

Unifying matter, energy and consciousness: Applying physics to a thorny topic

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Credit: Rice University

With the rise of brain-interface technology and artificial intelligence that can imitate brain functions, understanding the nature of consciousness and how it interacts with reality is not just an age-old philosophical question but also a salient challenge for humanity.

Can AI become conscious, and how would we know? Should we incorporate human or animal cells, such as neurons, into machines and robots? Would they be conscious and have subjective experiences? Does consciousness reduce to physicalism, or is it fundamental? And if machine-brain interaction influenced you to commit a crime, or caused a crime, would you be responsible beyond a reasonable doubt? Do we have a free will?

AI and computer science specialist Dr. Mahendra Samarawickrama, winner of the Australian Computer Society's Information and Communications Technology (ICT) Professional of the year, has applied his knowledge of physics and artificial neural networks to this thorny topic.

He presented a [paper](#) on fundamental physics and consciousness at the *11th International Conference on Mathematical Modeling in Physical Sciences, Unifying Matter, Energy and Consciousness*, which has been published in the AIP (the American Institute of Physics) Conference Proceedings.

"Consciousness is an evolving topic connected to physics, engineering, neuroscience and many other fields. Understanding the interplay between consciousness, energy and matter could bring important insights to our fundamental understanding of reality," said Dr. Samarawickrama.

"Einstein's dream of a [unified theory](#) is a quest that occupies the minds of many theoretical physicists and engineers. Some solutions completely change existing frameworks, which increases complexity and creates

more problems than it solves.

"My theory brings the notion of consciousness to [fundamental physics](#) such that it complements the current physics models and explains the time, causality, and interplay of consciousness, energy and matter.

"I propose that consciousness is a high-speed sequential flow of awareness subjected to relativity. The quantized energy of consciousness can interplay with matter creating reality while adhering to laws of physics, including quantum physics and relativity.

"Awareness can be seen in life, AI and even physical realities like entangled particles. Studying consciousness helps us be aware of and differentiate realities that exist in nature," he said.

More information: Mahendra Samarawickrama, Unifying matter, energy and consciousness, *11th International Conference on Mathematical Modeling in Physical Sciences* (2023). [DOI: 10.1063/5.0162815](#)

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