

RESEARCH ARTICLE OPEN ACCESS

# Treating Alzheimer's and Neuroregeneration Via Quantum State Restoration (Reviving the Dead Brain) Using the Properties of Quantum Intelligence

Alireza Sepehri<sup>1</sup>  | Raul Valverde<sup>2</sup> <sup>1</sup>Istituto Terapie Sistemiche Integrate, Rome, Italy | <sup>2</sup>Concordia University, Montreal, Canada**Correspondence:** Alireza Sepehri ([dralireza.sepehri4@gmail.com](mailto:dralireza.sepehri4@gmail.com))**Received:** 24 May 2025 | **Revised:** 16 October 2025 | **Accepted:** 17 January 2026**Keywords:** Alzheimer | dead brain | electromagnetic field, intelligence | Orch OR model | quantum

## ABSTRACT

In the Orch OR model, information is stored in a quantum form by the arrangement of electrons or the type of polarization and rotation of electrons, or the movement of photons and their exchange between hexagonal structures or other molecular structures inside microtubules and other components of neurons in the brain. But how to store information requires planning and management. This management can only be done by a quantum intelligence that finds a suitable place to store new information by knowing the location and storage location of other quantum information. Therefore, quantum intelligence should be considered as a key factor in the model. To prove this claim, one of the causes of Alzheimer's disease can be mentioned. Destruction of a part of the structure of microtubules and the separation of some of its constituent elements, which play an essential role in storing information, causes memory loss. But one of the treatment ways is to use electromagnetic waves, whose lines actually act like a road for quantum intelligence and allow it to reach the damaged place. Then, by placing the molecules in the right place and creating the right polarization in them and restoring the supporting and protective elements of the structure, they enable quantum information storage and memory recovery. In the same way, quantum intelligence can revive the dead brain by repairing the damaged areas.

## 1 | Introduction

Classical science has long struggled to explain the emergence of conscious intelligence and the highly ordered complexity of life. The 'hard problem' of consciousness—why and how subjective experience arises—remains unresolved by neural and computational theories alone [1]. Likewise, the origin and evolution of biological complexity pose puzzles: purely random mutations filtered by natural selection may not fully account for life's directed development. These challenges have prompted interdisciplinary exploration of quantum phenomena in biology and the mind. Quantum mind theories and quantum biology experiments suggest that non-classical physics could play a fundamental role in living systems [2, 3].

One pillar of this idea comes from quantum mind theories, which posit that consciousness originates from quantum processes in the brain [4, 2]. Notably, Penrose and Hameroff's Orchestrated Objective Reduction (Orch OR) model proposes that conscious moments result from quantum computations in neuronal microtubules, terminated by an objective wavefunction collapse tied to fundamental spacetime geometry [4, 5]. In Orch OR, tubulin proteins inside microtubules switch between quantum superposition states and become entangled; when the superposed state reaches a threshold, an objective reduction occurs, corresponding to a discrete conscious event [4]. This places consciousness at the quantum level of brain activity and even suggests it involves new physics, possibly quantum gravity [5]. By connecting brain processes to Planck-scale quantum

This is an open access article under the terms of the [Creative Commons Attribution](https://creativecommons.org/licenses/by/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2026 The Author(s). *Natural Sciences* published by Wiley-VCH GmbH.

### Key points

- Quantum intelligence is proposed as a coordinating mechanism in the Orch OR model.
- Microtubule structure is essential for quantum information storage and memory.
- Damage to microtubules may explain memory loss in Alzheimer's disease.
- Electromagnetic waves are suggested as a guide for structural repair and memory recovery.

events, Orch OR treats consciousness as an irreducible part of physical science, a fundamental feature of the universe [2, 5].

The Orch OR model [6–8] is one of the best models that describes how quantum information is stored in brain cells. Knowing the mechanism of human information storage will help in finding solutions to treat some diseases, such as Alzheimer's. Alzheimer's disease [9, 10] begins with a partial loss of memory and progresses gradually. The exact cause of this disease is not yet known, but it seems that the cause of memory loss is the destruction of part of the microtubule structures. In the Orch Or model [11, 12], exactly these structures have the role of storing information, and therefore the model can fully determine the cause of Alzheimer's disease and even provide solutions for its treatment. But the important question is how the arrangement of information inside the molecules and their exact location in the brain is planned? In response, it seems that the existence of a quantum intelligence is necessary to plan and arrange the information inside the cells and retrieve it. This quantum intelligence needs electromagnetic waves to move between cells, which open its way like a road to reach the target cell. Perhaps this is why experiments have shown that electromagnetic waves are useful in the treatment of Alzheimer's disease [13]. In this research, we examine this issue in detail.

