

# PAUL GUERMONPREZ

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## OBJECTIVE

A challenging position in hardware or software architecture and development that would best utilize expertise in the bioinformatics environment. This position should have opportunities for an experienced, dedicated individual with the communication and leadership abilities needed to manage projects and collaborators.

## SKILLS

### *High Performance Computing :*

Trainer for multiple Intel HPC courses, creator of the "Do it yourself HPC for Bioinformatics with OSCAR toolkit". Porting of OSCAR 5.0 on Itanium architecture.

Installation of clusters on Intel Architectures, including the largest cluster in Africa for the Meraka Institute in Pretoria.

### *Software Optimization and Parallelization :*

Software optimization, parallelization and profiling : different levels (compiler, algorithm, code, instruction), intel cpu architecture, hardware, OpenMP, MPI, Intel tools.

Several successful high profile projects for the top European telco, pharma and hospital ISVs.

### *Software Architecture and Development :*

Java developer since 1998.

Using OOP (*Object Oriented Programming*) and MDA (*Model Driven Architecture*).

Developping with most of the modern Java profiles : from J2EE-AS (*Java2 Enterprise Edition with an Application Server*) to rich client interfaces with J2SE (*Standard Edition*), J2ME (*Micro Edition*), laboratory automation robots and embeded devices. Web based database with Apache-MySQL-PHP.

### *Working environment :*

Used to interacting with biologists and understand their research subject.

Familiar with both a scientific and an industrial environment.

Ability to work independently, within a team, and supervise others.

Conceived, designed, and developped complex systems both individually and within a team.

Strong interest in challenging projects.

### *Specific Competencies in BioInformatics :*

Competencies and experience in genomics BioInformatics : sequence analysis, mutagenesis modelling, SNP Typage, DNA sequencing and analysis, CGH DNA chip analysis, laboratory automation robots programming. PHP and Perl programming languages.

### *System and Network Administration :*

Linux/Unix servers and workstations : terminal servers, security, linux clustering, DNS, Apache, QMail.

Windows domain and terminal servers with RDP and citrix technologies. Various thin client architectures and technologies, all in a production environment : SunRays, XTerms, Wyse, NCD.

## ACCOMPLISHMENTS

### *High Performance Computing :*

Creator of the "Do it yourself HPC for Bioinformatics with OSCAR toolkit".

Porting of OSCAR 5.0 on Itanium architecture.

Installation of clusters on Intel Architectures, including the largest cluster in Africa for the Meraka Institute in Pretoria.

### *Software Optimization and Parallelization :*

Several successful high profile projects for top EMEA universities, pharma and hospital ISVs (Ericsson, GE Medical, McKesson, iSoft, Nexus, Perkin Elmer, ...).

Presentations at Sun Tech Days (Milan '07), CeBIT (Hannover '07), HIMSS (New Orleans '07), Hospital-IT (Paris '07).

Profiled a Smith-Waterman algorithm EMBOSS implementation, then optimized the compilation, algorithm and coding for optimal performance. Result : 11x software speedup.

### *Experienced Trainer : :*

Speaker during the Sun Tech Days 2007 in Milan : "Intel Technical Session : How to Get the Most Performance from Sun JVM on Intel Multi-Core Platforms".

HPC for academia and OSCAR : C-HPC (Cape Town), Meraka Institute (Pretoria).

Multicore for ISVs : Paris, Hamburg, Seattle-WA, Beyrouth.

Intel internal software engineer training : Paris, Chandler-AZ, Folsom-CA.

### *Software Architecture and Development in Bioinformatics :*

Designed and developed as project leader and developer a complete LIMS (*Laboratory Information Management System*) for IntegraGen : complete process from clones collections, pedigrees and DNA samples to DNA chip production, analysis and customer tracking system. (20 users, 5 Go / MySQL database, hundreds Go / files).

Designed a data management and tracability system for GenomeHIP project (*a GenHomme collaboration between Centre National de Genotypage and IntegraGen SA, public funded*) integrated with IntegraGen LIMS.

Several years developing in various environments :

- Production with java J2EE technologies : persistence and object-relational mapping with JDO *Java Data Objects*, EJB (*Enterprise Java Beans*) solutions deployed on JBoss/Tomcat application server, application deployment with WebStart.

