

Campagne 2012  
de  
recrutement d'ingénieurs jeunes diplômés

– English version –

(June version)

# Bordeaux

**NEW** Cramen - Scientific Computing, finite element, C++, software

**NEW** OpenViBE-NT - Brain Computer Interfaces; C++; OpenViBE; signal processing, user interfaces (GUI)

**NEW** Carroman - Control Software Architecture for Robust Robot Manipulation

**NEW** FluidExponents - signal processing, natural signals, software development, Java, C++, Python, Ruby, C++ etc.

**NEW** PaMPA - High performance parallel computing, numerical simulations, distributed unstructured mesh.

# Grenoble

**Multibody** - architectural design and the development of a software library for the simulation of rigid and flexible multi-body systems

**Amiqua4Home** – Ambient Intelligence, Smart Habitats, Middleware, Systems Integration, Human Computer Interaction

**Hemera** - Large-scale platform, Grid'5000, experiments, methodology

**Kawah** - Parallélisme, multicœurs, monitoring, analyse de performance

**KissPlice** - Bioinformatics, Algorithms, Graphs, Software, Genomics, NGS, parallelism, C++

**Mobilitics** - Privacy, smartphone, iPhone/iOS, Android

**MultiPop** - Computer Science /Biology Interface, Image Analysis, Software Engineering

**VoCore** - Scene Graph; Augmented and virtual reality; Advance programming

# Lille

**AntAndroid** - Cloud computing, Android, data collection

**BioSciences** – Bioinformatic, Java, Perl, software, portail, Ontology

**MPA Gemonics** – statistics, genomics, classification

**Mate** – Pharo, VM, language, Smalltalk

**Miaou** – RFID, standards, Java

# Nancy

DKD - Knowledge discovery, Big data, Distributed computing

FASST - audio, automatic speech recognition, signal processing, C/C++, Java

Objectif 1024 - Integer factorization, parallel and distributed computing, number field sieve

Aladdin G5K - ASR, LINUX, RESEAU, PUPPET, RUBY

# Rennes

Padrone – optimization, performance, portability, dynamic rewriting, architecture, microarchitecture.

MedInria – Medical imaging, Qt, image processing, visualization

OpenVibe – Brain-Computer Interfaces; C++, Open-Source, Software Architecture, OpenViBE

Plasma – distributed algorithms, smart phones, website, graphical interface, test cases

CIDRE - Security, Intrusion Detection, Information Flow, Monitoring

# Rocquencourt

ALPAGE – Wiki, CMS, grammar, natural language processing

ARLES – Mobile Social Networks, Android, Java, Middleware

BANG – Equations dérivées partielles, génie logiciel, production de biocarburant

MUSYNC – Computer Music, Realtime

POMDAPI – Optimization, C++

SISYPHE – Plateform, simulation, GUI, web-services, interoperability, 3-tier architecture, SGBD

# Saclay

**NEW** Bocop2 - prise en compte d'incertitudes pour Bocop

**NEW** CosyVerif - the design and implementation of the framework CosyVerif.

**NEW** Happy-Heart – simulation, hpc.

**NEW** MedInria – Medical imaging, image processing, visualization, 3D

**NEW** Grand-Large – Software development for intensive applications on peta-/exa-scale machines

**NEW** SHPE – Develop parallel computing methods applied to simulations in electro-physiology

**NEW** VCoRE@inria – design and implementation of advanced interaction techniques in VCoRE.

# Sophia

**ABS2** - Van der Waals models, Voronoi diagrams, C++, generic programming

**NEW** Axel - Modélisation géométrique; représentation algébrique; bspline; CAO; simulation; visualisation; plugins;

**NEW** HPCSE - computational sciences, high performance computing, collaborative work

**NEW** OpenViBE-NT - IBrain Computer Interfaces; C++; OpenViBE; performance, timing management.

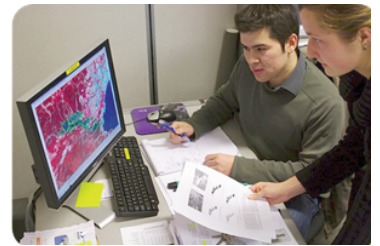
**NEW** Persistent Homology - Geometric inference, topological persistence, generic programming, C++ templates

**NEW** Clusters - administration système et réseau, OS, Linux, monitoring, middleware système, grilles, clusters, cloud

**NEW** Inalgae -

**NEW** MedInria-NT - Medical imaging, image processing, visualization, 3D

Bordeaux



Digital technologies are generating new services, they deeply change our lifestyles and improve our daily life. In France, Inria is the only public research institute entirely dedicated to digital sciences. 400 R & D engineers assist the scientists in their daily work, they develop software tools to facilitate the research and set up technology platforms for experimentation.

