Curriculum vitæ
Iulian OBER
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Contact

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Education

2010 : *Habilitation à Diriger des Recherches (HDR) University of Toulouse.*
- *Title* : Observer pour vérifier, contraindre et interagir. Applications de l'observation à la construction et à la validation des systèmes logiciels
- *Advisor* : Prof. Jean-Michel BRUEL
- *Reviewers* : Prof. Yves LEDRU, Université Joseph Fourier, Grenoble, France
  Prof. Elie NAJM, Telecom ParisTech, Paris, France
  Prof. Dorina PETRIU, Carleton University, Ottawa, Canada

Habilitation defended on December 13th, 2010.

2001 : *Ph.D. in Computer Science and Telecommunications*, Institut National Polytechnique de Toulouse - École Nationale Supérieure d'Électronique, Électrotechnique, Informatique, d'Hydraulique et de Télécommunications de Toulouse (ENSEEIHT).
- *Title* : Specification and Validation of Timed Systems with Formal Description Languages
- *Advisor* : Prof. Bernard COULETTE
- *Reviewers* : M. Joseph SIFAKIS, CNRS/Verimag
  M. Roland GROZ, CNET

Thesis defended on September 21st, 2001. Mention: "Très honorable".

1998 : *M.Sc. in Computer Science, Babeş – Bolyai University of Cluj, Romania.*
Title : Design and implementation of a back-end for a UML/OCL CASE tool.
Thesis prepared while in internship at Vérilog (Toulouse, France).
Class rank: 1st.

1997 : *B.Sc. in Mathematics and Computer science*, Babeş – Bolyai University of Cluj, Romania.
Class rank: 1st.

Academic and other research positions

2005 - today : **Associate Professor (tenured)** ("Maître de conférences") – University of Toulouse, Technology Institute of Blagnac. Member of IRIT - a public research laboratory of CNRS and the University of Toulouse.

2011 (spring semester) : **Visiting Associate Professor** at the Institute for Software Integrated Systems, Vanderbilt University (USA), during a research leave (teaching sabbatical) granted by the French National Universities Council (CNU).

2003 - 2005 : **Researcher** – Verimag. Verimag is a public research laboratory of CNRS, Joseph Fourier University of Grenoble and Grenoble INP.

2002 - 2003 : **Post-doctoral fellow** – Verimag laboratory.

1998 - 2001 : **R&D engineer**, Vérilog S.A. / Télélogic A.B., Toulouse (while Ph.D. candidate).

1995 - 1998 : **Research Assistant**, Computer Science Laboratory, Babeş – Bolyai University of Cluj, Romania (while undergraduate and Masters student).

Research interests

- Model Based System Engineering (MBSE) and applications of formal modelling and verification techniques in this context.
- Contract-based design.
- Improving the applicability of simulation and model-checking techniques based on domain and model-specific information.

Published work

Indicators : H-index = 14, i10-index = 19
(source : Google Scholar, 2020)

Refereed International Journal Articles

[1] Iulia Dragomir, Iulian Ober, and Christian Percebois. Contract-based modeling and verification of timed safety requirements within SysML. *Software and Systems Modeling*, 16(2):587–624, mai 2017.

[2] Ileana Ober, Iulian Ober, Iulia Dragomir, and El Arbi Aboussoror. UML/SysML semantic tunings. *Innovations in Systems and Software Engineering*, 7(4):257–264, 2011.

[3] Josef Hooman, Hillel Kugler, Iulian Ober, Angelika Votintseva, and Yuri Yushtein. Supporting UML-based Development of Embedded Systems by Formal Techniques. *Software and Systems Modeling*, 7(2):131–155, 2008.

[4] Iulian Ober, Susanne Graf, Yuri Yushtein, and Ileana Ober. Timing analysis and validation with UML: the case of the embedded MARS bus manager. *Innovations in Systems and Software Engineering*, 4(3):301–308, 2008.

[5] Susanne Graf, Ileana Ober, and Iulian Ober. A real-time profile for UML. *International Journal on Software Tools for Technology Transfer*, 8(2):113–127, 2006.

