induced anesthesia.

It has been shown that microtubules in the biological brain may achieve large quantum bit computation at room temperature which is superior in performance to conventional processors **[50].** The processes of quantum relaxation in the microtubule dipole system have been investigated. The dipole system interacts with the microtubule hexagonal lattice presented as a sum of harmonic oscillator tubulins' system. The environmental factor, which is the electric field of the microtubule, and the decoherence caused by the pseudo-spin–boson interaction has been considered **[51].** Real-time' dynamic activities within cells are regulated by the cell cytoskeleton, particularly Microtubules (MTs) which are cylindrical lattice polymers of the protein tubulin. Recent evidence shows signaling, communication, and conductivity in MTs, and models have predicted both classical and quantum information processing in MTs. Conduction pathways and possible quantum tunneling superconductivity were shown among aromatic amino acids in tubulins. The pathways within tubulin match helical patterns in the microtubule lattice structure, which represents topological quantum effects resistant to decoherence **[52].** It is demonstrated that metamaterials achieve their desired effects by incorporating structural elements of sub-wavelength sizes, i.e. features that are smaller than the wavelength of the waves. **Figure 6**, shows the striking similarity between the structures of an electromagnetic metamaterial, constructed of copper slit-ring resonators and wires mounted on

interlocking sheets of fiberglass circuit board, and a cross-section of a natural, biological microtubule [53,54]. As shown in this figure, the cross-section of the biological microtubule is very similar to the periodic structure of the artificial electromagnetic metamaterial, and we can readily suppose that the inner medium of the microtubule cylinder possesses the same metamaterial characteristics. Specifically, the characteristic of a negative refractive index, in which the generation of evanescent photons is enhanced, and they can propagate lossless inside the neurons, according to these properties of the metamaterial.

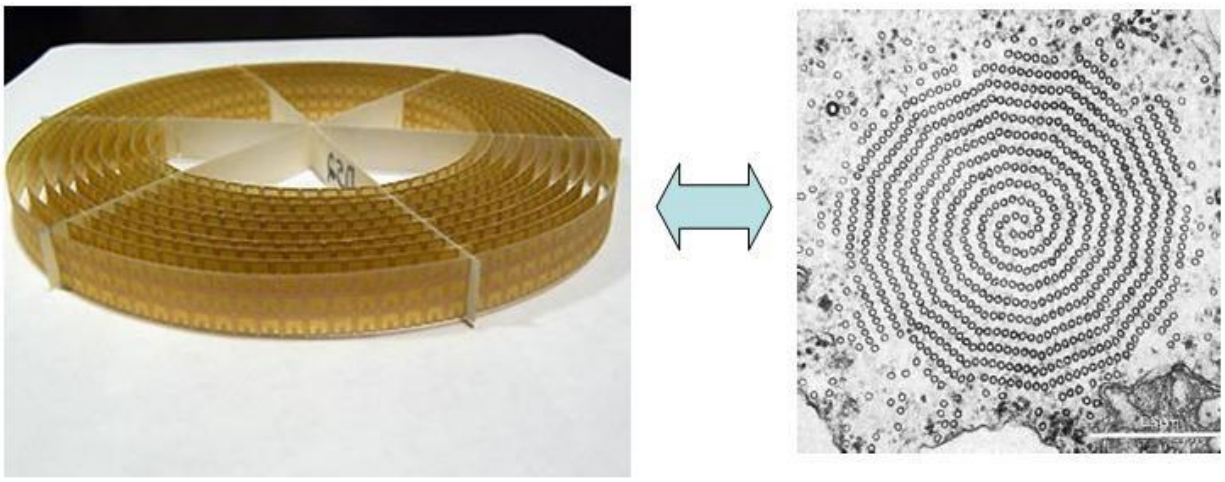

Figure 6: Similarity between the metamaterial (left figure) and the cross-section of an axoneme composed of microtubules (right figure).