**Would you participate on our research projects or on development activities in advanced technologies? Then, join us!**

### Research team

Carmen is a cardiac modelling and simulation project. The main mission of the team is to study the complex multi-scale problem in cardiac electrophysiology. Carmen has strong collaboration with the CHU-Bordeaux.

### Assignment

The selected candidate's main mission is the design and the implementation of a robust and reliable software for cardiac electrophysiology simulation that will be used in Carmen team.

The software conception and implementation choices will be based on the team and some collaborators expertise.

The main tasks of the project are:

- 1) Familiarize with the physiological problem and the numerical methods
- 2) Design the structure of the software (with the help of a local development support team)
- 3) Implement the numerical methods and perform some verification tests

Scientist contact  
yves.coudiere@inria.fr

Human resources contact

**Keywords:** Scientific Computing, finite element, C++, software

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

The candidate should be a scientific computing or applied mathematics engineer. He should be familiar with software development tools (svn, make) and have a knowledge on C++ programming. An experience in parallel computing would be appreciated.

Duration: 24 months

Location: Bordeaux

Targeted hiring date: 15/10/2012

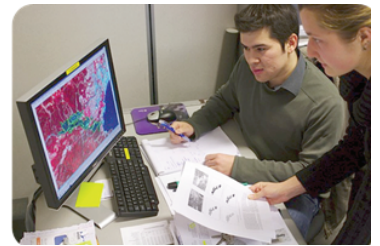
Salary: 2527 € gross not negotiable

This offer is available from 01/05/2012 to 30/09/2012

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## Research team

Potioc: The overall objective of Potioc is to open interactive 3D graphics to everyone with the final goal of stimulating creation, communication, understanding, or entertainment. To this end, we propose to focus on the design, development and evaluation of popular 3D User Interfaces. One of the core interfaces on which we work is Brain-Computer Interfaces, i.e. an interface based on brain activity alone

Scientist contact  
Fabien Lotte

Human resources contact

## Assignment

Brain-Computer Interfaces (BCI) are communication systems that enable its users to send commands to a computer using brain activity only, this activity being generally measured using ElectroEncephaloGraphy (EEG). OpenViBE (<http://openvibe.inria.fr>) is an open-source software platform to design, use and assess BCI systems. The goal of this engineer job is to extend OpenViBE functionalities by 1) implementing new EEG signal processing modules, to denoise them and extract the relevant information they contain and 2) proposing new tools and graphical user interfaces, in order to reduce development times and to better visualize brain activity in real-time.

**Keywords:** Brain Computer Interfaces; C++; OpenViBE; signal processing, user interfaces (GUI)

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

Training in computer science; Ability to understand and exploit pre-existing software;  
Programming language: C++, Matlab - Development of cross-platform Graphical User Interfaces  
Good knowledge of software development approach and tools (debug, test, build, versioning, documentation); Good knowledge of technical and scientific English.  
Good knowledge of digital signal processing (filtering, Fourier Analysis, Wavelet, etc.)

Duration: 12 months (+ 12 months)

Location: Inria Bordeaux Sud-Ouest, Talence

Targeted hiring date: 01/11/2012

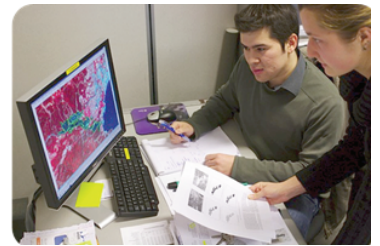
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### Research team

FLOWERS is an INRIA-ENSTA ParisTech team working on developmental robotics. We are interested in methods for learning, perception, exploration and interaction that would allow a robot to learn as a child. We provide an exciting collaborative working environment, and the opportunity for you to work with a state-of-the-art humanoid platform.

Scientist contact  
david.filliat@ensta.fr

Human resources contact  
cyril.gerboin@inria.fr

### Assignment

Autonomous human-centered robots, for instance robots that assist people with disabilities, must be able to physically manipulate their environment. ENSTA-ParisTech has recently acquired a Meka (<http://mekabot.com/>) humanoid robot - unique in France - dedicated to object manipulation and human-robot interaction. In this project, your tasks will be:

- \* Integrating an architecture for perception and control on the Meka robot, and providing interfaces to existing software.
- \* Providing a library of skills for manipulating objects, for instance locating an object on a table using stereo vision, and grasping it using position and force control.
- \* Developing demos which demonstrate the manipulation capabilities of the Meka and supporting researchers in executing scientific experiments related to manipulation.

**Keywords:**

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

You have a strong background in linear algebra, and are proficient in C/C++ and linux environment. Supporting researchers with their experiments will be an important task, so your ability to excel in a larger team is essential. Further experience in control, robotics, machine vision, middleware, an/or Python would be advantageous.

