



**Model-Driven Engineering**

Processes, coherence, traceability and trustworthy components

Model-Driven Engineering, and especially model-based development processes, have always been at the focal point of the "Neptune days". The paradigm upon which they are based no longer considers the source code as a central element of the software, it is rather considered as an element derived from model units. More generally, the source code becomes an element derived from the fusion or interweaving of model units.

This approach becomes more and more important in the context of software and hardware architectures driven by standards such as MDA (Model-Driven Architecture) proposed by the standards authority OMG, Microsoft's *Software Factories* or IBM's proposal of EMF (Eclipse Modelling Software) tools. Such systems of architecture naturally find their place in model-based development processes where, at each modelling level, they ensure that the models have the required properties. Methodological approaches oriented towards the integration and re-use of tested software bricks (design patterns, software components, frameworks, etc.) can be proposed to analysts / designers / developers for guidance and assistance at all stages of the development process.

This research has, until today, been carried out in a context of collaboration between academics and industrials mainly for critical applications, for instance in aeronautics and space. The resulting technologies have proved to enable tight control of design processes. One appreciable effect has been to reduce the overall time required for the design, debugging, production and maintenance stages of the software while, at the same time guaranteeing the requested level of quality.

The objective of the 5<sup>th</sup> "Neptune days" is to present a review of research into development models and processes. Conducted in French, the first day (8<sup>th</sup> April) will be devoted to reporting on academic/industrial research carried out on processes and model coherence checking. Conducted in English, the second day (9<sup>th</sup> April) will deal with projects and excellence networks having obtained the seal of approval from the European Community as well as with the interactions between European programs, the OPEES platform and competitiveness clusters.

*Sponsoring: European Commission and Competitiveness poles: Aerospace Valley, Minalogic and System@tic*

**Tuesday, April 8<sup>th</sup> 2008 – 8:45 to 17:30**

8:45 9:00	<b>Accueil et présentation des journées NEPTUNE 2008</b> <i>Agusti Canals (CS) et Thierry Millan (IRIT)</i>
9:00 9:30	<b>Introduction aux technologies IDM (processus, cohérence,...)</b> <i>Franck Barbier (LIUPPA/Netfective)</i>
9:30 10:00	<b>Une première expérimentation de MARTE à THALES</b> <i>Laurent Rioux (Thales)</i>

10:00-10:30 *Break & Demonstrations*

Session : Composants de confiance <i>Animateur : Laurent Pautet (TELECOM ParisTech)</i>	
10:30 11:30	<i>Bertrand Meyer (Université de Zurich)</i>

Session : Processus <i>Animateur : Frédéric Lang (INRIA)</i>	
11:30 12:00	<b>Prise en compte des exigences dans un processus d'IDM</b> <i>Hubert Dubois (CEA)</i>
12:00 12:30	<b>Retour d'expérience sur la gestion des exigences dans le domaine de l'automobile</b> <i>Arnaud Albinet (Continental Automotive France SAS)</i>

12:30-14:00 *Lunch*

Session : Cohérence de modèles et Traçabilité <i>Animateur : Patrick Farail (Airbus)</i>	
14:00 14:30	<b>La description d'un modèle de traçabilité pour la mise en œuvre d'une technique de validation formelle de modèles</b> <i>Bastien Amar (Irit), Philippe Dhaussy (Ensieta), Hervé Leblanc (Irit), Bernard Coulette (Irit)</i>
14:30 15:00	<b>Expérimentation de composants de preuve pour le développement de composants logiciels embarqués</b> <i>Arnaud Monégier du Sorbier, Stéphane de Belloy, Florian Turpin (Thales A.S)</i>

15:00-15:30 *Break & Demonstrations*

15:30 16:00	<b>NEPTUNE II</b> <i>Thierry Millan (IRIT), Laurent Sabatier (IRIT), Pierre Bazex (IRIT)</i>
16:00 16:30	<b>Les modèles Dans l'Action à France Télécom avec SmartQVT™</b> <i>Bertrand Nicolas (France Telecom)</i>
16:30 17:30	<b>Bilan et Synthèse de la journée</b> <i>Philippe Dhaussy (ENSIETA)</i> <b>Table Ronde: Processus, cohérence, traçabilité et composants de confiance dans l'industrie ?</b> <i>Animateurs : Agusti Canals (CS), Philippe Dhaussy (ENSIETA), Franck Barbier (LIUPPA/Netfective), Hubert Dubois (CEA), Yves Le Traon (IRISA)</i>

**Wednesday, April 9<sup>th</sup> 2008 – 8:45 to 17:30**

8:45 9:00	<b>MDE in the European Commission IST and ICT funded projects</b> <i>Michel Lacroix (EC)</i>
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Projects  
*Coordinator: Michel Lacroix (EC)*

9:00 9:30	<b>Modelling solutions for complex software systems - IST project MODELPLEX</b> <i>The MODELPLEX consortium</i> <i>Presenter: Véronique Normand (Thales R&amp;T)</i>
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9:30 10:00	<b>Product Line Traceability: Models and Uncertainty in the AMPLE Project</b> <i>Jost Noppen and Jean-Claude Royer (EMN)</i>
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10:00 10:30	<b>MOMOCs: MDE for the modernization of complex systems</b> <i>A. Bagnato (TXT e-solution), L. Baresi (Politecnico di Milano), J. Gorroñogoitia, G. Pezzuto, L. Quijada (Atos Origin), A. Sadovykh (Softteam), J. Vollmar (Siemens)</i>
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10:30-11:00 *Break*

