First Prometidos Summer School

Madrid, 19-21 September

PROMETIDOS-CM(*Madrid Program in Rigorous Methods for the Development of Software*) is a R+D program funded by the regional government of Madrid, Spain, that involves some leading research groups in Computer Science in the region (IMDEA-Software, CLIP-UPM, BABEL-UPM, FADOSS-UCM, GPD-UCM). The scientific interests of PROMETIDOS-CM cover all aspects of development of software based on modular, scalable and realistic rigorous methods.

One of the strategic purposes of PROMETIDOS-CM is the realization of effective training actions to introduce young post-graduate and PhD students in the research area of rigorous methods. The announced Summer School attempts to be a contribution in this sense.

Alexander Malkis

Verification of multi-threaded programs

We give a short survey on verification of multi-threaded programs. The first part of our talk will concern practical verification in the SPIN tool, touching the following topics: Specification in Promela, saving space via COLLAPSE and automata encoding, saving time via partial order reduction. The second part of our talk will concern modular methods that try to save time and space even more: Owicki-Gries, rely-guarantee, thread-modular model checking, multithreaded Cartesian abstraction, concurrent procedures specification, thread simplification, Cartesian abstraction refinement.

Alexander has obtained his Diploma degree from the University of Saarland, Germany, in 2004-2005, for a work on polyforms (in other terminilogy, bond animals) under the guidance of Prof. Dr. Raimund Seidel; during his studies Alexander was financed by the prominent foundation "Studienstiftung des deutschen Volkes". He continued his studies in Saarbruecken and Freiburg, funded by the Max-Planck society and the DFG (German science foundation), obtaining his PhD thesis in 2010 at the University of Freiburg for a work on verification of multithreaded programs under guidance of Prof. Dr. Andreas Podelski. In April 2010, he joined IMDEA Software.`