Recent theoretical studies suggested the possibility that the human brain functions by using photons generated inside the brain's microtubules, behaving as quantum waveguides or resonant cavities for these photons. The substance within a microtubule cylinder has characteristics of a metamaterial composed of sub-wavelength structures. It is shown that microtubules could be used for manipulating qubits to achieve quantum computation by utilizing superluminal photons, which also permit the microtubule to manipulate the storage and retrieval of stored data in the brain [55]. In short, if the substance inside microtubules has the properties of a metamaterial, we can conclude that superluminal photons generated inside the microtubule could be used for manipulating qubits, used for a quantum computer system. Consequently, the human brain is a quantum computer system utilizing superluminal photons generated inside the microtubule. Microtubules function as a waveguide for the evanescent photons for quantum signal processing. Super radiant photons in the microtubule cavities could have a wavelength of λ = 100 nm or more suggested by Smith [56], incompatible with the length of a moderate-sized microtubule cavity, which is about 1 nm. Therefore, super-radiant emissions could not be used to signal qubits in a fashion like standing wave lasers in an ion trap computation. As an alternative mechanism, it is proposed that the cylinder formed by the microtubule cavity may have

a negative refractive index, like a metamaterial [57]. Typically, metamaterials are artificial materials, engineered to have a negative refractive index, a property that is not normally found in nature [58]. They usually gain their properties from structure rather than composition, using microscopic in homogeneities to create an effective macroscopic behavior. Negative refractive index materials appear to permit the creation of super lenses that can have a spatial resolution below that of the wavelength [59]. If the inner medium of the cylinder of microtubules possesses the characteristics of a negative refractive index, the generation of evanescent photons is enhanced, and they propagate lossless inside the neurons according to the properties of a metamaterial. The superluminal photons propagating inside the microtubules via evanescent waves could provide the access needed to record or retrieve a quantum coherent entangled holographic memory. So, the microtubule structure inside the biological brain can store memories as holograms using microtubule substrate as the storage material [60].

Microtubule cavities in the brain were acting as waveguides for photons and as holographic processors. Each tubulin molecule within each microtubule can function as a switch between two conformations that exist in the quantum superposition of both conformational states. Microtubule quantum states link to those of other neurons by quantum coherent photons tunneling through membranes in biological systems, and the cytoskeletal protein conformational states are entangled by these photons which form coherent domains in their interaction with the local electromagnetic field. They claimed that human consciousness could be understood as arising from those creation-annihilation dynamics of a finite number of evanescent (tunneling) photons in the brain and claimed in papers that tunneling photons traveling in an evanescent mode could move with superluminal group speed [61]. Caligiuri in his model described that water trapped inside brain microtubules can undergo a spontaneous quantum phase transition toward a macroscopic coherent quantum state in which water molecules oscillate in phase with an EM field. This implies the arising of macroscopic quantum "Coherent Domains", in which the oscillating EM field is trapped to show an evanescent-wave-like behavior at the boundaries. It is also hypothesized that the microtubule's walls could show some features like those characterizing artificial metamaterials. This would allow a superfast interaction between brain microtubules mediated by a virtual photon tunneling and amplification of an evanescent EM field in a waveguide partially filled with the MTM field [62]. We can propose the idea to interpret the inner medium of the brain microtubules cylinder as having properties like those characterizing metamaterials and so able to specifically allow and enhance the propagation of evanescent photons inside the neurons. Shamim et al, clarified that with resonant effects, metamaterials can enhance the media's optical and magnetic response and can also offer a platform for optical materials to have improved chiral properties (chiral metamaterials). A collection of spiral-shaped metallic nano wires would serve as an illustration of chiral metamaterial design [63]. Additionally, by converting linear polarization into circular polarization, the new 2D metamaterial developed by the researchers can transform the linear polarization of radio waves into circular polarization [50]. This transformation is crucial for improving the quality and reliability of satellite communications by minimizing signal degradation caused by atmospheric interferences and

polarization mismatches, ensuring more robust and consistent communication links as evidenced by Zhang et al, they envisaged that the meta surface provides a new avenue for applications in polarization-controlled devices and microwave communications, can simultaneously provide reflection and transmission polarization conversion with opposite rotational directions **[64].**