[6] Iulian Ober, Susanne Graf, and Ileana Ober. Validating timed UML models by simulation and verification. *International Journal on Software Tools for Technology Transfer*, 8(2):128–145, 2006.

Refereed National Journal Articles

[7] Eric Conquet, François-Xavier Dormoy, Iulia Dragomir, Alain Le Guennec, David Lesens, Piotr Nienaltowski, and Iulian Ober. Modèles système, modèles logiciel et modèles de code dans les applications spatiales. *Génie Logiciel*, 1(97):9–15, juin 2011.

[8] Xavier Dumas, Sébastien Gabel, Julien Honore, Maurice Heitz, and Iulian Ober. Une implémentation TOPCASED supportant un processus multi-formalisme de développement par transformation de modèles. *Revue de l'Electricité et de l'Electronique*, 2009(2):45–51, février 2009.

[9] Susanne Graf and Iulian Ober. Software and architecture modelling with Omega-UML and validation with IF. *Génie Logiciel*, 1(80):21–26, 2007.

[10] Iulian Ober, Ileana Ober, Susanne Graf, and David Lesens. Projet OMEGA : un profil UML et un outil pour la modélisation et la validation de systèmes temps réel . *Génie Logiciel*, 1(73):33–38, juin 2005.

[11] Vasile M. Scuturici and Dan M. Suciu Iulian Ober, Mihaela Scuturici. Specification of Active Objects Behavior Using Statecharts. *Studia Universitatis Babeş – Bolyai, Informatica*, XLII(1):19–30, 1997.

[12] Marius Bozga, Dan Chiorean, and Iulian Ober. A Compiler for an Algebraic Specification Language. *Studia Universitatis Babeş – Bolyai, Informatica*, XLI(1):59–70, 1996.

Monograph chapters and invited contributions

[13] Iulian Ober. UML-based modelling and verification of real-time systems. In Laurent Pautet, Béatrice Berard, and Serge Haddad, editors, *Ecole d'Ete Temps Réel ETR'2009*, pages 113–126. Télécom ParisTech, septembre 2009.

[14] Marius Bozga, Susanne Graf, Laurent Mounier, and Iulian Ober. Modeling and Verification of Real-Time Systems using the IF Toolbox. In Nicolas Navet and Stefan Merz, editors, *Modeling and Verification of Real-time Systems*, chapter 10, pages 319–352. Wiley, janvier 2008.
Ce chapitre est la version anglaise de [15].

[15] Marius Bozga, Susanne Graf, Laurent Mounier, and Iulian Ober. La boîte à outils IF. In Nicolas Navet, editor, *Systèmes Temps Réel: Techniques de description et de vérification*, volume I, chapter 9, pages 293–326. Hermès, 2006.

[16] Marius Bozga, Susanne Graf, Ileana Ober, Iulian Ober, and Joseph Sifakis. The IF Toolset. In Marco Bernardo and Flavio Corradini, editors, *Formal Methods for the Design of Real-Time Systems, International School on Formal Methods for the Design of Computer, Communication and Software Systems, SFM-RT 2004, Bertinoro, Italy, September 13-18, 2004, Revised Lectures*, volume 3185 of *LNCS*, pages 237–267. Springer, 2004.

Refereed Conference Proceedings

[17] Ronan Baduel, Iulian Ober, and Jean-Michel Bruel. Modeling and verification method for an early evaluation of Systems of Systems interactions (regular paper). In *ACM Symposium on Applied Computing (SAC), Brno, Czech Republic, 30/03/20-03/04/20*. ACM : Association for Computing Machinery, mars 2020.

[18] R. Baduel, J-M. Bruel, I. Ober, and E. Doba. Definition of states and modes as general concepts for system design and validation. In Elise Vareilles, Alain Hait, Bernard Grabot, and Gilles Savard, editors, *Proceedings MOSIM 2018 - 12e Conference Internationale de Modelisation, Optimisation et SIMulation : " L'essor des systèmes connectes dans l'industrie et les services "*, Toulouse, France, 2018. ISAE Supaero and IMT Mines Albi, IMT Mines Albi.

