

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.

David de Frutos Escrig

Semantics of Concurrent Processes: Unification and new Directions.

The complexity of parallel systems produces a large collection of semantics for processes. We have looked for the ways to introduce some order in it, getting the keys to produce a systematic presentation of the spectrum of semantics using several frameworks: observational, equational and logic semantics. Our study produces not only a taxonomic classification, but more importantly take out the principles that participate in the conception of each of the semantics, and gives us some general techniques to study all the semantics in a uniform way, without needing to develop similar but separate proofs for the general results that are applicable to all of them. Moreover, we will discuss new aspects to take into account if we want to produce more accurate semantics that capture in the adequate way the characteristics of the different actions executed by a process. This means covariant-contravariant semantics and conformance, by means of which we can define more natural orderings that make the semantics more naturally applicable in practice.

David de Frutos Escrig is a Full Professor of Computer Science that is mainly interested in the study of Semantics for Programming Languages and Systems, and in particular in the Semantics of Concurrent Processes. As a consequence he has focussed his (recent) research in the field of Process Algebras and Petri Nets. He has supervised 8 Ph.D. Thesis devoted to these topics, and in particular the last two were devoted to the Unification of Process Semantics and the Decidability of Properties of Petri Net Systems including Replication and Names.