Duration: 1 year renewable 1 year

Location: ENSTA ParisTech - Palaiseau(91)

Targeted hiring date:01/10/2012

Salary: 2527 € gross not negotiable

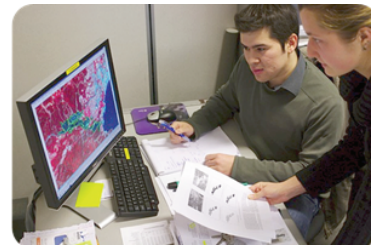
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## Research team

GeoStat (Geometry and Statistics in acquisition data)

INRIA BSO

<http://geostat.bordeaux.inria.fr>

Scientist contact

H. Yahia

Human resources contact

H. Mathieu

## Assignment

Development of a complete and modular software platform dedicated to the analysis of complex signals using advanced nonlinear methods. The signals can be 1D, 2D or nD. The engineer will base his/her software development using an existing software developed in the GeoStat team, called FluidExponents. The engineer will either extend and enhance the existing software or build a complete new platform from scratch, after specification discussions conducted with the team. During all the time of development, the engineer will be associated and will participate to key discussions concerning specification of the new software. All implementation aspects will be conducted in close collaboration with the team members. The engineer is supposed to actively propose specifications and directions of development. For that reason, we need an engineer with a strong experience.

**Keywords:** signal processing, natural signals, software development, Java, C++, Python, Ruby, C++ etc.

## Qualification & experiences

Ingénieur Confirmé : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience

## Skills & qualities

Basic knowledge in signal processing (Fourier transform, filtering) and applied mathematics. Strong experience in software development and software specification. We expect the engineer to propose solutions during the specifications, this is why we need an engineer with a solid knowledge of the pros and cons of existing programming languages w.r.t the needs (Ruby, Python, Java, C++, Zope etc.). Ability to work in a team.

Duration: 24 months

Location: INRIA BSO, Bordeaux, France

Targeted hiring date: 01/10/2012

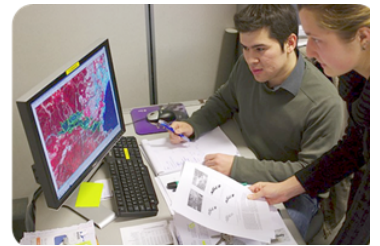
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### Research team

The aim of the Bacchus team-project is to develop and validate numerical methods and software tools adapted to physical problems modeled by a set of partial differential equations having mathematical properties that are, in most of the computational or physical domain, dictated by hyperbolic terms.

Scientist contact  
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Human resources contact  
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### Assignment

PaMPA (Parallel Mesh Partitioning and Adaptation) is a software prototype developed within the Bacchus and Pumas teams. This library handles the remeshing and redistribution, across a large number of processing elements, of distributed unstructured meshes modeled as valuated graphs. Its aim is to relieve developers of numerical solvers from the tedious and error-prone task of handling their data structures and communications at a low level. The assignment is to transform the current prototype into a product which can be distributed and used by a wide community. Utmost software reliability is targeted, as PaMPA is meant to be the base layer for many production and even commercial solvers. A strong reactivity regarding user requests is expected: functional extensions, additional documentation, technical support, etc.  
<<http://www-sop.inria.fr/pumas/pampa.php>>

**Keywords:** high performance parallel computing, numerical simulations, distributed unstructured mesh.

### Qualification & experiences

Ingénieur Confirmé : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience

### Skills & qualities

The applicant must be a skilled software developer, familiar with mixed C and Fortran (77, 90, 95, 2003) programming. He/She must have extensive knowledge of parallel programming, especially with respect to the MPI and Posix thread interfaces. He/She must be educated and autonomous on technical software engineering technical such as complex script writing, test and evaluation, project management within a forge environment (software design and documentation, version management, etc.).

Duration: 24 months

Location: Inria Bordeaux Sud-Ouest, France

Targeted hiring date: 15/10/2012

Salary: 2527 à 3054 € gross based on experience

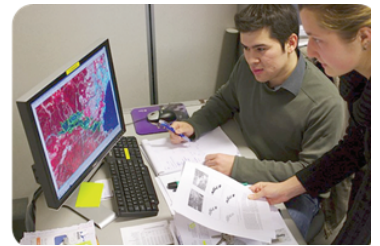
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Grenoble



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## Research team

PRIMA

The objective of the PRIMA research team is to develop the scientific and technological foundations for human environments (habitats) that are capable of perception, action and interaction. The goal is provide new forms of context aware services to improve quality of life.

Scientist contact  
James.Crowley@inria.fr

Human ressources contact  
Aurelia.Mouton@inria.fr

## Assignment

INRIA has received an investment grant to create an experimental facility for innovation and evaluation of ambient intelligent technologies. The role of this senior R&D engineer will be to participate in the design implementation, maintenance and operation of the facility. Responsibilities will include:

- 1) Participating in the selection of sensors, actuators, interface devices, communications equipment and software for a smart habitats research facility.
- 2) Participation in selection and installation of equipment for a "creativity lab", a personal robotics lab, and an experimental control room.
- 3) Assist with maintenance and use of the facility for experiments.