Excellence Networks  
*Coordinator : Michel Lemoine (CERT)*

11:00 11:30	<b>MDE and NoE</b> <i>Michel Lemoine (CERT)</i>
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11:30 12:00	<b>Transforming Aspectual Requirements to Architecture using Natural Language Semantics: Experiences from AOSD-Europe</b> <i>A. Rashid<sup>1</sup>, R. Chitchyan<sup>1</sup>, M. Pinto<sup>2</sup>, L. Fuentes<sup>2</sup></i> <i>1 Lancaster University (UK), 2 Universidad de Malaga (SP)</i>
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12:00 12:30	<b>Project VIDE and the challenges of executable modelling of business applications</b> <i>R. Adamus<sup>1,2</sup>, G. Falda<sup>1</sup>, P. Habela<sup>1</sup>, K. Kaczmariski<sup>1</sup>, K. Stencel<sup>1</sup>, K. Subieta<sup>1</sup></i> <i>1Polish-Japanese Institute of Information Technology, Warsaw, (PL)</i> <i>2Technical University of Lodz,(PL)</i>
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12:30-14:00 *Lunch*

14:00 14:30	<b>System Modeling with USE (UML-based Specification Environment)</b> <i>Martin Gogolla (Bremen University)</i>
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Opees, European Projects and French Competitiveness Poles  
*Coordinator: Laurent Pautet (TELECOM ParisTech)*

14:30 15:00	<b>OPEES, European Projects and French Competitiveness Poles</b> <i>L. Lemoan (AWT), J.F. Rolland (Schneider-Electric)</i>
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15:00 15:30	<b>An MDE approach for automotive with EAST-ADL2</b> <i>D. Servat, P. Tessier, S. Gérard (CEA LIST), Ph. Cuenot (Continental Automotive France)</i>
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15:30-16:00 *Break*

16:00 17:30	<b>Panel session: MDE challenge for the next ten years?</b> <i>Moderators: Michel Lacroix (EC), Michel Lemoine (CERT), Laurent Pautet (TELECOM ParisTech), Martin Gogolla (Bremen University), Patrick Farail (Airbus)</i>
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## Neptune days

The **Neptune days** were created at the initiative of four members of the NEPTUNE consortium – <http://neptune.irit.fr> - (Nice Environment with a Process and Tools Using Norms and Examples). They aim to make enable contacts during presentations, workshops and round-tables, between the various actors of the world of software engineering involved in the use and evolution of model-based software development processes. These days play a double role: critical evaluation and technology watch.

## Program Committee

**Chairs:** Thierry Millan – IRIT/IUT and Agusti Canals – CS

**Honorary Chair:** Pierre Bazex – IRIT/UPS

Franck Barbier – LUPPIA (F)	Pierre-Alain Muller – UHA (F)
Jean Bezivin – LINA (F)	Ileana Ober – IRIT/UPS (F)
Mireille Blay-Fornarino – ESSI (F)	Laurent Pautet – TELECOM ParisTech (F)
Juan Carlos Cruellas – UPC (E)	Isabelle Perseil – TELECOM ParisTech (F)
Patrick Farail – AIRBUS France (F)	Christian Percebois – IRIT/UPS (F)
Albert Fayos – GTD (E)	Yann Pollet – Cnam (F)
Frédéric Lang – INRIA Rhône-Alpes (F)	Jean-Claude Rault – G.L. (F)
Hervé Leblanc – IRIT/UPS (F)	Alain Rossignol – ASTRIUM (F)
Philippe Mils – THALES (F)	Pierre Vielcanet – CS (F)

## Organisation Committee

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## NEPTUNE Days' Proceedings

2004 : revue Génie Logiciel, n° 69, June 2004  
2005 : revue Génie Logiciel, n° 73, June 2005  
2006 : revue Génie Logiciel, n° 77, June 2006  
2007 : revue Génie Logiciel, n° 81, June 2007

## PRACTICAL INFORMATION

### Dates

Tuesday April 8<sup>th</sup> and Wednesday April 9<sup>th</sup> 2008, 8:45-17:30

### Places

Amphithéâtre B312  
TELECOM ParisTech  
46, rue Barrault  
F-75634 Paris Cedex 13

### Transport

**Subway:** Line 6, station Corvisart

**RER:** Line B, Station Cité Universitaire (15 mn. walking) or Denfert-Rochereau and subway line 6

**bus:** Line 62 (Vergniaud), 21 (Daviel) or 67 (Bobillot)

**Vélib':** Station 13022 (in front of 27 and 36, rue de la Butte aux Cailles) or 13024 (in front of 81, rue Bobillot)

<http://www.telecom-paristech.fr/en/tools/address/>

### Registration fees

VAT Incl.	Industry	Academic	Students/ PhD
2 days	600 €	380 €	180 €
1 day	350 €	230 €	160 €

**Registration :** Look for: feuillet intercalaire  
Look for: <http://neptune.irit.fr>

### Lunch

Lunches are included in registration fees.

### Cancellation

The refunding of the registration fees will be possible for any written request arriving before March 25<sup>th</sup>, 2008. No refunding will be carried out after this date.

### Organisation / Information

Jean-Claude Rault: [genie-logiciel@wanadoo.fr](mailto:genie-logiciel@wanadoo.fr)  
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BP 5872 – 31506 Toulouse cedex 5

### Web sites

<http://neptune.irit.fr>  
<http://www.c-s.fr>  
<http://www.irit.fr/recherches/DCL/MACAO>  
<http://www.telecom-paristech.fr>

NEPTUNE'2008 Days



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Paris, 8 et 9 avril 2008  
TELECOM ParisTech



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