## 2 | Method

Parallel to quantum consciousness research, the field of quantum biology has demonstrated that quantum phenomena occur in living organisms and are integral to biological functions [2, 3]. For example, photosynthetic organisms exploit quantum coherence to achieve remarkable efficiency in energy transfer [2, 5], and migratory birds use quantum entanglement in cryptochrome proteins to sense Earth's magnetic field [3]. These findings show that coherent quantum processes can survive in biological environments, supporting the feasibility of quantum intelligence in life systems.

Human decision-making and perception often violate classical logic in ways that mirror quantum formalism [14]. Andrei Khrennikov's contextual statistical model demonstrates that cognitive observables exhibit interference of probabilities analogous to quantum interference [14]. This quantum-like processing suggests that intelligence might inherently be a quantum information phenomenon rather than purely classical computation.

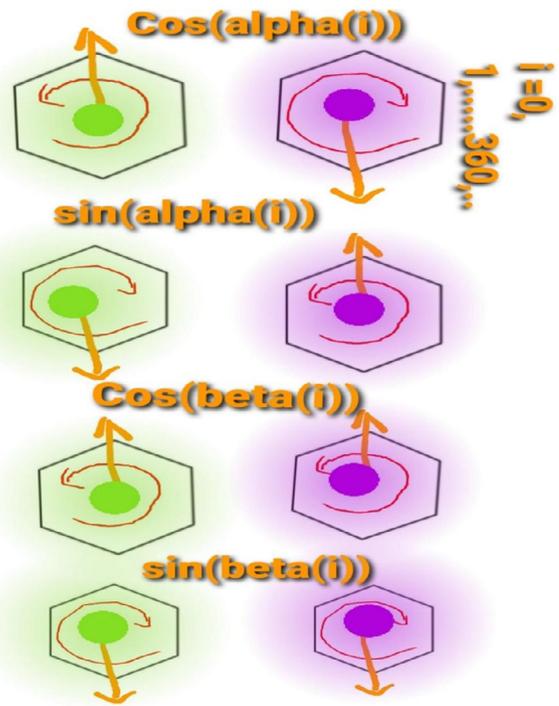
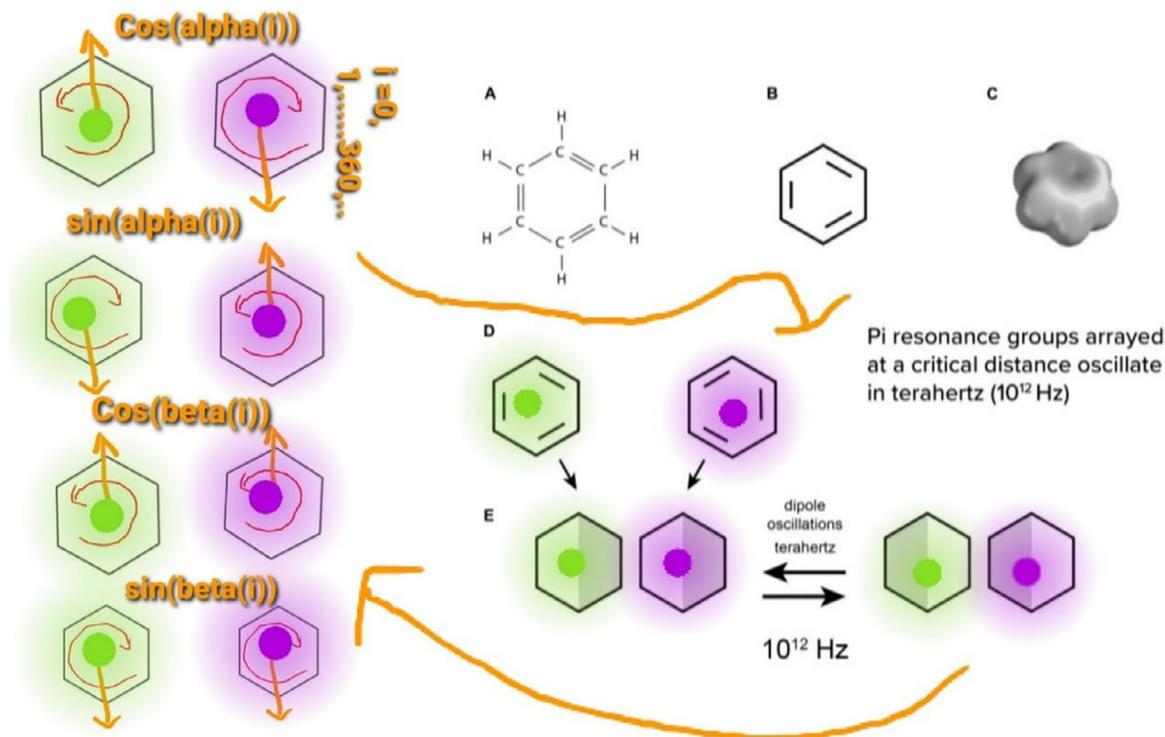