**Keywords:** Ambient Intelligence, Smart Habitats, Middleware, Systems Integration, Human Computer Interaction

## Qualification & experiences

Ingénieur Confirmé : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience)

## Skills & qualities

- Project Management
- Software development tools and methods
- Competence in programming with C, C++, Java and other languages
- Competences in electronics
- Technical and scientific English.

Duration: 12 months (renewable once)

Location: Montbonnot, France

Targeted hiring date: 15/10/2012

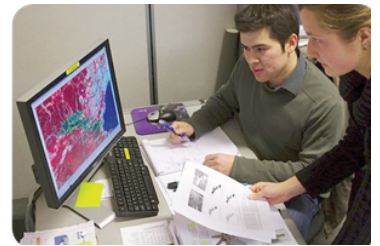
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## Research team

AVALON

Scientist contact  
Christian.Perez@inria.fr

Human ressources contact  
Aurelia.mouton@inria.fr

## Assignment

The main goal of the engineer is to participate to the definition and realization of reproducible and large scale experiments on the experimental Grid'5000 platform (<https://www.grid5000.fr>). Grid'5000 is made of 11 sites gathering more than 8000 cores on more than 1500 nodes. This mission has to be lead in collaboration with research teams member of the INRIA large-scale initiative Héméra (<https://www.grid5000.fr/Hemera>). The engineer will also work with the Grid'5000 development team to simplify the realization of reproducible large-scale experiments. The engineer will participate to the research activities aiming at defining a methodology of experimentation on Grid'5000.

**Keywords:** Large-scale platform, Grid'5000, experiments, methodology

## Qualification & experiences

Ingénieur Confirmé : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience

## Skills & qualities

- Strong knowledge of Linux (administration & user)
- Good knowledge of distributed systems
- Abilities to work as a team
- Abilities to work independently
- Knowledge of parallel and distributed environments if possible

Duration: 2 years

Location: ENS Lyon

Targeted hiring date: 01/10/2012

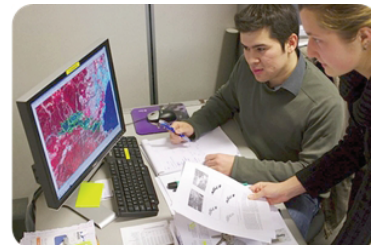
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Les technologies numériques sont à l'origine de nouveaux services, transforment en profondeur nos modes de vie et enrichissent notre quotidien. Inria est, en France, le seul institut public de recherche entièrement dédié aux sciences du numérique. 400 ingénieurs R&D accompagnent au quotidien les chercheurs dans leurs travaux, en développant des logiciels et des outils pour faciliter leurs recherches, en mettant en place des plateformes technologiques d'expérimentation.

**Vous souhaitez collaborer à des projets de recherche ou à des actions de développement dans des technologies avancées ? Rejoignez-nous !**

## Équipe de recherche

MOAIS s'intéresse à la programmation d'applications pour lesquelles l'accroissement du nombre de ressources permet d'améliorer la performance globale. Cela est typique des applications interactives de simulation à grande échelle qui impliquent différentes ressources (senseurs, caméra, processeurs-cœurs, mémoire, video-projecteurs, ...) et qui jouent un rôle important dans le développement d'applications parallèle à haute performances.

Contact scientifique  
thierry.gautier@inrialpes.fr

Contact Ressources Humaines  
Aurelia.Mouton@inria.fr

## Mission

L'exploitation efficace des multicœurs reste un défi important. Pour cela l'EPI MOAIS (<http://mois.imag.fr>) développe l'environnement de programmation de KAAPI capable d'équilibrer dynamiquement la charge de travail d'applications irrégulières à grain fin. KAAPI est original et il est actuellement intégré dans le code de simulation de dynamique rapide EUROPLEXUS du CEA/CCR. L'objectif de ce poste est de renforcer et pérenniser la technologie développée par l'EPI MOAIS afin, d'une part, d'étendre les outils de monitoring intégrés à KAAPI et, d'autre part, intégrer des outils permettant une analyse fine des performances.