In short, we suggest that superluminal photons generated inside the microtubule could be used for manipulating qubits. Microtubule walls could show some features like those characterizing artificial metamaterials. This would allow a superfast interaction between brain microtubules mediated by a virtual photon tunneling and amplification of an evanescent EM field in a waveguide for such field, enhancing the propagation of evanescent photons inside the neurons. Metamaterials can enhance the media's optical and magnetic response and can also offer a platform for optical materials to have improved chiral properties spiral-shaped metallic nano wires would serve as an illustration of chiral metamaterial design, thus converting linear polarization into circular polarization. This transformation is crucial for improving the quality and reliability of telecommunications by minimizing signal degradation caused by atmospheric interferences and polarization mismatches, ensuring more robust and consistent communication links. This is the basic idea to recognize and explore the mechanism of telepathy.

Revelation is the energy force that transmits, formulates, and processes the consciousness, i.e. it is the energy of quantum entanglement and the common information network communication that connects all parts and particles of the universe. Indeed, scientists and quantum physicists have not yet come to know its nature. The mechanism of revelation is like that of telepathy, but revelation is another entity with specific characteristics.

- It is the communication between God, the creator (supreme power) and his creatures.
- This established connection is not limited to the closely related individuals because it is the communication between the creator "He is Allah—One" and all his creatures.

Results and Conclusion

We present a novel mechanism that uncovers the phenomenon of telepathy, which could be explained considering the interaction between the quantum entanglement and the frequency of microtubule vibrations of neurons. The mechanism of revelation

- Closely related individuals such as twins or the mother with her kids have identical genetic and microtubule vibrational and frequency configurations. This would significantly impose a pattern of resonance of the vibrational microtubes, and the telepathic experience among the closely related and emotionally linked persons. The background of emotional bond between person's empathy has been reported as a significant indicator of their emotional dynamics
- The resonance of the vibrational microtubules in neurons would amplify the signal of consciousness activities so that the transfer of information from the individual who is considered the sender of the signal is significantly enhanced. The receiver person should receive the robust amplified signal through the cosmic network of consciousness according to quantum

entanglement mechanics because the sender and receiver persons are emotionally linked, and quantumly entangled. The result is recognition of the consciousness dynamic activities of the received signal.

- In case, telepathy occurs between genetically nonrelated individuals such as friends, where the genetic microtubule configuration is not identical, it is the emotional link and harmony resonance of microtubule vibrations among the sincerely connected friends. The long-standing intimate relationship among friends could modulate their microtubule vibrations to get harmonically tuned and resonant microtubules.

References

1. Horodecki, Ryszard; Horodecki, Pawel; Horodecki, Michal; Horodecki, Karol (2009). "Quantum entanglement". Reviews of Modern Physics. 81 (2): 865–942.
2. Andreas Muller. What is quantum entanglement? A physicist explains the science of Einstein's 'spooky action at a distance'. Published: October 6, 2022.
3. Dey, Nilanjan; Hassanien, Aboul Ella; Bhatt, Chintan; Ashour, Amira; Satapathy, Suresh Chandra, eds. (2018). Internet of things and big data analytics toward next-generation intelligence. Cham, Switzerland: Springer. p. 440. ISBN 978-3-319-60435-0.
4. "Forecast: The Internet of Things, Worldwide, 2013". Gartner. 18 November 2013. Retrieved 3 March 2022.
5. Hu, J.; Niu, H.; Carrasco, J.; Lennox, B.; Arvin, F., "Fault-tolerant cooperative navigation of networked UAV swarms for forest fire monitoring" Aerospace Science and Technology, 2022.
6. Hu, J.; Lennox, B.; Arvin, F., "Robust formation control for networked robotic systems using Negative Imaginary dynamics" Automatica, 2022.
7. Laplante, Phillip A.; Kassab, Mohamad; Laplante, Nancy L.; Voas, Jeffrey M. (2018). "Building Caring Healthcare Systems in the Internet of Things". IEEE Systems Journal. 12 (3): 3030–3037.
8. "The New York City Internet of Things Strategy". www1.nyc.gov. Retrieved 6 September 2021.
9. Mulder, T.; Tudorica, M. (2 September 2019). "Privacy policies, cross-border health data and the GDPR". Information &

Communications Technology Law. 28 (3): 261–274.

