CSC | COMPUTER SCIENCE AND COMMUNICATIONS RESEARCH UNIT

UNIVERSITÉ DU LUXEMBOURG

FACULTY OF SCIENCES, TECHNOLOGY AND COMMUNICATION

Computer Science and Communications Research Unit

Activity Report 2014

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Computer Science and Communications Research Unit
Activity Report 2014

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Preface

This annual report is meant to synthesize the progress and activities made by the Computer Science & Communications (CSC) research unit in 2014. It gives an overview of most of the many activities conducted in CSC.

The most significant facts and numbers of 2014 are the following:

- In terms of publications, the CSC has published more than 70 journal papers and book chapters and 180+ conference papers.
- At the end of 2014, the CSC, including professors and all supervised researchers, accounts for 209 persons.
- The 23 professors are from 10 different nationalities, thus making this research unit very rich and diverse in terms of academic cultures and mindsets.
- 75 people are attached to CSC from a budget viewpoint (including structural).
- The financial crisis has affected the operational budget of the CSC, in particular with the freeze of a significant percentage of structural positions (PhD and Postdoc funded by the university). A significant part of the year has been dedicated to the reconfiguration of the resource allocation, and to discussions and exchanges with the dean's office and the rectorate.
- The doctoral school DSCSCE is operational and continues its development with good success, under the direction of Pr. Raymond Bisdorff.

The CSC has organized several successful events in and outside Luxembourg, including:

- 15th International Workshop on Computational Logic in Multi-Agent Systems (CLIMA XV)
- 13th International Joint Conference on Autonomous Agents and Multi-Agent Systems AAMAS 2014
- 16TH International Conference on Formal Engineering Methods (ICFEM 2014)
- 16th International Conference on Information and Communications Security 2014 (ICICS 2014)
- the European Conference on Modelling Foundations and Applications (ECMFA 2014)
- the IEEE CloudNet 2014
- the RSA Conference Cryptographers' Track 2014 (CT-RSA 2014)

The CSC is very involved in the development of the two interdisciplinary centers, the Luxembourg Centre for Systems Biomedicine (LCSB) and the Interdisciplinary Centre for Security, Reliability and Trust (SnT) research center. While the collaboration with LCSB is increasing every year, a majority of the research

projects from SnT have Principal Investigators from the CSC. CSC faculty members also supervise most of the PhD students affiliated to SnT. The CSC thus counts among its major achievements the continuous support of the SnT. So please look at the SnT 2014 annual report to get a complementary overview of CSC activities in the area of Security, Reliability and Trust.

Yves Le Traon

Professor

Head of the CSC

Contents

Chapter 1

Computer Science and Communications Research Unit

The primary mission of the research unit is to conduct fundamental and applied research in the area of computer, communication and information sciences. The goal is to push forward the scientific frontiers of these fields. Additionally, support for the educational tasks at the academic and professional Bachelor and Master levels is provided as well as for the PhD program.

CSC is active in different research areas (Communicative Systems, Information Security, Intelligent and Adaptive Systems, Software and Systems) and supports the Interdisciplinary Centers LCSB and SnT.

Chapter 2

Executive Summary

Our primary mission is to conduct fundamental and applied research in the area of computer, communication and information sciences. Our goal is to push forward the scientific frontiers of these fields. Additionally, we provide support for the educational tasks at the academic and professional Bachelor and Master levels as well as for the PhD program.

The Computer Science and Communications Research Unit is engaging the following research areas and topics into four main themes:

- Communicative Systems (ComSys)
- Information Security (LACS)
- Intelligent and Adaptive Systems (ILIAS)
- Software and Systems (LASSY)

These different research themes contribute to strengthen the research priorities in Luxembourg, for instance in relation with the "Computational Science" priority of the FSTC, or with the Luxembourg Centre of Systems Biomedicine (LCSB) and the Interdisciplinary Centre for Security, Reliability and Trust (SnT) research centers. The CSC also establishes fruitful and long-standing collaborations with researchers around the world.

Currently the CSC includes 23 professors and associate professors, 67 post-docs, more than 80 PhD candidates and a number of research collaborators. Their research fields range from the investigation of the theoretical foundations to the development of interdisciplinary applications.

Currently, we instruct more than 200 students at the Bachelor and Master level, and try to encourage them through close supervision and advice. The Doctoral School of Computer Science and Computer Engineering (DS-CSCE) provides an excellent environment for pursuing doctoral studies in computer science and computer engineering at an internationally competitive level and in broad interdisciplinary application. For the professional branches, we want to bridge the gap between theory and practice, whereas for the academic branches, we foster a problem-oriented understanding of the theoretical foundations of computer science.

HEAD OF UNIT

Prof. Yves Le Traon

ACADEMIC STAFF: 23

A.-Prof. Alex Biryukov, head of LACS

Prof. Raymond Bisdorff

Prof. Pascal Bouvry

Prof. Lionel Briand

A.-Prof. Jean-Sébastien Coron

Prof. Thomas Engel, head of COMSYS

Prof. Nicolas Guelfi

Prof. Pierre Kelsen, head of LASSY

Prof. Yves Le Traon

Prof. Franck Leprévost, Vice-rector

Prof. Sjouke Mauw

A.-Prof. Volker Müller

A.-Prof. Nicolas Navet

Prof. Björn Ottersten

A.-Prof. Steffen Rothkugel

Prof. Peter Ryan

Prof. Jürgen Sachau

A.-Prof. Christoph Schommer, head of ILIAS

Prof. Ulrich Sorger

A.-Prof. Bernard Steenis

Prof. Leon van der Torre

Prof. Paulo Verissimo

Prof. Denis Zampuniéris

Guest Professor: Dov Gabbay

OTHER STAFF:

80 PhD candidates,

67 Post-doc researchers,

12 Research Scientists,

4 scientific and technical collaborators,

3 administrative staff members

PUBLICATIONS

Patents: 1

Books: 10

Book chapters: 8

Journal papers: 73

Conference papers (peer reviewed): 184

Doctoral thesis: 11; CSC and SnT: 14

E-print/Tech report: 19

EVENTS AND LECTURES

The members of the CSC Research Unit participated in several conferences. Here are some examples:

- IEEE CloudNet 2014
- 15th International Workshop on Computational Logic in Multi-Agent Systems (CLIMA XV)
- 13th International Joint Conference on Autonomous Agents and Multi-Agent Systems AAMAS 2014
- 16th International Conference on Formal Engineering Methods (ICFEM 2014)
- 16th International Conference on Information and Communications Security 2014 (ICICS 2014)
- European Conference on Modelling Foundations and Applications (ECMFA 2014)
- RSA Conference Cryptographers' Track 2014 (CT-RSA 2014)

Chapter 3

Research Areas

This chapter lists the research areas investigated by the research unit.

Communicative Systems

Embracing the end-to-end arguments in system design, the ”Communicative Systems” research area focuses on integrated research in the areas of Information transfer and communicating systems. Information transfer is concerned with information transmission over potentially complex channels and networks. Communicating systems in turn are the composition of multiple distributed entities employing communication networks to collaboratively achieve a common goal.

The following research topics are investigated:

- Information Transmission
- Wireless Communication Systems
- Secure communication protocols
- Network and systems security
- Network Management
- Mobile operating systems and applications
- Parallel and Distributed Systems
- Reliable Distributed Energy-Systems
- Energy efficient and secure cloud infrastructures
- Management and Mining of Data, Big Data Analysis

Current research projects propagate technologies for:

- Cloud Computing
- Hybrid Wireless Networks
- Information Dissemination and authentication in distributed networks
- Mobile communication
- Mobile learning

- Network Traffic Analysis and Protection
- Internet of Things (IoT)
- Network Traffic Management and Coordination
- Secure Satellite Communication
- Reliable Power Networks with Distributed Generation
- Cognitive software defined networks

The research theme on communicative systems is managed by Communicative Systems Laboratory (ComSys).

Research Topic	Last Name	First Name
Computer Networks	Bouvry	Pascal
Applications of Graph Transformation Techniques	Engel	Thomas
Computer Networks	Engel	Thomas
Network Forensics	Engel	Thomas
Network and System Security	Engel	Thomas
Platforms for Big Data Analysis and Machine Learning	Engel	Thomas
Security, Reliability and Privacy in Distributed Environments	Engel	Thomas
Cloud Computing	Kliazovich	Dzmitry
Distributed Systems	Kliazovich	Dzmitry
Energy Efficiency	Kliazovich	Dzmitry
High Performance Computing	Kliazovich	Dzmitry
Performance Evaluation	Kliazovich	Dzmitry
Wireless Communications	Kliazovich	Dzmitry
Wireless and Ad hoc Networks	Kliazovich	Dzmitry
Image and Signal Processing	Ottersten	Björn
Wireless Communications	Ottersten	Björn
Document Engineering	Rothkugel	Steffen
Interactive Distributed Systems	Rothkugel	Steffen
Mobile and Ubiquitous Computing	Rothkugel	Steffen
Coding Theory	Sorger	Ulrich
Information Theory	Sorger	Ulrich
Transmission over Time Variant Channels	Sorger	Ulrich

Table 3.1: Topics within Research Area “Communicative Systems”

Information Security

The Information Security Research Area covers research on cryptography and information security. The following topics are covered:

- Symmetric and public key cryptography
  - Design and analysis of crypto schemes
  - Authenticated encryption

  - Provable security, fully homomorphic encryption
- Efficient software and hardware implementation of cryptograhy
- Side-channel analysis of smartcards and embedded devices
- Security protocols
- Network, mobile and embedded systems security
  - Security and dependability of embedded components
  - Sensors and RFID security
  - Design and analysis of lightweight cryptography
  - Internet and web-security, mobile code security
- Privacy and anonymity
  - Privacy enhancing technologies
  - Privacy on the Internet
  - Private information retrieval and privacy preserving data mining
  - Economics of privacy
  - Information flow and access control policies
  - Privacy of health and bio-bank data
- Verifiable voting systems, E-democracy
- Cloud computing, reputation based systems
- Cirtual and crypto currencies
  - Anonymity of Bitcoin
  - Design of proof of work functions
  - Economics of mining

The research theme on information security is managed by Laboratory of Algorithmics, Cryptology and Security (LACS).

Research Topic	Last Name	First Name
Cryptanalysis	Biryukov	Alex
Cryptography	Biryukov	Alex
Hardware and Software Security	Biryukov	Alex
Network, Mobile and Embedded Systems Security	Biryukov	Alex
Privacy and Anonymity	Biryukov	Alex
Virtual and Crypto Currencies	Biryukov	Alex
Computational Number-Theory	Coron	Jean-Sébastien
Public-Key Cryptography	Coron	Jean-Sébastien
Side-Channel Attacks	Coron	Jean-Sébastien
Data Privacy and Integrity in Highly Sensitive Sectors	Esteves-Veríssimo	Paulo
Automated implementation of security mechanisms	Le Traon	Yves
Malware detection and prevention	Le Traon	Yves
Model-Driven Security	Le Traon	Yves
Attack Trees	Mauw	Sjouke
Formal Methods	Mauw	Sjouke
Location-based Services	Mauw	Sjouke
Network Security	Mauw	Sjouke
Privacy	Mauw	Sjouke
RFIDs	Mauw	Sjouke
Security Assessment	Mauw	Sjouke

Research Topic	Last Name	First Name
Security Protocols	Mauw	Sjouke
Computational Number-Theory	Müller	Volker
Security Primitives in Business Applications	Müller	Volker
Analysis of Information Flow	Ryan	Peter
Cryptographic Protocols	Ryan	Peter
Cryptographic Voting Schemes	Ryan	Peter
Cryptography	Ryan	Peter
Information Assurance	Ryan	Peter
Modelling and Analysis of Secure Systems and Security Policies	Ryan	Peter
Quantum Cryptography	Ryan	Peter
Socio-technical Aspects of Security	Ryan	Peter
Distributed Systems	Varrette	Sébastien

Table 3.2: Topics within Research Area “Information Security”

Intelligent and Adaptive Systems

The ”Intelligent and Adaptive Systems” research area is concerned with - the theoretical foundations and the algorithmic realization of - information processing and reasoning in complex and dynamic environments given limited resources and incomplete or uncertain information. It encompasses three overlapping subthemes and their corresponding topics:

- Intelligent agents:

  Computational techniques for autonomous problem solving and decision making in complex environments populated by humans and/or artificial agents.
  – Normative Multi-Agent Systems, Cognitive Agents/Robots, Decision Systems, Computational Social Choice and Agreement Technologies.

- Computational Intelligence:

  Adaptive systems exploiting learning, flexible probabilistic, or nature-inspired computing models to deal with opaque, dynamic contexts, and big data.
  – Bio-inspired Computing, Data Science, Text/Data Mining, Knowledge Discovery, Information Theory.

- Computational/Applied Logic:

  Logic-based methods for analyzing/specifying computational systems, providing advanced knowledge representation and reasoning techniques for intelligent agents.

– Agent logics, Normative Reasoning, Knowledge Representation, Uncertain Inference, Foundations of Reasoning.

Research Topic	Last Name	First Name
Algorithmic decision theory	Bisdorff	Raymond
Multiple criteria decision aid for selecting, ranking, sorting and clustering	Bisdorff	Raymond
Cloud Computing	Bouvry	Pascal
Parallel and evolutionary computing	Bouvry	Pascal
Data Mining and Knowledge Discovery	Danilava	Sviatlana
Cloud Computing	Danoy	Grégoire
High Performance Computing	Danoy	Grégoire
Parallel and evolutionary computing	Danoy	Grégoire
Data Mining and Knowledge Discovery	Kampas	Dimitrios
Data Mining and Knowledge Discovery	Minev	Mihail
Cloud Computing	Muszynski	Jakub
Distributed Systems	Muszynski	Jakub
High Performance Computing	Muszynski	Jakub
Network Security	Muszynski	Jakub
Network and System Security	Muszynski	Jakub
Parallel and evolutionary computing	Muszynski	Jakub
Cloud Computing	Plugaru	Valentin
Distributed Systems	Plugaru	Valentin
Energy Efficiency	Plugaru	Valentin
High Performance Computing	Plugaru	Valentin
Parallel and evolutionary computing	Plugaru	Valentin
Performance Evaluation	Plugaru	Valentin
Platforms for Big Data Analysis and Machine Learning	Plugaru	Valentin
Artificial Companions	Schommer	Christoph
Computational Intelligence	Schommer	Christoph
Data Mining and Knowledge Discovery	Schommer	Christoph
Data Science	Schommer	Christoph
Information Retrieval and Learning	Schommer	Christoph
Machine Learning	Schommer	Christoph
Information Exchange	Sorger	Ulrich
Learning and Evolutionary Algorithms	Tantar	Alexandru-Adrian
Cloud Computing	Varrette	Sébastien

Research Topic	Last Name	First Name
Distributed Systems	Varrette	Sébastien
Energy Efficiency	Varrette	Sébastien
High Performance Computing	Varrette	Sébastien
Performance Evaluation	Varrette	Sébastien
Foundations of Formal Sciences and AI	Weydert	Emil
Logic and Knowledge Representation	Weydert	Emil
Uncertain and Nonmonotonic Inference	Weydert	Emil
Agreement Technologies and Cognitive Dynamics	van der Torre	Leon
Foundations of Reasoning and AI	van der Torre	Leon
Knowledge Representation and Natural Language Semantics	van der Torre	Leon
Logics for Intelligent Agents/Robots	van der Torre	Leon
Normative Multi-Agent Systems and Deontic Reasoning	van der Torre	Leon
Uncertain and Nonmonotonic Inference	van der Torre	Leon

Table 3.3: Topics within Research Area "Intelligent and Adaptive Systems"

Software and Systems

The Software and Systems Research Area covers research on methods and tools for mastering the development of complex software systems. The following tasks are tackled:

- To develop new engineering processes.
- To investigate the use of model driven development.
- To perform research on the foundations of software engineering.
- To study verification and validation techniques.
- To assist in the development and in the use of e-learning tools.

The following application domains stand out: industry-critical systems, e-learning systems, web-based distributed systems, enterprise architectures.

The research theme on software and systems is managed by Laboratory for Advanced Software Systems (LASSY).

Research Topic	Last Name	First Name
Automated Software Testing	Briand	Lionel
Model-Driven Software Engineering	Briand	Lionel
Requirements Engineering	Briand	Lionel

Research Topic	Last Name	First Name
Run-Time Verification	Briand	Lionel
Internet and Cloud Infrastructure Resilience	Esteves-Veríssimo	Paulo
Resilience of Cyber-Physical System Infrastructures	Esteves-Veríssimo	Paulo
Security and Dependability of Embedded Components	Esteves-Veríssimo	Paulo
Model-Driven Software Development	Glodt	Christian
Web-based Systems	Glodt	Christian
Dependability	Guelfi	Nicolas
Formal Methods	Guelfi	Nicolas
Requirements Engineering	Guelfi	Nicolas
Software Engineering	Guelfi	Nicolas
Domain-Specific Modeling Languages	Kelsen	Pierre
Formal Methods	Kelsen	Pierre
Model-Driven Software Development	Kelsen	Pierre
Software Engineering	Kim	Dongsun
Big Data at Runtime	Le Traon	Yves
Modeling at Runtime	Le Traon	Yves
Software Testing	Le Traon	Yves
Integration of Verification Activity into Model-Driven Engineering	Navet	Nicolas
Probabilistic Risk Analysis	Navet	Nicolas
Timing Verification of Real-time Systems	Navet	Nicolas
Systems and Control Engineering	Sachau	Jürgen
Proactive Computing	Zampunieris	Denis
Proactive Engines	Zampunieris	Denis
e-Learning	Zampunieris	Denis

Table 3.4: Topics within Research Area “Software and Systems”

Chapter 4

Research Groups

This chapter details the research groups within the CSC research unit.

ADT – Algorithmic Decision Theory (team Bisdorff)

http://charles-sanders-peirce.uni.lu/bisdorff/research.html

Today's decision makers in fields ranging from engineering to psychology to medicine to economics to homeland security are faced with remarkable new technologies, huge amounts of information to help them in reaching good decisions, and the ability to share information at unprecedented speeds and quantities. These tools and resources should lead to better decisions. Yet, the tools bring with them daunting new problems: the massive amounts of data available are often incomplete or unreliable or distributed and there is great uncertainty in them; interoperating/distributed decision makers and decision making devices need to be coordinated; many sources of data need to be fused into a good decision; information sharing under new cooperation/competition arrangements raises security problems. When faced with such issues, there are few highly efficient algorithms available to support decisions. The objective of Algorithmic Decision Theory (ADT) is to improve the ability of decision makers to perform in the face of these new challenges and problems through the use of methods of theoretical computer science, in particular algorithmic methods. The primary goal of ADT is to explore and develop algorithmic approaches to decision problems arising in a variety of applications areas. Examples include, but are not limited to:

- Computational tractability/intractability of consensus functions;
- Improvement of decision support and recommender systems;
- Development of automatic decision devices including on-line decision procedures;

- Robust Decision Making;
- Learning for Multi-Agent Systems and other on-line decision devices.

Role	Last Name	First Name
Head	Bisdorff	Raymond

Table 4.1: List of members of the ADT research group

APSIA – Applied Security and Information Assurance Group

http://wwwfr.uni.lu/snt/research/apsia

The Applied Security and Information Assurance Group - APSIA - is headed by Prof. Dr. Peter Y. A. Ryan, Professor of Applied Security. The group is part of SnT and is associated with LACS of the Computer Science and Communications Research Unit - CSC.

The APSIA Group is concerned with the design and analysis of secure systems:

- Cryptographic Protocols (classical and quantum)
- Cryptographic Algorithms and Primitives
- Information Flow
- Verifiable Voting Schemes
- Socio-Technical Analysis of Security

Role	Last Name	First Name
Head	Ryan	Peter
Senior Research Scientist	Lenzini	Gabriele
Researcher	Ferreira	Ana
Researcher	Joaquim	Rui
Researcher	Lancrenon	Jean
Researcher	Tang	Qiang
Researcher	Wu	Yining
Doctoral Candidate	Chenal	Massimo
Doctoral Candidate	Delerue Arriaga	Afonso
Doctoral Candidate	Giustolisi	Rosario
Doctoral Candidate	Huynen	Jean-Louis
Doctoral Candidate	Perez Urquidi	Jose Miguel
Doctoral Candidate	Pierina Brustolin Spagnuelo	Dayana
Doctoral Candidate	Skrobot	Marjan
Doctoral Candidate	Tabatabaei	Masoud
Doctoral Candidate	Wang	Jun

Table 4.2: List of members of the APSIA research group

CAIN – Communication and Information Theory

Role	Last Name	First Name
Head	Sorger	Ulrich
Researcher	Suchanecki	Zdzislaw
Doctoral Candidate	Li	Yu

Table 4.3: List of members of the CAIN research group

CORON – Team Coron

Role	Last Name	First Name
Head	Coron	Jean-Sébastien
Doctoral Candidate	Vadnala	Praveen Kumar
Doctoral Candidate	Venkatesh	Srinivas Vivek

Table 4.4: List of members of the CORON research group

CRTES – Critical Real-Time Embedded Systems

The CRTES group headed by Professor Nicolas Navet studies how to build provably safe critical embedded systems in a time and cost efficient manner. The focus of this group is on software-intensive real-time systems having strong dependability constraints and a significant societal impact, such as transportation systems (road vehicles, aircrafts, etc) or production lines. The aim of this group is to contribute to the techniques, tools and computing platforms to develop provably safe and optimized Critical Real-Time Embedded Systems (CRTES).

Role	Last Name	First Name
Head	Navet	Nicolas
Doctoral Candidate	Brau	Guillaume

Table 4.5: List of members of the CRTES research group

CRYPTOLUX – CRYPTOLUX

http://www.cryptolux.org/

Role	Last Name	First Name

Role	Last Name	First Name
Head	Biryukov	Alex
Research Scientist	Le Corre	Yann
Researcher	Derbez	Patrick
Researcher	Groszschädl	Johann
Researcher	Khovratovich	Dmitry
Researcher	Velichkov	Vesselin
Doctoral Candidate	Dinu	Dumitru-Daniel
Doctoral Candidate	Perrin	Léo Paul
Doctoral Candidate	Pustogarov	Ivan
Doctoral Candidate	Roy	Arnab
Doctoral Candidate	Udovenko	Aleksei

Table 4.6: List of members of the CRYPTOLUX research group

FMDE – Foundations of Model-Driven Engineering

The FMDE group headed by Professor Pierre Kelsen studies the fundamental concepts underlying model-driven engineering. Current research focuses on approaching model-driven engineering from a software language engineering perspective. In this context the main objective is to put the engineering of domain-specific languages on a sound theoretical basis. Limitations of the current crop of formal methods are tackled so that the methods grounded in theory become indeed applicable to industrial case studies.

Besides research in model-driven engineering (MDE) other research interest include applications of MDE in enterprise architecture as well as the design of efficient algorithms.