**Mots clés :** parallélisme, multicœurs, monitoring, analyse de performance

## Expérience et formation requises

Ingénieur Jeune Diplômé : Justifier d'une qualification équivalente à celle d'un ingénieur  
Avoir obtenu son diplôme en 2011 ou 2012 (sauf exception argumentée)

## Compétences et profil recherché

- Formation en informatique : système d'exploitation, algorithme distribué, programmation concurrente
- Maîtrise du langage de programmation C; connaissance de C++
- Maîtrise de l'anglais technique et scientifique
- Bonnes aptitudes rédactionnelles
- Compétences appréciées en développement noyau : pilote, gestion mémoire ou multi-threading

Durée du contrat : 12 mois renouvelable 1 fois      Lieu de travail : Projet MOAIS - Grenoble

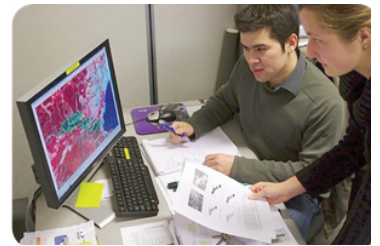
Date prévisionnelle d'embauche : 15/10/2012      Salaire : 2527 € brut non négociable

Cette offre est valable du 06/04/2012 au 31/12/2012

[Candidater uniquement en ligne sur \[recrutement.inria.fr/ijd\]\(http://recrutement.inria.fr/ijd\)](http://recrutement.inria.fr/ijd)

## Pour information, sécurité défense

Dans le cadre de la protection de son patrimoine scientifique et technologique, Inria fait partie des établissements à régime restrictif. A ce titre, il applique une réglementation d'accueil pour tout futur collaborateur de l'institut. Le recrutement définitif de chaque candidat est donc conditionné à l'application de cette procédure de sécurité défense.



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### Research team

Bamboo is a multidisciplinary (biology & computer science) and very international (brazil, italy, portugal) team, expert in designing models and algorithms in genomics and post-genomics. The group is especially interested in proposing methods for the analysis of next-generation sequencing data and applying these methods together with its biologist collaborators on various topics related to health & environment.

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Human ressources contact  
Aurelia.Mouton@inria.fr

### Assignment

KisSplice is a local transcriptome assembler which enables to study polymorphism very precisely. The recruited engineer will 1- organise the software components, propose a portable packaging, guarantee the performances of the code and the ergonomoy of the software, 2- conceive and implement new algorithms in collaboration with researchers from the team (participation in publications) to answer new needs raised by biologists and 3- propose a parallélisation scheme and implement it using the latest technologies (MPI and/or openMP)

**Keywords:** Bioinformatics, Algorithms, Graphs, Software, Genomics, NGS, parallelism, C++

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

Skills in algorithms and mathematics/computer science (graph theory is appreciated)  
Interest for biology and genomics  
Experience in software engineering (object oriented, version control system)  
Good skills in C, C++ (Python is appreciated also), Interest or experience in parallelism  
Good level of english (spanish, portuguese or french appreciated)

Duration: 1 year (renewable 1 year)

Location: Lyon

Targeted hiring date:15/10/2012

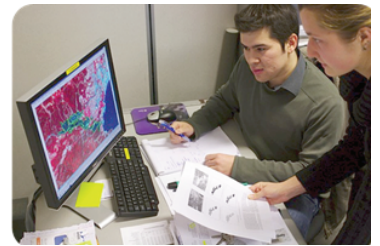
Salary: 2527 € gross not negotiable

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## Research team

Planète

## Assignment

Because privacy considerations are central to smartphones, the Inria and the CNIL teams are working together in the context of the Mobilitics project. The goal of this project is to assess the risks in terms of privacy associated to the use of a smartphone, in particular because of personal information leakage to remote third parties.

This project involves the setup of an experimental platform, composed of mobile terminals (iPhone, iPad, Android phone), and requires the design of management, monitoring and data analysis tools. These are the tasks that the engineer will have to undertake.

Scientist contact  
vincent.roca@inria.fr

Human resources contact  
aurelia.mouton@inria.fr

**Keywords:** privacy, smartphone, iPhone/iOS, Android

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

We are looking for somebody with strong skills in software development, project management and very autonomous. The job also requires a good level in English and a natural inclination for research. A preliminary experience in Android and/or iPhone development is a plus.

The work will be performed in collaboration with an engineer working on the iPhone/iOS part of the platform, with the Inria team members and with the CNIL engineers.

Duration: 12 or 24 months

Location: Montbonnot (10 km away from Grenoble)

Targeted hiring date: 15/10/2012

Salary: 2527 € gross not negotiable

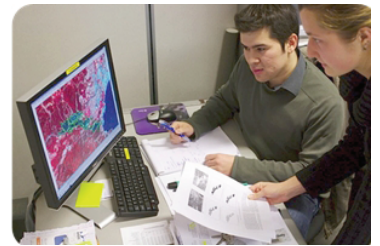
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### Research team

This project-team is concerned with non-smooth dynamical systems and non-smooth optimization. More precisely, modelling, control and numerical simulation are the main scientific topics. The basic tools therefore come from non-smooth mechanics, systems and control theory, non-smooth optimisation, and convex and non-smooth analysis.

