Eric Piel, 27 years old, French

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PhD Student at the Université des Sciences et Technologies de Lille

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Research Topics

- **Model-based approaches**: Model-Driven Engineering, model transformations
- **Embedded systems**: System-on-Chip, intensive data processing, Real-Time computing
- **Parallel computing**: multi-processor architecture, task scheduling, load-balancing

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Education

2004-2007 • PhD thesis at the Université des Sciences et Technologies de Lille (USTL), France. Working in INRIA, DaRT project, on modeling and compilation of multi-processor systems. Main contributions: enhancement of meta-models for System-on-Chip design, model transformations for the compilation of Systems-on-Chip, new co-simulation level at a high abstraction of the processors, load-balancing in real-time multi-processor systems.

2003-2004 • MSc in embedded systems at the USTL.

1998-2003 • Graduated as a computer engineer at the Compiègne University of Technology (UTC), France.

2002 • Fall semester spent at the Tampere University of Technology (Finland) in the Signal Processing institute.

2000 • Spring semester spent at the university of Salford (Manchester, England) in the departments of computer science and mechanical engineering.

1998 • Scientific Baccalauréat, specialty mathematics, at the Lycée Européen de Villers-Cotterêts (France).

Work Experience

2004-2007 • Over 70 hours of teaching for levels ranging from License1 to Master2.

2005-2007 • Involved in the PEAMS and Ter@Ops projects, associating industrial partners (Thales TRT, CEA-LIST...) and academic partners (INRIA, IEF).

2003-2005 • Involved in the ITEA project Hyades, associating industrial partners (Bull, Thales, Dolphin...) and academic partner (LIFL).

Spring 2004 • 6 months MSc training period at the LIFL (Lille, France). Asymmetric real-time scheduling and load-balancing for multi-processor systems. Implementation done on the Linux kernel.

Spring 2003 • 6 months training period in Bull (Grenoble, France). Port of the High Resolution Timers project to Linux IA-64 and development of real-time benchmark tools.

Autumn 2001 • 6 months training period at Solid-Dynamics (Roanne, France). Optimization and amelioration of a code for collision detection of 3D objects.

Summer 2000 • 7 weeks as a software developer in the Hospital Bichat-Claude Bernard (Paris, France). Creation of a helpdesk with Access and intranet interface with ASP.

Complementary Activities

August 2007 • Reviewer for the special issue of the *IBM Systems Journal* on the topic of real-time and event-based systems.

November 2005 • Member of the local committee of the *7th Real-Time Linux Workshop*, held in Lille.

July 2005 • Member of the local committee of the *4th International Symposium on Parallel and Distributed Computing*, held in Lille.

2004-2007 • Maintenance and administration of the DaRT team Linux workstations and servers.

Languages

English: Fluent conversation, writing and reading at professional level. One semester spent in England as a student. In Finland, lectures and most daily life was in English.

French: Mother tongue. Fluent and competent in every domain.

Spanish: Simple conversation, writing and reading for daily life.

Japanese: Very basic conversation, low level in writing and reading.

Finnish: Basic knowledge, yet only for rudimentary communication.

Personal Skills

Computer Languages: Basic, C/C++, Java, lisp , UML, ASP, PHP, prolog, ASM z80 & IA-64...

Development under both Linux and Windows. Skilled with Visual Studio, Eclipse and the GNU toolchain. Knowledge of OpenGL and parallel programming such as MPI and HPF. Maintainer of several OpenSource projects.

Unix and Linux system administration.

Practiced sports: Cycling, tennis, roller and ice skating, juggling.

Main Publications

- Rabie Ben Atitallah, Éric Piel, Smail Niar, Philippe Marquet, and Jean-Luc Dekeyser. Multilevel MPSoC simulation using an MDE approach. In *IEEE International SoC Conference (SoCC 2007)*, Hsinchu, Taiwan, September 2007. (To appear).

- Pierre Boulet, Philippe Marquet, Éric Piel, and Julien Taillard. Repetitive Allocation Modeling with MARTE. In *Forum on specification and design languages (FDL'07)*, Barcelona, Spain, September 2007. (To appear). Invited paper, Author names alphabetically ordered.

- Éric Piel, Philippe Marquet, Julien Soula, and Jean-Luc Dekeyser. Real-time systems for multi-processor architectures. In *14th International Workshop on Parallel and Distributed Real-Time Systems, In conjunction with IPDPS, 20th IEEE International Parallel and Distributed Processing Symposium*, Island of Rhodes, Greece, April 2006. IEEE Computer Society Press. Invited paper.

- Éric Piel, Philippe Marquet, Julien Soula, and Jean-Luc Dekeyser. Asymmetric scheduling and load balancing for real-time on Linux SMP. In *Workshop on Scheduling for Parallel Computing (SPC 2005)*, Poznan, Poland, September 2005. Lecture Notes in Computer Science vol. 3911. ©Springer-Verlag.

- Philippe Marquet, Éric Piel, Julien Soula, and Jean-Luc Dekeyser. ARTiS, un système d'exploitation temps-réel asymétrique. In *4e édition de la Conférence Française sur les Systèmes d'Exploitation (CFSE'4) - ACM*, Le Croisic, France, April 2005. (In French).

- Philippe Marquet, Éric Piel, Julien Soula, and Jean-Luc Dekeyser. Implementation of ARTiS, an asymmetric real-time extension of SMP Linux. In *Sixth Realtime Linux Workshop*, Singapore, November 2004.

- ITEA Hyades Project. Linux for high performance and real-time computing on SMP systems. In *Sixth Real-time Linux Workshop*, Singapore, November 2004.

- Éric Piel, Philippe Marquet, Julien Soula, and Jean-Luc Dekeyser. Load-balancing for a real-time system based on asymmetric multi-processing. In *16th Euromicro Conference on Real-Time Systems*, WIP session, Catania, Italy, June 2004.