Role	Last Name	First Name
Head	Kelsen	Pierre
Research Scientist	Da Silva De Sousa	Vasco
Research Scientist	Glodt	Christian
Researcher	De Kinderen	Sybren
Researcher	Ma	Qin
Doctoral Candidate	Amrani	Moussa
Doctoral Candidate	Gammaitoni	Loïc

Table 4.7: List of members of the FMDE research group

ICR – Individual and Collective Reasoning

http://icr.uni.lu/

The Individual and Collective Reasoning Group (ICR) is an interdisciplinary research team at the University of Luxembourg which is driven by the insight that intelligent systems (like humans) are characterized not only by their individual reasoning capacity, but also by their social interaction potential. Its overarching goal is to develop and investigate comprehensive formal models and computational realizations of individual and collective reasoning and rationality.

ICR is anchored in the Lab for Intelligent and Adaptive Systems (ILIAS) of the Computer Science and Communications unit (CSC), and involved in the Interdisciplinary Centre for Security, Reliability and Trust (SnT). The group, which is led by Leon van der Torre, currently counts more than 15 researchers and is strongly engaged in international cooperation.

Our research areas are normative multi-agent systems, autonomous cognitive agents, computational social choice, and the foundations of logic-based knowledge representation and reasoning.

Role	Last Name	First Name
Head	van der Torre	Leon
Research Scientist	Weydert	Emil
Researcher	Booth	Richard
Researcher	Cramer	Marcos
Researcher	Doder	Dragan
Researcher	Jamroga	Wojciech
Researcher	Kurkowski	Miroslaw
Researcher	Parent	Xavier
Doctoral Candidate	Ambrossio	Diego Agustin
Doctoral Candidate	Colombo Tosatto	Silvano
Doctoral Candidate	Humphreys	Llio
Doctoral Candidate	Podlaszewski	Mikolaj Jan
Doctoral Candidate	Rienstra	Tjitze
Doctoral Candidate	Sun	Xin
Doctoral Candidate	Van Zee	Marc
Doctoral Candidate	Ziafati	Pouyan

Table 4.8: List of members of the ICR research group

LEPREVOST – Team Leprévost

Role	Last Name	First Name

Role	Last Name	First Name
Head	Leprévost	Franck
Research Scientist	Bernard	Nicolas

Table 4.9: List of members of the LEPREVOST research group

MESSIR – Research Group on Scientific Development Methods and Tools for Dependable Software Product Line Engineering

Our group focuses on modeling languages adapted to the engineering of dependable software product lines. Those languages are developed using sound scientific basis. They introduce new concepts that have a direct impact on mastering the dependability attributes of engineered systems.

An important attention is given to requirements specification for which We consider that operational semantics is a mandatory quality.

Our semantics is defined in order to allow for efficient specification verification using tests or model checking.

We develop open source tools to support our languages and to allow for research collaboration or technology transfer with industrial partners.

Role	Last Name	First Name
Head	Guelfi	Nicolas
Research Scientist	Capozucca	Alfredo
Research Scientist	Ries	Benoît
Doctoral Candidate	Khan	Yasir Imtiaz

Table 4.10: List of members of the MESSIR research group

MINE – Data Mining and Knowledge Discovery

http://wiki.uni.lu/mine

MINE is a member of the Intelligent and Adaptive Systems Research Laboratory. We are a group of researchers, who are interested in Data Science, in finding information about data and understanding its contents

Current research is related to Text Analytics (Topic Identification, Sentiment

Analysis, Feature Detection), Artificial Companions, and Anomaly Detection.

Our teaching activities implies DataBase Management I-III (Bachelor), Information Retrieval and Learning, Knowledge Discovery and Data Mining, and Machine Learning (Master), and a selected course within the Doctoral School in Compute Science and Computer Engineering.

Contact: Prof. Dr. Christoph Schommer.

Role	Last Name	First Name
Head	Schommer	Christoph
Doctoral Candidate	Bersan	Roxana
Doctoral Candidate	Danilava	Sviatlana
Doctoral Candidate	Kampas	Dimitrios
Doctoral Candidate	Minev	Mihail

Table 4.11: List of members of the MINE research group

MÜLLER – Team Müller

Role	Last Name	First Name
Head	Müller	Volker

Table 4.12: List of members of the MÜLLER research group

PCOG – Parallel Computing and Optimisation Group

http://pcog.uni.lu/

The Parallel Computing & Optimisation group led by Prof. Pascal Bouvry is conducting research on parallel computing and optimization techniques, in particular new research topics include decentralized optimization techniques that nevertheless lead to a good global behavior of the system.

The main application domains of the team fit the University of Luxembourg priorities:

- security, trust and reliability, for example, cryptology, intrusion detection, and reliable scheduling and routing on new generations of networks such as p2p, ad-hoc, and hybrids.
- sustainable development, for instance, Energy Efficient Data Centers
- systems biomedecine, for example, genomic sequencing, proteine folding, genomic modeling

Role	Last Name	First Name
Head	Bouvry	Pascal
Research Scientist	Danoy	Grégoire
Research Scientist	Varrette	Sébastien
Researcher	Besseron	Xavier
Researcher	Emeras	Joseph
Researcher	Guzek	Mateusz
Researcher	Jimenez Laredo	Juan Luis
Researcher	Kliazovich	Dzmitry
Researcher	Muszynski	Jakub
Researcher	Pecero	Johnatan
Researcher	Tantar	Alexandru-Adrian
Technical Support Staff Member	Cartiaux	Hyacinthe
Technical Support Staff Member	Plugaru	Valentin
Doctoral Candidate	Diaz	Cesar
Doctoral Candidate	Fiandrino	Claudio
Doctoral Candidate	Grzybek	Agata
Doctoral Candidate	Nguyen	Anh Quan
Doctoral Candidate	Nielsen	Sune Steinbjorn
Doctoral Candidate	Pinel	Frédéric
Doctoral Candidate	Simionovici	Ana-Maria
Doctoral Candidate	Stathakis	Apostolos

Table 4.13: List of members of the PCOG research group

ROTH – Team Rothkugel

Role	Last Name	First Name
Head	Rothkugel	Steffen
Research Scientist	Botev	Jean
Technical Support Staff Member	Charousset	Saskia
Doctoral Candidate	Kirsch	Laurent
Doctoral Candidate	Klein	Johannes

Table 4.14: List of members of the ROTH research group

SaToSS – Security and Trust of Software Systems

http://satoss.uni.lu/

The Security and Trust of Software Systems (SaToSS) group, led by Professor Sjouke Mauw, is focused on formalizing and applying formal reasoning to real-world security problems and trust issues. The group was established on January

1st, 2007 within the Computer Science and Communications (CSC) research unit of the Faculty of Science, Technology and Communication (FSTC) of the University of Luxembourg. It is part of the laboratories LACS and ComSys, and has a strong connection to the Interdisciplinary Centre for Security, Reliability and Trust (SnT).

The group has common projects with the APSIA group led by Prof. Peter Ryan, with the ICR group headed by Prof. Leon van der Torre, and with Prof. Thomas Sauter from the Life Sciences research unit. SaToSS also collaborates closely with other units and scientists from the University of Luxembourg, as well as with several academic and industrial partners from Luxembourg and from abroad, including itrust Luxembourg, Cybernetica Estonia, EDF France, Thales R&D France, IBM Switzerland, Royal Holloway University of London, amongst others.

Role	Last Name	First Name
Head	Mauw	Sjouke
Research Scientist	Jonker	Hugo
Research Scientist	Kordy	Barbara
Researcher	Gadyatskaya	Olga
Researcher	Jhawar	Ravi
Researcher	Mizera	Andrzej
Researcher	Pang	Jun
Researcher	Trujillo Rasua	Rolando
Doctoral Candidate	Yuan	Qixia
Doctoral Candidate	Zhang	Yang

Table 4.15: List of members of the SaToSS research group

SCE – Systems & Control Engineering

http://www.sce.uni.lu/

Role	Last Name	First Name
Head	Sachau	Jürgen
Researcher	Capitanescu	Florin
Doctoral Candidate	Bilibin	Ilya
Doctoral Candidate	Brühl	Manuel
Doctoral Candidate	Jostock	Markus
Doctoral Candidate	Margossian	Harag
Doctoral Candidate	Neshvad	Surena
Doctoral Candidate	Norta	David Peter Benjamin

Table 4.16: List of members of the SCE research group

SECAN-Lab – Security and Networking Lab

http://secan-lab.uni.lu/

The Security and Networking Lab (SECAN-Lab) is headed by Prof. Dr. Thomas Engel who is Professor for Computer Networks and Telecommunications at the University of Luxembourg since 2003. SECAN-Lab addresses both fundamental and applied research activities in computer networking and security. The main research activities of our group cover the following areas:

- Privacy and security by distribution
- SCADA and cyber security
- Vehicular and multimodal traffic management
- Privacy in data communications, protection against network traffic analysis
- Internet of Things, Quality of Service, IPv6 integration
- Wireless networks and mobile security
- Financial technologies including smart contracts and block chains
- Network and systems security including machine learning for big data analysis, malware detection and IT forensics
- Interaction, games and novel interface technologies and their application to vehicular communication
- Software Defined Networks.

Role	Last Name	First Name
Head	Engel	Thomas
Head Personal Assistant	Edwardsdottir	Helga
Senior Research Scientist	State	Radu
Research Scientist	Frank	Raphaël
Research Scientist	Panchenko	Andriy
Researcher	Avanesov	Tigran
Researcher	Braatz	Benjamin
Researcher	Castignani	German
Researcher	Dolberg	Lautaro
Researcher	François	Jérôme
Researcher	Gheorghe	Gabriela
Researcher	Hermann	Frank
Researcher	Kantor	Miroslaw
Researcher	Lanze	Fabian
Researcher	Louveton	Nicolas
Researcher	Machalek	Aurel
Researcher	McCall	Roderick
Researcher	Melakessou	Foued
Researcher	Palattella	Maria Rita
Researcher	Popleteev	Andrei
Researcher	Tantar	Emilia
Program Coordinator	Ladid	Latif
Technical Support Staff Member	Dunlop	Dominic
Doctoral Candidate	Bronzi	Walter

Role	Last Name	First Name
Doctoral Candidate	Codeca	Lara
Doctoral Candidate	Derrmann	Thierry
Doctoral Candidate	Falk	Eric
Doctoral Candidate	Forster	Markus
Doctoral Candidate	Goergen	David
Doctoral Candidate	Gottmann	Susann
Doctoral Candidate	Hammerschmidt	Christian
Doctoral Candidate	Hommes	Stefan
Doctoral Candidate	Jerome	Quentin
Doctoral Candidate	Marchal	Samuel
Doctoral Candidate	Mouton	Maximilien
Doctoral Candidate	Nachtigall	Nico
Doctoral Candidate	Signorello	Salvatore
Doctoral Candidate	Skoutaris	Eleftherios
Administrative Aid	Östlund	Stefanie

Table 4.17: List of members of the SECAN-Lab research group

SERVAL – Security Design and Validation Research Group

https://sites.google.com/site/servalteam/

SERVAL conducts research on software engineering, and more specifically on modelling and design for security, as well as on validation of functional/security mechanisms for systems and software. Among the issues addressed by the group, we can mention (1) the use of Model Driven Engineering for designing secure systems, (2) model composition and aspect weaving to develop adaptive security and testable mechanisms, (3) the definition of security policies and dedicated testing techniques (mutation, evolutionary algorithms, static analysis) to ensure that functional and security mechanisms (privacy, access control, usage control, encryption) are correctly implemented and deployed. The domains of application concern Ambient Assisted Living using sensor networks, information systems, distributed systems, web-applications, SOA, mobile apps.

Research topics include:

- Model Driven Engineering
- Android Security
- Software Testing
- Access Control
- Conviviality vs Privacy

Role	Last Name	First Name
Head	Le Traon	Yves
Senior Research Scientist	Klein	Jacques

Role	Last Name	First Name
Researcher	Allix	Kevin
Researcher	Bissyande	Tegawendé François D Assise
Researcher	Fouquet	François
Researcher	Henard	Christopher
Researcher	Kim	Dongsun
Researcher	Lucas Filho	Edson Ramiro
Researcher	Papadakis	Mike
Doctoral Candidate	Hartmann	Thomas
Doctoral Candidate	Jimenez	Matthieu
Doctoral Candidate	Li	Li
Doctoral Candidate	Martinez	Jabier
Doctoral Candidate	Moawad	Assaad
Doctoral Candidate	Rubab	Iram
Doctoral Candidate	Sanchez Guinea	Alejandro

Table 4.18: List of members of the SERVAL research group

SVV – Software Verification and Validation Research Group

http://wwwen.uni.lu/snt/research/software_verification_and_validation_lab

Role	Last Name	First Name
Head	Briand	Lionel
Research Scientist	Nejati	Shiva
Research Scientist	Sabetzadeh	Mehrdad
Researcher	Bianculli	Domenico
Researcher	Göknil	Arda
Researcher	Lucia	Lucia
Researcher	Nguyen	Duy Cu
Researcher	Pastore	Fabrizio
Researcher	Sannier	Nicolas
Researcher	Shar	Lwin Khin
Doctoral Candidate	Appelt	Dennis
Doctoral Candidate	Arora	Chetan
Doctoral Candidate	Ben Fadhel	Ameni
Doctoral Candidate	Di Nardo	Daniel
Doctoral Candidate	Dou	Wei
Doctoral Candidate	Hajri	Ines
Doctoral Candidate	Jan	Sadeeq
Doctoral Candidate	Le	Ha Thanh
Doctoral Candidate	Liu	Bing
Doctoral Candidate	Maddouri	Sami
Doctoral Candidate	Matinnejad	Reza

Role	Last Name	First Name
Doctoral Candidate	Soltana	Ghanem
Doctoral Candidate	Thome	Julian
Doctoral Candidate	Wang	Chunhui

Table 4.19: List of members of the SVV research group

ZAMP – Team Zampuniéris

Role	Last Name	First Name
Head	Zampunieris	Denis
Research Scientist	Reis	Sandro
Technical Support Staff Member	Marques Dias	Sergio
Technical Support Staff Member	Parnian	Shahed
Doctoral Candidate	Dobrican	Remus-Alexandru
Doctoral Candidate	Shirnin	Denis

Table 4.20: List of members of the ZAMP research group

Chapter 5

Projects in 2014

This chapter lists the research projects running during 2014. This chapter is structured to summarize the projects by funding source:

- COST Action Projects
- Directorate-General for Education and Culture (European Commission) Projects
- EC - FP7 Projects
- FNR - AFR PhD Projects
- FNR - CORE Projects
- FNR - INTER Projects
- FNR - Other Projects
- UL Funding Projects
- Unfunded Projects

The following pages summarize the projects operated in the CSC Research Unit for the year 2014.

5.1 COST Action Projects

Runtime Verication beyond Monitoring

Acronym: ARVI

PI:

Funding: COST Action

Budget: not given

Duration: Dec. 12, 2014 – Dec. 11, 2018

Member: Jun Pang (Collaborator)

Area: Information Security

Description: Runtime verification (RV) is a computing analysis paradigm based on observing a system at runtime to check its expected behavior. RV has emerged in recent years as a practical application of formal verification, and a less ad-hoc approach to conventional testing by building monitors from formal specifications.

There is a great potential applicability of RV beyond software reliability, if one allows monitors to interact back with the observed system, and generalizes to new domains beyond computers programs (like hardware, devices, cloud computing and even human centric systems). Given the European leadership in computer based industries, novel applications of RV to these areas can have an enormous impact in terms of the new class of designs enabled and their reliability and cost effectiveness.

This Action aims to build expertise by putting together active researchers in different aspects of runtime verification, and meeting with experts from potential application disciplines. The main goal is to overcome the fragmentation of RV research by (1) the design of common input formats for tool cooperation and comparison; (2) the evaluation of different tools, building a growing sets benchmarks and running tool competitions; and (3) by designing a road-map and grand challenges extracted from application domains.

CRYPTACUS - COST Action IC1403

Acronym: CRYPTACUS - COST Action IC1403

PI:

Funding: COST Action

Budget:	not given
Duration:	Dec. 12, 2014 – Nov. 12, 2018
Member:	Sjouke Mauw (Administrator)
Area:	Information Security
Description:	Recent technological advances in hardware and software have irrevocably affected the classical picture of computing systems. Today, these no longer consist only of connected servers, but involve a wide range of pervasive and embedded devices, leading to the concept of ”ubiquitous computing systems”. The objective of the Action is to improve and adapt the existent cryptanalysis methodologies and tools to the ubiquitous computing framework. Cryptanalysis, which is the assessment of theoretical and practical cryptographic mechanisms designed to ensure security and privacy, will be implemented along four axes: cryptographic models, cryptanalysis of building blocks, hardware and software security engineering, and security assessment of real-world systems. Researchers have only recently started to focus on the security of ubiquitous computing systems. Despite the critical flaws found, the required highly-specialized skills and the isolation of the involved disciplines are a true barrier for identifying additional issues. The Action will establish a network of complementary skills, so that expertise in cryptography, information security, privacy, and embedded systems can be put to work together. The outcome will directly help industry stakeholders and regulatory bodies to increase security and privacy in ubiquitous computing systems, in order to eventually make citizens better protected in their everyday life.

5.2 Directorate-General for Education and Culture (European Commission) Projects

Future Education and Training in Computing: How to meet our students where they are

http://fetch.ecs.uni-ruse.bg/index.php?cmd=gsIndex

Acronym:	FETCH
Reference:	I2R-NET-PEU-13FTCH

PI: Thomas Engel

Funding: Directorate-General for Education and Culture (European Commission)

Budget: 1,127,000 €

Duration: Oct. 1, 2013 – Sept. 30, 2016

Members:
- Thomas Engel (Principal Investigator)
- Stefanie Östlund (Project Coordinator)

Area: Communicative Systems

Partners:
- Aalborg University
- Academy of Economic Studies
- BIKEMA
- Comhard Gesellschaft für Computer Kommunikation Bildung mbH
- Czech Technical University
- Dublin City University
- GFai tech GmBH
- HTW Berlin
- Heriot-Watt University
- IEEE Bulgaria Section
- IIEF Integrierte Informationssysteme für Engineering und Facility Management GmbH
- Institute of Mathematics and Informatics
- Izmir University of Economics
- Kaunas University of Technology
- Lappeenranta University of Technology
- Linnaeus University
- Liverpool John Moores University
- Molde University College
- Musala Soft
- Ostfold University College
- Polytechnic University of Tirana
- Reykjavik University
- Riga Technical University
- Selcuk University
- Slovak University of Technology
- Sofia University “St. Kliment Ohridski”
- South East European University
- Tallinn University of Technology
- Technical University of Gabrovo
- Technical University of Sofia
- Technical University of Varna
- Technische Universitaet Wien
- Technische Universität Ilmenau
- Tellus Ltd
- Temida Ltd
- University Ss Cyril & Methodiuous, Skopje
- University of Bahcesehir

- University of Calabria
- University of Coimbra
- University of Cyprus
- University of Delft
- University of Ioannina
- University of La Laguna
- University of Library Science and Information Technologies
- University of Liechtenstein
- University of Luxembourg
- University of Malaga
- University of Malta
- University of Napoli Parthenope
- University of Nova Gorica
- University of Novi Sad
- University of Palermo
- University of Pavia
- University of Pitesti
- University of Plovdiv
- University of Rijeka
- University of Russe
- University of Szeged
- University of Tampere
- University of Veliko Turnovo
- University of Versailles
- VARTEC NV
- Vilnius Gediminas Technical University
- Vilnius University
- Warsaw University of Technology

Description: Future Education and Training in Computing: How to support learning at anytime anywhere?

The project aims at the achievement of intelligent growth, and building a knowledge and innovation based computer society through raising the quality of computing education, introducing modern innovative technologies in education, sharing knowledge, discussing methodologies, promoting exchange of good practice between all parties.

In order to respond to:

- ET2020 - the consortium will develop a European Strategic Framework for Computing Education and Training 2020 (ESFCET 2020), which will form a solid, global strategic framework that leverages local and transnational competences to enhance Computing Education in Europe.
- European Qualification Framework - ETN FETCH will develop a European Evaluation Framework in Computing Education and Training 2020 (EEFCET 2020), which will evaluate the three factors: Knowledge, Skills and Competences gained from Computing Education and Training.
- The Tuning Methodology - the project will prepare recom-

mendations for future Digital Curricula in Computing Education and Training 2020 (DCCET 2020).
- Introducing modern innovative technologies in education - new didactical theories and learning models for using social media in education will be developed.

Main project outcomes and products:

- ETN FETCH "Future Education and Training in Computing: How to support learning at anytime anywhere".
- European Strategic Framework for Computing Education and Training 2020 (ESFCET 2020).
- European Evaluation Framework in Computing Education and Training 2020 (EEFCET 2020).
- A set of recommendations for future Digital curricula in Computing Education and Training 2020.
- New didactical theories and learning models for using social media in education.
- Six conferences with co-event workshops in the field of computing.
- Publications of the results in journals, newspapers, magazines, brochures and web sites.
- Internal and external evaluation reports.

Impact:

- The project products will be of benefit for all actors in Computing education like
  - University and national policy-makers in the field of Computing education;
  - University academic staff who are lecturers/trainers in Computing;
  - Bachelor, Master & Doctoral Students;
  - Research institutes and centres in Computing;
  - Companies and SMEs in the field of Computing.
- The project will change the methodology of training computer specialists, will apply most modern technologies in education, and will promote closer cooperation between universities, research institutes and industry.

5.3 EC - FP7 Projects

Technology-supported Risk Estimation by Predictive Assessment of Socio-technical Security

http://www.trespass-project.eu/

Acronym:	TREsPASS
Reference:	FP7 Grant Agreement No. 318003
PI:	Sjouke Mauw
Funding:	EC - FP7
Budget:	13,568,381 €
Duration:	Nov. 1, 2012 – Oct. 31, 2016
Members:	• Sjouke Mauw (Principal Investigator) • Olga Gadyatskaya (Researcher) • Rolando Trujillo Rasua (Researcher) • Barbara Kordy (Collaborator) • Gabriele Lenzini (Collaborator)
Partners:	• Aalborg University • BiZZdesign • Consult Hyperion • Cybernetica • Deloitte Netherlands • GMV SGI • GMVIS SKYSOFT • Goethe-Universität • Hamburg University of Technology • IBM Switzerland • LUST • Royal Holloway University London • Technical Unversity of Denmark • University of Delft • University of Twente • itrust Luxembourg
Description:	Information security threats to organizations have changed completely over the last decade, due to the complexity and dynamic nature of infrastructures and attacks. Successful attacks cost society billions a year, impacting vital services and the economy. Examples include StuxNet, using infected USB sticks to sabotage nuclear plants, and the DigiNotar attack, using fake certificates to spy on website traffic. New attacks cleverly exploit multiple organizational vulnerabilities, involving physical security and human behavior. Defenders need to make rapid decisions regarding which attacks to block, as both infrastructure and attacker knowledge are constantly evolving. Current risk management methods provide descriptive tools for assessing threats by systematic brainstorming. In today's dynamic attack landscape, however, this process is too slow and exceeds the limits of human imaginative capability. Emerging security risks demand an extension of established methods with an analytical approach to predict, prioritize, and prevent complex attacks. The TREsPASS project develops quantitative and organization- specific

means to achieve this in complex socio-technical environments. The iterative, tool-supported framework:

- Represents the structure of complex organizations as socio-technical security models, integrating social and technical viewpoints;
- Predicts socio-technical attacks, prioritizes them based on their risk, and assesses the aggregated effect of preventive measures;
- Presents results to enable quick understanding and updating of the current security posture.

