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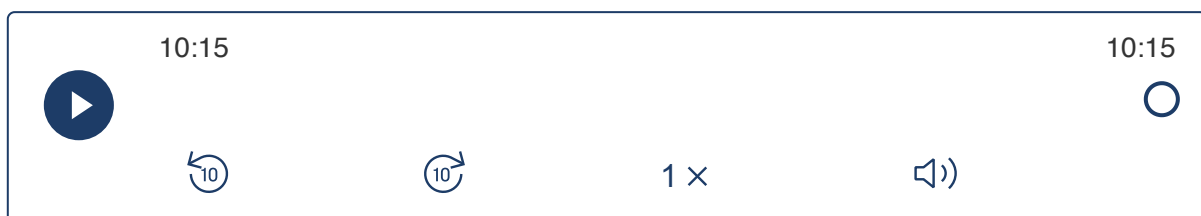
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PREMIUM DISCOVERY

# Scientist Reveals 'Quantum Entanglement' May Explain the Mind Existing as a Field Separate From the Brain

BY TARA MACISAAC

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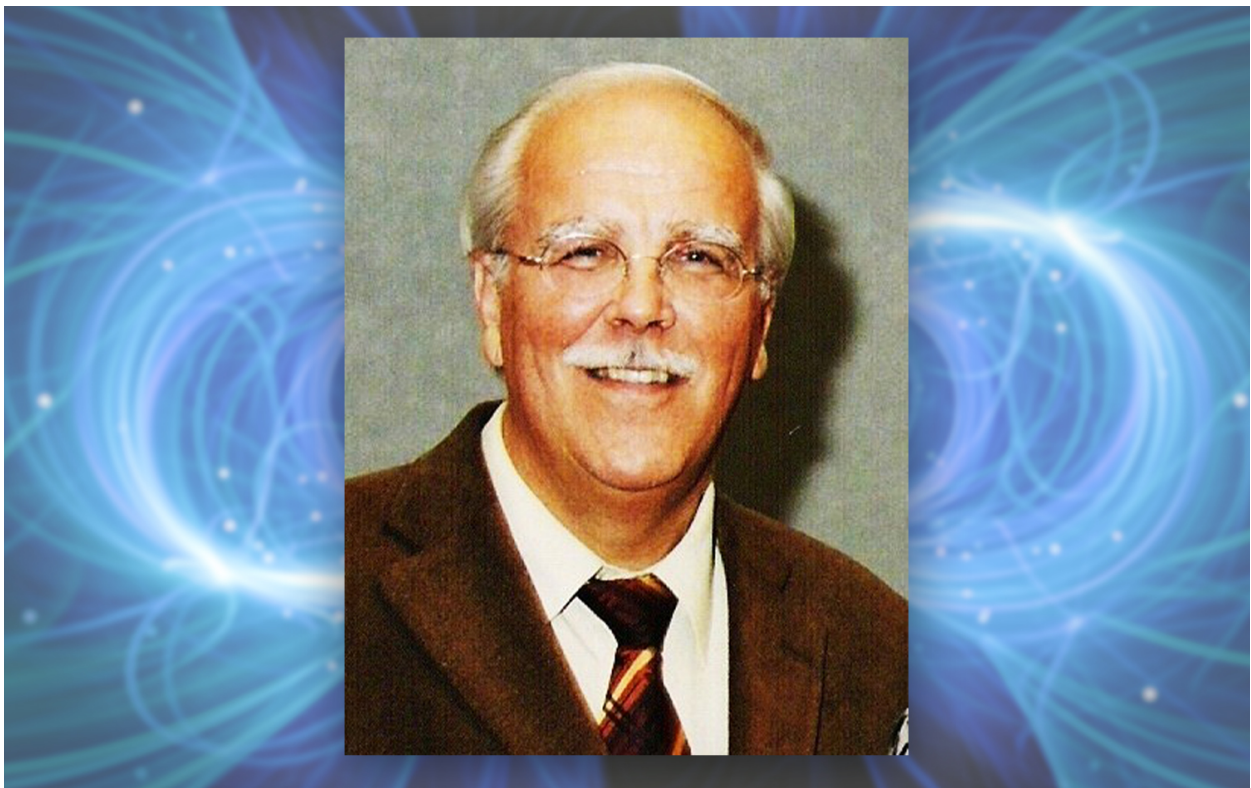
PRINT 

The relationship between the **mind** and the **brain** is a mystery that is central to

how we understand our very existence as sentient beings. Some say the mind is strictly a function of the brain – consciousness is the product of firing neurons. But some strive to scientifically understand the existence of a mind independent of, or at least to some degree separate from, the brain.

