Trace Institute Launches to Build a New Science of Reality

A new non-profit research institute is launching today to pursue the most fundamental question in science: what is the true nature of reality? Their results may reboot society.

Science is good at solving small problems but struggles with large existential questions like the true nature of reality, consciousness and the origin of the universe. Spanning human history, elite researchers and intellectuals have gone deep into the liminal space where science and philosophy meet and come away empty-handed. Now, a team of researchers led by Drs. Donald Hoffman and Chetan Prakash believe they have the tools to challenge the metaphysical landscape beyond the boundaries of the known world. Armed with new mathematical models that, unlike current versions, center the conscious observer, they will attempt to derive a new science of reality that may upend outdated scientific dogma.

The Trace Institute is launching today to develop and innovate on the theoretical work of two distinguished emeriti professors, Hoffman, a cognitive scientist from the University of California Irvine, and Prakash, a mathematician from Cal State San Bernadino, over two decades. With tech entrepreneur Gaspard Giroud, they have assembled a diverse team to build a unified mathematical theory of conscious observers, interfaces, and traces that are potentially fundamental to the physical universe. They will then apply their arsenal of new theoretical models to seek solutions to long-standing problems in physics, neuroscience, spirituality, and invent novel technologies beyond the limits of current spacetime physics.

Any unified theory of nature must consider the observer whose presence will change the observation. This theorem was formed by the great physicist Werner Heisenberg in his Uncertainty Principle that all high school students learn. But, for humans, the observer is inescapably linked to consciousness in the form of lived experience. Two other Nobel laureates, Max Planck and Erwin Schrodinger also asserted that consciousness may be fundamental to physical matter. Standing on the shoulders of these scientific giants, the Trace Institute will pursue an ambitious research program to move from theory to reality science to technology and IP. Please download the attached white paper for the details.

Hoffman says, "The goal of the Trace Institute is to develop a coherent mathematical account of observation, and to reformulate scientific theory in light of this account." He adds, "The Trace Institute will explore a mathematical framework for science prior to spacetime and show precisely how it can generate spacetime. Our modeling work will allow more precise inquiries into the nature of science, life, consciousness, and reality."

White Paper

Prentner, R., Hermansson, N., Yokoyama, C., Hoffman, D.D., A Science of Reality: Observers, Interfaces, and Traces. URL: https://traceinstitute.org/publications/

Trace Institute

The Trace Institute is a non-profit research organization with a mission to build a science of reality based on mathematical modeling of conscious observers. Founder and Scientific Director Donald D. Hoffman is a Professor Emeritus at the University of California-Irvine, who with colleagues developed the interface theory of perception, conscious agent theory, and the trace logic of conscious realism, among the first observer-based models of nature.

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