



IFIP TC-5

Special Interest Group Computer Aided Inventing

The Topical Session 6, Computer Aided Inventing, took place on Tuesday 24 August, as part of the 18th IFIP World Computer Congress 2004, in Toulouse, France.

Organizer was Noel León-Rovira, ITESM Campus Monterrey, Mexico.

Computer Aided Innovation software has been emerging in the last decade based, among others, on the Theory of Inventive Problem Solving (TRIZ). Computer Aided Innovation is evolving to become an important component in the Product Creation Process.

The topical session Computer Aided Inventing was aimed to provide the opportunity to present the latest developments and challenges in the domain of computer tools that contribute to more effective ways of establishing innovation lines and for solving innovation and inventive problems.

During the sessions were present participants from China, France, Germany, Italy, Mexico, Sweden, Switzerland and USA.

Following papers were presented:

Session 1: Fundamentals of Computer Aided Inventing

Chair: Mirna Flores ((Polytechnic Milano, Italy),

- Towards "inventiveness-oriented" CAI tools - Denis Cavallucci (INSA Strasbourg, France), Noel Leon (ITESM Campus Monterrey, Mexico)
- Exploring the inclusion of design factors in Computer Aided Inventing - Rosario Vidal, Elena Mulet (U. Jaume I, Spain), Belinda López-Mesa Luleå (U. Technology, Sweden), Graham Thompson (UMIST, Manchester, UK)
- State of the art and trends of computer aided innovation software and its tools and methods - Gaetano Cascini (U. Florence, Italy)

Session 2: Computer Aided Inventing and Innovation Management

Chair: Gaetano Cascini (U. Florence, Italy)

- Computer Aided Comprehensive Design for Six Sigma (DFSS) and Axiomatic Design (AD) – Michael S. Slocum (Breakthrough Management Systems, USA)
- TRIZ and Computer Aided Inventing - Sergei Ikonen (International TRIZ Association, USA/Russia)
- Optimization vs. Innovation in a CAE Environment, - Noel Leon, Jorge Gutierrez, Oscar Martinez, Carlos Castillo, ITESM, Campus Monterrey, Mexico

(The papers presented are published in the proceedings of the conferences: _____)

Session 3: Panel

Will Computer Aided Innovation and Invention play a significant role in the Product Creation Process?

Moderator: Noel León (ITESM Campus Monterrey, Mexico)

Participants: Rosario Vidal (U Jaume I, Spain), Gaetano Cascini, (U. Florence, Italy), Valeri Souchkov (INSYTEC B.V, The Netherlands) Michael Slocum (Breakthrough Management Systems, USA); Belinda López-Mesa Luleå (U. Technology, Sweden); Guillermo Robles, (National Polytechnic Institute Toulouse, France)

After the presentations of the papers and during the panel session, interesting discussions took place on how to continue developing the tools and methods for computer aided inventing.

Following recommendations and comments were made:

- The time is arrived for the development of tools and methods for computer aided inventing as was demonstrated by the papers presented
- New workshops and conferences should be organized in order to attract more scientists, Ph.D. students, and practitioners that may contribute to this topic.
- More emphasis should be put in attracting scientists and practitioners from outside of the TRIZ community.
- It was suggested continuing the research and development on this topic and looking for support from companies and other institutions.

- A book of the State of the Art of Computer Aided Inventing is required.