Scientist contact  
Vincent Acary [vincent.acary@inria.fr](mailto:vincent.acary@inria.fr)

Human ressources contact  
Aurelia Mouton [aurelia.mouton@inria.fr](mailto:aurelia.mouton@inria.fr)

### Assignment

The position is devoted to the architectural design and the development of a software library for the simulation of rigid and flexible multi-body systems. The goal is to re-design and existing prototype, to increase its functionalities and to improve its genericity in order to address three main applications: The simulation of circuit breakers in collaboration with Schneider Electric, the simulation and the control of lunar and martian rovers with TRASYS Space and finally the development of new algorithms with ANSYS.

**Keywords:**

### Qualification & experiences

Ingénieur Jeune Diplômé: To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

Skills in applied mathematics and computational Mechanics. The applicant must like the numerical simulation and the associated development tasks. C++ language and English.

Duration: 12 months, renewable once

Location: Grenoble - Montbonnot

Targeted hiring date: 15/10/2012

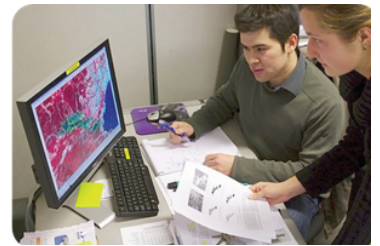
Salary: 2527 € gross not negotiable

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## Research team

BEAGLE

INRIA Grenoble Rhône-Alpes

Antenne de Lyon La Doua

The Beagle team develops research related to « Artificial Evolution and Computational Biology ». Our research is located at the interface between experimental biology and computer science and aims at producing new results in biology by simulating cell systems and their dynamics.

Scientist contact  
hugues.berry@inria.fr

Human resources contact  
aurelia.mouton@inria.fr

## Assignment

In tight interaction with biologists (INSERM Paris) and mathematicians (Univ Paris 5), the engineer to be hired will contribute a software that will have to be easy to use for experimental biologists, for automated quantitative analysis of bacterial cells from microscopy movies. As a co-developer, her/his role will mostly consist in software engineering (good practices, quality/modularity of the codes, software architecture), and in the development of GUI and visualization interfaces.

**Keywords:** Computer Science /Biology Interface, Image Analysis, Software Engineering

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

We are looking for candidates with good skills in programming (Java, C/C++) and software engineering. She/He will moreover have to show strong motivation for teamwork in a multidisciplinary context, in particular with biologists. However, pre-existing expertise in image analysis or computer science for biology (already present in the collaboration consortium) are not mandatory.

Duration: 12 months renewable once

Location: Lyon - Campus de La Doua

Targeted hiring date: 15/10/2012

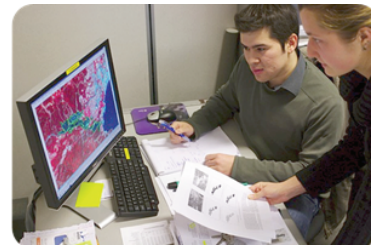
Salary: 2527 € gross not negotiable

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## Research team

Moais (<http://moais.imag.fr>)

Imagine (<http://imagine.inrialpes.fr/>)

Both teams are located at INRIA  
Grenoble.

Scientist contact  
Bruno.raffin@inria.fr

Human resources contact  
Aurelia.mouton@inria.fr

## Assignment

Design, development and validation of a software framework (middleware) for virtual and augmented reality applications. We are targeting a new generation of applications running on a large range of platforms from immersive environments to smartphones.

The goal is to participate to the development of a new generation of scene graph generic enough to be used as a base for rendering, physics or sound for instance. These scene graph is expected to be distributed and parallel to take advantage of the new architectures (multi-core CPUs and GPUs, Cloud)

This work will rely on the OpenSG scene graph [www.opensg.org](http://www.opensg.org), the SOFA physics engine [www.sofa-framework.org](http://www.sofa-framework.org) and the FlowVR middleware [flowvr.sf.net](http://flowvr.sf.net).

**Keywords:** Scene Graph; Augmented and virtual reality; Advance programming

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

We are looking for a passionate software engineer with advanced C++ programming skills (templates, STL, boost, etc.), including system issues, parallelism (CPU and GPU), distribution (Cloud), rendering (OpenGL, Shaders), and physic simulation. Linux will be the first choice OS. This work is part of a collaborative process associated to an agile approach and good practices in software development (versioning tools, documentation, tests, continuous integration, etc.).