10. Seda Avnioglu, Mehmet Ozansoy, Seyda Cankaya, Kadir Yildiz, Taha Hanoglu, et al., Empathy and Telepathy: Functional Imaging Psychiatric and Philosophic Correlates. Biomed J Sci & Tech Res 38(5)-2021.
11. Britannica, The Editors of Encyclopaedia. "extrasensory perception". Encyclopedia Britannica, 4 Nov. 2024.
12. Pais Vieira M, Mikhail Lebedev, Carolina Kunicki, Jing Wang, Miguel AL Nicolelis, et al. (2013) A Brain-to-Brain Interface for Real-Time Sharing of Sensorimotor Information. Scientific Reports 3(1): p. 1319.
13. Jiang, L., Stocco, A., Losey, D.M. et al. Brain Net: A Multi-Person Brain-to-Brain Interface for Direct Collaboration Between Brains.
14. Hosseini E. Brain-to-brain communication: the possible role of brain electromagnetic fields (As a Potential Hypothesis). Heliyon. 2021 Mar 1;7(3): e06363.
15. Nachman G (2009) Clinical implications of synchronicity and related phenomena. Psychiatric Annals 39(5): 297-308.
16. Cankaya S, Ece Ozdemir Oktem, OzlemSaatci, Halil Aziz Velioglu, Abdullah Burak Uygur, et al. (2020) Paracetamol alters empathy scores in healthy and headache subjects: Functional MRI correlates. J Clin Neurosci 78: 215-221.
17. Venkatasubramanian G, Peruvumba N Jayakumar, Hongasandra R Nagendra, Dindagur Nagaraja, R Deeptha, et al. (2008) Investigating paranormal phenomena: Functional brain imaging of telepathy. Int J Yoga 1(2): 66-71.
18. Campbell, J., Pile, S. Telepathy and its vicissitudes: Freud, thought transference and the hidden lives of the (repressed and non-repressed) unconscious. Subjectivity 3, 403–425 (2010).
19. Kristyn Bates Brain-to-brain interfaces: the science of telepathy Published: March 8, 2015.
20. Seda Avnioglu, Mehmet Ozansoy, Seyda Cankaya,

Kadir Yildiz, Taha Hanoglu, et al., Empathy and Telepathy: Functional Imaging Psychiatric and Philosophic Correlates. Biomed J Sci & Tech Res. 38(5)-2021.

21. Kelsey, D. (2017). Affective Apparatus: Collective Unconscious, Archetypes and the Transpersonal. In: Media and Affective Mythologies. Palgrave Macmillan, Cham.
22. Demertzi A, Tagliazucchi E, Dehaene S, Deco G, Barttfeld P, Raimondo F, Martial C, Fernández-Espejo D, Rohaut B, Voss HU, Schiff ND, Owen AM, Laureys S, Naccache L, Sitt JD. Human consciousness is supported by dynamic complex patterns of brain signal coordination. Sci Adv. 2019 Feb 6;5(2):eaat7603.
23. Esteban FJ, Ibáñez-Molina A, Iglesias-Parro S, Ruiz de Miras J, Soler-Toscano F. Editorial: Complex network dynamics in consciousness. Front ComputNeurosci. 2023 Nov 1;17:1310392.
24. Kirst, C., Timme, M. & Battaglia, D. Dynamic information routing in complex networks. Nat Commun 7, 11061 (2016).
25. Verheyen, Peter. 2021. "From Information and Quantum Physics to Consciousness and Reality" Sci 3, no. 4: 35.
26. Avila J, Marco J, Plascencia-Villa G, Bajic VP and Perry G (2024) Could there be an experimental way to link consciousness and quantum computations of brain microtubules? Front. Neurosci. 18:1430432.
27. Hameroff S. Consciousness, Cognition and the Neuronal Cytoskeleton - A New Paradigm Needed in Neuroscience. Front Mol Neurosci. 2022 Jun 16; 15:869935.
28. George Musser. The quantum mind, New Scientist,Vol. 261, Issue 3474, 2024, Pages 32-35.
29. Hameroff S. 'Orch OR' is the most complete, and most easily falsifiable theory of consciousness. Cogn. Neurosci. 2020; 24:74–76.
30. McFadden J. Integrating information in the brain's EM field: The cemi field theory of consciousness. Neurosci. Conscious. 2020;2020:niaa016.
31. Brodziak A. A current model of neural circuitry active in forming mental images. Med.

