Gregg Jaeger--deleted

Subjects: Others
Contributor: Gregg Jaeger

Gregg Jaeger is a scholar working primarily in the foundations of quantum theory, with significant contributions in the areas of the philosophy and history of science and quantum computing technology.

Keywords: fondations of quantum theory ; quantum computing ; philosophy and history of science

Education and Professional Profile

Prof. Gregg Jaeger received three independent B.Sc. degrees in the subjects Mathematics, Physics, Philosophy from the University of Wisconsin in 1986 and a Ph.D. Physics at Boston in 1995 under the supervision of Abner Shimony. Prof Jaeger is Associate Professor of Natural Sciences and Mathematics at Boston University teaching teaching in both the College of General Studies (Natural Sciences & Mathematics, and Humanities) and the College of Arts and Sciences (Mathematics, Philosophy, Physics), and supervising PhD candidates in the Graduate School of Arts and Sciences (CGS). Prof. Jaeger has authored three monographs, one joint book, and co-edited one book as well as several conference proceedings; he has also written numerous journal articles and book chapters, as well as two patents in quantum computing technology. His career has largely followed the interests of his “intellectual grandfather,” Eugene Wigner.

Postdoctoral Period

Prof. Jaeger’s postdoctoral research was carried out in experimental as well as theoretical physics at the U.S. National Institute of Science and Technology (East) and in the history and philosophy of science at the Dibner Institute at the Massachusetts Institute of Technology. He currently carries out research in and teaches courses in quantum mechanics, statistical mechanics, quantum information, the history and philosophy of physics, mathematics, and linguistics.

Early Career

Prof. Jaeger’s early work focused on quantum information science and optical metrology and the history and philosophy of chemistry. The former involved intensive work on the process and consequences for entangled light of parametric down-conversion of laser light. He subsequently wrote two basic patents in quantum computing technology exploiting light so produced as well as quantum fuzzy logic. He then began to focus on quantum decoherence theory and quantum measurement, demonstrating key effects of noise on multipartite quantum entanglement and Bell-inequality violation.

Research Collaborations

His collaborative research in the team setting has involved participation in the groundbreaking DARPA Quantum Network Testbed Project and was co-PI of the follow-on project moving extending this work to high transmission rates and long distances DARPA Quiness program.

Later Career

Prof. Jaeger's current research focuses on the foundations work has focused on the interpretation of quantum mechanics and quantum field theory. For example, he has put the foundational approaches of quantum theory of Werner Heisenberg and Julian Schwinger on deeper, logic principles. Most recently, he has been clarifying the ontological status of virtual particles in the mediation of fundamental forces and of fundamental particles.

Professional webpage: http://math.bu.edu/people/jaeger/

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