First International Conference on
Complex Systems Design and Management (CSDM 2010)

October 27-29, 2010 – Cité Universitaire, Paris (France)

CSDM 2010 PROGRAMME – FIRST ANNOUNCEMENT

Web: http://www.csdm2010.csdm.fr – Email: contact@csdm.fr

Registration information: http://www.csdm2010.csdm.fr/-Registration-.html

Conference perimeter

The ambition of the CSDM conference is to be the *reference meeting point* for the industrial & academic environments working on all dimensions of design and management of complex industrial systems. It covers the main industrial areas dealing with complex systems, technical & scientific methods used to model & master these systems and types of complex systems.

October 27, 2010 - Great questions & challenges

- **08:30-09:00 - Opening of the conference**

    o 08:30-08:40 - Daniel Krob, Marc Aiguier and Francis Bretaudeau, CSDM 2010 organizing & programme committees chairmen

    o 08:40-08:50 - Maurice Robin, General director, Digiteo Labs, France

    o 08:50-09:00 - Dominique Vernay, President, System@tic Industrial Cluster, France

- **09-00-12:30 - Societal challenges**

    o 09:00-09:30 - *Disposing of sustainable energetic resources*, Thierry Nkaoua, Deputy Senior Vice President for Research and Innovation, AREVA, France

    o 09:30-10:00 - *Managing the financial system*, Danièle Nouy, chairman of the board, National Banking Commission, France

    o 10:00-10:30 - *Mastering health expenses*, Jean de Kervasdoué, professor, Conservatoire National des Arts et Métiers, France

    o 10:30-11:00 - *Developing the future Air Traffic Management system*, Florian Guillermet, Chief Programme Officer, SESAR Joint Undertaking, EEC

    o 11:00-11:30 - Coffee Break

    o 11:30-12:30 - *Open Discussion* with Jean de Kervasdoué (CNAM), Florian Guillermet (SESAR), Thierry Nkaoua (AREVA), Danièle Nouy (French National Banking Commission)

- **12:30-14:00 – Lunch**

- **14-00-17:30 - Industrial challenges**

  - 14:00-14:30 - *Mastering complex systems integration*, Marko Erman, technical director, Thales, France

  - 14:30-15:00 - *Providing safe and secure systems*

  - 15:00-15:30 - *Designing smoothly complex systems*, Jacques Pellas, general secretary, Dassault Aviation, France

  - 15:30-16:00 - *Managing data in a more and more heterogeneous universe*, Yannick Cras, technical director, SAP, Germany

  - 16:00-16:30 - Coffee Break

  - 16:30-17:30 - *Open Discussion* with Yannick Cras (SAP), Marko Erman (Thales), Jacques Pellas (Dassault Aviation)

- **17:30-19:30 - Posters presentations & conference cocktail**

  - *A self-adaptive technique for dynamic web-service composition*, Assel Akzhalova (King's College London, United Kigdom), Iman Hafiz Poernomo (King's College London, United Kingdom) and Semen Serovaysky (Kazakh National University, Kazakhstan)

  - *A Rolling-Horizon Approximation Approach to a Real World Large Scale Aggregate Planning Problem,* Davide Anghinolfi (DIST - University of Genova, Italy), Massimo Paolucci (DIST - University of Genova, Italy) and Flavio Tonelli (DIPTEM - University of Genova, Italy)

  - *The Lean engineering journey : An Experience Report at Thales,* Michel Baujard (Thales, France), Olivier Terrien (Thales, France), Roger Martin (Thales, France), Harry Gilles (Thales, France) and Edmond Tonnellier (Thales, France)

  - *SOA Applicability for Complex Software Systems*, Didier Boulet (Thales, France)

  - *Modeling Logistics Cars Management Complex System trough Object Process Methodology,* James Brucato (Palermo Euro Terminal SRL, Italy)

  - *Complex Systems Design Assisted by Artificial Neural Networks,* Ivo M. L. Ferreira (Instituto Superior Técnico, Portugal) and Paulo J. S. Gil (Instituto Superior Técnico, Portugal)

  - *Model-Driven Development for Agent-Based Modeling and Simulation*, Alfredo Garro (University of Calabria, Italy), Francesco Parisi (University of Calabria, Italy) and Wilma Russo (University of Calabria, Italy)

  - *Semantics of complex integrated systems modelling and architecture*, Boris Golden (Ecole Polytechnique, France) and Daniel Krob (Ecole Polytechnique, France)

  - *Collaborative System Engineering for Medical Devices,* Emilio Gomez (Dassault Systèmes, France)

  - *Developing and Managing the Supply Chain for long life Sustainment of System of System Projects,* Vernon Ireland (University of Adelaide, Australia), Frank Schultmann (Karlsruhe Institute of Technology - Universität Karlsruhe, Germany) and Croser Peter (CGD Enterprises Pty Ltd, Australia)

- *Network Centric Approaches for Complex System Architecture*, Mikael Laby (EADS, France), Claude Roche (EADS, France) and Kopec Janet (NCOIC, USA)

- *Executable SysML Models Combining Events with Data-Flows,* Philippe Leblanc (IBM, France)

- *Towards Model-Driven Architecture,* Sébastien Madelénat (Thales Research and Technology, France), Jérôme Le Noir (Thales Research and Technology, France), Olivier Barais (IRISA, France) and Xavier Blanc (Université Paris 6 - LIP6, France)

- *Cohesion, Uncertainty and Complex Systems Structure*, Horacio Paggi (Facultad de Ingeniería - Universidad ORT, Uruguay & Universidad Politécnica de Madrid, Spain), Fernando Alonso Amo (Facultad de Informática - Universidad Politécnica de Madrid, Spain) and José Crespo (Facultad de Informática - Universidad Politécnica de Madrid, Spain)

- *Scalable Overlay for Address-based Networks with Resource Discovery*, Olivier Peres (Université Paris 6, France), Thomas Herault (Univ Paris-Sud - INRIA - CNRS, France) and Sylvain Peyronnet (Univ Paris-Sud - INRIA - CNRS, France)

- *Requirements Analysis and Modeling Process (RAMP) for the Development of Complex Systems,* Jean-Claude Roussel (EADS Innovation Works, France), Gauthier Fanmuy (ADN, France), Richard Szczepaniak (CORTIM, France), Camille Salinesi (Université Paris 1, France), Alain Dauron (Renault, France), laurence Picci (EDF, France) and Omar Hammami (ENSTA Paristech, France)

- *Synchronization in complex networks with nearest-neighbor coupling configuration,* Hazael Serrano (Universidad Autonoma de Baja California, Mexico), Cesar Cruz-Hernandez (Centro de Investigacion Cientifica y Educacion Superiores de Ensenada, Mexico), Rosa Lopez-Gutierrez (Centro de Investigacion Cientifica y Educacion Superiores de Ensenada, Mexico), Oscar Acosta (Universidad Autonoma de Baja California, Mexico) and Adrian Arellano (Universidad Autonoma de Baja California, Mexico)

- *Vetronics Application in Relation to Vehicle Dependability*, David Valis (University of defence, Czech Republic) and Zdenek Vintr (University of defence, Czech Republic)

- *OASEF: A Model-driven Approach to Engineering Complex Software Systems*, Yuanzhi Wang (The Australian National University, Australia)

- *Towards an Agile Digital Environment for System Design Teams*, Jean-Luc Wippler (Luca Ingénierie, France), Daniel Prun (ENAC, France) and Stéphane Chatty (ENAC, France)

- *Research on Traffic Intelligent Control of highway main toll station based on Predictive Control Algorithm*, Yi Jun Zhao (Comprehensive Transportation Lab of SWJTU, China) and Lu Hu (Comprehensive Transportation Lab of SWJTU, China)

October 28, 2010 - Towards a theory of systems

- **09-00-12:30 - Scientific state of the art**

  - 09:00-09:45 - *Elements of Interaction*, Farhad Arbab, professor, National Research Institute for Mathematics and Computer Science (CWI), Netherlands

- 09:45-10:30 - *Missed Opportunities: The Role of Automation in the Design of Complex Engineering Systems,* Bran Selic, director of advanced technology, Zeligsoft, Canada

  - 10:30-11:00 - Coffee Break

  - 11:00-11:45 - *The Price of Utopia: Driving Industrial Products towards States of Higher Performance through System Optimization*, Olivier de Weck, professor, Massachusetts Institute of Technology, USA

  - 11:45-12:30 - *Systems verification and validation,* Kim G. Larsen, professor, Aalborg University, Denmark

- **12:30-14:00 - Lunch**

- **14-00-17:30 - Methodological state of the art**

  - 14:00-14:45 - *Enterprise Architecture and the Information Age Enterprise*, Leon A. Kappelman, Professor of Information Systems, University of North Texas, USA

  - 14:45-15:30 - *Systems engineering*, Catherine Devic, Vice-Chairman of AFIS in association with DGA, France

  - 15:30-16:00 - Coffee Break

  - 16:00-16:45 - *Advanced Practices for Systems Engineering Project Management based on Value and Cost Metrics Driven Architecture and Value Delivery: The Practice of The Planning Language "Planguage" for Competitive Industrial Engineering*, Tom Gilb, INCOSE Fellow, Norway

  - 16:45-17:30- *Systems architecture and engineering tools*, Jacques Ariel Sirat, vice-president "Systems & Products Architecture & Engineering", EADS, Europe

- **20:00-23:00 - CSDM 2010 Social Event**

October 29, 2010 - Contributed talks

- **8:30-17:30 - Parallel Session 1**

  - 08-30-09:00 - *Searching the Best (Formulation, Solver, Configuration) for Structured Problems*, Antonio Frangioni (Universita' di Pisa, Italy) and Luis Perez-Sanchez (Universita' di Pisa, Italy)

  - 09:00-09:30 - *Optimal technological architecture evolutions of Information Systems,* Vassilis Giakoumakis (Université d'Amiens, France), Daniel Krob (Ecole Polytechnique, France), Leo Liberti (Ecole Polytechnique, France) and Fabio Roda (Ecole Polytechnique, France)

  - 09:30-10:00 - *Discrete search in design optimization*, Martin Fuchs (CERFACS, France) and Arnold Neumaier (University of Vienna, Austria)

  - 10:00-10:30 - Coffee Break

- o 10:30-11:00 - *Software architectures for flexible task-oriented program execution on multicore systems*, Thomas Raubert (University of Bayreuth, Germany) & Gudula Ruenger (Chemnitz University of Technology, Germany)

- o 11:00-11:30 - *System Engineering approach applied to Galileo System*, Stéphanie Lizy-Destrez (ISAE, France) and Steven Bouchired (Thales Alenia Space, France)

- o 11:30-12:00 - *The enterprise methodology - An approach to multisystems*, Dominique Vauquier (Praxeme Institute, Axa, France)

- o 12:00-12:30 - *Multidisciplinary simulation of mechatronic components in severe environments*, Jérémy Lefèvre (Université Technologique de Compiègne, France), Sébastien Charles (Université de Versailles Saint-Quentin, France), Magali Bosch (Université Technologique de Compiègne, France), Benoît Eynard (Université Technologique de Compiègne, France) and Manuel Henner (Valeo, France)

- o 12:30-14:00 - Lunch

- o 14:00-14:30 - *Tools to uncouple the schedule of large complex nuclear projects from regulatory changes,* Edoardo Cavalieri D'Oro (Massachusetts Institute of Technology, USA)

- o 14:30-15:00 - *Contribution to Rational Determination of Warranty Parameters for a New Product,* Zdenek Vintr (University of Defence, Czech Republic) and Michal Vintr (Brno University of Technology, Czech Republic)

- o 15:00-15:30 - *Performance Analysis of the Matched-Pulse-Based Fault Detection*, Layane Abboud (Supélec, France), Andrea Cozza (Supélec, France) and Lionel Pichon (LGEP, Supélec, France)

- o 15:30-16:00 - Coffee Break

- o 16:00-16:30 - *Open Interoperable Autonomous Computer-Based Systems, Systems-of-Systems and Proof-Based System Engineering,* Gérard Le Lann (INRIA, France) and Paul Simon (DGA, France)

- o 16:30-17:00 - *Model-driven Architecture buildingfor constrained Systems*, Jean-Luc Voirin (Thales, France)

- o 17:00-17:30 - *Using Simulink Design Verifier for proving behavioral properties on a complex safety critical system in the ground transportation domain,* Jean-Frédéric Etienne (SafeRiver, France), Stéphane Fechter (SafeRiver, France) and Juppeaux Eric (SafeRiver, France)

- **8:30-17:30 - Parallel Session 2**

  - o 08:30-09:00 - *A natural measure for denoting software system complexity*, Jacques Printz (CNAM, France)

  - o 09:00-09:30 - *System engineering in EADS: a comprehensive approach*, Jacques Ariel Sirat (EADS, Europe)

  - o 09:30-10:00 - *Flexibility and Its Relation to Complexity and Architecture*, Joel Moses (Massachusetts Institute of Technology, USA)

- o 10:00-10:30 - Coffee Break

- o 10:30-11:00 - *Formalization of an integrated system/project design framework: First models and processes,* Joel Abeille (Pulsar Innovation, France), Thierry Courdet (Toulouse University - ENIT, France), Elise Vareiller (Toulouse University - Mines Albi - CGI, France), Laurent Geneste (Toulouse University - ENIT, France), Michel Aldanondo (Toulouse University - Mines Albi - CGI, France) and Thierry Roux (Pulsar Innovation, France)

- o 11:00-11:30 - *Managing the complexity of environmental assessments of complex industrial systems with a Lean 6 Sigma approach*, François Cluzel (Ecole Centrale de Paris, France), Bernard Yannou (Ecole Centrale de Paris, France), Daniel Afonso (CUBIK Partners, France), Yann Leroy (Ecole Centrale de Paris, France), Dominique Millet (SupMéca, France) and Dominique Pareau (Ecole Centrale de Paris, France)

- o 11:30-12:00 - *System requirements control & risks control: mind the gap*, Alain Cointet (RATP, France) and Catherine Laval (APTE SYSTEM, France)

- o 12:00-12:30 - *Information model for model driven safety requirements management of complex systems*, Romaric Guillerm (LAAS - CNRS, France), Demmou Hamid (LAAS - CNRS, France) and Sadou Nabil (Supélec - IETR, France)

- o 12:30-14:00 - Lunch

- o 14:00-14:30 - *Practical Solution of Periodic Filtered Approximation as a Convex Quadratic Integer Program,* Federico Bizzarri (ARCES, University of Bologna, Italy), Christoph Buchheim (TU Dortmund, Germany), Sergio Callegari (ARCES & DEIS, University of Bologna, Italy), Alberto Caprara (DEIS, University of Bologna, Italy), Andrea Lodi (DEIS, University of Bologna, Italy), Riccardo Rovatti (ARCES & DEIS, University of Bologna, Italy) and Gianluca Setti (ENDIF, University of Ferrara, Italy)

- o 14:30-15:00 - *Involving AUTOSAR Rules for Mechatronic System Design*, Pascal Gouriet (PSA Peugeot Citroën, France)

- o 15:00-15:30 - *Towards a Viewpoint-Based Framework for Reactive Systems Modeling*, Frederic Thomas (Obeo, France) and Etienne Juliot (Obeo, France)

- o 15:30-16:00 - Coffee Break

- o 16:00-16:30 - *SmART: An Application Reconfiguration Framework,* Hervé Paulino (Universidade Nova de Lisboa, Portugal), João Lourenço (Universidade Nova de Lisboa, Portugal), João Martins (Universidade Nova de Lisboa, Portugal) and Nuno Duro (Evolve Space Solutions, Portugal)

- o 16:30-17;00 - *A hierarchical approach to design a V2V intersection assistance system*, Hycham Abou Taleb (Knowledge Inside, France), Samuel Boutin (Knowledge Inside, France) and Bruno Monsuez (ENSTA Paristech, France)

- o 17:00-17:30 - *Real-Time Animation for Formal Specification*, Dominique Méry (Université Henri Poincaré Nancy 1 - LORIA, France) and Neeraj Singh (Université Henri Poincaré Nancy 1 - LORIA, France)

- **17:30-19:00 - Wine & Cheese Party**

Organizing committee

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