PHD POSITION available in Trento (Italy) on "Advancing Optimization Modulo Theories"

http://disi.unitn.it/rseba/PHD-OMT19-recruit.pdf
https://ict.unitn.it/education/admission/call-for-application
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One PhD position in ICT on the research project "Advancing Optimization Modulo Theories" is available at the International Doctorate School in Information and Communication Technologies (http://www.ict.unitn.it/) of the University of Trento, Italy, under the supervision of prof. Roberto Sebastiani, DISI, University of Trento (http://disi.unitn.it/rseba/). The research activity will be carried out within the Software Engineering & Formal Methods Research Program, at Department of Information Engineering and Computer Science (DISI) of University of Trento.

Aim and Scope. The research activity will aim at investigating and developing novel techniques, methodologies and support tools advancing the state of the art in Optimization Modulo Theories (OMT). In particular:

- extending OMT with optimization with non-linear constraints and objectives;

- extending OMT for dealing with Constraint Programming in MiniZinc.

All such tools will be implemented inside the OptiMathSAT OMT solver (http://optimathsat.disi.it/) developed in Trento on top of the MathSAT.5 SMT platform (http://mathsat.fbk.eu/).

Candidate Profile. The ideal candidate should have an MS or equivalent degree in computer science or engineering or mathematics (or equivalent), and combine solid theoretical background and excellent software development skills (in particular C/C++). Background knowledge and/or previous experience in the following areas (in order of preference), though not mandatory, will be considered very favorably: Satisfiability Modulo Theory (SMT), Constraint Solving and Optimization, Mixed Integer Programming (MIP), Propositional Satisfiability (SAT) and related, Automated Reasoning, Model Checking. The candidate should be able to work in a collaborative environment, with a strong commitment to reaching research excellence and achieving assigned objectives.

Terms and dates. Ph.D. courses will start in Autumn 2019, and the thesis must be completed in three or four years. People enrolled Ph.D. courses are expected to move to Trento, and will receive monetary support during phases of their activity. Facilities for meals at the local canteen and for housing will be provided.

Location. Trento is a lively town of about 100.000 inhabitants, located 130 km south of the border between Italy and Austria. It is well known for the beauty of its mountains and lakes, and it offers the possibility to practice a wide range of sports. Trento enjoys a rich cultural and historical heritage, and it is the ideal starting point for day trips to famous towns such as Venice or Verona, as well as to enjoy great naturalistic journeys. Detailed information about Trento and its region can be found at http://www.trentino.to/home/index.html?_lang=en.

Applications and Inquiries. Interested candidates should inquire for further information by email to roberto.sebastiani@unitn.it. with subject 'PhD on Advancing OMT'. Inquires should contain a statement of interest, with a Curriculum Vitae, and the names of up to 3 reference persons. PDF format is strongly encouraged. You can also personally contact Roberto Sebastiani who is attending the IJCAI-2019 School and CADE-2019 afterwards. The interested candidates shall mandatorily apply to the official call at ICT school which has opened on August 7, 2019, with **deadline September 4, 2019**, (see https://ict.unitn.it/education/admission/call-for-application , project grant "C1 - Optimization Modulo Theories").