FIGURE 1 | Quantum information storage mechanism using polarization or spin of molecules and electrons.

Building on these foundations, the idea proposed here identifies quantum intelligence as a fundamental quantum particle or field that controls and directs biological development. This idea extends Penrose's suggestion that new physics is needed for consciousness [2, 5], proposing that life itself is organized by this underlying quantum field. Such a particle would guide biological self-organization and evolution, biasing quantum outcomes toward order and adaptive complexity [2, 3]. It could explain why quantum coherence appears selectively in living systems and brain processes, acting as the physical substrate of intelligence.

For the purpose of this article, Quantum intelligence is defined as a quantum particle that makes other particles intelligent by connecting to them. Similar to quantum intelligence in elementary particle physics, the Higgs boson [15] gives mass to particles by connecting to them. Just as without the Higgs boson connection, particles have no mass, without the connection of quantum intelligence, particles will not become intelligent. The existence of intelligence is not limited to the human and animal brains. Other organisms, such as plants, also show intelligent reactions to their surroundings. In addition, by studying microbes and even embryonic cells of organisms such as birds under a microscope, we can see that they also interact intelligently. On the other hand, some experiments show that by emitting electromagnetic waves on milk molecules, they become intelligent [16]. In fact, the photons that form the waves and even electrons are intelligent, and by placing them inside a nanostructure like milk molecules, they make them intelligent. These results show that intelligence is a quantum particle that makes particles intelligent by connecting to them. In addition, there are reports of people who have come out of comas and claim to see their surroundings while in this state. These reports are so numerous that they cannot be ignored [17, 18]. It is possible that these people's communication



**FIGURE 2** | The mechanism for storing information in the Orch OR model.

with their surroundings during the coma was through quantum intelligence, since the brain does not have normal activity and is unable to see and exchange information. For this reason, the existence of quantum intelligence can be investigated as a scientific proposition

In the Orch OR model, quantum intelligence uses the polarization of molecules or the arrangement of electrons to store information. For example, suppose two hexagonal structures are next to each other, and photons are exchanged between electrons in these structures, or free electrons create a spin state for each of the structures. The direction of polarization or spin can act as an element of quantum information. For example, two spins can be in the same direction or in the opposite direction. If we consider a cosine or sine probability function for the direction of spin or polarization of molecules and connect each number of this function to a quantum element of information, thousands of bits of quantum information can be stored in these two structures (See Figures 1 and 2).

This information storage needs a manager to plan and direct the arrangement of information in the appropriate places of the brain. Due to the large amount of information entering the brain and the need to retrieve it at the right time, information management plays an important role in human health, and without proper management in the arrangement of quantum information in the brain, various diseases may occur. Therefore, quantum intelligence plays an important role in intelligent information storage. In order for quantum intelligence to do its work properly, it must be able to access the heart and other organs of the body at the same time as the brain cells to coordinate and adjust the storage of information with their activities. To facilitate the movement of quantum intelligence between the brain and heart and other

body parts, a series of electromagnetic waves is needed, which play the role of the road for quantum intelligence. These waves are produced by the heart and brain cells and cover almost the entire body. Quantum intelligence, considering the states and activities of all body parts and even cells, determines the storage location of the input information and stores the information based on the Orch OR model using the polarization or spin of molecules and atoms (See Figure 3).

