

Yoann Pigné

6, rue Richard Coudenhove-Kalergi Luxembourg, 1359
Phone: +352 / 466 644 5751 E-Mail: yoann.pigne@uni.lu

Objective

Enhance my scientific background and go on exploring my research fields.

Extend my scientific neighborhood with abroad experience.

Experience

Research Associate

October 2009–Present

Research Associate in the Interdisciplinary Center for Security and Trust (SnT).
Research in the fields of vehicular ad hoc networks, swarm intelligence, and distributed computing.

Teaching and Research Assistant

October 2004–September 2009

Teaching assistant at the university of Le Havre (France). 380 hours of teaching, bachelor and master degree, labs and lectures, with various courses (web services, graph theory, C/C++, Java...)

Research within the LITIS lab (computer science lab for information management and systems) in the fields of mobile ad hoc networks, dynamic graphs, and swarm intelligence.

Trainee in Information Technology

June–August 2003

Development of a decision-making application for the company SITA-SUEZ Environnement in Le Havre, France. Microsoft Visual Basic and Access.

Trainee in Information Technology

May–August 2001

Development of management applications for EDF in Paluel nuclear power plant and in Lille, France. Lotus Notes business software.

Education

Doctor degree in Computer Science

2004–2008

Title: Modeling and Processing Dynamic Graphs - Application to Mobile Ad Hoc Networks

Advisor: Professor Frédéric GUINAND

Board: Prof. Pascal BOUVRY, Prof. Serge CHAUMETTE, Prof. Isabelle GUÉRIN-LASSOUS, Dr. Clémence MAGNIEN, Prof. Alain CARDON.

Special Research Studies Degree (DEA) 2003–2004

Thesis: Ant-Based Models for Multiple Sequences Alignment. Advisor: Prof. Frédéric GUINAND. Le Havre and Rouen Universities, France.

Master Degree in Computer Science

2002–2003

Thesis: Bioinformatics tools (Divide and Conquer algorithms). Advisor: Prof. Frédéric GUINAND. Le Havre University, France.

Teaching Experience

As an assistant during my doctorate degree, at the Faculty of Science of the University of Le Havre in the Computer Science course of study.

380 hours teaching:

Web services AJAX (professional special degree, after master degree)

Scientific computing in C++ (master degree)

Graph Theory (master degree)

Introduction to Computer Science with MuPAD, a Computer Algebra System (bachelor degree)

Object Oriented Programming in Java (bachelor degree)

System Programming in C (bachelor degree)

Web and publishing tools (xhtml, css, latex) (bachelor)

Trainees Supervision

Supervision of 4 master degree students from 2005 to 2008 in the fields of multi-objective optimization, mobile ad hoc networks, and distributed computing.

Research Projects

Eureka-Celtic / WiSafeCar **2009–2011**

Wireless traffic Safety network between Cars (WiSafeCar) is a Eureka-Celtic project involving partners from Luxembourg, Finland, France, Turkey and Spain.

The overall aim of this project is to develop a reliable wireless traffic service platform to improve traffic safety, avoid traffic accidents and provide variety of new type of services to vehicles. This objective will be achieved by means of secure data collection from vehicles and fixed stations, secure dissemination of data between vehicles, and make use of such data for real-time transport service applications.

ANR / SARAH **2005–2009**

SARAH is a research project funded by the French ANR (Agence Nationale de la Recherche) involving four French research labs: Valoria, LaBRI, XLIM and LITIS.

The project relies on the assumption that delay-tolerant networking (mobile, wireless ad hoc networks with where no end-to-end connectivity) will be widely adopted in the near. The issues of deploying and the using distributed services on mobile devices

capable of delay-tolerant, ad hoc wireless communication is considered. Since no de facto standard for delay-tolerant networking has emerged yet, the project proposes an own model, and a proof-of-concept middleware platform complying with this model. Special attention will be paid to the security issues and abstract modeling and simulation techniques are used to evaluate and tune the communication model.

Publications

Book chapters

Stefan Balev, Omar Gaci, and Yoann Pigné. Fourmis artificielles et bio-informatique (repliement de protéines, alignement multiple et séquençage par hybridation). In Patrick Siarry Nicolas Monmarché, Frédéric Guinand, editor, *Fourmis artificielles 2, nouvelles directions pour une intelligence collective*, IC2, pages 269–297. Hermes Sciences, 2009.