[19] Ronan Baduel, Mohammad Chami, Jean-Michel Bruel, and Iulian Ober. SysML Models Verification and Validation in an Industrial Context: Challenges and Experimentation. In Alfonso Pierantonio and Salvador Trujillo, editors, *Modelling Foundations and Applications - 14th European Conference, ECMFA 2018, Held as Part of STAF 2018, Toulouse, France, June 26-28, 2018, Proceedings*, volume 10890 of *Lecture Notes in Computer Science*, pages 132–146. Springer, 2018.

[20] Iulian Ober. Revisiting bounded reachability analysis of timed automata based on MILP. In Falk Howar and Jiri Barnat, editors, *Formal Methods for Industrial Critical Systems - 23rd International Conference, FMICS 2018, Maynooth, Ireland, September 3-4, 2018, Proceedings*, volume 11119 of *Lecture Notes in Computer Science*, pages 269–283. Springer, 2018.

[21] Ileana Ober and Iulian Ober. On Patterns of Multi-domain Interaction for Scientific Software Development focused on Separation of Concerns. In *International Conference on Computational Science (ICCS), Zürich, Switzerland, 12-14 juin 2017*, Procedia Computer Science. Elsevier, 2017.

[22] Iulian Ober. A variant of the high-school timetabling problem and a software solution for it based on integer linear programming. In *International Conference on the Practice and Theory of Automated Timetabling (PATAT)*, 2016.

[23] Iulia Dragomir, Iulian Ober, and Christian Percebois. Safety contracts for timed reactive components in SysML. In *SOFSEM 2014: Theory and Practice of Computer Science - 40th International Conference on Current Trends in Theory and Practice of Computer Science,*

Nový Smokovec, Slovakia, January 26-29, 2014, Proceedings, volume 8327 of *Lecture Notes in Computer Science*, pages 211–222. Springer, 2014.

[24] El Arbi Aboussoror, Ileana Ober, and Iulian Ober. Significantly increasing the usability of model analysis tools through visual feedback. In Ferhat Khendek, Maria Toeroe, Abdelouahed Gherbi, and Rick Reed, editors, *SDL 2013: Model-Driven Dependability Engineering - 16th International SDL Forum, Montreal, Canada, June 26-28, 2013. Proceedings*, volume 7916 of *Lecture Notes in Computer Science*, pages 107–123. Springer, 2013.

[25] Manzoor Ahmad, Iulia Dragomir, Jean-Michel Bruel, Iulian Ober, and Nicolas Belloir. Early analysis of ambient systems SysML properties using OMEGA2-IFx. In *SIMULTECH 2013 - Proceedings of the 3rd International Conference on Simulation and Modeling Methodologies, Technologies and Applications, Reykjavík, Iceland, 29-31 July, 2013*, pages 147–154. SciTePress, 2013.

[26] El Arbi Aboussoror, Ileana Ober, and Iulian Ober. Seeing errors: Model driven simulation trace visualization. In Robert B. France, Jürgen Kazmeier, Ruth Breu, and Colin Atkinson, editors, *Model Driven Engineering Languages and Systems - 15th International Conference, MODELS 2012, Innsbruck, Austria, September 30-October 5, 2012. Proceedings*, Lecture Notes in Computer Science, pages 480–496. Springer, September 2012.

[27] Iulia Dragomir, Iulian Ober, and David Lesens. A case study in formal system engineering with SysML. In *17th IEEE International Conference on Engineering of Complex Computer Systems, ICECCS 2012, Paris, France, July 18-20, 2012*, pages 189–198. IEEE Computer Society, July 2012.

[28] Eric Conquet, François-Xavier Dormoy, Iulia Dragomir, Susanne Graf, David Lesens, Piotr Nienaltowski, and Iulian Ober. Formal Model Driven Engineering for Space Onboard Software (regular paper). In *International Conference on Embedded Real Time Software and Systems (ERTS2), Toulouse, 01/02/2012-03/02/2012*. 3AF / SAE, janvier 2012.