### 3 | Results

In the previous section, we examined the role of quantum intelligence in the information storage process. In this section, we will show that quantum intelligence can play an effective role in treating Alzheimer's disease and reviving brain-dead patients. So far, scientists have found that one of the causes of Alzheimer's disease is the destruction of a part of the microtubule structure. According to the Orch Or model, this microtubule plays an essential role in storing information, and when part of its structure is lost, part of the stored information, which is probably related to memory, is lost. Therefore, the Orch OR model clearly defines the origin of Alzheimer's disease (See Figure 4).

Now the question arises, how can Alzheimer's disease be treated? Previous studies have shown that some frequencies of electromagnetic waves have an effective role in the treatment of Alzheimer's disease [13]. Perhaps the reason for the effect of these waves is that quantum intelligence reaches the location of destroyed structures through electromagnetic field lines and repairs them with special planning, collects the scattered elements of the structure, and places them in appropriate places (See Figure 5). In this model, on the one hand, electromagnetic fields

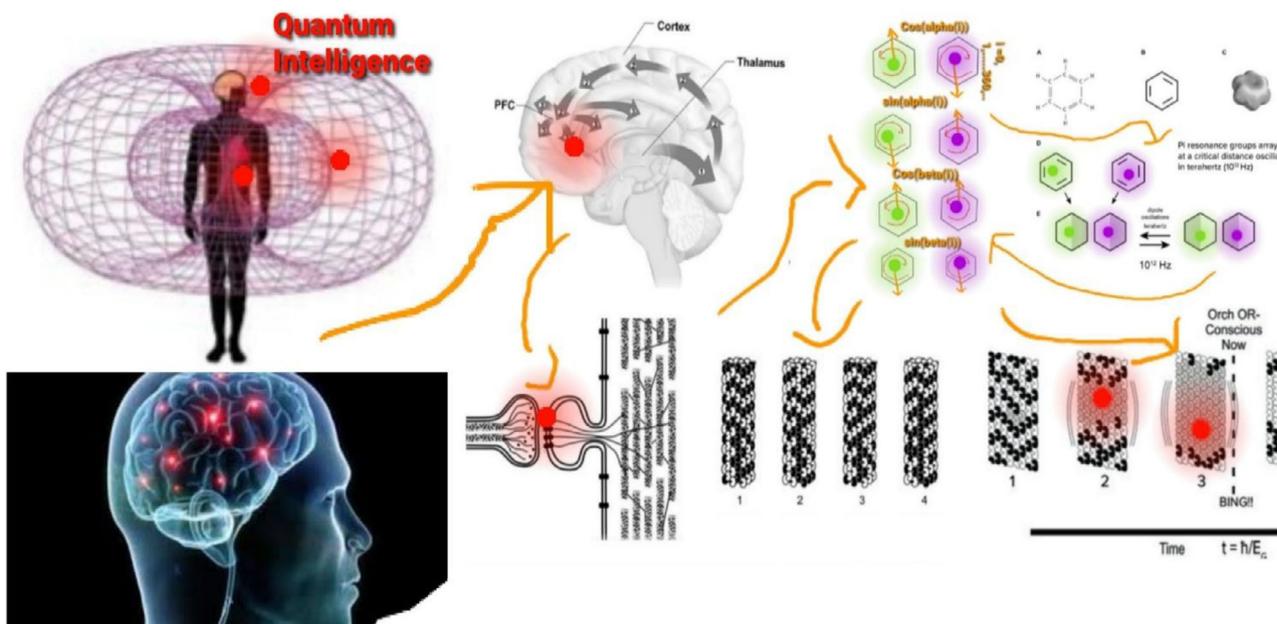


FIGURE 3 | Quantum intelligence stores information in the brain in coordination with other organs and cells of the body.

