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Associate Professor École Centrale de Lille (French engineering « *grande école* »¹), France

Education

Date	Degree	Field	Institution
2010	Ph.D.	Computer engineering	Université de Technologie de Compiègne (UTC), France
2006	Postgraduate MRes	Computer science	Université de Versailles Saint Quentin en Yvelines (UVSQ), France
2005	Master	Business computing	Université de Tunis El Manar, Tunisia

Professional experience

Date	Position
2011-Present	Associate Professor , École Centrale de Lille, France Lab : CRISTAL http://www.cristal.univ-lille.fr/
2010-2011	Post-doctoral position , Université de Technologie de Compiègne, France Major : Embedded systems engineering Lab : Heudiasyc
2006-2010	Ph.D student , Université de Technologie de Compiègne, France Major : Architecture diagnosability of embedded systems- application on automotive systems Lab : Heudiasyc
May –October 2006	MRes's internship , Institut National des Télécommunications d'Evry (INT), Lab : Handicom (Handicom Engineering & communication Lab)

Research interest

My research interest is in the general area of model-checking of Discrete Event Systems (DES). It includes DES *diagnosability*² analysis and requirements verification. My actual focus is on developing new methods for embedded railway systems and especially ERTMS (European Rail Traffic Management System) - ETCS (European Train Control System).

Professional activities and affiliations

- Member at GDR MACS (French national working groups)
- Animation of Heudiasyc and CRISTAL labs exhibition stands in scientific days.

¹ *Grande école* : Well-known prestigious school with competitive entrance examinations

² *Diagnosability* refers the ability to indicate unambiguously a failure behavior only from system available observations, in finite time after the fault occurrence

Supervising experience

Date	Experience
2014-present	Co-supervising two Ph.D students with Pr. Armand TOGUYENI
2011-2014	Supervising students for project management Supervising students for final graduation project
2006-2010	Co-supervising 4 final graduation projects and 1 MRes post-graduation project

Skills

Research's fields of interest	Systems engineering: design and verification, requirements verification, simulation and verification
	Model checking of Discrete-Event Systems: diagnosability analysis, requirements verification
	Embedded Systems: ERTMS-ETCS, FPGA, CAN(Controller Area Network), Hardware programming
Languages and tools	Eclipse, Topcased, Quartus II(Altera), C, C++, XML, Assembly language (Intel 8088, PIC18), Java, ADA, PL7 Pro (Schneider electric), SQL, PL/SQL, Oracle
Modelling and description formalisms	UML, SysML, Magic Draw, VHDL, SystemC, AADL, Osate, Petri Nets, Finite state automata, SFC (<i>Grafcet</i>)
Transportation	Automotive Motohawk testing platform: with Continental embedded computers (Power PC) and CAN Network, ERTMS-ETCS
Operating systems	Windows, Linux (Command syntax, File System)

Award and Honors

- High honors Ph. D Diploma
- Honors MRes Diploma
- Award of excellence for the best promotion student (Master)

