Paraconsistent Computing Workshop

The Logic & Metaphysics Workshop, CUNY G.C.

Room 7113.08 (7th floor) | Friday, September 26, 2025

11:00 am – 5:00 pm

Organizers: Eno Agolli & Yale Weiss (CUNY Graduate Center)

Speakers/Participants:

- Fernando Cano-Jorge (University of Otago)
- Thomas Macaulay Ferguson (Rensselaer Polytechnic Institute)
- Graham Priest (CUNY Graduate Center)

Program

Talk 1. Inconsistent sets and how to compute them
Fernando Cano-Jorge (University of Otago) . . . . 11:00 – 12:15 am

Lunch and coffee . . . . 12:15 am – 1:15 pm

Talk 2. Computation in inconsistent arithmetics
Fernando Cano-Jorge (University of Otago) . . . . 1:15 – 2:30 pm

Break . . . . 2:30 – 2:45 pm

Talk 3. Inconsistent Computations in Explicit Bilateral Logics
Thomas Ferguson (Rensselaer Polytechnic Institute (RPI)) . . . . 2:45 – 4:00 pm

Brainstorming + Roundtable
Open floor; remarks by all participants . . . . 4:00 – 5:00 pm / open-ended

Abstracts

Inconsistent sets and how to compute them (Fernando Cano-Jorge)

The idea of a paraconsistent computability theory has been proposed as a way to work effectively with inconsistent sets of numbers. The viability of such a theory, though–the very coherence of the idea of an 'inconsistent recursive relation'–has been called into doubt, most recently in Choi (2022). In this paper we remove some doubt, by setting out a simple model of (naïve) set theory in LP, showing how to compute inconsistent sets in terms of extensions and antiextensions, and establishing further representability results. This suggests a way that a longstanding and apparently impossible-to-answer question–how can inconsistency be computed?–can be answered.

Computation in inconsistent arithmetics (Fernando Cano-Jorge)

In this talk I give an argument showing that untrue equations are provable in Meyer & Mortensen's inconsistent arithmetics if we use the minimization operation for general recursive functions. There are two ways to interpret this result: (1) inconsistent arithmetics of that sort cannot compute what standard arithmetic can, in pain of triviality; or (2) these theories require an inconsistent metatheory to be coherent. I discuss some of the consequences of these diagnoses and I end by showing why my argument would not go through if we used Priest's inconsistent arithmetics instead.

Inconsistent Computations in Explicit Bilateral Logics (Thomas Ferguson)

In some previous work, I examined explicit versions of two bilateral constructive logics with Artemov/Fitting-style techniques. The intent was to show that the implicit account of the interactions of proofs and refutation in Nelson's N4 could be shown to be more natural than that of Heyting-Brouwer logic. Given Curry-Howard correspondences, though, we can also look at the explicit logics computationally. I'll use this talk as an opportunity to look at the computational behavior of inconsistent computations in the form of terms that serve as a proof and refutation of the same formula.