6TH CONFERENCE ON COMPUTABILITY IN EUROPE
"PROGRAMS, PROOFS, PROCESSES"

CO-SPONSORED BY THE ASSOCIATION FOR SYMBOLIC LOGIC

University of Azores, Ponta Delgada, Azores, Portugal
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CiE 2010 is the sixth conference of the series **Computability in Europe**. The theme of CiE 2010, *Programs, Proofs, Processes*, points to the usual CiE synergy of Computer Science, Mathematics and Logic, with important computability-theoretic connections to science and applications. Formal systems, attendant proofs, and the possibility of their computer generation and manipulation (for instance, into programs) have been changing a whole spectrum of disciplines. The conference addressed not only the more established lines of research of computational complexity and the interplay between proofs and computation, but also novel views that rely on physical and biological processes and models to find new ways of tackling computations and improving their efficiency.

The conference was based on invited tutorials and lectures, and six special sessions. There also were many contributed papers and informal presentations. The conference proceedings volume has been published in the Springer LNCS series, Volume 6158, and contains twenty of the invited papers and twenty-eight of the submitted contributed papers. An abstract and handout booklet, locally published by the Center for Applied Mathematics and Information Technology of the University of Azores, contains the abstracts of two tutorials, of six invited plenary speakers, of a tribute to Marian Pour-El, two abstracts and a paper of the special sessions, thirty-six contributed papers as well as twenty-nine abstracts of informal presentations. The Best Student Paper Award was given to Rebecca Steiner (CUNY) for her paper *Computable fields and weak truth-table reducibility*. There will be a number of post-conference publications, including special issues of **Annals of Pure and Applied Logic** and **Theory of Computing Systems**.

There were eight invited plenary talks:

Eric Allender (Rutgers University), *New surprises from self-reducibility*.
José L. Balcázar (University of Cantabria), *Towards a logic of association rules*.
Shafi Goldwasser (Weizmann Institute and MIT), *On the possibility of cryptography without (so many) secrets*.
Denis Hirschfeldt (University of Chicago), *Algorithmic randomness and lowness*.
Seth Lloyd (MIT), *Quantum algorithm for solving linear systems of equations*.
Sara Negri (University of Helsinki), *A survey of labelled sequent systems*.
Toniann Pitassi (University of Toronto), *The story of set disjointness*.
Ronald de Wolf (CWI, Amsterdam), *Quantum proofs for classical theorems*.

Toniann Pitassi was the APAL lecturer. Bruno Codenotti (Istituto di Informatica e Telematica, CNR, Pisa) gave a three part tutorial entitled *Computational game theory*. Due to sickness, the other invited tutorial speaker, Jeffrey Bub (University of Maryland), could not be present.