By integrating European expertise on socio-technical security into a widely applicable and standardized framework, TREsPASS will reduce security incidents in Europe, and allow organizations and their customers to make informed decisions about security investments. This increased resilience of European businesses both large and small is vital to safeguarding the social and economic prospects of Europe.All public information about the project can be found at http://www.trespass-project.eu/.TREsPASS is executed jointly by members of SnT and CSC.

5.4 FNR - AFR PhD Projects

New Approaches to Parameter Estimation of Gene Regulatory Networks

Acronym:	AFR: NAPEGRN
PI:	
Funding:	FNR - AFR PhD
Budget:	not given
Duration:	March 1, 2014 – Jan. 14, 2017
Members:	• Qixia Yuan (Doctoral Candidate) • Sjouke Mauw (Scientific Contact) • Jun Pang (Scientific Contact)
Area:	Information Security
Description:	Systems biology is a new, emerging and rapidly developing, multidisciplinary research field. The topics associated with systems biology attract interest of researchers having their background in a wide range of field of expertise, e.g., biology, chemistry, computer science, mathematics, physics or engi-

neering. Systems biology aims to study biological systems from a holistic perspective, with the goal to provide a comprehensive, system-level understanding of cellular behaviour. The research in this field involves identification, modelling and analysis of biochemical networks (e.g., metabolic pathways, regulatory networks or signal transduction networks), in close linkage to experiments with the focus on understanding the system's structure and dynamics. Such comprehensive approach enables the capturing of complex properties of a system such as robustness, emergence or adaptation, which are ubiquitous features of biological systems.

Computer science plays a prominent role in the field of systems biology. One of the main reasons is that the key concepts in systems biology, such as component, network, robustness, efficiency, regulation, control, signalling, synchronisation, parallelism, etc., have been studied for a long time in computer science (albeit from different perspectives). A key contribution brought to systems biology by computer science is the formal means for manipulation, analysis, and reasoning about system-level concepts and structures. For example, formal system specifications, control design, mathematical modelling belong to the mainstream techniques utilised in systems biology [2]. Over the last decade concepts and approaches from computer science, and software engineering in particular, have started to penetrate the field of systems biology in an increasing pace. In this project, we focus on the application of model-checking, which is a mathematically based technique for the specification, development and verification of computer systems, to the analysis of biological systems. More specifically, our goal in this project is to develop and apply model-checking algorithms and tools which are tailored for the modelling and analysis of biological systems.

Research context: this is a research project on applying formal methods.

Results: Development of the software tool "ASSA-PBN: a tool for approximate steady-state analysis of large probabilistic Boolean networks (PBNs)".

Doctoral Thesis: Stream Mining for Predictive Authentication Under Adversarial Influence

Acronym: Christian Hammerschmidt

PI: Radu State

Funding: FNR - AFR PhD

Budget:	138,000 €
Duration:	Nov. 11, 2014 – Nov. 14, 2017
Members:	• Radu State (Principal Investigator) • Stefanie Östlund (Project Coordinator) • Christian Hammerschmidt (Doctoral Candidate) • Thomas Engel (Scientific Contact)
Area:	Communicative Systems
Partner:	neXus
Description:	None

Doctoral Thesis: Urban Travel Time Estimation from Cooperative Data Gathering

Acronym:	OUTREACH
Reference:	I2R-DIR-AFR-090000
PI:	Thomas Engel
Funding:	FNR - AFR PhD
Budget:	120,000 €
Duration:	June 5, 2013 – Dec. 18, 2016
Members:	• Thomas Engel (Principal Investigator) • Stefanie Östlund (Project Coordinator) • Lara Codeca (Doctoral Candidate) • Raphaël Frank (Scientific Contact)
Area:	Communicative Systems
Partner:	UCLA (non contracting)
Description:	None

Transparent Yet Private Access to Medical Data

Acronym:	TYPAMED
PI:	
Funding:	FNR - AFR PhD
Budget:	not given
Duration:	Dec. 1, 2014 – Nov. 30, 2017
Members:	• Gabriele Lenzini (Collaborator) • Peter Ryan (Collaborator)

- Dayana Pierina Brustolin Spagnuelo (Doctoral Candidate)

Description: Several pilot tests show that patients who are allowed to access their medical data commit more seriously to therapies and health programs. This finding is particularly relevant in medical research programs aiming at cross-sectional and longitudinal studies on patient cohorts (Luxembourg has recently established one of such programs to monitor the stratification of Parkinson's disease.) For the success of such programs, the commitment of patients and of patient organizations are of pivotal importance.

However, letting patients accessing medical records raises many security concerns and creates tension among conflicting requirements. This research project (for a Ph.D.) has the objective to understand precisely such conflicts, and to study and design access control mechanisms that are socio-technically secure, that is secure not only at the technical level, where data management and communication protocols run, but also at a non-technical level, where richer human protocols and behavioural factors are in place.

So, for instance, if on one hand patients' access should be controlled so that unauthorised disclosure and modifications are not allowed within the data they are entitled to access, on the other hand, patients should have control over their own data, who accesses it and for what purpose - a right that EU regulations are already trying to enforce.

The challenge comes from the fact that patients are not ICT (Information

and Communication Technologies) experts. Access control mechanisms should be effective, but not hard to use or this will compromise a patient's active participation. But the same mechanisms should be transparent to let patients know what happens to their data, how secure they are, and be informed that their data are handled appropriately, reassuring them that their involvement in sensitive research programs will not cost them higher prices in terms of intrusions into their lives.

This Ph.D. project, a collaboration between SnT and LCSB, the Univ. Federal de Santa Catarina (BR), and Univ. of Porto (PT) intends to look at the socio-technical security problems concerning a secure access and use of medical data from patients.

It will study access control and data confidentiality mechanisms and implementations, with the specific perspective that those solutions should be usable by inexpert patients and should inspire an honest sense of trust. In so doing, this research goes beyond understanding the security requirements of the technical protocols that realize a secure and confiden-

tial remote access to data, requirements widely studied elsewhere. Instead, it advocates studying the human-scale ceremonies in which those protocols are integrated.

It will use both traditional expertise and knowledge in the design of secure systems and protocols, and more advanced methodologies suitable for a socio-technical analysis of security and trust.

5.5 FNR - CORE Projects

Applied Cryptography for the Internet of Things

Acronym:	ACRYPT
PI:	Alex Biryukov
Funding:	FNR - CORE
Budget:	not given
Duration:	June 30, 2013 – Dec. 31, 2016
Members:	• Alex Biryukov (Principal Investigator) • Johann Groszschädl (Researcher) • Yann Le Corre (Collaborator) • Dumitru-Daniel Dinu (Doctoral Candidate) • Léo Paul Perrin (Doctoral Candidate)
Area:	Information Security
Partner:	Fonds National de la Recherche
Description:	The project ACRYPT aims at securing the so-called Internet of Things (IoT) by researching the design and implementation of lightweight cryptographic primitives for RFID tags, wireless sensor nodes, and other ”smart” objects.

Attack-Defence Trees: Theory Meets Practice

Acronym:	ADT2P
Reference:	C13/IS/5809105
PI:	Sjouke Mauw
Funding:	FNR - CORE
Budget:	494,000 €
Duration:	Sept. 1, 2014 – Aug. 31, 2017

Members:
- Sjouke Mauw (Principal Investigator)
- Ravi Jhawar (Collaborator)
- Barbara Kordy (Collaborator)

Area: Information Security

Partners:
- Sintef
- THALES Research & Technology

Description: Threat and risk analysis are crucial steps in developing secure and usable ICT solutions. An optimal security assessment methodology should combine sound, mathematical foundations with practical and user friendly criteria, which explains their increasing popularity over the last decade.

Attack–defense trees (ADTrees) augment attack trees by including defensive measures into the model. They provide the means to qualitatively and quantitatively assess security. The extended formalism allows for an improved analysis, without however requiring additional computational power.

The objective of the ADT2P project is to elevate the attack–defense tree methodology to an industrially applicable security analysis framework and to integrate it with standard risk assessment tools. In order to achieve this goal, fundamental research as well as practical validation will be performed. ADTrees will be extended with additional features that are necessary to model real-life scenarios. This will include introducing the notions of actors and objects as well as defining dedicated security measures, such as risk and impact. New algorithms that can cope with large-scale models as well as methods to construct ADTrees from generic attack and defense patterns will be designed. For this, the automatic composition of models will be investigated. Finally, a new version of ADTool, a software tool supporting the ADTree formalism, will be released.

The ADT2P project will build upon the expertise of ADTrees, which was gained within the FNR CORE project ATREES (http://satoss.uni.lu/projects/atrees/). Collaboration with the industrial partners SINTEF and THALES will ensure that the proposed methodology will be highly usable and practical. By integrating the project results into existing security and risk assessment solutions, ADT2P will assist small and mid-size auditing and consulting companies in providing better and more accurate security assessment.

Localised Legacies

Acronym: LOCALE

Reference:	I2R-DIR-PFN-13LOCA
PI:	Thomas Engel
Funding:	FNR - CORE
Budget:	815,000 €
Duration:	May 1, 2014 – April 30, 2017
Members:	• Thomas Engel (Principal Investigator) • Gabriela Gheorghe (Researcher) • Nicolas Louveton (Researcher) • Stefanie Östlund (Project Coordinator)
Area:	Communicative Systems
Partners:	• Amiperas a.s.b.l. • Centre National de l'Audiovisuel • Centre Virtuel de la Connaissance sur l'Europe • LIST • konviktsgaart
Description:	The Locale project aims at a collaborative mobile and web-based platform for authoring and sharing multi-media historical heritage content about the period 1945 - 1960: from the end of WWII to the dawn of Europe, in the context of their respective 70th (2015) - 60th (2017: EEC) anniversaries. Targeted users are on the one hand (quasi-)witness people who keep direct or indirect memories of the period, and on the other hand all people who have historical interest or knowledge in the period. Emphasis will be put on location-based storytelling and sharing experiences that are designed to allow elderly people to share their stories in an intuitive and easy way with younger members of the population. The Locale project will thus foster the sharing of personal historical accounts that may not be included in the standard historical literature. The platform will include advanced functionalities to explore multidimensional data using various human analyses and data mining strategies, based on metadata, tags, attributes entered by the user, as well as browsing history (e.g. relation between a place and queries about a given historical fact). Interaction between users of the platform will allow to follow discussions based on data contributed as well as to verify, complete, and put in perspective pieces of historical information.

MultimodAl MoBility Assistance

Acronym:	MAMBA
Reference:	I2R-NET-PFN-13MAMB

PI: Thomas Engel

Funding: FNR - CORE

Budget: 886,000 €

Duration: April 1, 2014 – March 31, 2017

Members:
- Thomas Engel (Principal Investigator)
- German Castignani (Researcher)
- Sébastien Faye (Researcher)
- Raphaël Frank (Researcher)
- Stefanie Östlund (Project Coordinator)
- Thierry Derrmann (Doctoral Candidate)
- Maximilien Mouton (Doctoral Candidate)

Area: Communicative Systems

Partner: UCLA (non contracting)

Description: In Luxembourg, mobility has over the years become a socio-economical issue due to the large number of foreign commuters that cross the border everyday causing significant travel delays on the transportation network. Recently, a lot has been done to reduce traffic congestions and improve public transportation services, especially in urban environments where the road network cannot be easily extended. Traffic jams can now be detected with the help of mobile phones that act as traffic sensors. The location of buses and trains are monitored in real time to inform the passengers about possible delays. What is still missing is a holistic mobility concept that spans the entire ecosystem of transportation possibilities and tries to optimize its usage based on the demand.

The MAMBA project envisions to propose and validate a multimodal mobility platform that relies on new Internet technologies to interconnect different mobile services with the aim to provide relevant travel advice based on the users' context. Taking into account real time traffic conditions, the status of the public transportation services (e.g. buses, trains, parking slots) and the users' preferences, the individual travel assistant will proactively suggest the best transportation mode to reach a desired destination.

The key to the success of such a mobility concept is to have real time and relevant data of all the actors that are part or make use of the transportation network. Luxembourg, due to its size and geographical location, is the ideal candidate to showcase such a service on a countrywide scale. Local transport operators have already mentioned their interest to collaborate with the project, as they will benefit from its outputs such as better planning their schedules and resources.

Optimizing urban transportation services may be achieved in different ways. For example, by limiting or avoiding unnec-

essary journeys, one can significantly disencumber the road network. Providing drivers with incentives not to take the car during rush hour, if possible, is currently investigated by a partnering FNR CORE iGear project1. The results of those studies will be used as an input in this project. Similarly, the tangible outputs of the still running FNR CORE MOVE project2 will provide important building blocks to achieve the holistic mobility framework.

By taking into account all those sources of information, we will be able to optimize the already existing public transportation network and influence the itinerary of the users and by suggesting new multimodal routes based on their prederences. This concept will also help develop new means of transportation i.e. public electrical vehicles that can be used as last mile transportation to reduce the vehicular traffic going in and out the city. Ultimately, by exactly knowing all travel plans in advance, such a concept will lead to demand-driven transportation services avoiding unnecessary trips and thus reduce the overall energy footprint.

The system architecture will be divided into three distinct layers as depicted in Figure 1. The first being the data collection layer, which is composed of all the relevant information sources that are needed to provide the multimodal mobility services. In a first phase, the sources have to be identified and a common middleware has to be specified and implemented in order to efficiently retrieve real time data. The second layer is the communication network, which is used to make the data available trough ubiquitous network technologies i.e. 3G/4G mobile networks and metropolitan or community WiFi networks. The third and last layer implements the travel optimizer and stores the data received by the participating agents.

5.6 FNR - INTER Projects

ID-based Secure Communications system for unified access in IOT

Acronym:	IDSECOM
Reference:	I2R-NET-PFN-13IDSE
PI:	Thomas Engel
Funding:	FNR - INTER
Budget:	692,000 €
Duration:	April 1, 2014 – March 31, 2017

Members:
- Thomas Engel (Principal Investigator)
- Miroslaw Kantor (Researcher)
- Radu State (Researcher)
- Stefanie Östlund (Project Coordinator)
- Salvatore Signorello (Doctoral Candidate)

Area: Communicative Systems

Partner: Warsaw University of Technology

Description: The project IDSECOM aims to build a secure platform for self-management of the Things and services in the Internet of Things environment. The proposed platform brings the functionalities of the so-called ID layer to the network structure and integrates selfmanagement, mobility and security/privacy functionalities in order to create a network infrastructure that offers an easier (and intuitive) access to the IoT (Internet of Things) services. As referred in the project CASAGRAS, "Internet of Things (IoT) is a global network infrastructure, linking physical and virtual objects through the exploitation of data capture and communication capabilities" [Cas09]. Briefly speaking, IoT will be a huge connectivity platform for self-managed devices. A key-challenging question in IoT research is how to identify and access the objects. This issue is solved in the so-called ID layer, which is the common layer for communicating Things. The current solutions for ID layer [Sou09, Swi10, Kos10, IoT@W] are performed by additional protocols, overlay services or infrastructures that need a lot of configuration, have a limited support or may suffer incompatibility between solutions in different networks. In the same way, the current solutions for discovering and accessing the services in IoT are limited to overlay systems. The efforts of this project are directed to build an extended secure ID layer, which solves object and service access in the network itself. Moreover, IDSECOM system extends the current ID layer solutions by (1) addressing not only objects but also services, (2) distributing and facilitating general process as registration and publication of objects/services, (3) adding enhanced security and privacy mechanisms, (4) introducing ID layer self-management functionalities in network level, (5) improving flexibility in multicast/anycast communications at different levels and (6) optimizing information forwarding.

The following proposal is based on the architecture that we presented mainly in [Mon13], and extends its functionalities by providing a self-managed and secure network that is capable of registering, publishing, discovering and managing IDentifiers (ID) attached to objects and services in the IoT. In fact, in [Mon13] we developed the low level operations, i.e., IoT CCNspecific packet forwarding but operations related with IoT services (registration, publication and so on) that are specific of ID layer were discussed superficially. We grouped

together challenges and requirements rather than solutions for ID layer operations. This proposal will centre in ID layer-specific operations.

Over ID layer proposed in IDSECOM it will be possible to present primitive services of sensors/actuators or composed services for sharing the resources of different sensor networks. Each service may acquire a public context and location-aware ID (with appropriate hierarchy), by which the service can be easily discovered by remote applications. For building the platform we consider the Software Defined Networking approach and, specifically, OpenFlow, which is widely extended in modern network devices. OpenFlow allows for separation of control and data plane in the devices. This way, dedicated traffic can be processed with appropriate routing rules, which are different than the IP based routing and, on the other hand, the network devices are able to fulfil high level IoT-specific operations. The project partners will investigate new solutions in OpenFlow to ensure IoTspecific operations and ID-based routing into the IoT domain. These solutions may cover new controller functionalities, new OpenFlow rules for treating the ID header and extensions of the OpenFlow protocol, if needed.

At last, for assuring security in the communications inside of the ID layer, we will analyse how switches and controllers can directly collaborate in anomalies discovery (ID layer specific security issue) taken benefit from the efficient organization and routing. On the other hand, we will deal with security in specific modules of ID layer architecture.

Internet Shopping Optimisation Project

http://www.cs.put.poznan.pl/ishop/

Acronym:	IShOP
Reference:	R-AGR-0453-10-V
PI:	Pascal Bouvry
Funding:	FNR - INTER
Budget:	1,029,639 €
Duration:	March 1, 2014 – Feb. 28, 2017
Members:	• Pascal Bouvry (Principal Investigator) • Grégoire Danoy (Researcher) • Bernabé Dorronsoro (Researcher)

- Mateusz Guzek (Researcher)
- Johnatan Pecero (Researcher)
- Sébastien Varrette (Researcher)
- Raymond Bisdorff (Collaborator)

Area: Intelligent and Adaptive Systems

Partners:
- Jacek Blazewicz (Poznan University of Technology)
- Maciej Drozdowski (Poznan University of Technology)
- Mikhail Kovalyov
- Jakub Marszalkowski (Poznan University of Technology)
- Jedrzej Musial (Poznan University of Technology)
- Kamil Sedlak (Poznan University of Technology)
- Malgorzata Sterna (Poznan University of Technology)

Description: This project proposes innovative and realistic models for different typical online shopping operations, supported by strong mathematical and operational research fundamentals, and well balanced with lightweight computational algorithms. These models are designed in order to allow the optimization of such transactions. Finding accurate solutions to the defined problems implies both lowering customer expenses and favouring market competitiveness.

One of the main aims of this project is to model and formulate new advanced and realistic flavours of the Internet Shopping Optimization Problem (ISOP), considering discounts and additional conditions like price sensitive shipping costs, incomplete offers from shops, or the minimization of the total realization time, price, and delivery time functions, among others. The models will be mathematically and theoretically well founded. Moreover, the challenge of defining and addressing a multi-criteria version of the problem will be addressed too. Other important contributions will be the mapping of ISOP to other new challenges. One of them is the design of a novel business model for cloud brokering that will benefit both cloud providers and consumers. Providers will be able to easily offer their large number of services, and to get a fast answer from the market to offers (e.g., when infrastructure is under-utilized). Additionally, customers will easily benefit from offers and find the most appropriate deals for his/her needs (according to service level agreements, pricing, performance, etc.). Modelling some of these aspects and coupling it with an optimization tool for the brokering of cloud services among various providers would be a key contribution to the field.

A wide set of optimization algorithms will be designed and developed for the addressed problems. They include from fast lightweight specialized heuristics to highly accurate parallel and multi-objective population-based metaheuristics. They all will be embedded in a software framework for their prac-

tical applications, and validation.

IShOP is an INTER POLLUX project, cofunded by Luxembourg National Research Funds (FNR) and the Polish National Research Centre for Research and Development (NCBiR).

This project is a collaboration between the Laboratory of Algorithm Design and Programming Systems of the Institute of Computing Science, Poznan University of Technology, Poland, and the Interdisciplinary Center of Security, Reliability and Trust (SnT) of the University of Luxembourg, Luxembourg.

Specification logics and Inference tools for verification and Enforcement of Policies

http://icr.uni.lu/SIEP/

Acronym:	SIEP
Reference:	I2R-DIR-PFN-11SIEP
PI:	Leon van der Torre
Funding:	FNR - INTER
Budget:	450,000 €
Duration:	June 1, 2012 – May 31, 2017
Members:	• Leon van der Torre (Principal Investigator) • Marcos Cramer (Collaborator) • Diego Agustin Ambrossio (Doctoral Candidate)
Areas:	• Information Security • Intelligent and Adaptive Systems • Software and Systems
Partners:	• Guillaume Aucher (Université de Rennes) • Marc Denecker (Katholieke Universiteit Leuven) • Dov Gabbay (King's College) • Pieter van Hertum (Katholieke Universiteit Leuven)
Description:	The aim of SIEP is to develop an expressive logic for specifying distributed authorization policies and to implement various forms of inference suitable for verification tasks (e.g., compliance) as well as for enforcing such policies. There are three objectives. Objective 1 is to develop an expressive modular logical framework suitable for specifying complex composite distributed access control policies, which allow for delegation and revocation of access rights, dynamic aspects such as evolving poli-

cies, trust, and the representation of the beliefs of agents.

Objective 2 is to develop tools for verification, checking compliance, experimentation, simulation and analysis of access control and privacy policies.

Objective 3 is the creation of a prototype system to enforce distributed access control policies.

Results: We have developed a semantics for BL, which combines the says-operator with first-order logic and explicit time. We have started work on developing a logic that combines the says-operator with inductive definitions.

We have studied complex authorization strategies arising in online social networks.

We have logically analysed the reasons for revoking delegated authorizations in order to study the desirable behaviour of revocation schemes. This work has led to a revision of Hagström's revocation framework and the development of Trust Delegation Logic, a logic for reasoning about delegation and revocation and for formulating desirable properties of revocation schemes.

Technical Report (unpublished) 2014

- Marcos Cramer, Pieter Van Hertum, Diego Agust__n Ambrossio, Marc Denecker. Modelling Delegation and Revocation Schemes in IDP. arXiv:1405.1584 [cs.LO].

Presentations 2014

- March (11-13). Presentation at the March 2015 SIEP Workshop at the KU Leuven.Presentation of ongoing work: A Logic of Trust for Reasoning about Delegation and Revocation
- March (22 27) Dagstuhl Seminar 15131 Normative Multi-Agent Systems (NorMas).Presentation of ongoing work: An Axiomatic Approach to Argument Construction.
- Workshop Presentation - Marcos Cramer, Diego Agustin Ambrossio. A Logic of Trust for Reasoning about Delegation and Revocation Grande Region Security and Reliability Day 2015.