Antoine Dutot and Yoann Pigné. Tour d’horizon des problèmes combinatoires traités par les fourmis artificielles. In Patrick Siarry Nicolas Monmarché, Frédéric Guinand, editor, *Fourmis artificielles 1, Des bases de l’optimisation aux applications industrielles*, IC2, pages 71–100. Hermes Sciences, 2009.

Antoine Dutot, Frédéric Guinand, Damien Olivier, and Yoann Pigné. Principes généraux de résolution de problèmes combinatoires. In Patrick Siarry Nicolas Monmarché, Frédéric Guinand, editor, *Fourmis artificielles 1, Des bases de l’optimisation aux applications industrielles*, IC2, pages 41–70. Hermes Sciences, 2009.

Frédéric Guinand and Yoann Pigné. Problem Solving and Complex Systems. In A. Alaoui and C. Bertelle, editors, *Emergent Properties in Natural and Artificial Dynamical Systems, Understanding Complex Systems*, pages 53–86. Springer Verlag, 2006. ANR SARAH.

International conferences with peer reviewing

Yoann Pigné and Frédéric Guinand. Short and robust communication paths in dynamic wireless networks. In *ANTS Conference, Lecture Notes in Computer Science*, page 8 p. Springer, 2010. To Appear.

Yoann Pigné, Arnaud Casteigts, Frédéric Guinand, and Serge Chaumette. Construction et maintien d’une forêt couvrante dans un réseau dynamique. In Maria Gradinariu Potop-Butucaru et Hervé Rivano, editor, *12èmes Rencontres Francophones sur les Aspects Algorithmiques de Télécommunications (AlgoTel)*, page 4 p., Belle Dune France, 2010.

Cédric Aboue-Nze, Frédéric Guinand, and Yoann Pigné. Impact of Obstacles on the Degree of Mobile Ad Hoc Connection Graphs. In ICNS ’09: Proceedings of the 2009 Fifth International Conference on Networking and Services International Conference on Networking and Services, pages 332–337, Valence Spain, 2009. IEEE Computer Society.

Frédéric Guinand and Yoann Pigné. An Ant-Based Model for Multiple Sequence Alignment. In Svetozar; Wasniewski Jerzy Lirkov, Ivan; Margenov, editor, *Large-Scale Scientific*

Computing, 6th International Conference, LSSC 2007, volume 4818/2008 of Lecture Notes in Computer Science, pages 553–560, Sozopol Bulgaria, 03 2008. Springer Verlag.

International conferences without peer reviewing

Stefan Balev, Frédéric Guinand, and Yoann Pigné. Maintaining Shortest Paths in Dynamic Graphs. In *NCP07 Nonconvex Programming Local & Global Approaches*, Rouen France, 12 2007. Pages 117–118.

Antoine Dutot, Frédéric Guinand, Damien Olivier, and Yoann Pigné. GraphStream: A Tool for bridging the gap between Complex Systems and Dynamic Graphs. In *Emergent Properties in Natural and Artificial Complex Systems*. Satellite Conference within the 4th European Conference on Complex Systems (ECCS'2007), Dresden Germany, 10 2007. ANR SARAH.

Other publications

Arnaud Casteigts, Serge Chaumette, Frédéric Guinand, and Yoann Pigné. Distributed Maintenance of Anytime Available Spanning Trees in Dynamic Networks. 6 pages double column RR-1457-09 LaBRI Research Report RR- 1457-09, 04 2009.

Yoann Pigné. Modélisation et traitement décentralisé des graphes dynamiques, Application aux réseaux mobiles ad hoc. PhD thesis, Université du Havre, 12 2008.

Contribution to the Community

Local comity member of ICCSA 2009 June 29–July 02 2009

ICCSA 2009, The 3rd International Conference on Complex Systems and Applications, held in Le Havre, France.

LITIS lab council member for Ph.D. students 2005–2009

<http://www.litislaboratory.eu>

Member of SMABio work group 2006–2008

<http://www.phys-mito.u-bordeaux2.fr/mitowiki>

Other

Languages: French, English, Spanish