[29] Iulian Ober and Iulia Dragomir. Unambiguous UML composite structures: the OMEGA2 experience. In Rastislav Královic, editor, *SOFSEM 2011 - International Conference on Current Trends in Theory and Practice of Computer Science (Nový Smokovec, Slovakia, 22-28 janvier, 2011)*, LNCS. Springer, 2011.
Taux d'acceptation: 33% (41/122).

[30] Iulian Ober, Bernard Coulette, and Younes Lakhrissi. Behavioral Modelling and Composition of Object Slices Using Event Observation. In Jean-Michel Bruel, Krzysztof Czarnecki, and Ileana Ober, editors, *ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MODELS), Toulouse, 28/09/2008-03/10/2008*, number 5301 in LNCS, pages 219–233. Springer, septembre 2008.
Taux d'acceptation: 21% (58/271).

[31] Xavier Dumas, Tristan Faure, Maurice Heitz, Iulian Ober, and David Lesens. Supporting a Multi-formalism Model Driven Development Process with Model Transformation, a TOPCASED Implementation. In *European Congress on Embedded Real-Time Software (ERTS), Toulouse, 30/01/08-01/02/08*. SIA/3AF/SEE, janvier 2008.

[32] Iulian Ober and Nicolas Halbwachs. On the timed automata-based verification of Ravenscar systems. In Tullio Vardanega and Fabrice Kordon, editors, *International Conference on Reliable Software Technologies - Ada-Europe 2008, Venise, Italie, 16/06/2008-20/06/2008*, number 5026 in LNCS, pages 30–43. Springer, juin 2008.

[33] Iulian Ober and Younes Lakhrissi. Observation-based interaction and concurrent aspect-oriented programming. In Roger Lee, editor, *International Conference on Software Engineering Research, Management and Applications (SERA), Prague, Rép. Tcheque, 20/08/2008-22/08/2008*, number 150 in SCI, pages 141–156. Springer, août 2008.
Taux d'acceptation du volume Springer SCI: 27% (17/62).

[34] Iulian Ober, Susanne Graf, and David Lesens. Modeling and validation of a software architecture for the Ariane-5 launcher. In Roberto Gorrieri and Heike Warheim, editors, *Formal Methods for Open Object-Based Distributed Systems, 8th IFIP WG 6.1 International Conference, FMOODS 2006, Bologna, Italy, 14/06/2006-16/06/2006*, volume 4037 of *LNCS*, pages 48–62. Springer, 2006.
Taux d'acceptation: 31% (16/51).

[35] Iulian Ober, Susanne Graf, and Ileana Ober. Validation of UML Models via a Mapping to Communicating Extended Timed Automata. In Susanne Graf and Laurent Mounier, editors, *Model Checking Software, 11th International SPIN Conference, Barcelone, Espagne, April 1-3, 2004, Proceedings*, volume 2989 of *LNCS*, pages 127–145. Springer, 2004.

[36] Marius Bozga, Susanne Graf, Laurent Mounier, Iulian Ober, Jean-Luc Roux, and Daniel Vincent. Timed Extensions for SDL. In Rick Reed and Jeanne Reed, editors, *SDL 2001: Meeting UML, 10th International System Design Languages Forum, Copenhagen, Denmark, June 27-29, 2001, Proceedings*, volume 2078 of *LNCS*, pages 223–240. Springer, 2001.

[37] Iulian Ober and Alain Kerbrat. Verification of Quantitative Temporal Properties of SDL Specifications. In Rick Reed and Jeanne Reed, editors, *SDL 2001: Meeting UML, 10th International System Design Languages Forum, Copenhagen, Denmark, June 27-29, 2001, Proceedings*, volume 2078 of *LNCS*, pages 182–202. Springer, 2001.

