

World Logic Day

Logic and Philosophy of Mathematics in the evening* (*CET)

University of Konstanz

Organized by Deborah Kant (University of Konstanz) and Deniz Sarikaya (University of Hamburg)

The event “Logic and Philosophy of Mathematics in the evening* (*CET)” was meant to be a lively and brief celebration of key works in logic and the philosophy of mathematics. Four top researchers accepted our invitation. We were happy that among them two female philosophers took part as women are usually underrepresented in logic. It was held as an online meeting on January 14, 2021, from 18:00 – 20:30.

Summaries of the talks:

Graham Priest (Graduate Center, City University of New York & University of Melbourne) held the first talk “Where did contemporary paraconsistency come from?” He is a logician in philosophy and focuses on paraconsistent logic. In his talk, Priest presented an overview on the historical developments of paraconsistent logic by emphasising the methodological reflections for specific events, be it suggesting a new inference rule, discussing a new paraconsistent system, or pointing out philosophical subtleties for the idea of paraconsistency.

Gil Sagi (University of Haifa) gave the second talk “Formalization and Anthropocentrism.” She is a philosopher focussing on the philosophy of logic. The talk was dedicated to Mark Steiner who died because of COVID-19 in 2020. Following Steiner’s idea of anthropocentrism, Sagi delineated a logical system that is motivated by the Humanities instead of the Sciences. The formalization in this system requires an explicit indication of interpretations. One word can have several interpretations, for example. This allows to incorporate into the formal system the idea that interpretation (such as an intended reading) is part of formalization.

Silvia De Toffoli (Princeton University) set out a fallibilist account of mathematical justification in her talk “Mathematical Justification”. She is a philosopher whose research is central to current philosophy of mathematical practice. She proposes to replace the notion of mathematical justification by a formal deduction by a human notion of mathematical justification that takes into account the actual doxastic attitudes of mathematicians. The idea cashes out cases in which some mathematical proof was published but later found to contain mistakes. De Toffoli argues that mathematicians were mathematically justified to believe the result of the mistaken proof.

Jouko Väänänen (University of Helsinki & University of Amsterdam) was talking fourth about “Logic and the three games.” He is a logician in mathematics also doing philosophy. Väänänen elaborated on three games in logic: the evaluation game for the satisfaction of a sentence in a model, the model existence game aiming at proving the consistency of some sentence, and the Ehrenfeucht-Fraissé game which should result in a model M in which some sentence is satisfied and a model N, in which it is false. He argues that these three games already capture everything important in logic and suggests that research on their interaction has a lot of potential.