



Plenary Address:

“Representing and Reasoning with Preferences”

Toby Walsh
University College Cork, U.K

"Where choice begins, Paradise ends ... for what is Paradise but the absence of any need to choose this action" Arthur Miller 1964

Many problems in AI require us to represent and reason about preferences. You may, for example, prefer to schedule all your meetings after 10am. Or you may prefer to buy a faster computer than one with a larger disk.

In this talk, I will describe various formalisms proposed for representing preferences. I will discuss how we can reason about preferences, possibly in the presence of hard and soft constraints. I will also consider how we can aggregate the preferences of multiple agents and show, using an extension of Arrow's theorem, why this can never be done fairly.

[Joint work with Francesca Rossi and Brent Venable of the University of Padova]