Industrial-quality development tools and guidelines : Eclipse, Ant, UML, CVS.

- Research team assistance with web-based solutions for a shorter response time : Apache-MySQL-PHP. A complete "Web Services" approach with XML, Schemas, XSLT for a better interaction with public databases and other softwares. (20 users, hundreds of PHP pages).

Managed various bioinformatics projects in genomics : Mutagenesis modelling, SNP Typage, DNA sequencing and analysis, CGH DNA chip analysis, Zymark Sciclone laboratory automation robots programming ...

### *System and Network Administration :*

System and network administrator for IntegraGen and Nautilus Biotech (total : 50 users). Administred various \*nix environments, from a Sun Enterprise Server with SunRays terminals to linux servers, stations and terminals.

Designed and deployed of an hybrid linux-based Cluster / Terminal solution with OpenMosix (*custom monokernel*) and PXES. Deployed 3 Windows 2000 Terminal/Domain Servers with RDP and Citrix, and many workstations, servers, terminals. Managed backups (*StorageTek tape library and Veritas software*), network and remote acces solutions (*with open sources products*).

## WORK HISTORY

### Intel

Paris, France

Software engineer, in charge of optimization and parallelization of various softwares. From HPC clusters to MCA mobile hospital platforms.

Collaborations with both top level ISVs and academia all over EMEA, with a focus on health, pharma and bioinformatics.

*Senior software engineer - Intel Health EMEA*

**March 2006–Present**

### IntegraGen SA

Evry, Essonne

Data manager, software developer and IT security manager. In charge of developing all data management systems for pedigree, DNA, complex sample management, clones, DNA chips (production, analysis, marketing). Various BioInformatics projects.

*Data Manager and IT Security Manager*

**September 2001–February 2006**

### Nautilus Biotech SA

Evry, Essonne

Managed the conception and deployment of a complete IT system for the starting company, then developed data management solution in mutagenesis study. Various BioInformatics projects.

*Data Manager and IT Manager*

**November 1999–August 2001**

### Genethon

Evry, Essonne

Training then full time : Developing a software in Java 1.1 to study and represent gene therapy vectors.

*Software developer*

**July 1998–August 1999**

### Institut Pasteur

Paris

Unit of Biology of Immune Regulations, (directed by Pr Leclerc). Studying *Bordetella pertussis* adenylate cyclase toxin effects on endocytic mechanism : basic biological skills, FACS (*Flow Cytometry*), human dendritic cell culture. (*Training period, part time with university work.*)

*Training period - Biology*

**January 1999–May 1999**

## LANGUAGES AND INTERESTS

*French* : mother tongue.

*English* : fluent, daily use in professional environment.

*Spanish* : conversational.

*Interests* : Cinema, Music (*Jazz, Falmenco, Classical, TripHop, Electronica, Rock Classics ...*), sailing (*French Federation Instructor, HobbieCat 16, FirstClass 8*), diving (*CMAS 3\* + iniateur, PADI Adv Open Water*), paraglide, skiing, trekking, photography.

*Blog and photos* : <http://blog.paul.guermonprez.eu> and <http://photos.paul.guermonprez.eu>

*Associations* : ISOC France, Secretary General (Internet Society). Report "Loi Internet et Création : Le Boomerang Législatif", various public manifestations. Member of APRIL (free software).

*Politics* : "Mouvement Democrate", candidate in 2008 for the Paris Municipal Elections (5th arr), member of the national workgroup on new technologies, member of the Mouvement Democrate Paris Direction.

## EDUCATION

### Université de Rouen

Rouen, Normandie

Studying part time chimio-informatic for post-genomics.

*Master of Science In BioInformatics*

**September 2005–June 2007**

### Genethon

Evry, Essonne

Training period, part time with university work.

*Training period - BioInformatics*

**July 1998–June 1999**

### Universite Pierre et Marie Curie - Paris VI

Paris

Studying Cellular Biology, Animal Biology and Physiology.

DEUG (*Two-year university degree in science*) Biochemistry and Chemistry in 1998. Preparing Licence.

*Studying Cellular Biology and Animal Physiology*

**September 1997–July 1999**

### Hopital Broussais Hotel-Dieu - Paris VI

Paris

Preparing medecine competitive examination (*PCEM1 : 12/20*).

*Preparing medecine examination*

**September 1995–July 1997**