The peer-reviewed scientific journal NeuroQuantology brings together neuroscience and **quantum physics** – a crossroads that some scientists have used to explore this fundamental relationship between mind and brain.

An **article** published in NeuroQuantology's September 2017 edition reviews and expands on current theories of consciousness that arise from this meeting of neuro and quantum sciences.



Dr. Dirk Meijer. (Courtesy of Dr. Dirk Meijer; sakkmasterke/Shutterstock)

Dr. Dirk K.F. Meijer, a professor at the University of Groningen in the Netherlands, hypothesizes that consciousness resides in a field surrounding the brain, a field which lies in another dimension. It shares information with the brain through a concept known as quantum entanglement, among other processes. This has certain similarities with a black hole.

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## PREVIEW

This field may be able to pick up information from the Earth's magnetic field, dark energy, and other sources. It then "transmits wave information into the brain tissue, that ... is instrumental in high-speed conscious and subconscious information processing," wrote Dirk.

In other words, the "mind" is a field that exists around the brain; it picks up information from outside and communicates it into the brain at an extremely fast speed.

He described this field alternately as "a holographic structured field," a "receptive mental workspace," a "meta-cognitive domain," and the "global memory space of the individual."

**Extremely rapid functions of the brain suggest it processes information through a mechanism not yet revealed.**

There's an unsolved mystery in neuroscience called the "**binding problem**." Different parts of the brain handle different tasks: some work on processing color, some on processing sound, etc. But this all somehow comes together as a unified perception, or consciousness.

Information merges and interacts in the brain more quickly than can be explained by current understandings of neural transmissions in the brain. It thus seems the mind is more than just neurons firing in the brain.







(Illustration – Doitforfun/Shutterstock)

Neuroscientists are still searching for a mechanism behind this “binding” of disparate parts of the brain’s information processing. Meijer has turned to quantum entanglement and tunneling for part of the answer.

Quantum entanglement is where particles appear to be connected despite vast distances between them. When actions are performed on one of the particles, corresponding changes are observed on the others simultaneously and instantaneously.

Quantum tunneling is a phenomenon where a particle tunnels through a barrier it shouldn’t be able to according to classical physics.

These quantum phenomena allow for processes so rapid – exceeding the speed of light – they can’t be explained with classical physics. So they could help explain ultra-fast subconscious mental processes.

## **Principles of quantum physics may explain how the mind processes information.**

If a “mind” or mental field could interact with the brain this way, that could be a step toward explaining the rapidity of mental processes. Meijer also used the wave-particle fluctuation of matter in quantum physics to explain the relationship between the mental field and brain. The idea is that particles, such as electrons and photons, exist as waves of probability, but also exist as particles in the event of those probabilities collapsing.





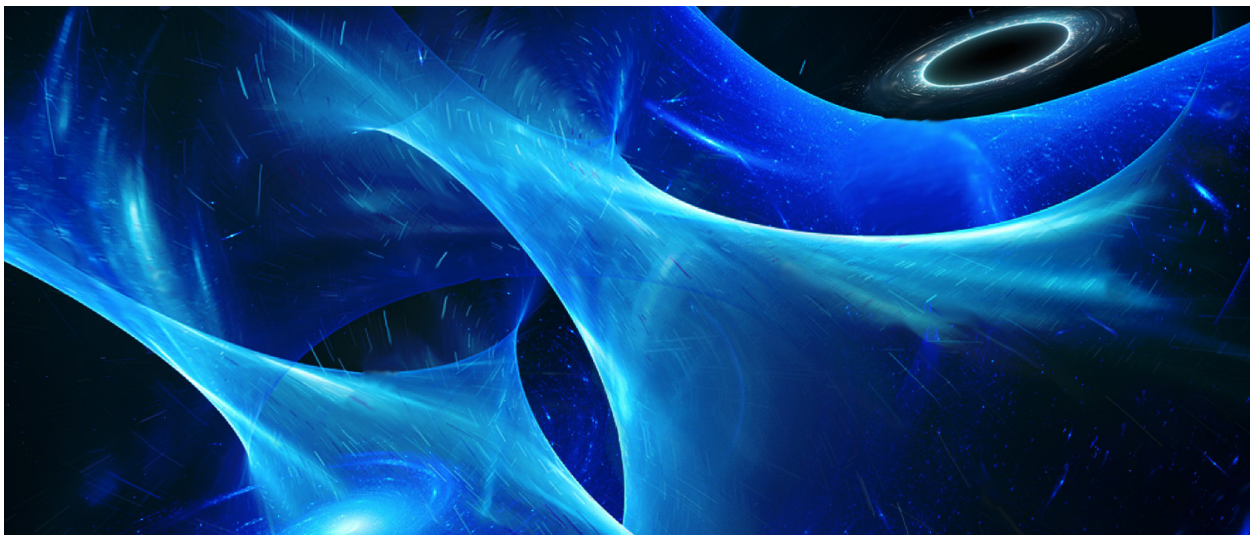
(Illustration – ittipon/Galushko Sergey/goja1/Shutterstock)

Similarly, Meijer said the mental field is both non-material and, simultaneously, part of the physical brain: “The proposed mental workspace is regarded to be non-material, but in relation to the individual brain, entertains a non-dual wave/particle relation according to quantum physical principles: it is directly dependent on the brain physiology but not reducible to it.”

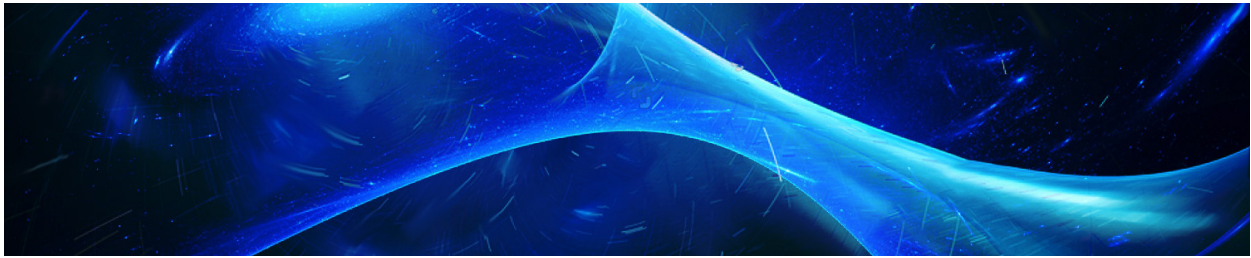
The mind and the brain, said Meijer, are connected. They are unified, yet separate. Such an apparent paradox is a signature of quantum physics.

### **The mind may reside in another spatial dimension.**

He hypothesizes that the mental field lies in another dimension: “That we cannot directly perceive this information aspect is traditionally ascribed to a hidden fourth spatial dimension ... which cannot be observed in our 3-D world, but can be mathematically derived.”







(Illustration – sakkmeisterke/Shutterstock)

This fourth spatial dimension isn't time. Rather, it is a concept of space-time which includes four spatial dimensions, plus time – a “4+1 space-time structure.”

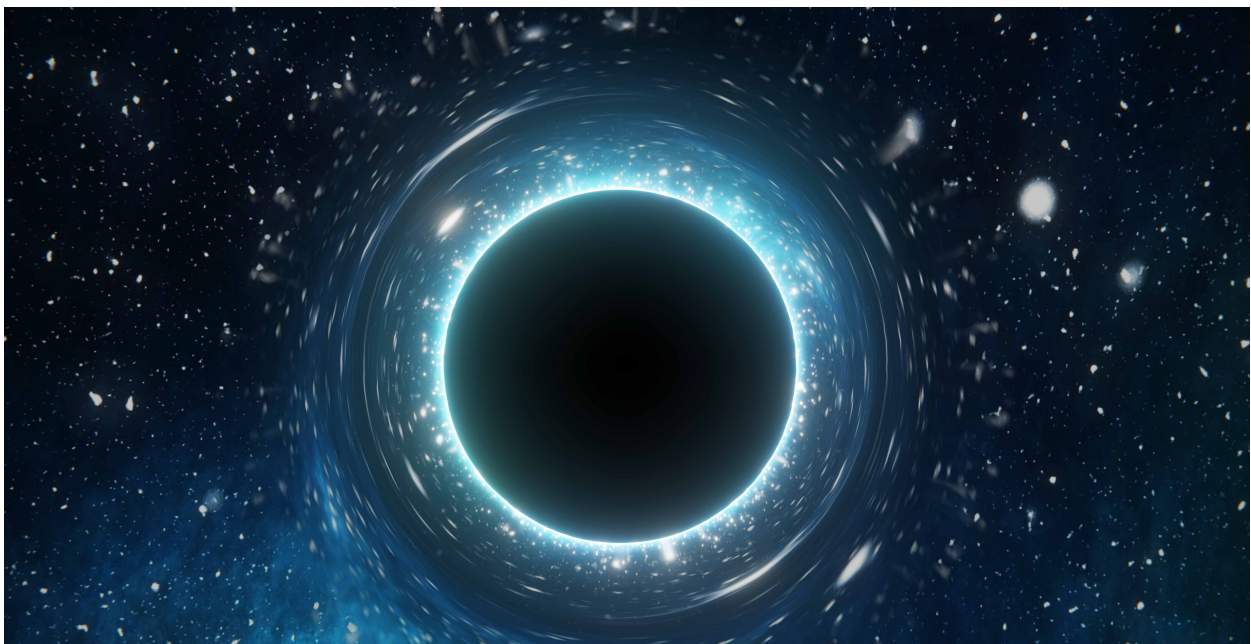
He cited studies that have suggested this concept of dimensions could reconcile the mismatches between traditional physics and quantum physics that plague scientists today.