Duration: 12 months extendible

Location: Montbonnot (Grenoble suburb)

Targeted hiring date: 15/10/2012

Salary: 2527 € gross not negotiable

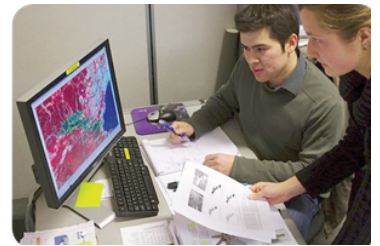
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Lille



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### Research team

MODAL research team is focused on data analysis based on probabilistic models, with application in biology. Some of its members are particularly interested in statistical modeling for the analysis of genomic data, in relation to the platform of functional and structural genomics of Lille.

<http://www.inria.fr/equipes/modal>

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Human resources contact  
[karine.leroy@inria.fr](mailto:karine.leroy@inria.fr)

### Assignment

Develop an integrated suite of software tools to analyze genotyping data of a large number of patients. The originality of this result will come from the integration of the latest methods of data normalization methods with high-dimensional classification for a better selection of genomic markers.

Activities will include :

- Testing libraries for classification in high dimension.
- Participation in the choice of tools to integrate into the software suite.
- Analysis of genomic data.

**Keywords:** statistics genomics classification

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

- Knowledge of statistics and software development and related tools.
- Experienced in C++ and knowledge of R.
- Interest in biology.
- Good writing skills and teamwork capacity, efficient in technical English.
- Knowledge of Python, genomics or analysis of high dimensional data appreciated

Duration: 1 year renewable 1 time

Location: Villeneuve d'Ascq (France)

Targeted hiring date: 15/10/2012

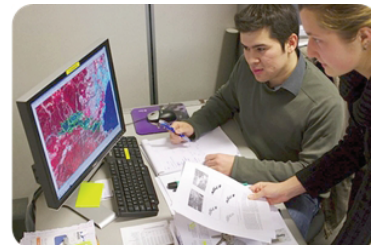
Salary: 2527 € gross not negotiable

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### Research team

FUN members imagine self-organization solutions for future wireless sensor, actuator and RFID networks to allow those kinds of networks to self-deploy, to every entity to discover, to communicate, to know when to sleep, when to transmit, etc. Solutions are validated through experiments.

<http://team.inria.fr/fun/>

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[nathalie.mitton@inria.fr](mailto:nathalie.mitton@inria.fr) [loic.schmidt@inria.fr](mailto:loic.schmidt@inria.fr)

Human resources contact  
[karine.leroy@inria.fr](mailto:karine.leroy@inria.fr)

### Assignment

The engineer will carry out scientific experiments and developments within the team on middleware Aspire RFID. He / She will add missing features to the middleware based on new versions of EPCglobal standards ([www.epcglobinc.org](http://www.epcglobinc.org)). He/She will be responsible to finalize the packaging and tools attached for easy use by anyone else. To expand the user community, the engineer shall also setup a tutorial and a demonstrator for illustration features and services offered by this middleware.

**Keywords:** RFID standards Java

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

- Knowledge of software development and related tools (version control, compilation, documentation, testing, debugging) and Java
- Fluent in technical and scientific english
- Good writing skills and teamwork capacity.
- Knowledge of RFID and other programming languages appreciated

Duration: 1 year renewable 1 time

Location: Villeneuve d'Ascq (France)

Targeted hiring date: 15/10/2012

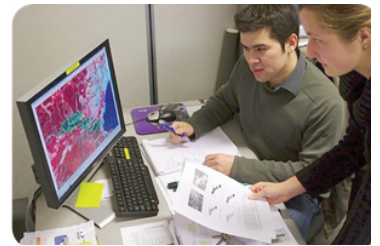
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## Research team

The goal of the RMoD research team at Inria Lille is to support re-modularization of object-oriented applications.

This objective is tackled from two complementary perspectives: reengineering and modularity constructs for programming languages.

<http://rmod.lille.inria.fr>.

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Human resources contact  
[karine.leroy@inria.fr](mailto:karine.leroy@inria.fr)

## Assignment

The engineer will work on virtual machines used by researchers in their daily work. We are working on an easy to understand and modify research virtual machine that is implemented in Smalltalk. The goal is not a fast production VM but instead an infrastructure that is easy to learn and extend for research experiments.

The work will include developing the research VM as well as helping with Pharo Smalltalk related VM level development:

- Extend and develop the research VM.
- Implement a simple Garbage Collector in Smalltalk for this VM.
- Help with Pharo VM related development.
- Improvement of the NativeBoost native code backend.

**Keywords:** Pharo VM language Smalltalk

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

- Knowledge in Dynamic Languages, preferably Smalltalk.
- Compiler construction
- Implementation of dynamic languages (Virtual Machines).
- Good knowledge in low-level programming (C, Asm).
- Fluent english.

