



European Conference on Iteration Theory
September 12-17, 2010
Nant, France

Forewords

The European Conference on Iteration Theory, ECIT 2010, has been held on September 2010, 12-17, in Midi-Pyrénées, France. It was organized at “Le Roc nantais”, in Nant, Aveyron, by the “Institut National des Sciences Appliquées de Toulouse” (INSA) with the help of the Conseil Régional of Midi-Pyrénées and the Laboratory for Analysis and Architecture of Systems (LAAS). ECIT 2010 followed the sequence of meetings started in Toulouse 1973 and continued in Graz, Austria, 1977, Marburg, Germany, 1980, Toulouse, France, 1982, Lochau, Austria, 1984, Caldes de Malavella, Spain, 1987, Batschuns, Austria, 1989, Lisboa, Portugal, 1991, Batschuns, Austria, 1992, Opava, Czech Republic, 1994, Urbino, Italy, 1996, Muszyna, Poland, 1998, La Manga del Mar Menor, Spain, 2000, Evora, Portugal, 2002, Batschuns, Austria, 2004, Gargnano, Italy, 2006 and Yalta, Ukraine, 2008.

The main topic of ECIT is iteration theory. This theory is a branch of mathematics and includes topics related to discrete dynamical systems and functional equations. The aim of these theoretical studies is to model, analyze and understand iterative process, for example, systems with discrete time. Such systems can be obtained from many different fields of application: engineering (control theory, electronics,...), physics, mechanics, economics, biology, ecology, ...

All these questions have given rise to the introduction and the development of several branches of mathematics, related with the iteration theory, as, for instance:

- Theory of singularities
- Bifurcation theory
- Dynamical systems with small perturbations
- Topological dynamics
- Ergodic theory
- Symbolic dynamics
- Embedding problems
- Iteration theory, in particular also iteration groups and semi-groups
- Iterative and linear functional equations

In this ECIT 2010 conference, there were 73 participants, issued from many different countries including Algeria, Austria, China, Czech Republic, Germany, India, Israel, Italy, Poland, Portugal, Russia, Spain, Tunisia and Ukraine. 57 talks have been given and there were many very fruitful exchanges and discussions during the special sessions “Problems and remarks” and during the whole conference.

The present issue of ESAIM Proceedings gathers 18 contributions by participants to the ECIT 2010 conference. These papers are related to the different thematics, which have been proposed during the conference, among them, symbolic dynamics, dynamical systems, functional equations, bifurcation theory,... We thank all authors for their contribution to this issue of ESAIM Proceedings.

The guest editors,
Danièle Fournier-Prunaret, Laura Gardini and Ludwig Reich

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