[38] Iulian Ober and Alain Kerbrat. Specification and execution of tests using tMsc. In Jianping Wu, Samuel T. Chanson, and Qiang Gao, editors, *Formal Methods for Protocol Engineering and Distributed Systems, FORTE XII / PSTV XIX'99, IFIP TC6 WG6.1 Joint International Conference on Formal Description Techniques for Distributed Systems and Communication Protocols (FORTE XII) and Protocol Specification, Testing and Verification (PSTV XIX), October 5-8, 1999, Beijing, China*, volume 156 of *IFIP Conference Proceedings*, pages 453–468. Kluwer, 1999.

[39] Iulian Ober and Ileana Stan. On the Concurrent Object Model of UML. In Patrick Amestoy, Philippe Berger, Michel J. Daydé, Iain S. Duff, Valérie Frayssé, Luc Giraud, and Daniel Ruiz, editors, *Euro-Par '99 Parallel Processing, 5th International Euro-Par Conference, Toulouse, France, August 31 - September 3, 1999, Proceedings*, volume 1685 of *LNCS*, pages 1377–1384. Springer, 1999.

Refereed Workshop Papers

[40] Iulia Dragomir, Iulian Ober, and Christian Percebois. Integrating verifiable assume/guarantee contracts in UML/SysML. In *Proceedings of the 6th International Workshop on Model Based Architecting and Construction of Embedded Systems co-located with ACM/IEEE 16th International Conference on Model Driven Engineering Languages and Systems (MoDELS 2013), Miami, Florida, USA, September 29th, 2013*, volume 1084 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2013.

[41] Iulian Ober and Iulia Dragomir. OMEGA2: A new version of the profile and the tools. In *Proceedings of 14th IEEE International Conference on Engineering of Complex Computer Systems, (special section on 5th UML& AADL Workshop), Oxford, Royaume Uni, 24-25 mars, 2010*, pages 373–378. IEEE, 2010.

[42] Iulian Ober, Susanne Graf, and Yuri Yushtein. Using an UML profile for timing analysis with the IF validation tool-set. In Holger Giese, Bernhard Rumpe, and Bernhard Schätz, editors, *Dagstuhl-Workshop MBEES 2006: Modellbasierte Entwicklung eingebetteter Systeme*, volume 2006-1 of *Informatik-Bericht*, pages 75–84. TU Braunschweig, Institut für Software Systems Engineering, 2006.

[43] Iulian Ober, Susanne Graf, and Yuri Yushtein. Timing analysis and validation of the embedded mars bus manager. In *MARTES'2005: Modeling and Analysis of Real-Time and Embedded Systems, Workshop de la conférence MoDELS, Jamaica, Octobre 2005*, Verimag Technical Report, 2005.

[44] Susanne Graf, Ileana Ober, and Iulian Ober. Timed annotations with UML. In *Specification and Validation of UML models for Real Time and Embedded Systems (SVERTS 2003), Workshop de la conférence UML 2003, San Francisco*, October 2003.

[45] Iulian Ober, Susanne Graf, and Ileana Ober. Validating timed UML models by simulation and verification. In *Specification and Validation of UML models for Real Time and Embedded Systems (SVERTS 2003), Workshop de la conférence UML 2003, San Francisco*, October 2003.

[46] M. Bozga, S. Graf, A. Kerbrat, L. Mounier, I. Ober, and D. Vincent. SDL for Real-Time: What is Missing? The 2nd Workshop on SDL and MSC, Grenoble, juin 2000.

[47] A. Kerbrat and I. Ober. Automated test generation from SDL/UML specifications. The 12th International Software Quality Week , San Jose, California, mai 1999.

Editorial work

[48] Manuel Mazzara, Iulian Ober, and Gwen Salaün, editors. *Software Technologies: Applications and Foundations - STAF 2018 Collocated Workshops, Toulouse, France, June 25-29, 2018, Revised Selected Papers*, volume 11176 of *Lecture Notes in Computer Science*. Springer, 2018.

[49] Iulian Ober and Ileana Ober, editors. *SDL 2011: Integrating System and Software Modeling - 15th International SDL Forum Toulouse, France, July 5-7, 2011. Revised Papers*, volume 7083 of *Lecture Notes in Computer Science*. Springer, 2012.