Duration: 1 year renewable 1 time

Location: Villeneuve d'Ascq (France)

Targeted hiring date: 15/10/2012

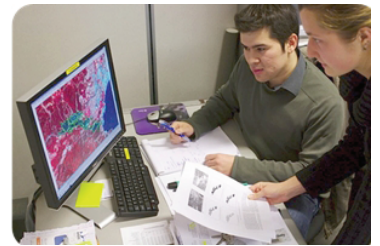
Salary: 2527 € gross not negotiable

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### Research team

BONSAI is a bioinformatics research group. Its main goal of our research is to define combinatorial models and efficient algorithms for large-scale sequence analysis in molecular biology. This includes genome annotation, comparative genomics, Next Generation Sequencing, noncoding RNAs, genome rearrangements, non ribosomal peptides, high performance computing.

<http://www.inria.fr/equipes/bonsai>

Scientist contact  
[jean-stephane.varre@inria.fr](mailto:jean-stephane.varre@inria.fr)

Human ressources contact  
[karine.leroy@inria.fr](mailto:karine.leroy@inria.fr)

### Assignment

The engineer will carry out developments in the national project 'Inria Biosciences Resources'. The aim of this project is setting up a portal dedicated to bioinformatics applications developed by different teams or project of Inria.

The project includes setting up a portal, porting applications developed by several teams and provision of data so that users can test it.

Travel in other sites may be necessary.

**Keywords:** Bioinformatic Java Perl software portail  
Ontology

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

- Knowledge of software development and related tools (version control, compilation, documentation, testing, debugging) - Java and scripting languages (Perl, Shell)
- Fluent in technical and scientific english
- Good writing skills and teamwork capacity.
- Knowledge of Bioinformatics, Ontology languages and associated tools appreciated

Duration: 1 year renewable 1 time

Location: Villeneuve d'Ascq (France)

Targeted hiring date: 15/10/2012

Salary: 2527 € gross not negotiable

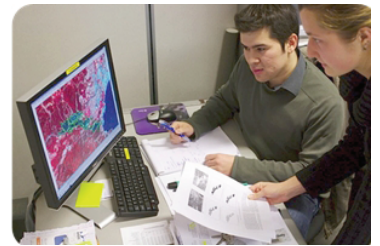
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## Research team

ADAM team is a joint research team LIFL / Inria specialized in the design of infrastructures for deployment of complex systems at different scales (from Cloud environments to Mobile / Ubiquitous and Sensor Networks, with solutions being able to respond dynamically to changing needs of users and to evolutive contexts).

Scientist contact  
romain.rouvoy@inria.fr

Human ressources contact  
karine.leroy@inria.fr

## Assignment

The mission of the engineer will focus on consolidation and extension of the AntDroid software, which aims at making available to the scientific community a 'platform as a service' facilitating the collection of datasets from a significant population of mobile users.

The engineer will participate in activities such as :

- Software development and experimentation,
- Participation in technical choices,
- Preparation of documentation for users and support.
- Demonstrations and presentations of results.

**Keywords:** Cloud computing Android  
data collection

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

- Knowledge of software development and related tools
- Programming languages: Java, Javascript, etc. and good knowledge of XML, HTTP, HTML, CSS
- Appreciate technological and scientific innovation.
- Good writing skills, fluency in technical and scientific english.
- Knowledge of Android, REST, Scala, Python, XQuery and/or SCA appreciated

Duration: 1 year renewable 1 time

Location: Villeneuve d'Ascq (France)

Targeted hiring date: 15/10/2012

Salary: 2527 € gross not negotiable

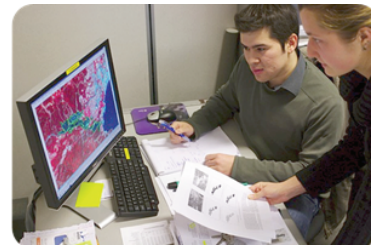
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Nancy



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## Research team

CAMEL is a research team at INRIA Nancy. It has has three main research themes:

- + The number field sieve algorithm and its siblings, for integer factorization and discrete logarithm in finite fields,
- + Algebraic curves for cryptography
- + Arithmetic in general (integers and floating-point numbers)

<http://www.inria.fr/en/teams/caramel>

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Human ressources contact  
[aurelie.aubry@inria.fr](mailto:aurelie.aubry@inria.fr)

## Assignment

WARNING: opening of this position is currently subject to investigation by Inria's legal and ethical committee.

Recruited in the CAMEL research team as "ingenieur confirmé", you will participate in the development of the CADO-NFS integer factorization program, to meet the following objectives:

- + enable the use of CADO-NFS on a cluster of 1000 cores, and on a cloud architecture, in particular Amazon EC2;
- + design tools to optimize the parameters in the critical "sieving step" of NFS;
- + extend the tests of CADO-NFS and make them more professional;

**Keywords:** Integer factorization, parallel and distributed computing, number field sieve

## Qualification & experiences

Ingenieur Confirmé : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience

## Skills & qualities

Required skills: script languages (in particular Perl), parallel and distributed computing, