The Indeterminacy of Computation

RESEARCH WORKSHOP OF THE ISRAEL SCIENCE FOUNDATION

10-13 July 2023

Organizers:
Oron Shagrir (The Hebrew University of Jerusalem)
Nir Fresco (Ben-Gurion University of the Negev)

Israel Institute for Advanced Studies
Edmond J. Safra Campus, Givat Ram
The Hebrew University of Jerusalem

Monday, 10 July

09:30-10:00 Registration

10:00-11:00 Gualtiero Piccinini (with Neal Anderson) / The Physical Signature of Computation: A Robust Mapping Account

11:00-11:30 Coffee Break

11:30-12:30 Paula Quinon / Variety of Computation in the Framework of Carnapian Explication and in Conceptual Spaces

12:30-14:00 Lunch Break

14:00-15:00 Jack Copeland / Slutzing and Oroning (and What's the Difference?)

15:00-15:30 Coffee Break

15:30-16:30 Stewart Shapiro (with Richard Samuels & Eric Snyder) (via Zoom) / Computability, Notation, and de re Knowledge of Numbers

16:30-17:00 Coffee Break

17:00-18:00 Nachum Dershowitz / Honest Representations

18:00   Reception in the IIAS lobby

Tuesday, 11 July

9:30-10:30 Ori Hacohen and Gal Vishne / Neural Representations are not Natural Representations: The Case from Content Multiplicity

10:30-11:00 Coffee Break

11:00-12:00 Lotem Elber-Dorozko / The Good, the Bad, and the Ugly: Why some Computational Models of Cognitive Capacities are More Controversial than Others

12:00-13:30 Lunch Break

13:30-14:30 Dimitri Coelho Mollo / Understanding Large Language Models: From Benchmarks to Cognitive Ontologies

14:30-15:00 Coffee Break

15:00-16:00 Jens Harbecke and Oron Shagrir / Computational Indeterminacy and Mental Causation

16:00-16:30 Coffee Break

16:30-17:30 Meir Hemmo and Orly Shenker / Individuation in Quantum Computation

Wednesday, 12 July

9:30-10:30 Marcin Milkowski / Can the Semantic Account of Computation be Trivialized?

10:30-10:45 Coffee Break

10:45-11:45 Andre Curtis-Trudel / Computation, Triviality, and Observer-Relativity

11:45-12:15 Coffee Break

12:15-13:15 Nir Fresco (with Marc Artiga and Marty Wolf) / Wide Teleofunctional Individuation of Computation

13:30　　　　Depart for Old City tour (packed lunches to be provided)

Thursday, 13 July

9:30-10:30 Gordana Dodig-Crnkovic / Every Cell Processes Information (Computes) and Makes Sense of It.

10:30-11:00 Coffee Break

11:00-12:00 Corey John Maley / Abstraction, Automata, and Implementation

12:00-13:30 Lunch break

13:30-14:30 Philippos Papagiannopoulos (with Alberto Naibo) / Euclid Goes to Russia: Geometric Constructions, Algorithms, and Constructive Objects

14:30-15:00 Coffee Break

15:00-16:00 Carl Posy / A Dilemma for Indeterminism?