International Conference on History and Philosophy of Computing (HAPOC)

The International Conference on *History and Philosophy of Computing (*7-10 November, Ghent University, Belgium), collected for the first time in a single venue philosophers, logicians, historians of computing, mathematicians, computer scientist. Aiming at arising historical awareness on the evolution of computing and soliciting a philosophical insight into its fundamental problems, topics included: history of computation; philosophical, foundational and practical issues of computability in logic, mathematics, computer science and other sciences. The programme included 29 contributed papers (selected out of 52 submitted) and 7 invited speakers:

> William Aspray, (University of Texas, US): "Three Topics in the History of Computing". An overview on the development of the concepts of computability, information business, information society and the use of history in their study.

> Martin Davis (Courant Institute, NYU): "Universality is Ubiquitous". A discussion of the foundational work on computability underpinning the development of all-purpose computers.

> Fairouz Kamareddine (Heriot-Watt University, Edinburgh): "From the foundation of mathematics to the birth of computation". A reconstruction of basic ideas of computer science in the light of principles of mathematics and logic, in particular the theory of types.

> Sybille Krämer (Freie Universität Berlin, Germany): "Mathematicizing power, formalization, and the diagrammatical mind or: What does 'computation' mean?". A philosophical understanding of the notion of computation as characterized by symbolism, visualization and diagrammatics.

> Giovanni Sambin (Universita' di Padova, Italy): "Computability without Turing Machines". The development of intuitionistic and predicative topology conceived as including an abstract theory of computation without Turing machines.

> Raymond Turner (University of Essex, UK): "Towards a Philosophy of Computing Science". An exploration of issues related to the semantics of programming languages and specifications.

> Stephen Wolfram (Wolfram Research): "Making the World Computable". An historical and theoretical overview of mechanization of mathematical knowledge in the Mathematica and Wolfram Alpha projects.

The programme of contributed talks covered all relevant aspects of computing sciences. Foundational issues were tackled with an overview of computable (non-standard) analysis in Turing and today (Gherardi, Sanders) and with a refinement of computability for models of complexity (Dean). The historical approach was largely influential, with recounters of the development of machines and software (D'Udekem-Gevers, Henriksson, Mounier-Kuhn), including those that never made to the market (Shilov & Kitov, Bondecka-Krzykowska) and the related retrospective conceptual analysis of algorithms from the current viewpoint (Bullynck, Durnova, Numerico). The relation between computing and the sciences touched theory choice and simulation (De Langhe, Brand); AI and its epistemology (Nickel, Bach); information and complexity theories (D'Alfonso, Camardi); bio-computing and the medical sciences (Moore & Kirby, Parolini). A significant number of contributions were dedicated to computer science: its evolution and philosophical significance in modern infrastructures (Geske, Gobbo & Benini); the role of computer experiments in the philosophy of science (Schiaffonati & Verdicchio); the meaning and the semantics of programming (Mascella, Hernandez-Quiroz). Abstracts of the talks can be found at www.computing-conference.ugent.be.

HAPOC has revealed a grey area of important interactions among the different fields connected by computing and we believe the philosophical and historical approach will prove methodologically crucial. A next smaller event will be www.computing-conference.ugent.be/hapop12.

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Liesbeth de Mol & Giuseppe Primiero
Centre for Logic and Philosophy of Science, UGent

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