



Weds, Mar. 19

**Hamerschlag Hall
Room D210 at
12:00 p.m.**



John D. Norton
Professor
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The Neglect of Fluctuations in the Thermodynamics of Computation

John D. Norton is Professor in the Department of History and Philosophy of Science and Director of the Center for Philosophy of Science, University of Pittsburgh. His research interests include history and philosophy of physics, with a special emphasis on Einstein's discovery of special and general relativity and his work in statistical physics. He also works on general topics in philosophy of science, including theories of inductive inference.

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The Neglect of Fluctuations in the Thermodynamics of Computation

The thermodynamics of computation assumes that thermodynamically reversible processes can be realized arbitrarily closely at molecular scales. They cannot. Overcoming fluctuations so that a molecular scale process can be completed creates more thermodynamic entropy than the small quantities tracked by Landauer's Principle. This no go result is the latest instance of a rich history of problems posed by fluctuations for thermodynamics.

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