Publications

- [1] Li B., Khlif-Bouassida M., Toguyeni A.K.A **Diagnostic and Diagnosability Analysis of Labeled Petri Nets Using Reduction Rules**, The 13th International Workshop on Discrete Event Systems (WODES 2016) (submitted)
- [2] Li B., Khlif-Bouassida M., Toguyeni A.K.A **On-the-fly Diagnosability Analysis of Labeled Petri Nets Using Verifier Nets**, The 13th International Workshop on Discrete Event Systems (WODES 2016) (submitted)
- [3] Li B., Khlif-Bouassida M., Toguyeni A.K.A **Diagnosability of Labeled Petri Nets using Minimal Explanations and T-invariants**, Automatica, A journal of IFAC(submitted in July 2015) <http://www.journals.elsevier.com/automatica/>
- [4] Li B., Khlif-Bouassida M., Toguyeni A.K.A **Diagnosticabilité de Réseaux de Petri Labellisés basée sur les explications minimales et les T-semiflots**, MSR 2015, Nancy, France, November 2015 (**Best Student Paper Award**)
- [5] Li B., Khlif-Bouassida M., Toguyeni A.K.A., **On-the-fly Diagnosability Analysis of Labeled Petri Nets Using T-invariants**, DCDS'15, Cancun, Mexico, May 2015
- [6] Sadedd R., Khlif-Bouassida M., Toguyeni A.K.A., **Operational Diagnosability of a Digital Embedded System Controlling a Critical System**, SYSTOL'13, Nice, France, October 2013
- [7] Sadedd R., Khlif-Bouassida M., Toguyeni A.K.A., **Architectural Diagnosability analysis of Digital Embedded Systems-application to a controller board in train**, ROIS'13, Hammam-Sousse, Tunisia, September 2013
- [8] Khlif, M. Shawky, M. **Functional-Architectural Diagnosability Analysis of Embedded Architecture**, 14th International IEEE Conference on Intelligent Transportation Systems - (ITSC 2011).
- [9] A. M'Hamed, M. Khlif, D. Lebey, E. Geahchan, **Une architecture de préservation de la vie privée des personnes dépendantes dans les environnements intelligents**, Congrès Lambda mu 17 (Maîtrise des risques et sûreté de fonctionnement). 5-7 October 2010. La Rochelle, France.
- [10] Khlif, M. Tahan, O. Shawky, M. **CO-Simulation Trace Analysis (COSITA) tool for vehicle electronic architecture diagnosability analysis**, Intelligent Vehicles Symposium (IV), 2010 IEEE, 21-24 June 2010, San Diego, CA.
- [11] Khlif, M. Shawky, M. **Observability Checking to Enhance Diagnosis of Real Time Electronic Systems. DS-RT 2008**, the 12-th IEEE International Symposium on Distributed Simulation and Real Time Applications. October 27-29, 2008. Vancouver, British Columbia, Canada.
- [12] Khlif, M. Shawky, M. **Co-modelling and simulation with multilevel of granularity for real time electronic systems supervision**, EUROSIM/UKSIM 2008. 10th International conference on computer Modelling and Simulation. Emmanuel College, Cambridge, England, 1-3 April 2008.
- [13] Khlif, M. Shawky, M. **Enhancing Diagnosis Ability for Embedded Electronic Systems Using Co-Modeling**, International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE 07) December 3-12, 2007.

Projects

- Project member in:
 - French national projects: DIAFORE (2006-2010) www.systematic-paris-region.org/fr/projets/diafore
 - CISIT³ (2011-2013) www.cisit.org
 - Shift2Rail <http://www.shift2rail.org/>
 - CESAR European project (2010-2011) www.cesarproject.eu/
 - Technological Research Institute Railenium (2011-Present) <http://www.railenium.eu/>
- Projects elaboration and monitoring:
 - École Centrale de Lille individual research project (2014)

Courses taught

Date	Course	Institution	Level
2011-present	Design and verification of digital circuits and systems	École Centrale de Lille	Graduate
	UML and systems design using MagicDraw		Graduate
	SFC(Grafcet) using Schneider PL7 Pro - Altera CPLDs and FPGA programming using Quartus II		Graduate
	PL/SQL using Oracle and SQL Developer		Graduate
	XML-XSLT		Post-graduate and graduate
	ADA programming language using ADAGide	Iteem ⁴	undergraduate
	Data structure and algorithms - C programming language	IG2I ⁵	undergraduate
	Hardware programming (PIC18F micro-controllers) using MPLAB		undergraduate
	Java Programming language using Eclipse		undergraduate
	Combinational and sequential logic		undergraduate
2007-2011	Structure of computer and Hardware programming (PLDs, FPGA)	Université de Technologie de Compiègne	undergraduate
	Data Base		undergraduate
	Intelligent machines		Graduate
	SystemC		Graduate

³ CISIT: International Campus on Safety and Intermodality in Transportation

⁴ Iteem : engineering school co-directed by École Centrale de Lille and SKEMA business school

⁵ IG2I : engineering school directed by École Centrale de Lille