International Conference on

**The Conceptual Foundations of Statistical Mechanics**

Monday- Thursday, May 22 - 25, 2000

at the Van Leer Jerusalem Institute

A cooperation of

The Edelstein Center for the History and Philosophy of Science, Technology and Medicine, The Hebrew University of Jerusalem

The Cohn Institute for the History and Philosophy of Science and Ideas Tel Aviv University

The Van Leer Jerusalem Institute

**Monday, May 22, 2000**

**First Session (9:30-13:00): Entropy and Information**

Chair: Itamar Pitowsky

Jacob D. Bekenstein: The Limits of Information

Harvey R. Brown: Comparing the Approach to Equilibrium in Thermodynamics and Statistical Mechanics

Katinka Ridderbos: Against Coarse Graining

Lunch Break

**Second Session (15:00-18:30): Demons**

Chair: Sam Schweber

David Z. Albert: The Idea of Entropy and the Possibility of Maxwellian Demons

Itamar Pitowsky: Fluctuations, Correlations and Demon Communications

John D. Norton: Exorcist XIV: the Wrath of Maxwell's Demon

**Tuesday, May 23, 2000**

**Third Session (9:30-13:00): Statistical Mechanics and Quantum Mechanics**

Chair: Issachar Unna

Yakir Aharonov: Time in Quantum Mechanics

Jeffrey Bub: Maxwell's Demon and the Thermodynamics of Computation

Lev Vaidman: The Concept of Probability in the Many-worlds Interpretation of Quantum Mechanics

Barry Loewer: Objective Chance and Determinism

Tour of the Old City of Jerusalem (14:00-19:00)

Meeting point at the VLJI

**Wednesday, May 24, 2000**

**Fourth Session (9:30-13:00): Interpretation**

Chair: Mark Steiner

Lawrence Sklar: The Interpretation of Theories: The Case of Statistical Mechanics

Yemima Ben-Menahem: Direction and Description

Yair Guttmann: To be announced

Lunch Break

**Fifth Session (15:00-18:30): Interventionism**

Chair: Menachem Fisch

Craig Callender: The Open System and Its Enemies

Orly Shenker: Some Philosophical Remarks on Interventionism

Meir Hemmo: Quantum Decoherence and the Second Law

**Thursday, May 25, 2000**

**Sixth Session (9:30-13:00): Irreversibility**

Chair: Giora Hon

Huw Price: The Use and Abuse of Initial Randomness

Avshalom C. Elitzur: An Intrinsic Time Arrow Independent of Initial Conditions?

Jos Uffink: Teeth and Arrows; the Second Law of Thermodynamics and the Concept of Irreversibility

Lunch Break

**Seventh Session (15:00-18:30): Ergodicity and Complexity**

Chair: Leo Corry

Cristopher Moore: Computational Complexity in Statistical Physics

Janneke van Lith: Ergodic Theory, Interpretations of Probability and the Foundations of Statistical Mechanics

Michael Lachmann: What does Evolution Look like when Liouville's Theorem Holds?

Farewell Dinner (20:00)