

# Laurence Duchien

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**Research field:** Software engineering, distributed systems, middleware, variability model, adaptation, component, aspect, software architecture, software product lines

## 1. Professional experience and Education

Full professor, Lille University, UFR IEEA/FIL & LIFL/CRISTAL (since Sept 2001)  
Recipient of the Outstanding Science Award PES: 2013-17, 2009-13, PEDR 2004-07, 2000-03.

### Previously

Sept 06-Sept 09 On leave at Inria Lille-Nord Europe  
Jan 99-Jun 99 1/2 sabbatical year, Ecole Polytechnique Fédérale de Lausanne, Switzerland, A. Schiper  
1990-2001 Associate Professor, Conservatoire National des Arts et Métiers, Paris – Laboratoire CEDRIC

### Education

1999 Habilitation à Diriger des Recherches (HDR), Université Joseph Fourier, Grenoble  
1988 Ph.D Thesis, Université Pierre et Marie Curie, Paris

## 2. Main responsibilities in teaching and research

Since Sept 2014 Chair for the scientific and technical council of business and research cluster in retail domain PICOM  
Since Apr 2013 Director of doctoral program for Computer Science in Doctoral School for Engineering Science, ComUE ULNF  
Since Sept 2012 Scientific Head of Department for Careers and Employments - Doctoral College, ComUE ULNF  
2012-2015 Scientific Leader of GDR CNRS Génie de la Programmation et du Logiciel - a CNRS national research network on Programming and Software Engineering that includes 90 teams and over 700 people in France (<http://gdr-gpl.cnrs.fr/>)  
2010-2015 Director of the research program - Master of Computer Science at University Lille 1  
2007-2012 Scientific leader of team-project Inria ADAM (joint team with Univ. Lille 1- CNRS)  
2003-2006 Permanent head of project Inria Jacquard (joint team with Univ. Lille 1- CNRS)  
2002-2006 Director of studies for the Master of Computer Science – Software Engineering major  
2002-2003 Responsible for setting the Master of Computer Science Lille 1 (Ministry campaign 2002)

### Councils & commissions

2016-2018 Elected member-at-large for the IEEE Technical Council of Software Engineering (TCSE)  
2016-2020 Elected member and board member of National Committee for Scientific Research – CoNRS – section 6  
2015-2016 Designated member of Strategic Council, University of Lille  
2014-2016 Elected member of Research Council, University Lille 1  
2003-2007 Elected member of UFR IEEA Council, University Lille 1  
2003-2007 Elected member of LIFL Scientific Council, University Lille 1  
1997-1998 Elected member of board for the Computer Science Dept., CNAM  
1994-2001 Elected member of scientific council for the Computer Science Dept., CNAM

### Expert for different institutions

Member of Scientific Advisory Board for the Certus Center, Simula Lab, Norway (2014-2016), member of Evaluation Committee AERES for the LIRIS, Lyon (2014), member of Evaluation Committee HCERES for the LINA & IRCCyN, Nantes (2016), expert DGRI for the PHC programs Barrande, Tournesol, PESSOA, STIC-Asie, franco-québécois, PCP RU21-Venezuela (2011-2015), expert for the Canadian program NSERC (2011, 2012), expert for the franco-indien program CEFIPRA (2012), expert for Aquitaine Region (2010, 2012), member of the evaluation committee ANR Emergence (2012), expert for the associate team Inria (2008, 2009), chair of the evaluation committee AERES for the LIUPPA, Univ. de Pau et des Pays de l'Adour (2009), expert for Science Foundation Ireland (2009), member of scientific committee ANR ARPEGE (2008-2010), member of scientific committee ACI Sécurité & Informatique (2003-2006).

**Member of Recruitment Committee** for Professor & Associate Professor in Computer Science from 2009 to 2015: Univ. Montpellier, CNAM Paris, INSA Lyon, Univ. Nantes x2, Ecole des Mines Nantes x3, Univ. Lille 1, INSA Rennes, ENS Cachan Ant. de Bretagne, Univ. Bordeaux x 2, Univ. Luxembourg.

Member of jury PEDR, INS2I, CNRS, 2015.

Member of Recruitment Committee for junior researcher, Inria Lille-Nord-Europe. 2009, 2011, 2016.