Papers 2015.

- Marcos Cramer, Diego Agustin Ambrossio, Pieter Van Hertum. A Logic of Trust for Reasoning about Delegation and Revocation ACM Symposium on Access Control Models and Technologies (SACMAT), Forthcoming.

5.7 FNR - Other Projects

The interactive eyeglasses for mobile, perceptual computing

Acronym:	eGlasses
Reference:	I2R-NET-PFN-12CHIS
PI:	Thomas Engel
Funding:	FNR - Other
Budget:	344,000 €
Duration:	Jan. 1, 2014 – Dec. 31, 2016
Members:	• Thomas Engel (Principal Investigator) • Gabriela Gheorghe (Researcher) • Nicolas Louveton (Researcher) • Stefanie Östlund (Project Coordinator)
Area:	Communicative Systems
Partners:	• Gdansk University of Technology • University of Applied Sciences Upper Austria
Description:	The eGlasses project is focused on the development of an open platform in the form of multisensory electronic glasses and on the integration and designing of new intelligent interaction methods using the eGlasses platform. This is an initial development focused on long-term research and technological innovation in perceptual and super-perceptual (e.g. heart rate, temperature) computing. It is an emerging technology that is also focused on the creation of mobile, perceptual media. Perceptual media refers to multimedia devices with added perceptual user interface capabilities. These devices integrate human-like perceptual awareness of the environment, with the ability to respond appropriately. This can be achieved by using automatic perception of an object's properties and delivering information about the object's status as a result of reasoning operations. For example, using the eGlasses, it will be possible to control a device, which is recognized within the field of view using the interactive menu, associated with the identified device. Other examples include presentation of a recognized person name, recognition of people with abnormal physiological parameters, protection against possible head injuries, etc. The platform will use currently available user-interaction methods, new methods developed in the framework of this project (e.g. a haptic interface) and will enable further extensions to introduce next generation user-interaction algorithms. Furthermore, the goal of this project is to propose and evaluate new and intelligent user interactions, which are particularly

useful for healthcare professionals, people with disabilities or at risk of exclusion, and to create and evaluate behavioural models of these mobile users. The main scientific and technological objectives of the project are to design and evaluate the following:

- eye-tracking hardware and algorithms for a user, who is mobile in a noisy real world environment,
- algorithms for perceptual media and for super perceptual computing,
- methods for locating objects and guiding vision towards the identified objects,
- methods of interactions with users and objects (menu of activities for the identified person or object),
- a haptic interface in a form of a peripheral proximity radar,
- methods for the recognition of the user's own gestures and recognition of gestures of the observed person,
- methods for context-aware behavioural studies,
- methods for reference applications.

The result of the project will be an open platform in the form of multisensory electronic multimedia glasses and a set of new methods for intelligent user interactions, especially in the context of perceptual media.

5.8 UL Funding Projects

Collaborative Compound Document Authoring and Annotation

Acronym:	CoCoDA^2
PI:	Steffen Rothkugel
Funding:	UL Funding
Budget:	169,825 €
Duration:	Feb. 1, 2014 – Jan. 31, 2017
Members:	• Steffen Rothkugel (Principal Investigator) • Jean Botev (Collaborator) • Johannes Klein (Doctoral Candidate)
Areas:	• Communicative Systems • Intelligent and Adaptive Systems • Software and Systems
Description:	The CoCoDA^2 project focuses on collaboration in compound document systems based on a flexible and more fine-grained document handling than the one provided by existing file abstractions. Taking an interdisciplinary perspective, the effi-

cient collaborative authoring as well as the intra- and inter-item annotation of compound documents particularly for geographically remote users will be investigated. This involves areas of research ranging from network science over concurrency control with operational transformation to the social sciences. The CoCoDA^2 project thus aims at contributing to the general understanding of how the structure of compound documents and collaborative aspects – such as the simultaneous multi-user authoring process itself or the concomitant sharing of semantic data – interact and integrate.

High Performance Computing @ UL

http://hpc.uni.lu/

Acronym:	UL HPC
Reference:	CRC-VRS-COM-11HPCR
PI:	Pascal Bouvry, Sébastien Varrette
Funding:	UL Funding
Budget:	not given
Duration:	July 1, 2007 – Dec. 31, 2020
Members:	• Pascal Bouvry (Principal Investigator) • Sébastien Varrette (Principal Investigator) • Hyacinthe Cartiaux (Collaborator) • Valentin Plugaru (Collaborator)
Description:	The intensive growth of processing power, data storage and transmission capabilities has revolutionized many aspects of science. These resources are essential to achieve high- quality results in many application areas. In this context, the University of Luxembourg (UL) operates since 2007 an High Performance Computing HPC facility and the related storage. The aspect of bridging computing and storage is a requirement of UL service – the reasons are both legal (certain data may not move) and performance related. Nowadays, people from the three faculties and/or the two Interdisciplinary centers within the UL, are users of this facility. Obviously, many CSC members are relying on the platform to perform their research, as highlighted on the corresponding list of publications. More specifically, key research priorities such as Systems Bio-medicine (by LCSB) and Security, Reliability & Trust (by SnT) require access to such HPC facilities in order to function in an adequate environment.

At the end of 2013, the UL HPC facility consists of 4 clusters, featuring a total of 368 nodes (i.e. 3880 computing cores – 43.204 TFlops) and 1996.4 TB of shared raw storage which are all configured, monitored and operated by 2. In addition, a total of 129 servers are operated to pilot the HPC platform and the other deployed services such as Gforge.

In these exciting times, the role of university-based HPC is more critical than ever in providing the foundation for a healthy HPC "ecosystem" for Luxembourg, where computational scientists and HPC-service providers work together in a highly collaborative community. Through their locality to today's research base, and the students who will become our next generation of computational scientists, universities such as the UL are uniquely positioned to deliver excellent return on investment in HPC as a platform for future economic growth.

5.9 Unfunded Projects

Doctoral Thesis: Integrating Compositional and Annotative Approaches for Feature Implementation (working title)

PI:	Steffen Rothkugel
Funding:	Unfunded
Budget:	not given
Duration:	Jan. 1, 2013 – Dec. 31, 2017
Member:	Steffen Rothkugel (Principal Investigator)
Partner:	Benjamin Behringer (Hochschule für Technik und Wirtschaft des Saarlandes)
Description:	Compositional and annotative approaches are two competing yet complementary candidates for implementing feature-oriented software product lines. While the former provides real modularity, the latter excels concerning expressiveness. To combine the respective advantages of compositional and annotative approaches, we aim at unifying their underlying representations by leveraging the snippet system instead of directories and files. In addition, to exploit this unification, we propose different editable views. This is a collaboration between the University of Luxembourg and the Hochschule für Technik und Wirtschaft des Saarlandes (HTW) with Benjamin Behringer as external PhD student on the project.

Chapter 6

Representational Activities

6.1 Conferences and Committee Memberships

15th International Workshop on Computational Logic in Multi-Agent Systems (CLIMA XV)

http://www-sop.inria.fr/members/Serena.Villata/climaXVsessions.html

Location: Prague, Czech Republic, Aug. 18, 2014 – Aug. 19, 2014.

Participating CSC Members:

- Leon van der Torre (Chair)
- Wojciech Jamroga (Program Committee Member)
- Wojciech Jamroga (Organizing Chair)

6th IEEE International Workshop on Management of Emerging Networks and Services (IEEE MENS 2014)

http://mens2014.his.se/

Location: Austin, United States, Dec. 8, 2014 – Dec. 12, 2014.

Participating CSC Members:

- Grégoire Danoy (Program Committee Member)

”Coconut War” IPv6-enabled cloud services in high load scenarios

Location: Luxembourg, Luxembourg, Nov. 3, 2014.

Description: Roadshow.

Objectives: promoting to ”public administrations” in Europe the experience of transitioning their infrastructures to IPv6 and cloud technologies. Background: related to the EU project GEN6.

Participating CSC Members:

- Thomas Engel (Organising Committee)
- Gabriela Gheorghe (Organising Committee)
- Latif Ladid (Organising Committee)

10th IEEE International Workshop on Factory Communication Systems (WFCS’2014)

Location: Toulouse, France, May 5, 2014 – May 7, 2014.

Description: The WFCS workshop is the largest IEEE technical event specially dedicated to industrial communication systems.

Participating CSC Members:

- Nicolas Navet (Program Committee Member)

10th International Workshop on Security and Trust Management (STM)

Location: Wroclaw, Poland, Sept. 11, 2014 – Sept. 12, 2014.

Description: STM (Security and Trust Management) is a working group of ERCIM (European Research Consortium in Informatics and Mathematics). STM 2014 was the tenth workshop in this series and was held in Wroc law, Poland, in conjunction with the 19th European Symposium on Research in Computer Security (ESORICS 2014). The workshop seeks submissions from academia, industry, and government presenting novel research on all theoretical and practical aspects of security and trust in ICTs.

Participating CSC Members:

- Sjouke Mauw (Chair)
- Rolando Trujillo Rasua (Publicity Chair)
- Piotr Kordy (Web Chair)

11th IEEE International Conference on Embedded Software and Systems (ICESS 2014)

Location: Paris, France, Aug. 20, 2014 – Aug. 22, 2014.

Description: Embedded software and systems are closely related to our daily life, which reside from smart appliances to unmanned trains. As the fastest growing industry, embedded systems will have great societal and environmental impacts. Therefore, the design and implementation of safe and efficient embedded software and systems have utmost importance. IEEE ICESS is an international forum for presenting and discussing emerging ideas and trends in embedded software and systems from both the research community as well as the industry.

Participating CSC Members:

- Nicolas Navet (Program Committee Member)

11th International Colloquium on Theoretical Aspects of Computing (ICTAC)

Location: Bucharest, Romania, Sept. 17, 2014 – Sept. 20, 2014.

Participating CSC Members:

- Jun Pang (Program Committee Member)

12th European Workshop on Multi-Agent Systems (EUMAS'14)

http://agents.fel.cvut.cz/eumas2014/

Location: Prague, Czech Republic, Dec. 18, 2014 – Dec. 19, 2014.

Participating CSC Members:

- Wojciech Jamroga (Program Committee Member)
- Leon van der Torre (Program Committee Member)

12th International Conference on Applied Cryptography and Network Security (ACNS 2014)

http://acns2014.epfl.ch/

Location: Lausanne, Switzerland, June 10, 2014 – June 13, 2014.

Participating CSC Members:

- Alex Biryukov (Program Committee Member)

12th International Conference on Deontic Logic and Normative Systems

Location: Ghent, Belgium, July 12, 2014 – July 15, 2014.

Participating CSC Members:

- Xavier Parent (Programme Chair)
- Leon van der Torre (Program Committee Member)

12th International Conference on Pervasive Intelligence and Computing (PICom 2014)

http://action.dlmu.edu.cn/uscience/picom2014/index.shtml

Location: Dalian, China, Aug. 24, 2014 – Aug. 27, 2014.

Description: Over the last fifty years, computational intelligence has evolved from logic-based artificial intelligence, nature-inspired soft computing, social-oriented agent technology to cyber-physical integrated ubiquitous intelligence towards Pervasive Intelligence (PI). The International Conference on Pervasive Intelligence and Computing is intended to cover all kinds of these intelligent paradigms as well as their applications in various pervasive computing. PICom 2014 is the next event, in a series of highly successful International Conferences on Pervasive Intelligence and Computing (PICom), previously held as PCC 2003 (Las Vegas, USA, June 2003), PCC 2004 (Las Vegas, USA, June 2004), PSC 2005 (Las Vegas, USA, June 2005), PCAC 2006 (Vienna, Austria, April 2006), PCAC 2007 (Niagara Falls, Canada, May 2007), IPC 2007 (Jeju, Korea, December 2007), IPC 2008 (Sydney, Australia, December 2008), PICom 2009 (Chengdu, China, December 2009), PICom 2011 (Sydney, Australia, December 2011), PICom 2012 (Changzhou, China, December 2012), PICom 2013 (Chengdu, China, December 2013) .

PICom 2014 is to bring together computer scientists, industrial engineers, and researchers to discuss and exchange experimental and theoretical results, novel designs, work-in-progress, experience, case studies, and trend-setting ideas in the areas of Pervasive Intelligence and Computing.

Participating CSC Members:

- Grégoire Danoy (Program Committee Member)

12th International Conference on Service Oriented Computing (ICSOC 2014)

http://events.telecom-sudparis.eu/icsoc/Authors/Authors2.php

Location: Paris, France, Nov. 3, 2014 – Nov. 6, 2014.

Participating CSC Members:

- Domenico Bianculli (Program Committee Member)

12th International Conference on Software Engineering and Formal Methods (SEFM 2014)

http://sefm2014.inria.fr/

Location: Grenoble, France, Sept. 1, 2014 – Sept. 5, 2014.

Participating CSC Members:

- Domenico Bianculli (Program Committee Member)
- Matthew Staats (Program Committee Member)

14th European Conference on Logics for Artificial Intelligence

http://www.jelia.eu/

Location: Madeira, Portugal, Sept. 24, 2014 – Sept. 26, 2014.

Description: Logics have, for many years, laid claim to providing a formal basis for the study and development of applications and systems in Artificial Intelligence. With the depth and maturity of formalisms, methodologies, and logic-based systems today, this claim is stronger than ever.

The European Conference on Logics in Artificial Intelligence (or Journées Européennes sur la Logique en Intelligence Artificielle - JELIA) began back in 1988, as a workshop, in response to the need for a European forum for the discussion of emerging work in this field. Since then, JELIA has been organised biennially, with English as official language, and with proceedings published in Springer-Verlag's Lecture Notes in Artificial Intelligence series. Previous meetings took place in Roscoff, France (1988), Amsterdam, Netherlands (1990), Berlin, Germany (1992), York, UK (1994), Évora, Portugal (1996), Dagstuhl, Germany (1998), Málaga, Spain (2000), Cosenza, Italy (2002), Lisbon, Portugal (2004), Liverpool, UK (2006), Dresden, Germany (2008) Helsinki, Finland (2010), Toulouse, France (2012) and Funchal, Madeira, Portugal (2014).

The increasing interest in this forum, its international level with growing participation from researchers outside Europe, and the overall technical quality, has turned JELIA into a major biennial forum for the discussion of logic-based approaches to artificial intelligence.

Participating CSC Members:

- Richard Booth (Program Committee Member)
- Leon van der Torre (Program Committee Member)

14th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP 2014)

http://action.dlmu.edu.cn/ica3pp2014/

Location: Dalian, China, Aug. 24, 2014 – Aug. 27, 2014.

Description: ICA3PP 2014 is the 14th in this series of conferences started in 1995 that are devoted to algorithms and architectures for parallel processing. ICA3PP is now recognized as the main regular event of the world that is covering the many dimensions of parallel algorithms and architectures, encompassing fundamental theoretical approaches, practical experimental projects, and commercial components and systems. As applications of computing systems have permeated in every aspects of daily life, the power of computing system has become increasingly critical. This conference provides a forum for academics and practitioners from countries around the world to exchange ideas for improving the efficiency, performance, reliability, security and interoperability of computing systems and applications.

Participating CSC Members:

- Grégoire Danoy (Program Committee Member)

14th International Conference on Computational Science and its Applications (NTTCM)

Location: Guimaraes, Portugal, June 30, 2014.

Participating CSC Members:

- Sjouke Mauw (Program Committee Member)

15th International Workshop on Non-Monotonic Reasoning

http://www.kr.org/NMR/

Location: Vienna, Austria, July 17, 2014 – July 19, 2014.

Description: Welcome to the International Workshops on Nonmonotonic Reasoning (NMR) website.

The NMR workshops aim to bring together active researchers interested in the area of nonmonotonic reasoning to discuss current research, results, and problems of both a theoretical and practical nature.

The field of nonmonotonic reasoning includes work on circumscription, autoepistemic and default logic, truth maintenance, closed-world databases, logic programming, probabilistic reasoning, and related systems.

The theory of nonmonotonic reasoning has helped provide a clear and formal framework that can be used to understand and compare issues in action representation, planning, and other areas.

NMR2014 Workshop will take place in Vienna July 2014.

Participating CSC Members:

- Richard Booth (Program Committee Member)
- Emil Weydert (Program Committee Member)

16th IEEE International Conference on High Performance and Communications (HPCC 2014)

http://conference.hpcc2014.studiocheik.fr/

Location: Paris, France, Aug. 20, 2014 – Aug. 22, 2014.

Description: With the rapid growth in computing and communications technology, the past decade has witnessed a proliferation of powerful parallel and distributed systems and an ever-increasing demand for practice of high performance computing and communications (HPCC). HPCC has moved into the mainstream of computing and has become a key technology in determining future research and development activities in many academic and industrial branches, especially when the solution of large and complex problems must cope with very tight timing schedules.

The HPCC-2014 conference is the 16th IEEE International Conference on High Performance and Communications. It will provide a forum for engineers and scientists in academia, industry, and government to address the resulting profound challenges and to present and discuss their new ideas, research results, applications and experience on all aspects of high performance computing and communications. HPCC-2014 is sponsored by IEEE, IEEE Computer Society, and IEEE Technical Committee on Scalable Computing (TCSC).

The HPCC-2014 conference is the next event in a series of highly successful international conferences on high performance computing and communications (HPCC), previously held as HPCC-13 (Zhangjiajie, China, November 2013), HPCC-12 (Liverpool, UK, June 2012), HPCC-11 (Banff, Canada, September 2011), HPCC-10 (Melbourne, Australia, September 2010), HPCC-09 (Seoul, Korea, June 2009), HPCC-08 (Dalian, China, September 2008), HPCC-07 (Houston, USA, September 2007), HPCC-06 (Munich, Germany, September 2006), HPCC-05 (Naples, Italy, September 2005), HPCN-04 (Tokyo, Japan, December 2004), PACT-SHPSEC03 (New Orleans, USA, September 2003), PACT-SHPSEC02 (Charlottesville, USA, September 2002), HPCA-01 (Nova Scotia, Canada, November 2001), HPNCA-00 (Delft, The Netherlands, May 2000), HPNCA-99 (Amsterdam, The Netherlands, April 1999).

Participating CSC Members:

- Grégoire Danoy (Program Committee Member)

16th International Conference on Formal Engineering Methods (ICFEM)

http://icfem2014.uni.lu/index.php

Location: Luxembourg, Luxembourg, Nov. 3, 2014 – Nov. 7, 2014.

Description: The 16th International Conference on Formal Engineering Methods (ICFEM 2014) is held at the Melia Hotel in Luxembourg, Luxembourg from 3rd November to 7 November 2014. Since 1997, ICFEM has been serving as an international forum for researchers and practitioners who have been seriously applying formal methods to practical applications. Researchers and practitioners, from industry, academia, and government, are encouraged to attend, present their research, and help advance the state of the art.

ICFEM is interested in work that has been incorporated into real production systems, and in theoretical work that promises to bring practical and tangible benefit. ICFEM 2014 is organised and sponsored by University of Luxembourg, and receives funding support from the Fonds National de la Recherche (FNR - National Research Fund).

Participating CSC Members:

- Sjouke Mauw (Co-Chair)
- Andrzej Mizera (Co-Chair)
- Jun Pang (Co-Chair)
- Pierre Kelsen (Program Committee Member)
- Piotr Kordy (Web Chair)
- Lionel Briand (Keynote speaker)

16th International Conference on Information and Communications Security 2014 (ICICS 2014)

http://www.cs.hku.hk/icics2014/

Location: Hong Kong, China, Dec. 16, 2014 – Dec. 17, 2014.

Participating CSC Members:

- Alex Biryukov (Program Committee Member)

17th Information Security Conference 2014 (ISC 2014)

http://isc14.ie.cuhk.edu.hk/

Location: Hong Kong, China, Oct. 12, 2014 – Oct. 14, 2014.

Participating CSC Members:

- Alex Biryukov (Program Committee Member)

17th International ACM Sigsoft Symposium on Component-Based Software Engineering (CBSE 2014)

http://cbse-conferences.org/2014/

Location: Lille, France, June 30, 2014 – July 3, 2014.

Participating CSC Members:

- Domenico Bianculli (Program Committee Member)

17th International Conference on Fundamental Approaches to Software Engineering (FASE 2014)

http://www.etaps.org/index.php/2014/fase

Location: Grenoble, France, April 5, 2014 – April 13, 2014.

Participating CSC Members:

- Domenico Bianculli (Invited Speaker)

17th International Workshop on Nature Inspired Distributed Computing (NIDISC 2014)

http://nidisc2014.gforge.uni.lu/

Location: Phoenix, United States, May 19, 2014 – May 23, 2014.

Description: Techniques based on metaheuristics and nature-inspired paradigms can provide efficient solutions to a wide variety of problems. Moreover, parallel and distributed metaheuristics can be used to provide more powerful problem solving environments in a variety of fields, ranging, for example, from finance to bio- and health-informatics.

This workshop seeks to provide an opportunity for researchers to explore the connection between metaheuristics and the development of solutions to problems that arise in operations research, parallel computing, telecommunications, and many others. Topics of interest include, but are not limited to:

- Nature-inspired methods (e.g. ant colonies, GAs, cellular automata, DNA and molecular computing, local search, etc) for problem solving environments.

- Parallel and distributed metaheuristics techniques (algorithms, technologies and tools).
- Applications combining traditional parallel and distributed computing and optimization techniques as well as theoretical issues (convergence, complexity, etc).
- Other algorithms and applications relating the above mentioned research areas.

Participating CSC Members:

- Pascal Bouvry (Programme Chair)
- Grégoire Danoy (Publicity Chair)

18th Asia Pacific Symposium on Intelligent and Evolutionary Systems (IES 2014)

http://www.ies-2014.org/

Location: Singapore, Singapore, Nov. 10, 2014 – Nov. 12, 2014.

Description: IES 2014 aims to bring together researchers from countries of the Asian Pacific Rim in the fields of intelligent systems and evolutionary computation to exchange ideas, present recent results and discuss possible collaborations. Researchers from elsewhere interested in collaboration with researchers from Asian Pacific Rim are also most welcome. Technical exchanges within the research community will encompass keynote speeches, invited sessions, tutorials discussions as well as oral presentations. On top of this, participants will be treated to a series of social functions, receptions and networking sessions, which will serve as a vital channel to establish new connections and foster everlasting friendship among fellow counterparts.

Participating CSC Members:

- Grégoire Danoy (Program Committee Member)

19th Australasian Conference on Information Security and Privacy 2014 (ACISP 2014)

https://ssl.informatics.uow.edu.au/acisp2014/

Location: Wollongong, Australia, July 7, 2014 – July 9, 2014.

Participating CSC Members:

- Alex Biryukov (Program Committee Member)

19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2014), Track on Industrial Communication Systems

http://www.etfa2014.org/

Location: Barcelona, Spain, Sept. 16, 2014 – Sept. 19, 2014.