Sci. Monit. 2013;19:1146–1158.

32. Brodziak A. The simple, intuitive model of neural circuits, which memorize data, recognize an image and recall it as imagination. ARC J. Neurosci. 2018;3:1–5.
33. Hameroff S., Penrose R. Orchestrated reduction of quantum coherence in brain microtubules: A model for consciousness. Math. Comput. Simul. 1996;40:453–480.
34. Hameroff S. Quantum mathematical cognition requires quantum brain biology: The "Orch OR" theory. Behav. Brain Sci. 2013; 36:287–290.
35. Hameroff S.R., Craddock T.J., Tuszynski J.A. Quantum effects in the understanding of consciousness. J. Integr. Neurosci. 2014;13:229–252.
36. Hamer off S. Quantum walks in brain microtubules—A biomolecular basis for quantum cognition? Top. Cogn. Sci. 2014;6:91–97.
37. Hameroff S., Penrose R. Consciousness in the universe: A review of the 'Orch OR' theory. Phys. Life Rev. 2014;11:39–78.
38. Hövel P., Viol A., Loske P., Merfort L., Vuksanović V. Synchronization in functional networks of the human brain. J. Nonlinear Sci. 2020;30:2259–2282.
39. Koch G. Cortico-cortical connectivity: The road from basic neurophysiological interactions to therapeutic applications. Exp. Brain Res. 2020;238:1677–1684.
40. Craddock J. A., Hameroff S. R., Tuszynski J. A. (2016). "The 'quantum underground': where life and consciousness originate," in Biophysics of Consciousness: A Foundational Approach, eds Poznanski R. R., Tuszynski J. A., Feinberg T. E. (Singapore: World Scientific;).
41. Craddock T., St George M., Freedman H., Barakat K., Damaraju S., Hameroff S., et al. (2012a). Computational predictions of volatile anesthetic interactions with the microtubule cytoskeleton: implications for side effects of general anesthesia. PLoS One 7: e37251.
42. Sahu S., Ghosh S., Ghosh B., Aswani K., Hirata K., Fujita D., et al. (2013a). Atomic water channel controlling

remarkable properties of a single brain microtubule: correlating single protein to its supramolecular assembly. Biosens. Bioelectron. 47 141–148.

43. Sahu S., Ghosh S., Hirata K., Fujita D., Bandyopadhyay A. (2013b). Multi-level memory-switching properties of a single brain microtubule. Appl. Phys. Lett. 102:12370.
44. Sahu S., Ghosh S., Fujita D., Bandyopadhyay A. (2014). Live visualizations of single isolated tubulin protein self-assembly via tunneling current: effect of electromagnetic pumping during spontaneous growth of microtubule. Sci. Rep. 4:7303.
45. Saxena K., Singh P., Sahoo P., Sahu S., Ghosh S., Ray K., et al. (2020). Fractal, scale free electromagnetic resonance of a single brain extracted microtubule, a single tubulin protein and a single neuron. Fractal Fractional 4:12.
46. Singh P., Saxena K., Sahoo P., Ghosh S., Bandyopadhyay A. (2021). Electrophysiology using coaxial atom probe array: live imaging reveals hidden circuits of a hippocampal neural network. J. Neurophysiol. 125 2107–2116.
47. Celardo G. L., Angeli M., Kurian P., Craddock T. J. A. (2018). On the existence of super radiant states in microtubules. New J. Phys. 21: e023005.
48. Microtubule-Stabilizer Epothilone B Delays Anesthetic-Induced Unconsciousness in Rats" by Sana Khan, Yixiang Huang, Derin Timuçin, Shantelle Bailey, Sophia Lee, Jessica Lopes, Emeline Gaunce, Jasmine Mosberger, Michelle Zhan, Bothina Abdelrahman, Xiran Zeng and Michael C. Wiest, 15 August 2024, eNeuro.
49. Cantero M., Cantiello H. F. (2020). Microtubule electrical oscillations and hippocampal function. J. Neurol. Neuromed. 5 1–5.
50. Musha, T. (2022). Hypercomputation of the Brain by Superluminal Particles. In: Bandyopadhyay, A., Ray, K. (eds) Rhythmic Advantages in Big Data and Machine Learning. Studies in Rhythm