Syntheses of Workshops and Symposia

[50] Iulian Ober. MODELS Research Projects Symposium. In Michel Chaudron, editor, *Models in Software Engineering, Workshops and Symposia at MODELS 2008*, volume 5421 of *LNCS*, pages 400–401. Springer, avril 2009.

[51] Iulian Ober, Stefan Van Baelen, Susanne Graf, Mamoun Filali, and Thomas Weigert. Model Based Architecting and Construction of Embedded Systems. In Michel Chaudron, editor, *Models in Software Engineering, Workshops and Symposia at MODELS 2008*, volume 5421 of *LNCS*, pages 1–4. Springer, avril 2009.

[52] Susanne Graf, Sébastien Gérard, Oystein Haugen, Iulian Ober, and Bran Selic. Modeling and Analysis of Real-time and Embedded Systems - Using UML. In Thomas Kühne, editor, *MoDELS'2006 Workshops*, volume 4364 of *LNCS*, pages 126–130. Springer, janvier 2007.

[53] Susanne Graf, Sébastien Gérard, Oystein Haugen, Iulian Ober, and Bran Selic. Workshop synthesis: Modeling and analysis of real-time embedded systems. In Jean-Michel Bruel, editor, *Satellite Events at the MoDELS 2005 Conference*, volume 3844 of *LNCS*, pages 58–66. Springer, 2006.

Projects and grants

2016-2019 : Bombardier Transportation Grant
Description of work: Bombardier Transportation aims to develop a fully integrated and tool-supported methodology for the system design of railway transport systems. Parts of this method are already in use but lack uniformity of semantics and of usage of models at the different stages, as well as support for the use of models during software-in-the-loop and hardware-in-the-loop design validation phases. The grant project aims to bridge these gaps and achieve a fully integrated method.
Role: co-leader (with Prof. JM Bruel, IRIT)

2009-2011 : European Space Agency Project 22618/09/NL/JK "FullMDE : Full Model Driven Development for On-Board Software"
Partners : Astrium Space Transportation, Esterel Technologies, IRIT, Verimag, Praxis
Description of work: adaptation of the Omega modeling and validation methods to system level models in SysML.
Role: leader of the IRIT team.

2008-2011 : SoCKET - French DGE Project "System on Chip Toolkit For Critical Embedded Systems")
Partners: 20 partners from academia and industry. Leader: ST Microelectronics.
Overall project goal: integration of model driven techniques in the design flow of systems-on-chip (SoC). Contribution: support and case studies on using Omega SysML for the modeling and validation of SoC designs.

2008-2010 : European Space Agency Activity 3-12639 "OMEGA2"
Partners : IRIT, Verimag
Description of work: upgrading the Omega modeling and validation platform for UML version 2.x and support for integrating the platform in ESA's operational environment.
Role: leader

2004-2007 : National Research Agency (ANR) Project RNTL-PERSIFORM "Performance engineering based on simulation of formal functional models"
Partners: France Telecom R&D, Verimag, Institut National des Télécommunications (INT), IRISA, Orpheus. Description of work: integration of performance modeling and evaluation in a development process, by extension of functional modeling languages (UML activity diagrams) and bridging with queuing networks models and languages (HyPerformix).
Role: leader of the Verimag team.

2004-2007 : ASSERT - EU Integrated Project IST "Automated proof based System and Software Engineering for Real-Time Systems"
Partners: 26 partners from academia and industry. Leader: European Space Agency (ESA)
Contribution: Study and semantics definition of the ASSERT modeling language. Alignment between ASSERT models and Omega UML, tool integration.

2002-2005 : OMEGA - EU Project IST "Correct Development of Real-Time Embedded Systems in UML"
Partenaires: Verimag (leader), France Telecom R&D, EADS, Israel Aircraft Industries, NLR, Université de Kiel, Universit de de Nijmegen, Weizmann Institute of Science, OFFIS, Centrum Wiskunde en Informatica (CWI).
Contribution: Definition of a UML profile for real-time critical systems (Omega UML). Definition of semantics. Design and implementation of simulation and model checking tools. Application on industry case studies from partners Astrium, NLR and IAI.