Member of Recruitment Committee for Postdocs & PhD Students of Research Center Inria Lille-Nord Europe. 2009  
Chair of Recruitment Committee for Postdocs & PhD Students of Research Center Inria Lille-Nord Europe. 2008  
Chair of Scientific Committee for postdoc fellowships, UR Inria-Futurs (Bordeaux, Lille, Saclay). 2006, 2007  
Member of recruitment committee for junior researcher, Inria, Rennes. 2006

### 3. Teaching activity

I teach 192 hours per year in front of students with a discharge of 72 hours since 2013 for the function of Director of doctoral program for Computer Science in Doctoral School for Engineering Science & Scientific Head of Department for Careers and Employments -Doctoral College, ComUE Lille Nord de France.

2009- ~ Course on Building Distributed Software - Master Computer Science 1st year, 50h - 30 Students  
2009- ~ Final project on Software Engineering- Master MIAGE FC/FA 2<sup>nd</sup> year, 50h - 24 students  
2010- ~ Course on Research initiation, Master Computer Science, 2<sup>nd</sup> year, 20h - 24 students  
2009- ~ Course on Software Product Lines approach, Master Computer Science 2<sup>nd</sup> Year, 8h, 24 students  
2009-2011 Course on networks, Bachelor level, Computer science, 3rd year, 50h, 24 students

### Research training

- Advisor or co-advisor of 24 PhD (22 completed with 2 in co-supervision with Canada and Colombia and 2 in progress)
- Reviewer of 71 PhD (including 9 abroad) and 14 HDR (tenure)

### 4. Research activity

My research is in the computer science domain, especially at the frontier between software engineering and distributed systems and is organized in three themes: the definition of distributed software architectures, software maintenance and evolution, the variability study in the context of sensitive systems.

These last years, I developed international relationships with Univ. Los Andes (Colombia). 4 of my PhD students come from this university. I had joint publications with Univ. Los Andes (Colombia), Polytech'Montréal & Univ. Victoria (Canada), Univ. Namur (Belgium), LERO (Ireland) and Univ. Malaga (Spain).

Since 2001, I have been a member since 2001 of 46 program committees (31 international and 15 national) and 4 as Chair or Co-Chair. In 2014, my team organized SIGSOFT CompArch ACM Conference (CBSE & QoSA) in Lille.

I participate to numerous European and national collaborative projects (FP6 NoE AOSD, FP7 IP PaaSage, IAP Moves, ANR TL FAROS, ANR CONTINT MOANO, ANR Emergence YourCast, ANR ARPEGE Salty, FUI PICOM Cappuccino, Macchiato, ICOM, FUI System@tic & Minalogic EconHome) and work with companies (Norsys, Orange) via CIFRE Ph.D contracts. The FUI Cappuccino project won the award for collaborative research for PICOM cluster awarded by PRES Lille Nord de France in 2009. 2 of my doctors have obtained thesis award: Gabriel Tamura (International Thesis Award ULNF, 2013) and Clement Quinton (GDR GPL Thesis Award, 2015).

### 5. Five major publications

- [1] Renaud Pawlak, Lionel Seinturier, Laurence Duchien, Gerard Florin: JAC: A Flexible Solution for Aspect-Oriented Programming in Java. Reflection 2001: 1-24
- [2] Naouel Moha, Yann-Gaël Guéhéneuc, Laurence Duchien, Anne-Françoise Le Meur: DECOR: A Method for the Specification and Detection of Code and Design Smells. IEEE Trans. Software Eng. 36(1): 20-36 (2010)
- [3] Carlos Andres Parra, Xavier Blanc, Anthony Cleve, Laurence Duchien: Unifying design and runtime software adaptation using aspect models. Sci. Comput. Program. 76(12): 1247-1260 (2011)
- [4] Gabriel Tamura, Rubby Casallas, Anthony Cleve, Laurence Duchien: QoS contract preservation through dynamic reconfiguration: A formal semantics approach. Sci. Comput. Program. 94: 307-332 (2014)
- [5] Clément Quinton, Daniel Romero, Laurence Duchien: SALOON: A platform for selecting and configuring cloud environments, Software Practice & Experience, 46(1): 55-78 (2016).

### Total number of publications

- 7 book chapters
- 15 papers in international journals
- 51 articles in international conferences
- 4 major co-designed software: JAC, CAPucine, TranSAT, SALOON

Impact factor: h-index 26 with 2814 citations, Google Scholar, Nov 2016.