

Preference reasoning in computational social choice

Prof. Maria Silvia Pini¹

¹ *University of Padova*
Department of Information Engineering
Email: pini@dei.unipd.it

Timetable: 12 hrs. First lecture on June 17, 2013, 14:00 (dates already fixed, see the calendar), Torre Archimede, Room 2BC/30.

Course requirements: None

Examination and grading: The students' performance will be assessed for each course via an academic paper where the student will relate his research area with some of the topics presented in the course. Failure to submit papers within a required deadline, without prior endorsement by the lecturer, will be considered as an insufficient result.

SSD: ING-INF/05 (Informatics) and INF/01 (Computer science)

Aim: I want to show the crucial role of preference reasoning in a new field of research called Computational Social Choice, which is an interdisciplinary field of study at the interface of social choice theory and computer science, promoting an exchange of ideas in both directions. On the one hand, it is concerned with the application of techniques developed in computer science, such as complexity analysis or algorithm design, to the study of social choice mechanisms, such as voting procedures. On the other hand, computational social choice is concerned with importing concepts from social choice theory into computing. For instance, social welfare orderings originally developed to analyse the quality of resource allocations in human society are equally well applicable to problems in multiagent systems or network design.

Course contents: Computational social choice, preferences, voting rules, preference aggregation with uncertainty, compact preference formalisms and stable matching problems.