2000-2002 : INTERVAL - EU Project IST "Formal Design, Validation and Testing of Real-Time Telecommunications Systems"
Partners: Ericsson, Telelogic, Teletel, Solinet, Verimag, France Telecom R&D.
Contribution: Timed constraints definition framework for the SDL language. Extension of the Telelogic ObjectGeode tool to timed verification and test-case generation.

Program committees

- System Analysis and Modelling Conference (SAM) : 2012 - 2020
- Intl. Workshop on Algebraic Development Techniques (WADT) 2020
- 4th Working Formal Methods Symposium 2020
- Atelier Approches Formelles dans l'Assistance au Développement de Logiciels (AFADL) 2020
- Intl. Workshop on Model Driven Engineering, Verification and Validation 2019

- Workshops committee co-chair, Software Technologies: Applications and Foundations (STAF) 2018
- International System Design Languages Forum (SDL) : 2011 (PC co-chair), 2013, 2015, 2017
- International Workshop on Model-Based Verification and Validation : 2016
- International Workshop on Model-based Architecting of Cyber-Physical and Embedded Systems : 2015 (chair)
- International Workshop on Model Based Architecting and Construction of Embedded Systems (ACES-MB) : 2008-2014 (PC and steering committee)
- Asia-Pacific Software Engineering Conference (APSEC) : 2011 - 2014
- International Conference on Ambient Systems, Networks and Technologies (ANT) : 2012, 2013
- Workshop on Model-Based Verification and Validation: From Research to Practice (MVV) : 2012
- ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MODELS) : 2010
- International Workshop on the Certification of Safety-Critical Software Controlled Systems (SafeCert) : 2008 - 2010
- MODELS Doctoral Symposium 2009,
- MODELS Research Project Symposium 2008 (chair)
- International Workshop on Modeling and Analysis of Real-Time Embedded Systems (MARTES), 2005, 2006

Reviewer for the following journals::

- ACM Transactions on Software Engineering and Methodology
- Journal of Software and Systems Modeling (Springer)
- Journal of Control Engineering Practice (Elsevier)
- IEEE Transactions on Industrial Informatics (IEEE)

Conference and workshop organization, steering committees

- Intl. Workshop on Model Driven Engineering, Verification and Validation 2019, 2020 https://sites.google.com/site/modevva/
- Workshop co-chair for Software Technologies: Applications and Foundations (STAF) 2018 http://www.staf2018.fr

- 15th International Conference on System Design Languages (SDL Forum 2011) : General co-chair
- International Workshop on Model Based Architecting and Construction of Embedded Systems (ACES^{MB}): Steering Committee, Organizing Committee (2008-2015, yearly)
- MODELS Research Project Symposium 2008 : Chair
- 2nd International Workshop on Modeling and Analysis of Real-Time Embedded Systems (MARTES): Organizing Committee (2005,2006)

Invited talks, contributions, tutorials

- Invited talk at the Modelling Wizards School organized in connection with MODELS 2012, Innsbruck, October, 2012
- Invited talk at ETR (Ecole Temps Réel) Summerschool 2009, Télécom ParisTech, September, 2009
- Invited talk at Dagstuhl Seminar 09361 on Design and Validation of Concurrent Systems, September, 2009
- Chapter in monograph *Modeling and Verification of Real-time Systems*, Stephan Merz, Nicolas Navet (ed.), John Wiley & Sons, 2008
- Invited talk at Dagstuhl Seminar 07241 on Tools for the Model-based Development of Certifiable Systems, June, 2007
- Chapter in monograph *Systèmes Temps Réel: Techniques de description et de vérification*, Nicolas Navet (ed.), Hermès, 2006
- Invited lecture "Modeling of Real-Time Systems with SDL and UML", University of Applied Science, Hagenberg, Austria, 2005
- Tutorial on "IF: A Validation Environment for Real-time UML and SDL Models", at 12th International Conference on System Design Languages (SDL Forum), Copenhagen, Denmark, 2005
- Tutorial on "IF Validation Environment", at 11th International SPIN Workshop on Model Checking of Software, Barcelona, Spain, 2004