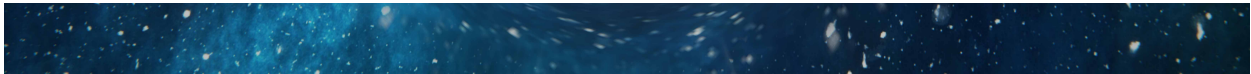
Thus, the mind would exist in the fourth spatial dimension.

### **The mind could be like a black hole.**

Meijer envisions a sort of screen or boundary between the outside world and the individual mental field. He likens this boundary to the event horizon of a black hole.

“It is assumed that information entering a black hole from the outside is not lost, but ... rather is being projected on its outer screen, called the ‘event horizon,’” Meijer wrote.





(Illustration – vchal/Shutterstock)

“Consciousness is a boundary condition between a singularity (black hole) and space within the brain,” he added, noting that the event horizon separates “a mental model of reality for internal use in each individual” from all that exists outside of it. Yet it is connected to a “universal information matrix.”

This “dynamic holographic boundary” collects information from inside the brain as well as from the “information fields in which our brain is permanently embedded,” he told The Epoch Times. “In this manner, it is implicitly connected to a universal information matrix.”

**The structure of the hypothesized mental field could take the shape of a torus.**

The geometrical shape known as a torus is well suited for the nature and functions Meijer attributes to this mental field.

A torus is described by the Merriam Webster dictionary as “a doughnut-shaped surface generated by a circle rotated about an axis in its plane that does not intersect the circle.”

Meijer presented various reasons related to physics theories for this shape. One is related to a theory of how electrical activity in the brain oscillates.

A torus. (local\_doctor/Shutterstock)



The model torus structure suggested by Dr. Dirk Meijer for the mental field connected to the brain (courtesy of Dr. Dirk Meijer)

The torus structure is found in physics from the microscale, to the extreme macroscale of black holes, and the universe as a whole, Meijer explained. It could be instrumental in dynamically integrating information in the mind and brain.

### **Meijer discusses broader implications for the philosophy of mind-matter relationships.**

“Our paper, may directly contribute to an answer on the famous question of [cognitive scientists and philosopher David] Chalmers ...: how can something immaterial like subjective experience and self-consciousness arise from a material brain?” Meijer wrote.

The ability of the mental field to pick up information from other fields, as conceived by Meijer, could also explain some anomalous phenomena, such as extrasensory perception, he noted.

In his view, “consciousness can be regarded as the most basic building block of nature and consequently is present at all levels of the fabric of reality.”

Since quantum physics emerged, scientists have been exploring its ability to explain consciousness, which Meijer’s work fits into.

Another theory called “orchestrated objective reduction,” or Orch-OR, was developed by physicist Sir Roger Penrose and anesthesiologist Dr. Stuart Hameroff, which on Hameroff’s website he **describes** thusly: “It suggests consciousness arises from quantum vibrations in protein polymers called microtubules inside the brain’s neurons.”

(Creative Lab/elRoce/Shutterstock)

Like Meijer, Penrose and Hameroff **believe** “there is a connection between the brain’s biomolecular processes and the basic structure of the universe.” They have also called for a major change in how scientists view consciousness.

Hameroff said in an **interview** with the blog Singularity: “Most scientists can’t explain consciousness in the brain, so they can’t say that consciousness out of the brain is impossible.”

**Update:** Dr. Dirk Meijer has provided The Epoch Times with an update on his paper, clarifying that quantum tunneling and entanglement are not the most likely methods of information transfer between the mental field and the brain. These two phenomena have been shown to provide only a correlation between two particles, not necessarily information transfer (although that may prove to be the case with further research).

Rather, “quantum wave resonance” is a more likely mechanism of extremely rapid information processing in the brain. This means, instead of signals being sent between neurons in the brain, a wave pattern that encompasses all neurons, as well as the mental field, transmits the information instantaneously.

Picture a vibration wave going up and down in a consistent pattern and running all through your brain and even outside of it. That pattern communicates

information that can be understood by vibratory receptors in your brain. All of this is happening in a dimension and at a microscopic level not directly perceptible through conventional scientific instrumentation at our disposal today, yet can be inferred through physical and mathematical modeling.

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Tara MacIsaac

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Tara MacIsaac is an editor and reporter who has worked on a variety of topics over the course of her 10 years with The Epoch Times, including science, the environment, and local New York news. She is currently working with The Epoch Times edition based in Southern California.