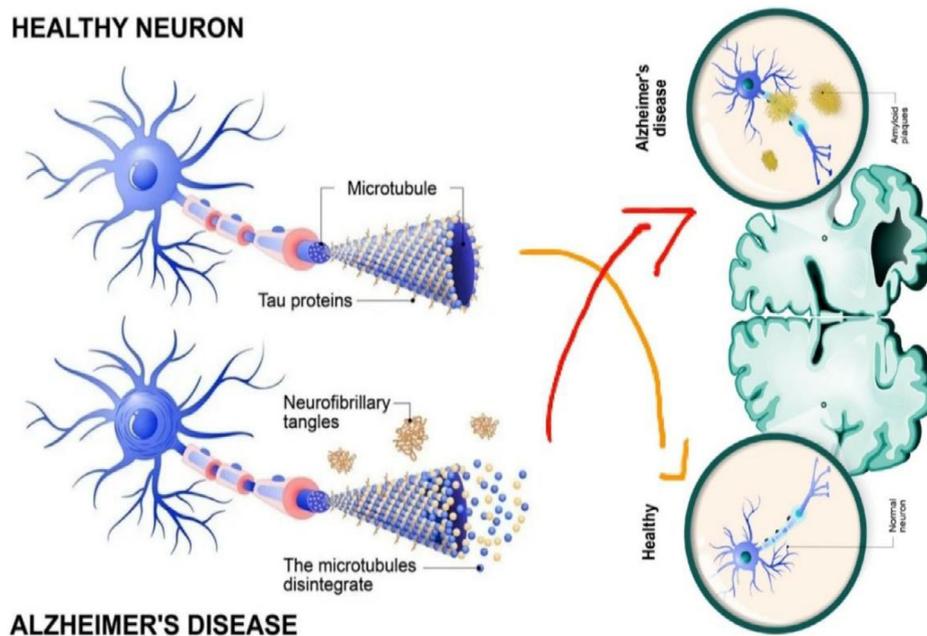


FIGURE 4 | Alzheimer's disease is caused by the destruction of part of the microtubule structure.

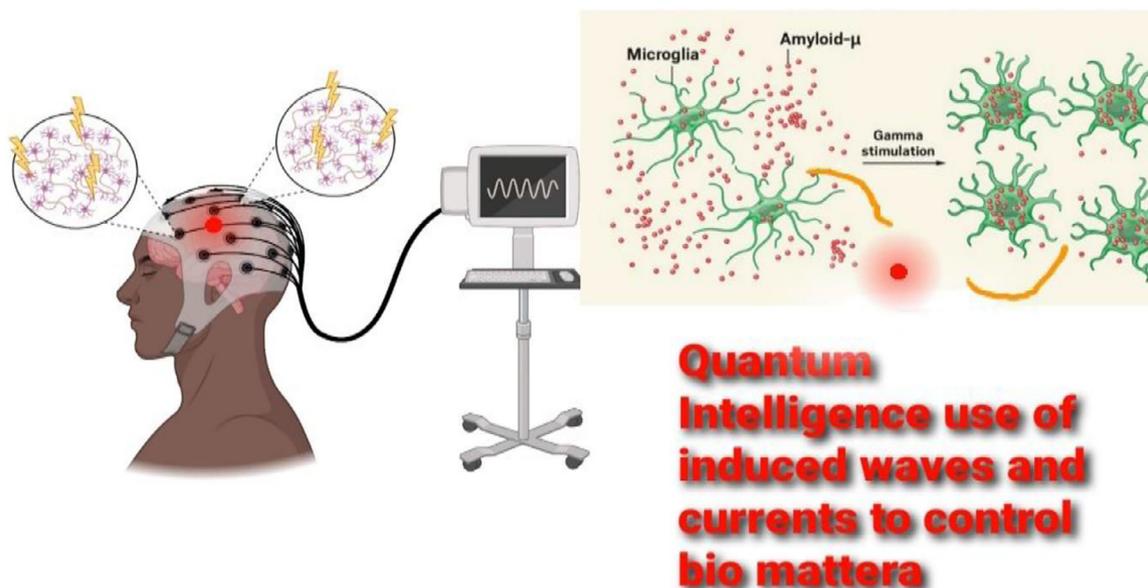
act like a road for quantum intelligence to reach the damaged place, and on the other hand, they act like a tool to create polarization and spin in molecular and spin structures.

But the next important question is whether quantum intelligence can help in reviving brain-dead patients? Treating Alzheimer's patients with electromagnetic waves and repairing damaged brain tissues in them creates the hope that quantum intelligence can revive dead brains by using certain frequencies of waves. The number of electromagnetic signals in the dead brain reaches its lowest value and blocks the way for quantum intelligence to move and reach the damaged parts. In addition, the polarization of molecules will be lost due to the reduction of photons,

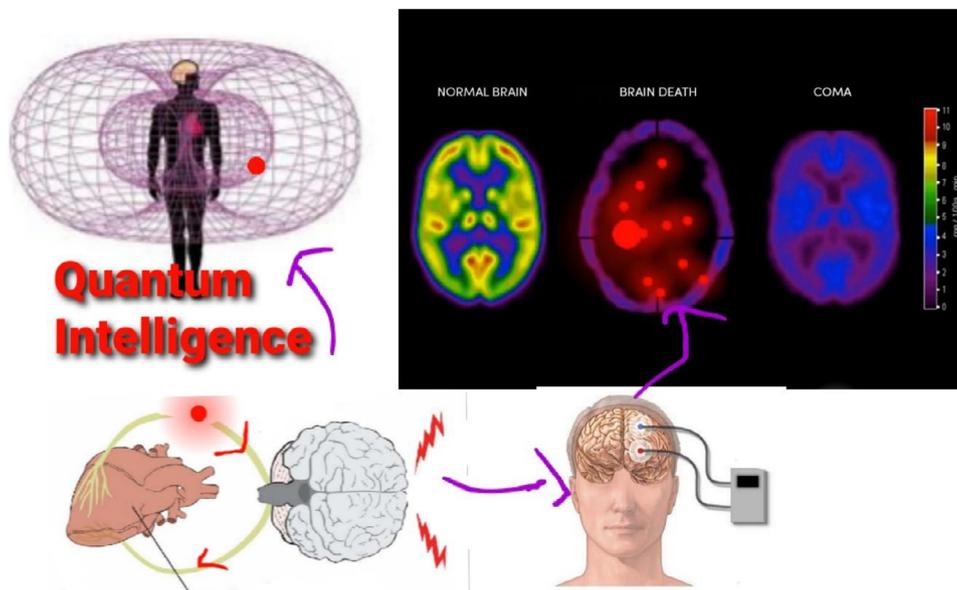
and the stored information will be lost. By creating a suitable electromagnetic field, the necessary photon roads are provided for the movement of quantum intelligence and reaching the damaged place, and the necessary tools are prepared for the polarization of brain molecules (see Figure 6).

#### 4 | Discussion

Humans and animals are not the only creatures with intelligence. Signs of intelligence can be seen in other creatures such as plants and even microbes and embryonic cells. Some experiments even show that particles such as electrons also have intelligence.



**FIGURE 5** | Quantum intelligence uses the electromagnetic field to repair the damaged structures of the brain.



**FIGURE 6** | Quantum intelligence revives brain-dead patients using electromagnetic waves.

Therefore, intelligence is not created by the brain and has an identity beyond the brain. On the other hand, the existence of very small intelligent particles shows that intelligence manifests itself more in quantum dimensions. For this reason, intelligence can be considered a type of quantum property that is created by a quantum particle. This quantum intelligence, like the Higgs boson, can connect to any particle and make it intelligent.

Treating quantum intelligence as a literal quantum particle provides a coherent framework linking quantum mind theory, quantum biology, and neuroscience [2–5]. This model frames consciousness and life as manifestations of quantum informational order rather than accidents of chemistry.

In this article, the proposal is that Quantum intelligence is a quantum particle that controls and directs the development of a biological system, such as the body of living organisms. For example, in the case of humans, quantum intelligence controls the process of human growth and development from the birth of the first embryonic cell to the death of the last cell after a human's death, and controls the activity of all cells in the body. In addition, quantum intelligence is responsible for the process of storing information and retrieving it in biological cells. This particle stores information in the form of the polarization of molecules or the orientation of the spins of electrons and atoms. Also, this particle uses the body's electromagnetic field lines to move between cells and reach the target cell.

Quantum intelligence requires specific electrical structures in biological cells, especially brain cells, to store information. However, over time and with age, due to the repeated use of these structures and the storage of a lot of information, as well as the pressure exerted on these structures by the Earth's gravitational force, these structures are destroyed. It is not possible to store new information, and some of the previously stored information is also destroyed. This loss of information causes diseases such as Alzheimer's. However, experiments show that if quantum intelligence is given access to defective structures using electromagnetic fields, this particle will be able to repair and modify these structures. The frequency and intensity of electromagnetic fields should not be so high as to damage healthy cells. In fact, waves with low frequencies close to the brain's emission frequencies are more suitable.

## 5 | Conclusion

The quantum intelligence in Orch OR model stores quantum information in brain cells by creating electromagnetic polarizations in hexagonal structures and creating special arrangements for electrons and regulating the exchange of photons. However, with the destruction of structures such as microtubules, it becomes difficult to store information, and Alzheimer's and even brain death occur. By using electromagnetic waves, a road has been created for the movement of quantum intelligence and its access to the damaged place, and the possibility of repairing the damaged places in the brain is provided.