Graduate students and committees

Ph.D. students

- Younes Lakhrissi (graduated in July, 2010) – co-advisor: B. Coulette
  Subject: Integration of behavior models in view-based analysis and design.
- Hong-Viet Luong (graduated in October, 2010) – co-advisors: C. Percebois, A-L. Courbis, T. Lambolais
  Subject: Incremental construction and verification of system specifications.

- El Arbi Abussoror (graduated in September, 2013) co-advisor: Ileana Ober
  Subject: Advanced diagnostic methods in formal model validation.

- Iulia Dragomir (graduated in December, 2014) co-advisor: C. Percebois
  Subject: Contract-based modeling and verification of timed safety requirements for system design in SysML.

- Ronan Baduel (graduated in September 2019) co-advisor: J-M. Bruel
  Subject: An integrated model-based early validation approach for Railway Systems. Financed by a grant from Bombardier Transportation.

- Mickaël Trezzy (started Sept. 2018), co-advisor: Ileana Ober, Raquel Araujo de Oliveira
  Subject: Model-based development of safe and secure robotic systems

- Eric Guillaume Vidot (started in Oct. 2019), co-advisor: Ileana Ober
  Subject: Certification of avionics systems including machine learning components.

M.Sc. students

- Tristan Faure (graduated in July, 2007)
  Subject: Integration of the Omega UML profile and tools in the ASSERT IDEA framework.

- Ouzzin Ben Haddou (graduated in July, 2009)
  Subject: A case study on formal modeling and validation of a space application from CNES.

- Julien Hadba (graduated in July, 2010)
  Subject: Modeling, simulation and verification of ATV's solar panel deployment subsystem with Omega SysML.

- Iulia Dragomir (graduated in July, 2010)
  Subject: Semantic formalization and verification of composite structures.

- Samira Kherfellah (graduated in September, 2013)
  Subject: To K or not to K : comparison of two techniques for building a simulator / model-checker.

Ph.D. committees (as external examiner)

- Yassine Chkouri, April 7th, 2010, Université Joseph Fourier Grenoble. (Role: examiner)
  Ph.D. advisor : Joseph Sifakis.

- Imen Ben-Hfaiedh, le February 3rd, 2011, Université Joseph Fourier Grenoble. (Role: reviewer)
  Ph.D. advisor : Susanne Graf.

- Rim El Ballouli, le 20 mars 2019, Université Grenoble Alpes (Role: reviewer)
  Ph.D. advisor: Saddek Bensalem

Other service activities

2020 - : Head of the Aerospace and Transport strategic application field at IRIT

2013 - 2015 and 2020 - : Member of the scientific council of IRIT.

2011 - 2017 : Head of the Masters Programme "Informatique collaborative en entrepise", University of Toulouse (professional/alternating, 20 students per year).

2013 - 2015 : Head of the MACAO (Models, Architectures, Components,Agility and prOcesses) research team at IRIT. The team is composed of 3 Full Professors and 9 Associate Professors.

2008 - 2011 and 2015 - present : Elected member of the "Comité Scientifique Qualifié" (permanent committee appointing the faculty recruitment commissions) in Computer Science at Toulouse 2 University

2012 - 2015 : Elected member of the board ("Conseil de laboratoire"), IRIT laboratory.

May, 2010 : Member of the "Comité de sélection" (recruitment commissions) for Assistant Professor position MCF 0508, at University of Pau (UPPA).

May, 2010 : Member of the "Comité de sélection" (recruitment commissions) for Assistant Professor position MCF 0509, at University of Pau (UPPA), Bayonne Technological Institute.

2007 - 2009 : Member of the "Commission de spécialistes" (permanent faculty recruitment commission) in Computer Science at Toulouse 2 University