Description: The aim of ETFA is to bring together researchers and practitioners from the industry and academia and provide them with a platform to report on recent advances and developments in the newly emerging areas of technology, as well as actual and potential applications to industrial and factory automation. The Track on Information Technology in Automation is focused on the development, adoption and application of information technology for automation systems. Information Technology in Automation is focused on the development, adoption and application of information technology for automation systems.

Participating CSC Members:

- Nicolas Navet (Program Committee Member)

19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2014), Track on Real-Time and (Networked) Embedded Systems

Location: Barcelona, Spain, Sept. 16, 2014 – Sept. 19, 2014.

Description: The aim of ETFA is to bring together researchers and practitioners from the industry and academia and provide them with a platform to report on recent advances and developments in the newly emerging areas of technology, as well as actual and potential applications to industrial and factory automation .Embedded systems are increasingly used to realize complex functionality, distributed intelligence and adaptive behavior. New functions can be deployed taking advantage of ubiquitous connectivity and networks. The design of these systems must cope with the need to manage functional complexity together with real-time, power and reliability constraints.

Participating CSC Members:

- Nicolas Navet (Program Committee Member)

1st Eastern Europe-Luxembourg Workshop on Cloud Computing Communications, Security and Services (CLOUDCOMS)

https://cloudcoms.gforge.uni.lu/

Location: Luxembourg, Luxembourg, Oct. 8, 2014 – Oct. 10, 2014.

Description: For many years, the University of Luxembourg developed key competences in the domain of Security, reliability and trust. On the basis of these competences, links have been established with other universities of European eastern countries (Luxembourg, Poland, Czech Republic, Ukraine, Russia and Belarus).

The University of Luxembourg has recently signed agreements on cooperation with some of these prestigious eastern scientific institutions. The goal of these agreements is focused on student exchange, common supervision of PhD students and scientific collaboration between the researchers leading to joint educational and research programmes.

The Eastern Europe-Luxembourg Workshop on Cloud Computing, Communications, Security and Services (CLOUDCOMS) is the next step to enhance the cooperation between Luxembourg and eastern academic societies working in telecommunication, security and innovative IT services. It aims at grouping high profile research experts working in these fields, leading to creation of a platform for research collaboration with international partners.

Participating CSC Members:

- Claudio Fiandrino (Web Chair)
- Pascal Bouvry (Invited Speaker)
- Valentin Plugaru (Invited Speaker)
- Sébastien Varrette (Invited Speaker)

1st ICFEM workshop on Default Privacy ()

Location: Luxembourg,, Luxembourg, Nov. 6, 2014 – Nov. 7, 2014.

Description: Creating systems that ensure users remain by default private has proven to be a challenge. Users may be able to rescind their privacy (eg. vote selling or other forms of user coercion), data aggregation reveals hitherto hidden aspects of users (eg. location data revealing where users live/work), tools to ensure privacy (eg. Tor, PGP) are difficult to use correctly, etc.

Participating CSC Members:

- Sjouke Mauw (Chair)
- Hugo Jonker (Co-Chair)
- Jun Pang (Co-Chair)

2014 Conference of the International Society for Disease Surveillance (ISDS 2014)

http://globalbiodefense.com/event/isds-2014-international-society-disease-surveillance/

Location: Philadelphia, Pennsylvania, United States, Dec. 9, 2014 – Dec. 11,

2014.

Participating CSC Members:

- Lucia Lucia (Program Committee Member)

20th International Conference on Principles and Practice of Constraint Programming (CP 2014)

http://cp2014.a4cp.org/

Location: Lyon, France, Sept. 8, 2014 – Sept. 12, 2014.

Participating CSC Members:

- Lionel Briand (Invited Speaker)
- Shiva Nejati (Invited Speaker)

21st European Conference on Artificial Intelligence (ECAI 2014)

http://www.ecai2014.org/

Location: Prague, Czech Republic, Aug. 18, 2014 – Aug. 22, 2014.

Participating CSC Members:

- Wojciech Jamroga (Program Committee Member)
- Emil Weydert (Program Committee Member)
- Leon van der Torre (Program Committee Member)

22nd IEEE International Requirements Engineering Conference (RE 2014)

http://webhotel.bth.se/re14/

Location: Karlskrona, Sweden, Aug. 25, 2014 – Aug. 29, 2014.

Participating CSC Members:

- Mehrdad Sabetzadeh (Program Committee Member)
- Morayo Adedjouma (Invited Speaker)
- Mehrdad Sabetzadeh (Invited Speaker)

22nd International Conference on Real-Time and Network Systems (RTNS'2014)

http://www-rtns2014.cea.fr/#page=home

Location: Versailles, France, Oct. 8, 2014 – Oct. 10, 2014.

Description: The purpose of the RTNS conference is to share ideas, experiences and informations among academic researchers, developers and service providers in the field of real-time systems and networks.

Participating CSC Members:

- Nicolas Navet (Program Committee Member)

23rd IEEE International Symposium on Rapid System Prototyping (RSP'2014)

Location: New-Delhi, India, Oct. 16, 2014 – Oct. 17, 2014.

Participating CSC Members:

- Nicolas Navet (Program Committee Member)

26th Benelux Conference on Artificial Intelligence (BNAIC 2014)

http://bnaic2014.org/

Location: De Vereeniging, Nijmegen, Netherlands, Nov. 6, 2014 – Nov. 7, 2014.

Participating CSC Members:

- Grégoire Danoy (Program Committee Member)

26th International Conference on Software Engineering and Knowledge Engineering (SEKE 2014)

http://www.ksi.edu/seke/seke14.html

Location: Vancouver, Canada, July 1, 2014 – July 3, 2014.

Participating CSC Members:

- Lwin Khin Shar (Invited Speaker)

28th annual conference of the Belgian Operational Research Society

http://www.orbel.be/orbel28/

Location: Mons, Belgium, Jan. 30, 2014 – Jan. 31, 2014.

Description: ORBEL is the national conference of the SOGESCI-BVWB, the Belgian Operational Research (OR) Society, Member of EURO, the association of European OR Societies, and Belgian representative of IFORS (International Federation of OR Societies).

The conference is intended as a meeting place for researchers, users and potential users of Operational Research, Statistics, Computer Science and related fields. It will provide managers, practitioners and researchers with a unique opportunity to exchange information on quantitative techniques for decision making.

This year's meeting (ORBEL28) took's place in the city of Mons at UMons.

Participating CSC Members:

- Raymond Bisdorff (Program Committee Member)

29th IEEE/ACM International Conference on Automated Software Engineering (ASE 2014)

http://ase2014.org/

Location: Västerås, Sweden, Sept. 15, 2014 – Sept. 19, 2014.

Participating CSC Members:

- Mehrdad Sabetzadeh (Publicity Chair)
- Shiva Nejati (Program Committee Member)
- Reza Matinnejad (Invited Speaker)
- Shiva Nejati (Invited Speaker)
- Mehrdad Sabetzadeh (Organising Committee)

2nd International Workshop on Self-Adaptive and Self-Organising Socio-Technical Systems (SASO^ST 2014)

http://sasost.isse.de/

Location: London, United Kingdom, Sept. 12, 2014.

Participating CSC Members:

- Jean Botev (Workshop Organiser / Co-Organiser)

2nd International Workshop on Self-Optimisation in Organic and Autonomic Computing Systems (SAOS 2014)

http://www.informatik.uni-augsburg.de/lehrstuehle/oc/Veranstaltungen/oc-ws-arcs14/

Location: Lübeck, Germany, Feb. 25, 2014.

Participating CSC Members:

- Jean Botev (Program Committee Member)

33rd International Conference on Conceptual Modeling (ER 2014)

http://2014.erconference.org/

Location: Atlanta, GA, United States, Oct. 27, 2014 – Oct. 29, 2014.

Participating CSC Members:

- Mehrdad Sabetzadeh (Program Committee Member)

34th IFIP International Conference on Formal Techniques for Distributed Objects, Components and Systems (FORTE)

Location: Berlin, Germany, June 3, 2014 – June 6, 2014.

Participating CSC Members:

- Sjouke Mauw (Program Committee Member)

36th International Conference on Software Engineering (ICSE 2014)

http://2014.icse-conferences.org/

Location: Hyderabad, India, May 31, 2014 – June 7, 2014.

Participating CSC Members:

- Lionel Briand (Programme Chair)
- Domenico Bianculli (Program Committee Member)
- Duy Cu Nguyen (Invited Speaker)

3rd International Conference on Connected Vehicles & Expo (ICCVE 2014)

http://www.iccve.org/2013/

Location: Vienna, Austria, Nov. 3, 2014 – Nov. 7, 2014.

Description: The 3rd annual International Conference on Connected Vehicles & Expo (ICCVE 2014) will be held on November 3-7, 2014 at the Messe Wien in Vienna, Austria. The conference serves as a premier platform that gathers all the relevant communities and domains together. Experts, practitioners and policy makers from all around the world will present the latest innovations and advances on connected vehicles, share the experience and insights, forecast the trends and opportunities, and discuss the policy, economics and social implications.

Participating CSC Members:

- Grégoire Danoy (Program Committee Member)

3rd International Conference on Multicore Software Engineering, Performance, and Tools (MUSEPAT 2014)

http://eventos.fct.unl.pt/musepat2014/home

Location: Hong Kong, Hong Kong, Nov. 16, 2014 – Nov. 17, 2014.

Participating CSC Members:

- Shiva Nejati (Program Committee Member)

4th International Workshop on Requirements Patterns (RePa 2014)

http://www.utdallas.edu/~supakkul/repa14/

Location: Karlskrona, Sweden, Aug. 26, 2014.

Participating CSC Members:

- Chetan Arora (Invited Speaker)
- Mehrdad Sabetzadeh (Invited Speaker)

4th Workshop on Socio-Technical Aspects in Security and Trust (STAST2014)

http://www.stast2014.uni.lu/

Location: Vienna, Austria, July 18, 2014.

Description: Co-located with 27th IEEE Computer Security Foundations Symposium (CSF) in the Vienna Summer of Logic 2014

Participating CSC Members:

- Gabriele Lenzini (Chair)
- Peter Ryan (Program Committee Member)

6th International Conference on Adaptive and Self-Adaptive Systems and Applications (ADAPTIVE 2014)

http://www.iaria.org/conferences2014/ADAPTIVE14.html

Location: Venice, Italy, May 25, 2014 – May 29, 2014.

Participating CSC Members:

- Jean Botev (Program Committee Member)

6th International Congress on Ultra Modern Telecommunications and Control Systems (ICUMT 2014)

http://www.icumt.info/2014/

Location: St. Petersburg, Russia, Oct. 6, 2014 – Oct. 8, 2014.

Description: ICUMT is an annual international congress providing an open forum for researchers, engineers, network planners and service providers targeted on newly emerging algorithms, systems, standards, services, and applications, bringing together leading international players in telecommunications, control systems, automation and robotics. The event is positioned as a major international annual congress for the presentation of original and fundamental research and engineering results.

Following the success of the previous events that took place in St. Petersburg (2009, 2012), Moscow (2010), Budapest (2011), and Almaty (2013) normally attracting over 150 participants from both academia and industry, ICUMT 2014 is planned as a three-days event offering a number of plenary sessions, technical sessions, and specialized workshops.

Participating CSC Members:

- Grégoire Danoy (Program Committee Member)

6th International Workshop on Massively Multiuser Virtual Environments (MMVE 2014)

http://ml.sun.ac.za/mmve2014/

Location: Singapore, Singapore, March 21, 2014.

Participating CSC Members:

- Jean Botev (Program Committee Member)

6th International Workshop on Principles of Engineering Service-Oriented and Cloud Systems (PESOS 2014)

http://www.cse.unsw.edu.au/~hpaik/pesos2014/

Location: Hyderabad, India, May 31, 2014.

Participating CSC Members:

- Domenico Bianculli (Program Committee Member)
- Domenico Bianculli (Invited Speaker)

6th Working Conference on Verified Software: Theories, Tools, and Experiments (VSTTE 2014)

http://vsl2014.at/floc-ws/

Location: Vienna, Austria, July 9, 2014 – July 24, 2014.

Participating CSC Members:

- Shiva Nejati (Program Committee Member)

7th IEEE International Conference on Service Oriented Computing and Applications (SOCA 2014)

http://conferences.computer.org/soca/

Location: Matsue, Japan, Nov. 17, 2014 – Nov. 19, 2014.

Participating CSC Members:

- Domenico Bianculli (Invited Speaker)

7th IEEE International Conference on Service Oriented Computing and Applications (SOCA 2014)

http://conferences.computer.org/soca/

Location: Matsue, Japan, Nov. 17, 2014 – Nov. 19, 2014.

Participating CSC Members:

- Domenico Bianculli (Invited Speaker)

7th Interaction and Concurrency Experience (ICE 2014)

https://www.discotec2014.tu-berlin.de/workshops/ice-2014.html

Location: Berlin, Germany, June 6, 2014.

Participating CSC Members:

- Shiva Nejati (Program Committee Member)

7th International Conference on Security of Information and Networks (SIN 2014)

Location: Glasgow, United Kingdom, Sept. 9, 2014 – Sept. 11, 2014.

Participating CSC Members:

- Qiang Tang (Program Committee Member)

7th International Workshop on Evolutionary Business Processes (EVL-BP 2014)

http://evlbp.edoc2014.org/

Location: Ulm, Germany, Sept. 1, 2014 – Sept. 5, 2014.

Participating CSC Members:

- Domenico Bianculli (Program Committee Member)

7th International Workshop on Search-Based Software Testing (SBST 2014)

http://www.searchbasedsoftwaretesting.org/

Location: Hyderabad, India, June 2, 2014 – June 3, 2014.

Participating CSC Members:

- Lionel Briand (Keynote speaker)

7thWorkshop on Membrane Computing and Biologically Inspired Process Calculi (MeCBIC)

Location: Bucharest, Romania, Sept. 16, 2014.

Participating CSC Members:

- Jun Pang (Program Committee Member)

8th IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2014)

http://www.saso-conference.org/

Location: London, United Kingdom, Sept. 8, 2014 – Sept. 12, 2014.

Participating CSC Members:

- Jean Botev (Track / Working Group Chair)
- Steffen Rothkugel (Program Committee Member)

8th IFIP WG 11.11 International Conference on Trust Management (IFIPTM)

Location: Singapore, Singapore, July 7, 2014 – July 10, 2014.

Participating CSC Members:

- Sjouke Mauw (Program Committee Member)

8th International Conference on Bio-inspired Information and Communications Technologies (BICT)

Location: Boston, United States, Dec. 1, 2014 – Dec. 3, 2014.

Participating CSC Members:

- Sjouke Mauw (Program Committee Member)

8th International Conference on Network and System Security (NSS 2014)

Location: Xian, China, Oct. 15, 2014 – Oct. 17, 2014.

Participating CSC Members:

- Qiang Tang (Program Committee Member)

8th International Symposium on Empirical Software Engineering and Measurement (ESEM 2014)

http://www.esem-conferences.org/

Location: Torino, Italy, Sept. 18, 2014 – Sept. 19, 2014.

Participating CSC Members:

- Chetan Arora (Invited Speaker)
- Mehrdad Sabetzadeh (Invited Speaker)

8th System Analysis and Modelling Conference (SAM 2014)

http://sdl-forum.org/Events/SAM2014/index.htm

Location: Valencia, Spain, Sept. 29, 2014 – Sept. 30, 2014.

Participating CSC Members:

- Lionel Briand (Keynote speaker)

8thWorkshop in Information Security Theory and Practice (WISTP 2014)

Location: Heraklion, Greece, June 30, 2014 – July 3, 2014.

Participating CSC Members:

- Sjouke Mauw (Program Committee Member)

ACM Conference on Data and Application Security and Privacy (CODASPY)

Location: San Antonio, United States, March 5, 2014 – March 7, 2014.

Participating CSC Members:

- Jun Pang (Program Committee Member)

ACM/IEEE 17th International Conference on Model Driven Engineering Languages and Systems (MODELS 2014)

http://models2014.webs.upv.es/

Location: Valencia, Spain, Sept. 28, 2014 – Oct. 3, 2014.

Participating CSC Members:

- Lionel Briand (Steering Committee Member)
- Shiva Nejati (Program Committee Member)
- Mehrdad Sabetzadeh (Invited Speaker)
- Ghanem Soltana (Invited Speaker)

Asian American Convenience Store Owners Association (AACSA)

Location: Busan, South Korea, April 23, 2014 – April 25, 2014.

Participating CSC Members:

- Ravi Jhawar (Program Committee Member)

BalkanCryptSec 2014

http://www.gstl.itu.edu.tr/BalkanCryptSec/

Location: Istanbul, Turkey, Oct. 16, 2014 – Oct. 17, 2014.

Participating CSC Members:

- Vesselin Velichkov (Program Committee Member)

Computer Security Foundations Symposium 2014

Location: vienna, Austria, July 19, 2014 – July 22, 2014.

Participating CSC Members:

- Peter Ryan (Technical Program Committee Member)

Congreso Latinoamericano de HPC (CARLA 2014)

http://carla2014.hpclatam.org/

Location: Valparaíso, Chile, Oct. 20, 2014 – Oct. 22, 2014.

Description: The main goal of the CARLA 2014 conference is to provide a regional forum fostering the growth of the HPC community in Latin America through the exchange and dissemination of new ideas, techniques, and research in HPC.

The symposium will feature invited talks from academy and industry, short- and full-paper sessions presenting both mature work and new ideas in research and industrial applications. Suggested topics of interest include, but are not restricted to:

- Parallel Algorithms and Architectures
- Parallel Computing Technologies
- High Performance Computing Applications
- Distributed systems
- GPU Computing: Methods, Libraries and Applications
- Grid and Cloud Computing
- Data Management and Visualizations and Software Tools
- Tools and Environments for High Performance System Engineering

Participating CSC Members:

- Grégoire Danoy (Program Committee Member)

Cyber Security Awareness Week Conference (CSAW)

Location: Alaska, United States, June 27, 2014 – July 2, 2014.

Participating CSC Members:

- Ravi Jhawar (Program Committee Member)

DA2PL'2014 from Multiple Criteria Decision Aid to Preference Learning

http://www.lgi.ecp.fr/~mousseau/DA2PL-2014/pmwiki.php/Main/HomePage

Location: Paris, France, Nov. 20, 2014 – Nov. 21, 2014.

Description: **Aim of the workshop**

Following the workshop DA2PL'2012, organized in University of Mons, the second edition of the DA2PL workshop aims at bringing together researchers involved in Preference Modeling and Preference Learning and identify research challenges at the crossroad of both research fields.

The need for search engines able to select and rank order the pages most relevant to a user's query has emphasized the issue of learning the user's preferences and interests in an adequate way. That is to say, on the basis of little information on the person who queries the Web, and, in almost no time. Recommender systems also rely on efficient preference learning.

On the other hand, preference modeling has been an auxiliary discipline related to Multicriteria decision aiding for a long time. Methods for eliciting preference models, including learning by examples, are a crucial issue in this field.

It is quite natural to think and to observe in practice that preference modeling and learning are two fields that have things to say to one another. It is the main goal of the present workshop to bring together researchers involved in those disciplines, in order to identify research issues in which cross-fertilization is already at work or can be expected. Communications related to successful usage of explicit preference models in preference learning are especially welcome as well as communications devoted to innovative preference learning methods in MCDA. The programme of the workshop will consist of three or four invited lectures and about 15 selected research communications.

Support

This workshop is co-organized by Ecole Centrale Paris and University of Mons in the framework of the GDRI "Algorithmic Decision Theory", which is recognized and supported by CNRS (France), FNRS (Belgium), FNR (Luxemburg). The workshop is also supported by the French GDR RO (CNRS) - Pôle : Décision : Modélisation, Prévision, Evaluation (DMPE)

Participating CSC Members:

- Raymond Bisdorff (Program Committee Member)

Dagstuhl Perspectives Workshop 14401: Privacy and Security in an Age of Surveillance

Location: Wadern, Germany, Sept. 28, 2014 – Oct. 2, 2014.

Participating CSC Members:

- Peter Ryan (Workshop Organiser / Co-Organiser)

EVOTE 2014 conference

Location: Lochau, Austria, Oct. 28, 2014 – Oct. 31, 2014.

Participating CSC Members:

- Peter Ryan (Technical Program Committee Member)

Engineering Complex Software Systems: Challenges, Solutions and Outlook Symposium 2014

https://sites.google.com/site/engcomplexsystem/

Location: Luxembourg, Luxembourg, Jan. 8, 2014.

Participating CSC Members:

- Lionel Briand (Chair)
- Morayo Adedjouma (Organising Committee)
- Domenico Bianculli (Organising Committee)
- Elizabeta Fourneret (Organising Committee)
- Matthew Staats (Organising Committee)

European Conference on Modelling Foundations and Applications (ECMFA 2014)

http://ecmfa2014.lcc.uma.es/

Location: York, United Kingdom, July 23, 2014 – July 24, 2014.

Participating CSC Members:

- Domenico Bianculli (Invited Speaker)
- Lionel Briand (Invited Speaker)
- Wei Dou (Invited Speaker)

FLAIRS 2014 - 27th International Florida Artificial Intelligence Research Society Conference

http://www.flairs-27.info/

Location: Pensacola Beach, United States, May 21, 2014 – May 23, 2014.

Description: The 27th International Conference of the Florida Artificial Intelligence Research Society (FLAIRS-27) takes the conference to Pensacola Beach: a barrier island on Florida's panhandle coast. Famous for its white sands and emerald-green waters, Pensacola Beach features endless soft, white, sandy beaches, and the warm lapping waters of the Gulf of Mexico. The Hilton Pensacola Beach Gulf Front is centrally located on Pensacola Beach providing easy access to the best of Santa Rosa Island.

Participating CSC Members:

- Richard Booth (Program Committee Member)
- Emil Weydert (Program Committee Member)

FOR-MOVES: FORmal MOdeling and VErification of Service-based systems

http://lipn.univ-paris13.fr/for-moves/

Location: Paris, France, Nov. 3, 2014.

Description: During the few last years the use of formal approaches for the modeling and the verification of service-based processes is increasingly widespread. On the one hand, formal modeling allows one to define unambiguous semantics for the languages and protocols used for the specification of service oriented systems. On the other hand, formal verification approaches are popular means of checking the correctness properties of these applications, such as safety, liveness, QoS requirements and security. Such properties can be considered as a behavioral criteria for compatibility between different local services/processes.

The aim of FOR-MOVES workshop is to provide a venue for the presentation and discussion of new ideas and work in progress in formal modeling and verification methods, in the field of Service Oriented Computing (SOC). The topics include, but are not limited to, the following:

- Formal modeling and verification of service-based systems
- Formal modeling and verification service-based systems in the Cloud
- Composition/Compatibility of Web services
- Cloud Service Management
- Business Service Modeling and verification
- Modeling, validation, verification and testing of service-oriented software
- Security in Service-based systems
- Formal aspects in Performance and quality of Web services/clouds
- Modeling and verification of specific properties of service-based systems : privacy, security, confidentiality, accountability, ...
- Modular, refinement, abstraction approaches for service-based systems
- Service Integration and Orchestration in the Cloud
- Use cases and real world development and experiences
- Tools for the description/verification of service-based systems

Participating CSC Members:

- Pierre Kelsen (Program Committee Member)

Fast Software Encryption 2014 (FSE 2014)

http://fse2014.isg.rhul.ac.uk/

Location: London, United Kingdom, March 3, 2014 – March 5, 2014.