### Author Contributions

**Raul Valverde:** investigation (equal), writing – original draft (equal), writing – review and editing (equal).

### Acknowledgements

Authors thank the referee for comments.

### Funding

The authors have nothing to report.

### Ethical Statement

The authors have nothing to report.

### Conflicts of Interest

The authors declare no conflicts of interest.

### Data Availability Statement

The authors have nothing to report.

### Peer Review

The peer review history for this article is available at <https://publons.com/publon/10.1002/nls.70054>.

### References

1. B. J. Baars and D. B. Edelman, "Consciousness, Biology and Quantum Hypotheses," *Physics of Life Reviews* 9, no. 3 (2012): 285–294.

2. S. R. Hameroff and T. J. A. Craddock, and J. A. Tuszyński, "Quantum Effects in the Understanding of Consciousness," *Journal of Integrative Neuroscience* 13, no. 2 (2014): 229–252.

3. S. A. Kauffman and D. Radin, "Quantum Aspects of the Brain–Mind Relationship: A Hypothesis With Supporting Evidence," *Bio Systems* 223 (2023): 104820.

4. N. J. Woolf and S. R. Hameroff, "A Quantum Approach to Visual Consciousness," *Trends in Cognitive Sciences* 5, no. 11 (2001): 472–478.

5. S. R. Hameroff and R. Penrose, "Consciousness in the Universe: A Review of the Orch OR Theory," *Physics of Life Reviews* 11, no. 1 (2014): 39–78.

6. S. Hameroff, "Consciousness, Cognition and the Neuronal Cytoskeleton; a New Paradigm Is Needed in Neuroscience," *Frontiers in Molecular Neuroscience* 15 (2022): 869935, <https://doi.org/10.3389/fnmol.2022.869935>.

7. S. Hameroff and R. Penrose, "Reply to Seven Commentaries on 'Consciousness in the Universe: Review of the 'Orch OR' Theory'," *Physics of Life Reviews* 11, no. 1 (2014): 94–100, <https://doi.org/10.1016/j.plprev.2013.11.013>.

8. S. Hameroff and R. Penrose, "Consciousness in the Universe," *Physics of Life Reviews* 11, no. 1 (2014): 39–78, <https://doi.org/10.1016/j.plprev.2013.08.002>.

9. M. Torrice, "Brain Waves Clear Alzheimer's Plaques," *Chemical & Engineering News* 94, no. 49: 8.

10. K. V. Kastanenka, M. Calvo-Rodriguez, S. S. Hou, et al., "Frequency-Dependent Exacerbation of Alzheimer's Disease Neuropathophysiology," *Scientific Reports* 9 (2019): 8964, <https://doi.org/10.1038/s41598-019-44964-z>.

11. S. Hameroff, *Ultimate Computing* (Elsevier, 1987).

12. R. Penrose, *The Emperor's New Mind* (Oxford University Press, 1989).

13. S. D. McNett, A. Vyshedskiy, A. Savchenko, et al., "A Feasibility Study of AlzLife 40 Hz Sensory Therapy in Patients With MCI and Early AD," *Healthcare* 11 (2023): 2040, <https://doi.org/10.3390/healthcare11142040>.

14. A. Khrennikov, "Quantum-Like Brain: 'Interference of Minds'," *Bio Systems* 84 (2006): 225–241.

15. A. Klein and B. W. Lee, "Does Spontaneous Breakdown of Symmetry Imply Zero-Mass Particles?," *Physical Review Letters* 12, no. 10 (1964): 266–268.

16. M. Fioranelli, A. Sepehri, I. Khan, and P. C. Rathebe, "Induction of Intelligence Into Molecules by Using Spinor Radiation: An Alternative to Water Memory," *AIMS Biophysics* 10, no. 2 (2023): 247–257, <https://doi.org/10.3934/biophy.2023016>.

17. J. Alcock. "Psychology and Near-Death Experiences," In *Paranormal Borderlands of Science*, ed. Kendrick Frazier (Prometheus Books, 1981): 153–169.

18. R. Valverde and C. Swanson, "Development of a Quantum-Based Ontology for Describing NDE by Using Computerized Natural Language Processing," *Journal of Consciousness Exploration & Research* 12, no. 3 (2021): 271–277.