

http://www.sci.unich.it/~bista/organizing/soft2003/

Held in conjunction with the 9th International Conference on Principle and Practice of Constraint Programming (CP2003)

September 29th, 2003

Actons Hotel, Kinsale, County Cork,
Ireland

Proceedings



5th International Workshop on Soft Constraints (Soft-2003)

Held in conjunction with the 9th International Conference on Principle and Practice of Constraint Programming (CP2003)

September 29th, 2002 Actons Hotel, Kinsale, County Cork, Ireland

Preface

The International Workshop on Soft Constraints is the fifth in a series of workshops organized in conjunction with the international conference CP.

These last years, there has been a lot of effort spent on extending the classical framework of constraint networks in order to relax the crispness of constraints. New frameworks have been defined to handle fuzziness, preferences, uncertainties or costs at the constraint level itself, allowing "soft" constraints to be partially satisfied without making a solution unacceptable. This ability is indeed often needed in practice when modeling real problems and new frameworks may still be required for specific application requirements.

In these new frameworks, the central problem of satisfaction becomes a problem of finding a preferred solution according to a specific criterion induced by the soft constraints. In some cases, the specific semantics of the constraints may reduce the problem to famous problems such as eg. Max-Sat when constraints are clauses. In order to better solve such optimization problems, new properties and algorithms have been considered and still need to be developed.

The aim of this workshop is to provide a forum where researchers currently working on soft constraints can discuss their more recent ideas and developments and think together about the most promising new directions.

This year the workshop offers also two interesting invited talk in hot topics:

- Dave Cohen (Royal Holloway, University of London, UK): Soft Constraint Islands of Tractability
- Simon N. Foley (University College Cork, Ireland): Will soft constraints make security any easier?

Stefano Bistarelli, Javier Larrosa and Thomas Schiex

5th International Workshop on Soft Constraint (Soft-2003)

Workshop Chairs:

Stefano Bistarelli

IIT-C.N.R., Pisa, Italy
Stefano.Bistarelli@iit.cnr.it
and
Dipartimento di Scienze,
Università di Pescara, Italy
bista@sci.unich.it

Javier Larrosa

Software Department, Universitat Politècnica de Catalunya, UPC, Spain larrosa@lsi.upc.es

Thomas Schiex

Biometry and Artificial
Intelligence Dept, Institut
National de La Recherche
Agronomique Castanet
Tolosan Cedex, France
tschiex@toulouse.inra.fr

Program Committee:

Fadi Aloul (Electrical Engineering & Computer Science University of Michigan - Ann Arbor, USA)

Hélène Fargier (IRIT, Université Paul Sabatier, France)

Thom Fruehwirth (University of Ulm, Germany)

Carmen Gervet (IC-Parc, Imperial College, UK)

Ulrich Junker (ILOG, France)

Jimmy H. M. Lee (The Chinese University of Hong Kong, Hong Kong)

Pedro Meseguer (IIIA-CSIC, Bellaterra, Spain)

Barry O'Sullivan (University College Cork, Ireland)

Francesca Rossi (University of Padova, Italy)

Table of Contents

A local search framework for semiring-based constraint satisfaction problems S. K. L. Fung, J.H.M. Lee, H.F. Leung

A logic of partially satisfied constraints

Nic Wilson

Ordinal Constraint Satisfaction E.C. Freuder, R.J. Wallace, R. Hefferman

Soft consistencies for weighted CSPs K. Brown

NSCSP: Definition and resolution by transformation A. Anglada, P. Codognet, L. Zimmer

Symmetry breaking in soft csps 5. Bistarelli, J. Kelleber, B. O'Sullivan

An elegant and efficient way of implementing Russian Doll Search for Variable Weighted CSP

T. Benoist, M. Lemaitre

A general conflict-set based framework for partial constraint satisfaction T. Petit, C. Bessiere, J.C. Regin

Evaluation-based semiring meta-contraints *J. Kelleber, B. O'Sullivan*

5th International Workshop on Soft Constraint (Soft-2003)