Participating CSC Members:

- Dmitry Khovratovich (Program Committee Member)

Fifth International Conference on Computational Models of Argument

http://comma2014.arg.dundee.ac.uk/

Location: Aberdeen, United Kingdom, Sept. 9, 2014 – Sept. 12, 2014.

Description: Argumentation is an important and exciting research topic in Artificial Intelligence, with a broad spectrum of research activities ranging from theory to applications. The International Conference on Computational Models of Argument (COMMA) is a regular forum for presentation and exchange of the latest research results related to computational aspects of argumentation.

After the successful editions in Liverpool (COMMA 2006), Toulouse (COMMA 2008), Desenzano del Garda (COMMA 2010), and Vienna (COMMA 2012), COMMA 2014 will be held in the Scottish Highlands, organised by the Universities of Aberdeen and Dundee.

Participating CSC Members:

- Leon van der Torre (Program Committee Member)

First International Workshop on Agents and CyberSecurity (ACySe)

https://sites.google.com/site/acyseaamas2014/

Location: Paris, France, May 5, 2014.

Description: Research in cyber security is nowadays one of the hottest topics in computer science. This is because security is of capital importance to the development of a sustainable, resilient and prosperous cyber world. This includes protecting crucial assets ranging from *Critical Infrastructures* to individual's *Personal Information*, and it spans domains like Cloud computing, Smart grid, Virtual Organisations, Virtual Communities, Social Media, Electronic Commerce and many more. Approaches that are intelligent and self-adaptable are required to deal with the complexities of effectively protecting these crucial assets in all these domains. This is where research from the agent community can make a difference in cyber security. Indeed, cyber security is increasingly receiving more and more attention from the agent community. The focus of the First International Workshop on Agents and CyberSecurity (ACySE) is to provide a forum to discuss and advance cyber security by means of agent-based approaches.

Participating CSC Members:

- Grégoire Danoy (Program Committee Member)

First International Workshop on Multiagent Foundations of Social Computing

Location: Paris, France, Dec. 16, 2014.

Participating CSC Members:

- Leon van der Torre (Programme Chair)

Fourth International Model-Driven Requirements Engineering Workshop (MoDRE 2014)

http://www.modre2014.ece.mcgill.ca/

Location: Karlskrona, Sweden, Aug. 25, 2014.

Participating CSC Members:

- Arda Göknil (Program Committee Member)
- Mehrdad Sabetzadeh (Program Committee Member)

GI/ITG KuVS Fachgespräch Inter-Vehicle Communication

Location: Luxembourg, Luxembourg, Feb. 20, 2014 – Feb. 21, 2014.

Description: GI/ITG KuVS Fachgespräch was organized on the topic of inter-vehicular communication. Discussions revolved around both the state of the art and around future directions of inter-vehicle communication research, from physical layer optimizations to novel applications of vehicular networks and from microscopic evaluation metrics to problems of scale, crime, and privacy.

Participating CSC Members:

- Walter Bronzi (Organizing Chair)
- German Castignani (Organizing Chair)
- Lara Codeca (Organizing Chair)
- Thierry Derrmann (Organizing Chair)
- Thomas Engel (Organizing Chair)
- Markus Forster (Organizing Chair)
- Raphaël Frank (Organizing Chair)

Genetic and Evolutionary Computation Conference (GECCO 2014)

http://www.sigevo.org/gecco-2014/

Location: Vancouver, Canada, July 12, 2014 – July 16, 2014.

Description: Dedicated to the discussion of issues related to the practical application of EC

Session 1: Academic Aspects

Well-known speakers with outstanding reputation in academia and industry present background and insider information on how to establish reliable cooperation with industrial partners. If you are working in academia and are interested in managing industrial projects, you will receive valuable hints for your own research projects.

Session 2: Optimization in Industry

In this session industry speakers will be presenting. They actually run companies in the field of optimization and applied statistics. If you attend, you will learn multiple ways to extend EC practice beyond the approaches found in textbooks.

Experts in real-world optimization with decades of experience share their approaches to creating successful projects for real-world clients. Some of what they do is based on sound project management principles, and some is specific to our type of optimization projects. In this session a panel of experts describes a range of techniques you can use to identify, design, manage, and successfully complete an EA project for a client.

Session 3: Getting a Job

This lively session consists of a panel of experts with decades of real-world application experience answering questions posed by attendees of the session. In the past, we have always had two or three discussions on industrial problems that lie on the cutting edge of EA development. This session gives you the opportunity to get free consulting from the experts!

Getting a job with training in evolutionary computation can be much easier if you know the things to do and the things not to do in your last year or two of study. In this session you will hear from a panel of experts who have trained students and who have hired students to carry out real-world optimization. Highly recommended if you will be looking for a job in the next few years – or if you are thinking of changing jobs.

Organizers

Prof. Dr. Thomas Bartz-Beielstein, SPOTSeven Lab, Cologne, Germany.

Dr. Anna I. Esparcia, S2 Grupo, Spain.

Dr. Jörn Mehnen, Cranfield University, UK.

Participating CSC Members:

- Shiva Nejati (Program Committee Member)
- Alexandru-Adrian Tantar (Invited Speaker)

Grande Region Security and Reliability Day (GRSRD)

Location: Saarbruecken, Germany, March 12, 2014.

Participating CSC Members:

- Jun Pang (Program Committee Member)
- Peter Ryan (Program Committee Member)

Graphs & Decisions

http://leopold-loewenheim.uni.lu/GraphsDecisions/

Location: Luxembourg, Luxembourg, Oct. 27, 2014 – Oct. 29, 2014.

Description: The goal of this conference is to gather several researchers working on different topics related to Graph and Decision Theory, and to explore synergies between them. Such topics include (but are not restricted to):

- Artificial intelligence,
- Combinatorial optimization,
- Computational social choice,
- Discrete mathematics,
- Forensic science,
- Multiple criteria decision aid,
- Operations research,
- Theoretical computer science.

This conference is co-organized by:

- the Interdisciplinary Laboratory of Intelligent and Adaptive Systems ILIAS (FSTC/CSC, University of Luxembourg),
- the Laboratoire d'Analyse et Modélisation de Systèmes pour l'Aide à la DEcision LAMSADE (University Paris-Dauphine), and
- the Mathematics Research Unit (FSTC, University of Luxembourg),

in the framework of the GDRI Algodec "Algorithmic Decision Theory" recognized and supported by the CNRS (France), the FNRS (Belgium) and the FNR (Luxemburg).

Participating CSC Members:

- Raymond Bisdorff (Co-Chair)

HPC School 2014

https://hpc.uni.lu/hpc-school/2014/index.html

Location: Luxembourg, Luxembourg, May 6, 2014 – May 7, 2014.

Description: The University of Luxembourg operates since 2007 a High Performance Computing platform which is currently featuring a total of 18 nodes (in practice, 5316 computing cores) for a cumulative computing power estimated to 87.126 TFlops.

The UL HPC management team, together with leading computational scientists of the UL and HPC technologists will offer instructions and practical trainings on a variety of topics, including:

- Access to and interaction with the UL HPC infrastructures
- HPC challenges, especially as regards data and storage management
- HPC workflow management
- HPC Programming and Usage of the main softwares available on the platform (Matlab, R, MPI etc.)
- Performance analysis, debugging & profiling
- Scientific visualization

The aim is to cover basic as well as advanced usage of the platform. Whether you are an HPC newbie or an advanced user, don't miss this unique opportunity to learn more about the efficient usage of the system. Most of the stability issues and inconvenience that used to happen on the platform took place because of bad usage patterns. Through a set of dedicated practical sessions, we hope to promote a responsible and efficient usage.

All sessions will take place at the Kirchberg Campus, mainly in the Paul Feidert Room.

All tutorials proposed as practical sessions are available on GitHub.

The detailed program is available here.

Participating CSC Members:

- Hyacinthe Cartiaux (Track / Working Group Chair)
- Valentin Plugaru (Track / Working Group Chair)
- Xavier Besseron (Invited Speaker)
- Joseph Emeras (Invited Speaker)
- Jakub Muszynski (Invited Speaker)
- Frédéric Pinel (Invited Speaker)
- Sébastien Varrette (Keynote speaker)
- Hyacinthe Cartiaux (Organising Committee)
- Valentin Plugaru (Organising Committee)
- Sébastien Varrette (Organising Committee)

HotSpot 2014

Location: Grenoble, France, April 5, 2014.

Participating CSC Members:

- Peter Ryan (Program Committee Member)

IEEE 2014 First International Workshop on Service Orchestration and Choreography for the Future Internet (OrChor 2014)

http://orchor2014.disim.univaq.it/

Location: Alaska, United States, June 27, 2014 – July 2, 2014.

Participating CSC Members:

- Domenico Bianculli (Program Committee Member)

IEEE CloudNet 2014

http://www.ieee-cloudnet.org/2014/

Location: Luxembourg, Luxembourg, Oct. 8, 2014 – Oct. 10, 2014.

Description: Cloud Networking has emerged as a promising direction for cost-efficient and reliable service delivery across data communication networks. The dynamic location of service facilities and the virtualization of hardware and software elements are stressing the communication network and protocols, especially when datacenters are interconnected through the Internet. Although the ”computing” aspects of Cloud technologies have been largely investigated, lower attention has been devoted to the ”networking” aspects. The 2014 3rd IEEE International Conference on Cloud Networking (IEEE CloudNet 2014), part of the IEEE Cloud Computing Initiative, precisely addresses these aspects.

Participating CSC Members:

- Pascal Bouvry (Chair)
- Dzmitry Kliazovich (Chair)
- Bernabé Dorronsoro (Track / Working Group Chair)
- Claudio Fiandrino (Publication and Web Chair)
- Grégoire Danoy (Organizing Chair)

IEEE International Symposium on INnovations in Intelligent SysTems and Applications (INISTA)

Location: Alberobello, Italy, June 23, 2014 – June 25, 2014.

Participating CSC Members:

- Ravi Jhawar (Program Committee Member)

ISSRE, 25th IEEE International Symposium on Software Reliability Engineering

Location: Naples, Italy, Nov. 3, 2014 – Nov. 6, 2014.

Participating CSC Members:

- Nicolas Guelfi (Program Committee Member)

Indocrypt 2014

http://cse.iitkgp.ac.in/conf/INDOCRYPT2014/

Location: New Delhi, India, Dec. 14, 2014 – Dec. 17, 2014.

Participating CSC Members:

- Dmitry Khovratovich (Program Committee Member)

International Conference on Eco-Friendly Computing and Communication Systems (ICECCS)

Location: Tianjin, China, Aug. 4, 2014 – Aug. 7, 2014.

Participating CSC Members:

- Jun Pang (Program Committee Member)

International Symposium on Search-Based Software Engineering (SSBSE 2014)

Location: Fortaleza, Brazil, Aug. 26, 2014 – Aug. 29, 2014.

Participating CSC Members:

- Dongsun Kim (Program Committee Member)

International Symposium on Software Testing and Analysis (ISSTA 2014)

http://issta2014.org/

Location: San José, California, United States, July 21, 2014 – July 25, 2014.

Participating CSC Members:

- Dennis Appelt (Invited Speaker)

- Stephan Arlt (Invited Speaker)
- Lionel Briand (Invited Speaker)
- Duy Cu Nguyen (Invited Speaker)
- Matthew Staats (Invited Speaker)

International Workshop on Engineering Safety and Security Systems 2014 (ESSS)

Location: Singapore, Singapore, May 13, 2014 – May 15, 2014.

Description: The International Workshop on Engineering Safety and Security Systems (ESSS) aims at contributing to the challenge of constructing reliable and secure systems. The workshop covers areas such as formal specification, type checking, model checking, program analysis/transformation, model-based testing and model-driven software construction. The workshop will bring together researchers and industry R&D expertise together to exchange their knowledge, discuss their research findings, and explore potential collaborations. The ESSS 2014 workshop is affiliated with FM 2014 in Singapore.

Participating CSC Members:

- Sjouke Mauw (Chair)
- Jun Pang (Co-Chair)

International Workshop on Graphical Models for Security (GraMSec)

Location: Grenoble, France, April 12, 2014 – April 14, 2014.

Description: The objective of the International Workshop on Graphical Models for Security is to contribute to the development of well-founded graphical security models, efficient algorithms for their analysis, as well as methodologies for their practical usage. The first edition of the workshop took place in collocation with the ETAPS'14 symposium (http://www.etaps.org/index.php/2014). It brought together academic researchers and industry practitioners designing and employing visual models for security and provided a platform for discussion, knowledge exchange and collaborations. Six (amongst thirteen) papers, were accepted for presentation at the workshop and inclusion in the final proceedings published by EPTCS (http://rvg.web.cse.unsw.edu.au/eptcs/content.cgi?GRAMSEC2014). The keynote talk of GraMSec'14, entitled Graphical Models for Security: Overview, Challenges, and Recommendations, was presented by Prof. Ketil Stlen from SINTEF and the University of Oslo, in Norway.

Participating CSC Members:

- Sjouke Mauw (Chair)
- Barbara Kordy (Co-Chair)
- Piotr Kordy (Web Chair)

International Workshop on Harnessing Theories for Tool Support in Software (TTSS)

Location: Bertinoro, Italy, Sept. 10, 2014 – Sept. 12, 2014.

Participating CSC Members:

- Jun Pang (Program Committee Member)

International Workshop on Refactoring & Testing (RefTest 2014)

Location: Rome, Italy, May 24, 2014 – May 30, 2014.

Participating CSC Members:

- Dongsun Kim (Program Committee Member)

International Workshop on Security In Information Systems (WOSIS)

Location: Lisbon, Portugal, April 27, 2014.

Participating CSC Members:

- Sjouke Mauw (Program Committee Member)

International Workshop on Self-Improving System Integration (SISSY 2014)

http://www.informatik.uni-augsburg.de/lehrstuehle/oc/Veranstaltungen/SISSY14/

Location: London, United Kingdom, Sept. 8, 2014.

Participating CSC Members:

- Jean Botev (Program Committee Member)

Masterclasse session on ICT Spring Europe

Location: Luxembourg, Luxembourg, July 3, 2014.

Description: Roadshow.

Objectives: promoting to ”public administrations” in Europe the experience of transitioning their infrastructures to IPv6 and cloud technologies. Background: related to the EU project GEN6.

Participating CSC Members:

- Thomas Engel (Chair)
- Latif Ladid (Chair)

- Maria Rita Palattella (Chair)

Organization of the 2nd International Workshop on REverse Variability Engineering, REVE 2014

Location: Florence, Italy, Sept. 16, 2014.

Participating CSC Members:

- Jabier Martinez (Organising Committee)

PNSE, International Workshop on Petri Nets and Software Engineering

Location: Tunis, Tunisia, June 23, 2014 – June 24, 2014.

Participating CSC Members:

- Nicolas Guelfi (Program Committee Member)

Pacific Rim International Symposium on Dependable Computing (PRDC)

Location: Singapore, Singapore, Nov. 18, 2014 – Nov. 21, 2014.

Participating CSC Members:

- Sjouke Mauw (Program Committee Member)

RSA Conference Cryptographers' Track 2014 (CT-RSA 2014)

http://www.rsaconference.com/events/us14

Location: San Francisco, United States, Feb. 24, 2014 – Feb. 28, 2014.

Participating CSC Members:

- Alex Biryukov (Program Committee Member)

SEC2014 Conference

Location: Marrakech, Morocco, June 2, 2014 – June 4, 2014.

Participating CSC Members:

- Peter Ryan (Technical Program Committee Member)

SERENE , 6th International Workshop on Software Engineering for Resilient Systems

Location: Budapest, Hungary, Oct. 15, 2014 – Oct. 16, 2014.

Participating CSC Members:

- Nicolas Guelfi (Program Committee Member)

SIEP Workshop

Location: Luxembourg, Luxembourg, March 11, 2014 – March 13, 2014.

Participating CSC Members:

- Marcos Cramer (Chair)

Software Verification and Testing track at ACM SAC 2014 (SVT)

Location: Gyeongju, South Korea, March 24, 2014 – March 28, 2014.

Description: The Software Verification and Testing track aims at contributing to the challenge of improving the usability of formal methods in software engineering. We invite authors to submit new results in formal verification and testing, as well as development of technologies to improve the usability of formal methods in practical applications. Also welcome are detailed descriptions of applications of mechanical verification to large scale software.

Participating CSC Members:

- Jun Pang (Co-Chair)

Summer School on Verification Technology, Systems & Applications (VTSA 2014)

Location: Luxembourg, Luxembourg, Oct. 27, 2014 – Oct. 31, 2014.

Description: The fourth summer school on verification technology, systems & applications takes place at INRIA Center Nancy, France from October 27th to 31st, 2014. All three aspects verification technology, systems & applications strongly depend on each other and that progress in the area of formal analysis and verification can only be made if all three aspects are considered as a whole. Five speakers Nikolaj Bjorner, Laura Kovacs, Joel Ouaknine, Jaco van de Pol, and Helmut Veith stand for this view in that they represent and will present a particular verification technology and its implementation in a system in order to successfully apply the approach to real world verification problems. There were about 40 participants for the summer school. More information can be found at http://resources.mpi-inf.mpg.de/departments/rg1/conferences/vtsa14/.

Participating CSC Members:

- Jun Pang (Organizing Chair)
- Andrzej Mizera (Organising Committee)

The 10th International Conference on Information Security Practice and Experience (ISPEC)

Location: Fuzhou, China, May 5, 2014 – May 7, 2014.

Participating CSC Members:

- Sjouke Mauw (Program Committee Member)

The 17th Annual International Conference on Information Security and Cryptology (ICISC)

Location: Seoul, South Korea, Dec. 3, 2014 – Dec. 5, 2014.

Participating CSC Members:

- Sjouke Mauw (Program Committee Member)

The 6th International Conference on Trustworthy Systems (InTrust 2014)

Location: Beijing, China, Dec. 16, 2014 – Dec. 17, 2014.

Participating CSC Members:

- Qiang Tang (Program Committee Member)

The 8th International Symposium on Theoretical Aspects of Software Engineering (TASE)

Location: Changsha, China, Sept. 1, 2014 – Sept. 3, 2014.

Participating CSC Members:

- Jun Pang (Program Committee Member)

The Eighth International Conference on Emerging Security Information, Systems and Technologies (SECUREWARE)

Location: Lisbon, Portugal, Nov. 16, 2014 – Nov. 20, 2014.

Participating CSC Members:

- Ravi Jhawar (Program Committee Member)

The Sixth International Conference on Emerging Network Intelligence (EMERGING)

Location: Rome, Italy, Aug. 24, 2014 – Aug. 28, 2014.

Participating CSC Members:

- Ravi Jhawar (Program Committee Member)

The Tenth International Conference on Networking and Services (ICNS)

Location: Chamonix, France, April 26, 2014 – April 28, 2014.

Participating CSC Members:

- Ravi Jhawar (Program Committee Member)

V6 World congress 2014 - IOT innovation through IPV6

Location: Paris, France, March 20, 2014.

Description: Objectives: promoting to ”public administrations” in Europe the experience of transitioning their infrastructures to IPv6 and cloud technologies.

Participating CSC Members:

- Thomas Engel (Workshop Organiser / Co-Organiser)
- Latif Ladid (Workshop Organiser / Co-Organiser)

meta 2014

http://meta2014.sciencesconf.org/

Location: Marrakech, Morocco, Oct. 27, 2014 – Oct. 31, 2014.

Participating CSC Members:

- Pascal Bouvry (Workshop Organiser / Co-Organiser)
- Grégoire Danoy (Workshop Organiser / Co-Organiser)
- Bernabé Dorronsoro (Workshop Organiser / Co-Organiser)
- Sébastien Varrette (Workshop Organiser / Co-Organiser)

6.2 Doctoral Thesis Defenses

Erwan Abgrall, University of Luxembourg

Date: Sept. 23, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Radu State (Chairman)
- Yves Le Traon (Supervisor)

PhD Defense Jury External Partners:

- Jean-Marie Bonnin (Supervisor)
- Hervé Debar (Member)
- Roland Groz (Member)

Alexandre Bartel, University of Luxembourg

Date: Sept. 8, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Lionel Briand (Chairman)
- Yves Le Traon (Supervisor)
- Jacques Klein (Member)

PhD Defense Jury External Partners:

- Ben Livshits (Member)
- Martin Monperrus (Vice-chairman)
- Andreas Zeller (Member)

PhD Advisory Board Members:

- Pierre Kelsen (Member)

Guillaume Bouffard, Université de Limoges

Date: Oct. 10, 2014
Location: Limoges , France

PhD Defense Jury Members:

- Peter Ryan (Examiner)

Xihui Chen, University of Luxembourg

Date: July 31, 2014
Location: Luxembourg, Luxembourg

PhD Advisory Board Members:

- Sjouke Mauw (Supervisor)
- Gabriele Lenzini (Co-supervisor)
- Jun Pang (Advisor)

Christopoulos Dimitrios, University of Luxembourg

Date: July 7, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Peter Ryan (Chairman)

Sebastien Eggert, University of Kiel

Date: July 11, 2014
Location: Kiel, Germany

PhD Defense Jury Members:

- Peter Ryan (Examiner)

David Goergen, University of Luxembourg

Date: June 16, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Ulrich Sorger (Chairman)
- Thomas Engel (Supervisor)
- Radu State (Co-supervisor)

PhD Advisory Board Members:

- Thomas Engel (Supervisor)
- Radu State (Co-supervisor)

Mateusz Guzek, University of Luxembourg

Date: Dec. 4, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Leon van der Torre (Chairman)
- Grégoire Danoy (Member)

PhD Defense Jury External Partners:

- Thierry Monteil (Vice-chairman)

PhD Advisory Board Members:

- Pascal Bouvry (Supervisor)
- Grégoire Danoy (Advisor)
- Johnatan Pecero (Advisor)

Stefan Hommes, University of Luxembourg

Date: March 25, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Ulrich Sorger (Chairman)
- Radu State (Advisor)

PhD Advisory Board Members:

- Thomas Engel (Supervisor)

Tancrede Le Point, ENS, Paris

Date: June 30, 2014
Location: Paris, France

PhD Defense Jury Members:

- Peter Ryan (Chairman)
- Jean-Sébastien Coron (Supervisor)

Jorge Augusto Meira, University of Luxembourg

Date: Dec. 18, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Eduardo Cunha De Almeida (Vice-chairman)
- Yves Le Traon (Supervisor)

PhD Defense Jury External Partners:

- Stefanie Scherzinger (Member)
- Gerson Sunyé (Member)
- Marcos Sunyé (Chairman)

Mihail Minev, University of Luxembourg

Date: June 5, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Pascal Bouvry (Chairman)
- Christoph Schommer (Supervisor)

Frédéric Pinel, University of Luxembourg

Date: July 11, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Steffen Rothkugel (Chairman)

Arnab Roy, University of Luxembourg

Date: April 1, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Alex Biryukov (Supervisor)

Shree Sharma, University of Luxembourg

Date: Oct. 28, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Ulrich Sorger (Chairman)
- Björn Ottersten (Supervisor)
- Symeon Chatzinotas (Member)

PhD Defense Jury External Partners:

- Barry Evans (Member)
- Jacques Palicot (Vice-chairman)

Denis Shirnin, University of Luxembourg

Date: Nov. 18, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Steffen Rothkugel (Chairman)
- Denis Zampunieris (Supervisor)
- Christoph Schommer (Member)

PhD Defense Jury External Partners:

- Jean-Noël Colin (Member)
- Merik Meriste (Vice-chairman)
- Robert Reuter (Expert)

Apostolos Stathakis, University of Luxembourg

Date: Oct. 21, 2014
Location: Luxembourg, Luxembourg

PhD Defense Jury Members:

- Raymond Bisdorff (Chairman)
- Grégoire Danoy (Member)

PhD Defense Jury External Partners:

- Andrei Tchernykh (Member)

PhD Advisory Board Members:

- Pascal Bouvry (Supervisor)
- Grégoire Danoy (Advisor)

PhD Advisory Board External Partners:

- El-Ghazali Talbi (Vice-chairman)

6.3 Guests

The following guest researchers were invited to the CSC:

- PhD Jaap A. Kaandorp (University of Amsterdam)
  Feb. 17, 2014 – Feb. 18, 2014, hosted by Andrzej Mizera
  Reason: Research presentation

- PhD Gildas Avoine (UCL (Leuven) and INSA (Rennes))
  Feb. 25, 2014 – March 6, 2014, hosted by Rolando Trujillo Rasua
  Reason: research collaboration

- Dr. Sebastien Bardin (Commissariat à l'Energie Atomique (CEA), Paris-Région, France)
  June 19, 2014, hosted by Mike Papadakis

- Pietro Baroni
  June 23, 2014 – June 27, 2014, hosted by Leon van der Torre

- Elena Cabrio
  Jan. 29, 2014 – Jan. 31, 2014, hosted by Leon van der Torre

- Martin Caminada
  June 2, 2014 – June 7, 2014, hosted by Leon van der Torre

- PhD Taolue Chen (Middelsex University)
  Aug. 1, 2014 – Aug. 4, 2014, hosted by Jun Pang
  Reason: research presentation

- Professor Anthony Cleve (Faculté d'informatique, Université de Namur)
  Jan. 16, 2014, hosted by Denis Zampunieris
  Reason: Dr Cleve took part in the CET meeting for PhD candidate M. Remus Dobrican.