Engineering. Springer, Singapore.

51. S.Eh. Shirmovsky, D.V. Shulga, Quantum relaxation effects in Microtubules. Physica A: Statistical Mechanics and its Applications, Vol. 582, (2021), 126254.
52. Stuart Hameroff, Alex Nip, Mitchell Porter, Jack Tuszynski. Conduction pathways in microtubules, biological quantum computation, and consciousness,Biosystems, Vol. 64, Issues 1–3, 2002, Pages 149-168.
53. Pendry J.B., Schurig D., Smith D.R.,2006. Controlling Electromagnetic Fields, Science 312(5514), 1780-1782.
54. Takaaki Musha, Luigi Maxmilian Caligiuri. Possible Existence of Superluminal Photons Inside Microtubules and the Resulting Explanationfor Brain Mechanism. American Journal of Optics and Photonics. Vol. 3, No. 5, 2015, pp. 54-57.
55. Musha, T. (2021). Study on Possible Existence of Superluminal Photons inside Microtubules and the Resulting Explanation for Brain Mechanism. Newest Updates in Physical Science Research Vol. 11, 125–132.
56. Smith, T. Quantum Consciousness. Water, Light speed, and Microtubules.
57. Nishiyama, Akihiro, Shigenori Tanaka, Jack A. Tuszynski, and RoumianaTsenkova. 2024. "Holographic Brain Theory: Super-Radiance, Memory Capacity and Control Theory" International Journal of Molecular Sciences 25, no. 4: 2399.
58. Ung, B. Metamaterials: A Metareview.
59. Musha T. Holographic View of the Brain Memory Mechanism Based on Evanescent Superluminal Photons. Information. 2012; 3(3):344-350.
60. Veselago, V.; Braginsky, L.; Shklover, V.; Hafner, C. Negative refractive index material. J. Comput. Theor. Nanosci. 2006, 3, 1–30.
61. Caligiuri, Luigi Maxmilian. QED Coherence and Super-Coherence of Water in Brain Microtubules and Quantum Hypercomputation.
62. Shadmani Shamim, Abu S.M. Mohsin, Md. Mosaddequr

Rahman, Mohammed Belal Hossain Bhuian, Recent advances in the metamaterial and metasurface-based biosensor in the gigahertz, terahertz, and optical frequency domains, Heliyon, Volume 10, Issue 13, 2024, e33272.

63. Renato Lombardi, Christian Mazzucco, Roberto Flamini, Claudio Massagrande, Francesco Verní. Chapter 11 - Metamaterial technologies and applications: a mobile communications industrial perspective, Editor(s): Andrea Alù, Nader Engheta, Andrea Massa, Giacomo Oliveri. In Photonic Materials and Applications Series, Metamaterials-by-Design, Elsevier, 2024, Pages 343-381,ISBN 9780323999854.
64. Zhang, B., Yang, X. & Liu, X. Linear to circular polarization converter using ultrathin and Bi-functional metasurface. Appl. Phys. A 130, 408 (2024).

Citation of this Article

Ali AM, Ibrahim MA and Ali RA. Quantum Metamaterial is the New Mechanism to disclose Conscious Telepathy. Mega J Case Rep. 2025;8(2):2001-2022.

Copyright