- PhD Cas Cremers (University of Oxford)
  March 10, 2014 – March 11, 2014, hosted by Sjouke Mauw
  Reason: research collaboration

- Catalin Dima
  March 31, 2014 – April 2, 2014, hosted by Leon van der Torre

- Professor Carlo Ghezzi (Politecnico di Milano, Italy)
  Oct. 7, 2014, hosted by Lionel Briand, Björn Ottersten
  Reason: Distinguished lecture at the SnT

- Dr. Nikolai Kosmatov ("Commissariat à l'Energie Atomique (CEA), Paris-Région, France")
  June 19, 2014, hosted by Mike Papadakis

- Beshui Liao
  Oct. 22, 2014 – Oct. 28, 2014, hosted by Leon van der Torre

- Professor Alex Orso (Georgia Institute of Technology, USA)
  June 30, 2014, hosted by Lionel Briand, Björn Ottersten
  Reason: Distinguished lecture at the SnT

- PhD Federica Paci (University of Trento)
  Dec. 15, 2014 – Dec. 17, 2014, hosted by Olga Gadyatskaya
  Reason: research collaboration

- Professor Mauro Pezzè (University of Lugano, Switzerland)
  May 7, 2014, hosted by Lionel Briand, Björn Ottersten
  Reason: Distinguished lecture at the SnT

- PhD Sasa Radomirov (ETH, Zurich)
  Aug. 1, 2014 – Aug. 4, 2014, hosted by Sjouke Mauw
  Reason: research collaboration

- Associate Professor Bernard Ries (Université Paris-Dauphine)
  Jan. 1, 2012 – Dec. 31, 2014, hosted by Raymond Bisdorff
  Reason: Official CSC invited researcher in the context of the GDRI Algodec.

- Livio Robaldo
  Dec. 17, 2014 – Dec. 19, 2014, hosted by Leon van der Torre

- PhD David Safranek (Masaryk University, Brno)
  Sept. 22, 2014 – Sept. 23, 2014, hosted by Andrzej Mizera
  Reason: research presentation

- Professor Ralph Schroeder (Oxford Internet Institute, UK)
  Feb. 20, 2014, hosted by Lionel Briand, Björn Ottersten
  Reason: Distinguished lecture at the SnT

- PhD Reza Shokri (ETH, Zurich)
  April 14, 2014 – April 15, 2014, hosted by Jun Pang
  Reason: research collaboration

- Marija Slavkovik
  July 7, 2014 – July 10, 2014, hosted by Leon van der Torre

- Clara Smith
  Feb. 19, 2014 – Feb. 21, 2014, hosted by Leon van der Torre

- Professor Paolo Tonella (Fondazione Bruno Kessler (FBK), Trento, Italy)
  June 13, 2014, hosted by Lionel Briand, Björn Ottersten
  Reason: Distinguished lecture at the SnT

- Ivan Varzingczak
  Feb. 3, 2014 – Feb. 14, 2014, hosted by Leon van der Torre

- Srdjan Vesic
  Oct. 13, 2014 – Oct. 15, 2014, hosted by Leon van der Torre

- Serena Villata
  Jan. 29, 2014 – Jan. 31, 2014, hosted by Leon van der Torre

- PhD Anton Wijs (Eindhoven University of Technology)
  Dec. 1, 2014 – Dec. 2, 2014, hosted by Jun Pang
  Reason: research collaboration

6.4 Visits

The following visits by CSC members to external organisations took place:

- Lionel Briand
  Visited: University of Illinois, Chicago, United States (Jan. 24, 2014).
  Reason: to give a distinguished lecture

- Lionel Briand
  Visited: University of Salerno, Salerno, Italy (June 30, 2014 – July 3, 2014).
  Reason: to give a lecture on "Search-based approaches to model-based testing and verification" in International Summer School on Software Engineering.

- Lionel Briand
  Visited: ABB Research, Baden, Switzerland (Sept. 10, 2014).
  Reason: to give a distinguished lecture

- Lionel Briand
  Visited: Khalifa University, Abu Dhabi, United Arab Emirates (Dec. 9, 2014).
  Reason: Distinguished lecture

- Claudio Fiandrino
  Visited: Politecnico di Torino, Torino, Italy (Dec. 22, 2014).
  Reason: Talk: Data center architectures and their relevance in cloud processes

- Olga Gadyatskaya
  Visited: TREsPASS General meeting, DTU, Copenhagen, Denmark (Aug. 27, 2014 – Aug. 29, 2014).

- Nicolas Guelfi
  Visited: Mälardalen University, Västerås, Sweden (July 23, 2014 – July 27, 2014).

- Pierre Kelsen
  Visited: Warsaw University of Technology, Warsaw, Poland (Nov. 12, 2014 – Nov. 14, 2014).
  Reason: First consortium meeting in the context of the PARIS strategic collaboration (Erasmus+) between University of Luxembourg, Warsaw University of Technology, Kiew Polytechnic Institute and University of Lisbon whose aim is to elaborate a Joint Master Degree in Information Security.

- Gabriele Lenzini
  Visited: University of Tartu, Tartu, Estonia (April 23, 2014 – April 25, 2014).
  Reason: talk: What Security for Electronic Exams?

- Gabriele Lenzini
  Visited: Debrecen University, Debrecen , Hungary (Dec. 8, 2014 – Jan. 11, 2015).
  Reason: talk: Formal Analysis of Security for Electronic Exams

- Sjouke Mauw
  Visited: Nanyang Technological University, Singapore, Singapore (Jan. 9, 2014 – Jan. 16, 2014).

- Sjouke Mauw
  Visited: Ghent University, Gent, Belgium (Feb. 4, 2014 – Feb. 5, 2014).

- Sjouke Mauw
  Visited: COST meeting, Brussels, Belgium (March 13, 2014 – March 14, 2014).
  Reason: COST meeting

- Sjouke Mauw
  Visited: COST action, Brussels, Belgium (April 9, 2014 – April 10, 2014).

- Sjouke Mauw
  Visited: GraMSec'14, Grenoble, France (April 12, 2014).

- Sjouke Mauw
  Visited: French course, Aix-en-Provence, France (April 13, 2014 – April 18, 2014).

- Sjouke Mauw
  Visited: ESSS'14, FM'14, Singapore, Singapore (May 11, 2014 – May 24, 2014).

- Sjouke Mauw
  Visited: Multi-Media University Malaysia, Malacca, Malaysia (May 25, 2014 – May 28, 2014).

- Sjouke Mauw
  Visited: Sogeti, Utrecht, Netherlands (June 11, 2014).

- Sjouke Mauw
  Visited: PhD defence, Eindhoven, Netherlands (June 18, 2014 – June 19, 2014).

- Sjouke Mauw
  Visited: National University of Singapore, Singapore, Singapore (Aug. 1, 2014 – Aug. 4, 2014).
  Reason: research collaboration

- Sjouke Mauw
  Visited: STM'14, Wroclaw, Poland (Sept. 9, 2014 – Sept. 12, 2014).

- Sjouke Mauw
  Visited: COST action, Sibiu, Romania (Sept. 20, 2014 – Sept. 23, 2014).

- Sjouke Mauw
  Visited: COST meeting, Larnaca, Cyprus (Sept. 24, 2014 – Sept. 26, 2014).

- Sjouke Mauw
  Visited: PhD defence, Nijmegen, Netherlands (Nov. 27, 2014 – Nov. 28, 2014).

- Sjouke Mauw
  Visited: Dagstuhl meeting, Wadern, Germany (Dec. 1, 2014 – Dec. 4, 2014).

- Sjouke Mauw
  Visited: COST action, Brussels, Belgium (Dec. 12, 2014).

- Mike Papadakis
  Visited: UCL, London, United Kingdom (June 7, 2014 – March 7, 2015).
  Reason: Mobility program

- Valentin Plugaru
  Visited: A*STAR Computational Resource Centre, Singapore, Singapore (Dec. 18, 2014).
  Reason: Visit of Singapore's ACRC HPC facilities, introduction of the UL HPC center and discusion of possible collaborations.

- Peter Ryan
  Visited: "Extraordinary Meeting"of the MAPPING project, Rome, Italy (May 20, 2014 – May 21, 2014).
  Reason: Invited talk

- Christoph Schommer
  Visited: ACM, New York, United States (Aug. 24, 2014 – Aug. 28, 2014).
  Reason: ACM SigKDD 2014

- Christoph Schommer
  Visited: University of Washington, Washington, United States (Oct. 27, 2014 – Oct. 31, 2014).
  Reason: IEEE BigData 2014

- Ana-Maria Simionovici
  Visited: University of Sydney, Sydney, Australia (Oct. 30, 2013 – Jan. 1, 2014).
  Reason: The University of Luxembourg offered support for a short term visit to the Centre for Distributed and High Performance Computing, The University of Sydney. Under the direct supervision of Prof. Pascal Bouvry, the doctoral candidate, Ana Maria Simionovici, collaborated with Prof. Albert Zomaya on work related to Cloud Computing systems. The main activities during the visit were seminars to the group and interaction with postdocs and PhD students of the group. The collaboration contributed towards the development and enhancement of the doctoral candidate's skills in the area of the current research.

- Qiang Tang
  Visited: Universitat Rovira i Virgili, Tarragona, Spain (July 21, 2014 – July 25, 2014).
  Reason: Scientific collaboration

- Rolando Trujillo Rasua
  Visited: TREsPASS meeting, VU, Amsterdam, Netherlands (Oct. 23, 2014).

- Leon van der Torre
  Visited: Stanford University, Palo Alto, United States (Jan. 1, 2014 – Jan. 15, 2014).

Chapter 7

Software Developments

ACL-Lean

http://www.di.unito.it/~genovese/tools.html

License: Free

Description: ACL-Lean is a decidable theorem prover (written in PROLOG) for propositional access control logics with says operator. ACL-Lean implements an analytic labelled sequent calculus for conditional access control logics presented in V. Genovese, L. Giordano, V. Gliozzi and G. L. Pozzato "A Conditional Constructive Logic for Access Control and its Sequent Calculus" 20th International Conference on Automated Reasoning with Analytic Tableaux and Related Methods.

ADTool

http://satoss.uni.lu/software/adtool

License: free use

Members: Barbara Kordy (Analyst), Sjouke Mauw (Analyst)

Description: The attack–defense tree language formalizes and extends the attack tree formalism. It is a methodology to graphically analyze security aspects of scenarios. With the help of attributes on attack–defense trees, also quantitative analysis can be performed. As attack–defense tree models grow, they soon become intractable to be analyzed by hand. Hence computer support is desirable. Software toll, called the ADTool, has been implemented as a part of the ATREES project to support the attack–defense tree methodology for se-

curity modeling. The main features of the ADTool are easy creation, efficient editing, and quantitative analysis of attack–defense trees. The tool is available at http://satoss.uni.lu/software/adtool. The tool was realized by Piotr Kordy and its manual was written by Patrick Schweitzer.

ARGULAB

http://code.google.com/p/pyafl/

License: GPL v3

Members: Mikolaj Jan Podlaszewski (Developer)

Description: We present an implementation of the recently developed persuasion dialogue game for formal argumentation theory under grounded semantics. The idea is to apply Mackenzie-style dialogue to convince the user that an argument is or is not in the grounded extension. Hence, to provide a (semi-)natural user interface to formal argumentation theory.

ASSA-PBN

http://satoss.uni.lu/software/ASSA-PBN/

License: free use

Members: Jun Pang (Analyst)

Description: ASSA-PBN is a tool specially designed for approximate steady-state analysis of large probabilistic Boolean networks (PBNs). The approximate steady-state analysis is crucial for large PBNs, which naturally arise in the domain of Systems Biology. ASSA-PBN provides different solutions for different size PBNs. In particular, ASSA-PBN provides the two-state Markov chain approach and the Skart approach for large PBNs. The latest version of the package was released in Nov. 2014 and is available from http://satoss.uni.lu/software/ASSA-PBN/.

Changes: Version 1.0.2.

Updated on: 30/11/2014.

Main changes: fix the bug for not being able to define whether the model is converted from Matlab when running the Skart method. Version 1.0.1.

Updated on: 07/11/2014.

Main changes: 1) add optimization for the initial trajectory size used in the two-state Markov chain approach; 2) add output for loading models.

BUT4Reuse

License: N/A

Description: Bottom-up technologies for Reuse. Feature identification on Product variants. Reengineering Feature Models. Extraction of Reusable assets.

CSC Information System

http://demos.uni.lux/csc

License: Internal use only

Members: Bertrand Dessart (Analyst, Architect), Christian Glodt (Analyst, Architect, Designer, Developer, Tester)

Description: The CSC Information System is a web-based interface for the management of information related to the CSC, such as research projects, research areas, research groups, and many other elements related to the CSC and its member's activities. The CSC Information System is built using the Django Framework.

Changes: The CSC Information System has been substantially improved and made more complete in 2014. The changes include:

- the implementation of a user-friendly logging system,
- snapshotting of content for later import into eZ Publish using a custom script,
- improvements to publication handling,
- handling of uploaded files,
- providing an overview of completion state of the database,
- vast improvement of LaTeX export for the annual reports,
- implementation of text editor plugins for handling citations, bibTeX and LaTeX import,
- and many other changes.

Canephora

http://satoss.uni.lu/software/canephora/

License: free use

Description: Trust opinions can be represented as probability distributions over an (unknown) integrity parameter. Simple trust opinions (that are based only on personal observations) can be represented as a class of distributions

known as Beta distributions. Trust opinions that are based on recommendations do not (necessarily) have such a simple representation. Canephora numerically approximates the trust opinion that can be inferred from a recommendation. Precision and coarseness of the result can be selected. The result may depend on the strategy of the recommender, Canephora allows implementations of such possible strategies to be added on the fly. The tool was created by Tim Muller and can be accessed at http://satoss.uni.lu/software/canephora/ .

Chameleon

License: GNU

Description: Chameleon is a tool to assist Hive administrators in analyzing and tuning job configuration. The system implements a K-means clustering algorithm to group similar queries and provide an aggregate analysis to those similar queries. The administrator can then analyze the performance of these queries and decide how to tune them up.

repository: git@gitlab.c3sl.ufpr.br:chameleon/chameleon.git

Democles

http://democles.lassy.uni.lu/

License: Freely redistributable, see details at: http://democles.lassy.uni.lu/license.html

Members: Christian Glodt (Architect, Designer, Developer, Tester)

Description: Democles is a modeling tool that supports the EP language developed by LASSYs MDE group. It is mainly developed by Christian Glodt.

Dexpler

http://www.abartel.net/dexpler/

License: GNU

Description: Converts Dalvik bytecode to Jimple

Digraph3

http://leopold-loewenhein.uni.lu/docDigraph3

License: GNU General Public License v.2+

Members: Raymond Bisdorff (Developer)

Description: Digraph3 is a collection of Python3 modules and resources for implementing decision aiding algorithms for selecting, ranking, sorting or rating, and clustering with multiple incommensurable criteria. These computing resources are useful in the field of Algorithmic Decision Theory and more specifically in outranking based multiple criteria decision aiding.

Changes: Tutorials and technical documentation under http://leopold-loewenheim.uni.lu/docDigraph3

Available with a git client from http://github.com/rbisdorff/Digraph3

Discrete Particle Method (DPM)

http://luxdem.uni.lu/

License: Internal use only

Members: Xavier Besseron (Designer)

Description: The Discrete Particle Method (DPM) itself is an advanced numerical simulation tool which deals with both motion and chemical conversion of particulate material such as coal or biomass in furnaces. However, predictions of solely motion or conversion in a de-coupled mode are also applicable. The Discrete Particle Method uses object oriented techniques that support objects representing three-dimensional particles of various shapes such as cylinders, discs or tetrahedrons for example, size and material properties. This makes it a highly versatile tool dealing with a large variety of different industrial applications of granular matter. A user interface allows easily extending the software further by adding user-defined models or material properties to an already available selection of materials, properties and reaction systems describing conversion. Thus, the user is relieved of underlying mathematics or software design, and therefore, is able to direct his focus entirely on the application. The Discrete Particle Method is organised in a hierarchical structure of C++ classes and works both in Linux and XP environments also on multi-processor machines. This software is developed by the XDEM research team from the Research Unit in Engineering Science (RUES) in collaboration with the Computer Science and Communications (CSC) research unit.

Changes: The new design of DPM / XDEM software has been implemented and is now used by the all LuXDEM team.

- Parallel and distributed execution based on the MPI library
- OpenFOAM coupling with Conversion and Dynamics modules all together
- Automated continuous testing with results checking
- Extraction of an input/output library for pre/prost-processing tools

ELRA Language Corpus

License: LC/ELDA/DISTR-S/2014-11/001-UNILU

Members: Sviatlana Danilava (Architect), Christoph Schommer (Designer)

Description: The *deL1L2IM* corpus, created between May and August 2012 and last updated in August 2014, has been collected within the framework of a PhD project (Mrs. Sviatlana Höhn, geb. Danilava) on the development of a learning method implying conversations with an artificial companion. This PhD work is presented as a qualitative investigation of instant messaging dialogues on a long-term basis (four months) between advanced learners of German and German native speakers, chatting about whatever topic they wish.

The dataset is composed of 72 dialogues, each of them having a duration of 20 to 45 minutes. The whole corpus contains ca. 52,000 words and 4,800 messages and has a file size of 0,5 Mb. Nine pairs of participants – i.e. nine learners and four native speakers – were required, with 8 dialogues per pair.

The interactions have undergone linguistic analysis whereby the annotation will be performed only on repair/correction sequences (incomplete learner error annotation). The goal of the project was to create an application for language modelling and to improve learner language applications, tutoring softwares and dialogue systems.

The corpus is delivered in one written text file (in XML format, customized under TEI P5).

Face_recognition

http://www.ros.org/wiki/face_recognition

License: Attribution-NonCommercial 3.0

Description: A face recognition package for ROS robotic framework

GreenCloud Simulator

https://greencloud.gforge.uni.lu/

License: Open source

Members: Claudio Fiandrino (Developer), Mateusz Guzek (Architect), Dzmitry Kliazovich (Architect)

Description: Greencloud is a sophisticated packet-level simulator for energy-aware cloud computing data centers with a focus on cloud communications. It offers a detailed fine-grained modeling of the energy consumed by the data center IT equipment, such as computing servers, network switches, and communication links.

IDP

http://icr.uni.lu/mcramer/index.php?id=3

License: Public

Members: Diego Agustin Ambrossio (Tester), Marcos Cramer (Tester)

Description: implementation of revocation schemes according to the classification proposed by Hagström et al. (2001)

IccTA

https://sites.google.com/site/icctawebpage/home

License: N/A

Description: Inter-component and inter-application taint-analysis for Android Applications (based on FlowDroid)

JShadObf

http://jshadobf.uni.lu/

License: unknown

Description: A JavaScript Obfuscation Framework based on evolutionary algorithms.

Kevoree

http://kevoree.org/

License: LGPL 3

Description: Models@Run.time driven dynamic architecture

Lightning

http://lightning.gforge.uni.lu/

License: binary only, freely redistributable without modification

Members: Loïc Gammaitoni (Analyst, Architect, Designer, Developer, Tester), Christian Glodt (Architect, Designer, Developer, Tester)

Description: Lightning is a lightweight language workbench based on Alloy and Eclipse.

Lightning allows the definition of Languages via the specification of Alloy models, thus allowing the lightweight analysis of its components.

The focus of Lightning is to provide support to language engineers to efficiently design their DSLs.

Changes: In 2014, we focused on making the tool more usable, by:

- Completely refining the GUI:
  - Concepts displayed to the user are now from the domain of Languages, and not of Alloy (the technology Lightning relies on) as it was before.
  - The Alloy editor used to specify language models has been enhanced with common code editor features (syntax coloring and validation, error marking, code outline, ...)
- Prototyping semantics support , in providing a visualization to model executions. (This allows to more efficiently verify the correctness of semantics definition)
- Extending the DSL (called F-Alloy) used to define transformations inside the tool (allowing the definition of more complex transformations)
- Fixing a handful of bugs

LuxTraffic

http://www.luxtraffic.lu/

License: unknown

Description: LuxTraffic is a project aiming to provide real time traffic information by using smartphones as mobile traffic sensors. Luxembourg is an ideal location to validate the suggested system because of several factors. The country has a well developed road infrastructure with 282 km of highways in total on its territory which permits to have a country- scoped instead of city-scoped approach. Also, the recent high penetration rate of smartphones in combination with the data flat rates create a favorable environment for community based traffic sensing using mobile phones. Taking these factors into account we designed LuxTraffic, a traffic information system which, is in essence an online repository aiming at centralizing all information related to individual mobility in Luxembourg. The system has two main goals. The first is to create and maintain a community of users that will actively participate in collecting relevant traffic information using smartphone devices in an anonymous and autonomous manner. To accomplish this, applications (APPs) for the two dominant mobile platforms, iOS and Android, have been developed. In return, the users benefit from a variety of traffic information services available online. In the first phase, the system provides detailed information about traffic fluidity on Luxembourg highways. In the second phase, the system will be extended to cover the entire road network. The second purpose of the LuxTraffic platform is to gather, archive and analyze the collected traffic data centrally in order to identify traffic bottlenecks and propose solutions. To provide additional information, we interface with the local highway traffic control system called CITA, which among others provides a 24 hours access to highway cameras.

MSC Macro Package for LaTeX

http://satoss.uni.lu/mscpackage/

License: free use

Description: The message sequence chart (MSC) language is a visual language for the description of the interaction between different components of a system. This language is standardized by the ITU (International Telecommunication Union) in Recommendation Z.120 MSCs have a wide application domain, ranging from requirements specification to testing and documentation. In order to support easy drawing of MSCs in LaTeX documents, Sjouke Mauw and coworkers have developed the MSC macro package. Currently, Piotr Kordy is responsible for maintenance of the package. Version 1.17 is currently available from http://satoss.uni.lu/mscpackage/. In 2012 work started on recoding the package as to make it compatible with *pdflatex*.

MaM: Multidimensional Aggregation Monitoring

https://github.com/jfrancois/mam

License: Open Source

Description: MaM performs multidimensional aggregation over various types of data. The targeted use is the storage, visualisation and analysis of big data. For example, network operators may capture large quantities of flow based data which includes source and destination IP addresses and ports, number of packets, etc. Aggregation allows to leverage global view and so is particularly helpful for anomaly tracking as the most powerful, like spam campaigns, botnets, distributed denial of service, are distributed phenomena and can only be observed assuming a global point of view. However, defining the aggregation granularity is quite difficult and should not fixed over all the space. For example, some IP networks may require a small granularity while others need only a high level overview. Hence, MaM automatically selects the granularity by creating irregular dimension splits which are so better fitted to the underlying distribution. In addition, if a user does not know exactly what is looking for when he is monitoring his network, it does not know which dimension is the most important. For example, there is no reason to aggregate first on source IP addresses and then destination ports or vice-versa. Thus, MaM will automatically optimizes that by selecting the proper order of dimensions and even on multiple levels involving twice or more the same dimension with different granularity levels.To achieve a good scalability, MaM uses an underneath tree structure. A MaM tree is updated online with a limited complexity using a Least Recently Used strategy to keep the tree size compact and so to save resources.MaM is a generic tool and can be extended to any hierarchical types of data by implementing very few functions which describe the hierarchy. To summarize, the advantages of MaM are:

- support of heterogeneous types of data simultaneously
- high scalability
- easy to extend
- user friendly outputs and graphical user interface
- open-source (available at https://github.com/jfrancois/mam)

The practicability of MaM have been highlighted in [lisa12] and a presentation is available at (demonstration at 14:15): https://www.usenix.org/conference/lisa12/efficient-multidimensional-aggregation-large-scale-monitoring

MaRCo Model Editor

http://marco.gforge.uni.lu/tools.html

License: binary only, freely redistributable without modification

Members: Christian Glodt (Architect, Designer, Developer, Tester)

Description: The MaRCo Model Editor is an Eclipse plugin that provides functionality for creating and editing XBPNM and Policy models, as well as transformation capabilities allowing to generate an Alloy representation of an XBPNM model.

MiCS Management System

http://demos.uni.lux/mics

License: non-redistributable, for internal use only

Members: Christian Glodt (Designer, Developer, Tester)

Description: An internal web-based tool developed for the management of modules, courses and profiles of the Master in Information and Computer Sciences. Developed by Christian Glodt.

Changes: The MiCS Management System has seen the following improvements in 2014:

- addition of advisor and second advisor the master thesis registrations,
- regular updates to the profile selector that allows students to choose their profiles and associated courses online,
- several small bugfixes.

MinUS

http://satoss.uni.lu/software/MinUS

License: free use

Members: Jun Pang (Analyst)

Description: This tool, MinUS, integrates the technologies of trajectory pattern mining with the state-of-the art research on discovering user similarity with trajectory patterns. Speci cally, with MinUS, we provide a platform to manage movement datasets, and construct and compare users trajectory patterns. Tool users can compare results given by a series of user similarity metrics, which allows them to learn the importance and limitations of di erent similarity metrics and promotes studies in related areas, e.g., location privacy. Additionally, MinUS can also be used by researchers as a tool for preliminary process of movement data and parameter tuning in trajectory pattern mining. The tool is available at http://satoss.uni.lu/software/MinUS.

Model Decomposer

http://democles.lassy.uni.lu/documentation/TR_LASSY_10_06.pdf

License: free to use, binary redistribution permitted

Members: Vasco Da Silva De Sousa (Developer), Christian Glodt (Architect, Developer), Qin Ma (Analyst)

Description: An Eclipse plugin that implements a generic model decomposition technique which is applicable to Ecore instances and EP models, and is described in a paper published in the proceedings of the FASE 2011 conference.

Changes: In 2014, Vasco da Silva de Sousa updated the ModelDecomposer plugin to include the scopes of OCL constraints in the calculation of model slices.

OVNIS

http://ovnis.gforge.uni.lu/

License: unknown

Description: For online vehicular wireless and traffic simulation. An integration of traffic simulator SUMO with network simulator ns-3.

Peerunit

http://peerunit.gforge.inria.fr/

License: GNU

Description: Peerunit is a testing framework for large-scale distributed systems. It is useful to developers who want to test their Java applications in a distributed way

ROS face_recognition package

http://www.ros.org/wiki/face_recognition

License: Attribution-NonCommercial 3.0

Members: Pouyan Ziafati (Developer)

Description: Provides a ROS simple actionlib server interface for performing different face recognition functionalities in video stream.

SHARC

http://github.com/gjherbiet/sharc

License: GPL v3

Description: Source code and benchmarking framework for the SHARC (Sharper Heuristic for Assignment of Robust Communities) protocol

Seq-ACL+

http://www.di.unito.it/~genovese/tools.html

License: Free

Description: Developers: Daniele Rispoli, Valerio Genovese and Deepak Garg

Seq-ACL+ is a decidable theorem prover (written in PROLOG) for the modal access control logic ACL+ presented in V. Genovese and D. Garg "New Modalities for Access Control Logics: Permission, Control and Ratification" 7th International Workshop on Security and Trust Management - STM 2011

ULHPC-credits

https://gitlab.uni.lu/vplugaru/ulhpc-tools

License: GPLv3

Members: Valentin Plugaru (Designer)

Description: None

VehILux

http://vehilux.gforge.uni.lu/

License: unknown

Description: Large set of realistic vehicular traces over the area of Luxembourg country (110.000 trips) than can be used by traffic simulators like SUMO and in other simulations of traffic information systems

Visual Contract Builder

http://vcl.gforge.uni.lu/

License: free to use, binary redistribution permitted

Members: Christian Glodt (Architect, Designer, Developer)

Description: A suite of Eclipse plugins that provide support for graphically editing and typechecking VCL (Visual Contract Language) diagrams.

bagit

http://demos.uni.lux/bagit

License: non-redistributable, for internal use only

Members: Christian Glodt (Designer, Developer, Tester)

Description: An internal web-based tool that provides assistance to research groups by storing, pooling, tagging and indexing papers and other publications.

delegation2spass

http://www.di.unito.it/~genovese/tools.html

License: Free

Description: Developers: Daniele Rispoli and Valerio Genovese

delegstion2spass is a parser (written in SCHEME) which implements a set of complete reduction axioms and translates dynamic formulas for a delegation/revocation logic into propositional logic expressed in DFG syntax.

mCarve and cCarve

http://satoss.uni.lu/software/ccarve/

License: free use

Description: mCarve and cCarve are software tools for carving attributed dump sets. These dump sets can, for instance, be obtained by dumping the memory of a number of smart cards or by regularly dumping the memory of a single

smart card during its lifetime. The tools help in determining at which location in the dumps certain attributes are stored. mCarve is written in Python and is available from http://satoss.uni.lu/software/mcarve/. More information about mCarve can be obtained from our paper [DMR11]. cCarve is written in C++. It implements a linear algorithm for carving attributed dump sets, which improves its run time with respect to mCarve.

php-bibHTML package

http://satoss.uni.lu/software/php-bibHTML/

License: free use

Members: Hugo Jonker (Developer)

Description: The php-bibHTML package provides a convenient PHP interface to the data stored in BibTEX files. Its main purpose is to automatically generate an HTML publication list based on a BibTEX input file, whose appearance is controlled via style sheets. Furthermore, it provides a function to convert LATEX accented characters and symbols (e.g., \"e, \OE, \={o}, \forall, \heartsuit, . . .) to the corresponding HTML entities, and a function to determine which required fields are missing in a .bib file. The latest version of the package was released in 2013, contains assorted minor improvements compared to the initial release, and is available from http://satoss.uni.lu/software/php-bibHTML/ .

Changes:

- moved all formatting logic to templates
- templates now just get the values from the bibtex entry, after processing by latex_to_html_strings .
- Remove ". ," and " ," from output strings - added a README to templates dir, explaining how to use templates
- Corrected a bug in name parsing when last name contains "{..}"
- added "conference" template — all legal bibtypes are now recognised.
- renamed template variables to phpbibHTML_* in accordance with name change
- some internal code simplification

Chapter 8

Publications in 2014

The publications listed in this chapter have been generated from ORBi[lu], the official publication record repository of the university:

http://orbilu.uni.lu

An overview of the publication quantity (per category) is provided in the table below.

Publication Category	Quantity	Section
Book	10	8.1 (p.124)
Book Chapter	8	8.2 (p.125)
Journal	73	8.3 (p.126)
Thesis	1	8.4 (p.131)
Conference	184	8.5 (p.132)
Technical Report	19	8.6 (p.149)
Miscellaneous	10	8.7 (p.151)
Total	*328*	

Table 8.1: Overview of CSC publications in 2014

The figure below illustrates the distribution of the types of publications.

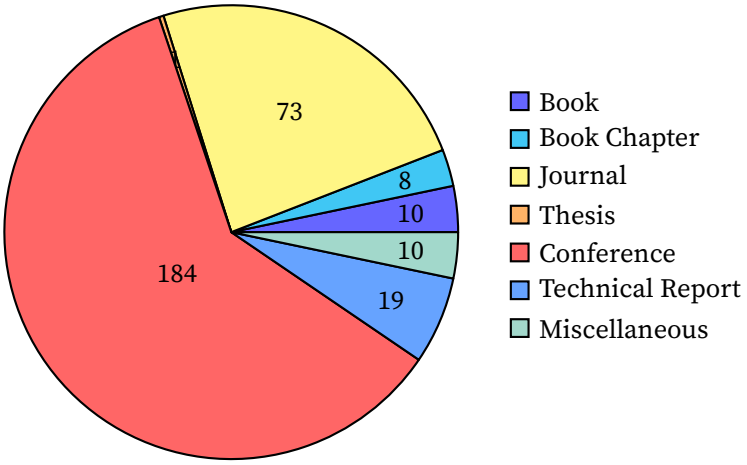

Figure 8.1: Distribution of CSC publications in 2014

8.1 Book

[1] T. F. D. A. Bissyande and G. van Stam, eds. *e-Infrastructure and e-Services for Developing Countries*. Springer, 2014. ISBN: 978-3-319-08368-1. URL: http://hdl.handle.net/10993/19990.

[2] A. Capozucca. *DT4BP: Dependability and Time for Business Processes*. Scholars' Press, 2014. ISBN: 978-3-639-71008-3. URL: http://hdl.handle.net/10993/27927.

[3] B. Dorronsoro et al. *Evolutionary Algorithms for Mobile Ad Hoc Networks*. John Wiley & Sons, 2014. ISBN: 978-1-118-34113-1. URL: http://hdl.handle.net/10993/16756.

[4] J.-G. Dumas et al. *Foundations of Coding: Compression, Encryption, Error-Correction*. Wiley Sons, 2014. URL: http://hdl.handle.net/10993/12447.

[5] J.-G. Dumas et al. *Théorie des Codes : Compression, Cryptage et Correction*. Dunod, 2014. ISBN: 978-2-1005-9911-0. URL: http://hdl.handle.net/10993/16623.

[6] S. Mauw and C. D. Jensen, eds. *Proceedings of the 10th International Workshop on Security and Trust Management (STM 2014)*. Springer, 2014. URL: http://hdl.handle.net/10993/25907.

[7] S. Merz and J. Pang, eds. *Proceedings of the 16th International Conference on Formal Engineering Methods*. Springer, 2014. URL: http://hdl.handle.net/10993/18281.

[8] J. Pang and Y. Liu, eds. *Proceedings Third International Workshop on Engineering Safety and Security Systems*. EPTCS, 2014. URL: http://hdl.handle.net/10993/17353.

[9] X. Parent et al., eds. *Deontic logic and Normative Systems - DEON2014*. Springer, 2014. URL: http://hdl.handle.net/10993/23937.

[10] O. Schuetze et al., eds. *EVOLVE - A Bridge between Probability, Set Oriented Numerics and Evolutionary Computation III [EVOLVE 2012, Mexico City Mexico, August 7-9, 2012, selection of extended papers]*. Springer, 2014. ISBN: 978-3-319-01459-3. URL: http://hdl.handle.net/10993/10513.

8.2 Book Chapter

[11] J. Botev. "Anonymity, Immediacy and Electoral Delegation in Socio-Technical Computer Systems". In: *Socioinformatics - The Social Impact of Interactions between Humans and IT*. Springer International Publishing, 2014, pp. 139–143. ISBN: 978-3-319-09378-9. URL: http://hdl.handle.net/10993/18928.

[12] M. Bourdelles et al. "Fostering Analysis from Industrial Embedded Systems Modeling". In: *Handbook of Research on Embedded Systems Design*. IGI Global, 2014. URL: http://hdl.handle.net/10993/18454.

[13] B. Kordy, S. Mauw, and P. Pieters. "Proceedings First International Workshop on Graphical Models for Security, GraMSec 2014". In: *First International Workshop on Graphical Models for Security, GraMSec 2014, Grenoble, France, 12th April, 2014*. Springer, 2014. DOI: 10.4204/EPTCS.148. URL: http://hdl.handle.net/10993/25902.

[14] L. Lucio et al. "Advances in Model-Driven Security". In: *Advances in Computers*. Elsevier, 2014. ISBN: 9780128001622. URL: http://hdl.handle.net/10993/10204.

[15] M. A. O. Mendez et al. "The NOAH Project: Giving a Chance to Threatened Species in Africa with UAVs". In: *e-Infrastructure and e-Services for Developing Countries*. Springer International Publishing, 2014, pp. 198–208. ISBN: 978-3-319-08367-4. DOI: 10.1007/978-3-319-08368-1_24. URL: http://hdl.handle.net/10993/19305.

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Appendix A

Statistics for 2014

A.1 Number of CSC Staff by Category

Category	Number
Director of the Interdisciplinary Centre ”Security, Reliability and Trust”	1
Professor	15
Associate Professor	7
Doctoral Candidate	80
Administrative Aid	3
Junior researcher	3
Program Coordinator	1
Project Coordinator	1
Research Assistant	2
Research Associate	57
Research Associate (Post-doc)	9
Research Scientist	13
Technical Support Staff Member	5
Research Facilitator	1
Secretary	3
Senior Research Scientist	4
Senior Researcher (Post-doc)	2
Technician on Project	2
Total	*209*

Table A.1: Number of CSC Staff by Category

A.2 List of CSC Members by Category

Position	Last Name	First Name
Director of the Interdisciplinary Centre ”Security, Reliability and Trust”	Ottersten	Björn
Professor	Bisdorff	Raymond
	Bouvry	Pascal
	Briand	Lionel
	Engel	Thomas
	Esteves-Veríssimo	Paulo
	Guelfi	Nicolas
	Kelsen	Pierre
	Le Traon	Yves
	Leprévost	Franck
	Mauw	Sjouke
	Ryan	Peter
	Sachau	Jürgen
	Sorger	Ulrich
	Zampunieris	Denis
	van der Torre	Leon
Associate Professor	Biryukov	Alex
	Coron	Jean-Sébastien
	Müller	Volker
	Navet	Nicolas
	Rothkugel	Steffen
	Schommer	Christoph
	Steenis	Bernard
Doctoral Candidate	Ambrossio	Diego Agustin
	Arora	Chetan
	Ben Fadhel	Ameni
	Bersan	Roxana
	Bilibin	Ilya
	Brau	Guillaume
	Bronzi	Walter
	Brühl	Manuel
	Chenal	Massimo
	Codeca	Lara
	Colombo Tosatto	Silvano
	Danilava	Sviatlana
	Delerue Arriaga	Afonso
	Derrmann	Thierry
	Dinu	Dumitru-Daniel
	Dobrican	Remus-Alexandru
	Dou	Wei
	Falk	Eric
	Fiandrino	Claudio

Position	Last Name	First Name
	Forster	Markus
	Gammaitoni	Loïc
	Giustolisi	Rosario
	Gottmann	Susann
	Grzybek	Agata
	Hajri	Ines
	Hammerschmidt	Christian
	Hartmann	Thomas
	Humphreys	Llio
	Jan	Sadeeq
	Jerome	Quentin
	Jimenez	Matthieu
	Kampas	Dimitrios
	Khan	Yasir Imtiaz
	Klein	Johannes
	Le	Ha Thanh
	Li	Li
	Li	Yu
	Liu	Bing
	Liu	Zhe
	Maddouri	Sami
	Marchal	Samuel
	Margossian	Harag
	Martinez	Jabier
	Matinnejad	Reza
	Minev	Mihail
	Mouton	Maximilien
	Muszynski	Jakub
	Nachtigall	Nico
	Neshvad	Surena
	Nguyen	Anh Quan
	Nielsen	Sune Steinbjorn
	Norta	David Peter Benjamin
	Perez Urquidi	Jose Miguel
	Perrin	Léo Paul
	Pierina Brustolin Spagnuelo	Dayana
	Pinel	Frédéric
	Podlaszewski	Mikolaj Jan
	Pustogarov	Ivan
	Roy	Arnab
	Rubab	Iram
	Sanchez Guinea	Alejandro
	Shirnin	Denis
	Signorello	Salvatore
	Simionovici	Ana-Maria
	Skoutaris	Eleftherios

Position	Last Name	First Name
	Skrobot	Marjan
	Soltana	Ghanem
	Stathakis	Apostolos
	Sun	Xin
	Tabatabaei	Masoud
	Thome	Julian
	Udovenko	Aleksei
	Vadnala	Praveen Kumar
	Van Zee	Marc
	Venkatesh	Srinivas Vivek
	Wang	Chunhui
	Wang	Jun
	Wu	Yining
	Yuan	Qixia
	Zhang	Yang
Administrative Aid	Edwardsdottir	Helga
	Eyjolfsdottir	Ragnhildur Edda
	Thür	Claudia
Junior researcher	Diaz	Cesar
	Goergen	David
	Kirsch	Laurent
Program Coordinator	Ladid	Latif
Project Coordinator	Östlund	Stefanie
Research Assistant	Glodt	Christian
	Plugaru	Valentin
Research Associate	Allix	Kevin
	Amrani	Moussa
	Appelt	Dennis
	Avanesov	Tigran
	Bissyande	Tegawendé François D Assise
	Booth	Richard
	Botev	Jean
	Braatz	Benjamin
	Capitanescu	Florin
	Castignani	German
	Cramer	Marcos
	Da Silva De Sousa	Vasco
	De Kinderen	Sybren
	Derbez	Patrick
	Di Nardo	Daniel
	Dolberg	Lautaro
	Ferreira	Ana
	Fouquet	François
	François	Jérôme

Position	Last Name	First Name
	Gadyatskaya	Olga
	Gheorghe	Gabriela
	Groszschädl	Johann
	Guzek	Mateusz
	Göknil	Arda
	Hermann	Frank
	Hommes	Stefan
	Huynen	Jean-Louis
	Jamroga	Wojciech
	Jhawar	Ravi
	Jimenez Laredo	Juan Luis
	Joaquim	Rui
	Jonker	Hugo
	Kantor	Miroslaw
	Kliazovich	Dzmitry
	Kordy	Barbara
	Kurkowski	Miroslaw
	Lancrenon	Jean
	Lanze	Fabian
	Louveton	Nicolas
	Lucas Filho	Edson Ramiro
	Lucia	Lucia
	Machalek	Aurel
	McCall	Roderick
	Melakessou	Foued
	Moawad	Assaad
	Nguyen	Duy Cu
	Palattella	Maria Rita
	Pastore	Fabrizio
	Popleteev	Andrei
	Rienstra	Tjitze
	Sannier	Nicolas
	Shar	Lwin Khin
	Tantar	Alexandru-Adrian
	Tantar	Emilia
	Trujillo Rasua	Rolando
	Velichkov	Vesselin
	Ziafati	Pouyan
Research Associate (Post-doc)	Henard	Christopher
	Jostock	Markus
	Khovratovich	Dmitry
	Kim	Dongsun
	Ma	Qin
	Mizera	Andrzej
	Parent	Xavier
	Pecero	Johnatan
	Tang	Qiang

Position	Last Name	First Name
Research Scientist	Bernard	Nicolas
	Bianculli	Domenico
	Capozucca	Alfredo
	Danoy	Grégoire
	Frank	Raphaël
	Nejati	Shiva
	Panchenko	Andriy
	Pang	Jun
	Papadakis	Mike
	Ries	Benoît
	Suchanecki	Zdzislaw
	Varrette	Sébastien
	Weydert	Emil
Technical Support Staff Member	Cartiaux	Hyacinthe
	Dunlop	Dominic
	Le Corre	Yann
	Reis	Sandro
	Stemper	André
Research Facilitator	Dessart	Bertrand
Secretary	Flammang	Danièle
	Glemot-Schroeder	Isabelle
	Schmitz	Fabienne
Senior Research Scientist	Klein	Jacques
	Lenzini	Gabriele
	Sabetzadeh	Mehrdad
	State	Radu
Senior Researcher (Post-doc)	Doder	Dragan
	Emeras	Joseph
Technician on Project	Charousset	Saskia
	Marques Dias	Sergio

Appendix B

Acronyms used

ComSys Communicative Systems Laboratory
CSC Computer Science & Communications
HPC High Performance Computing
ILIAS Interdisciplinary Laboratory for Intelligent and Adaptive Systems
LACS Laboratory of Algorithmics, Cryptology and Security
LASSY Laboratory for Advanced Software Systems
SnT Interdisciplinary Centre for Security Reliability and Trust
UL University of Luxembourg
FNR Fonds National de la Recherche Luxembourg

http://csc.uni.lu

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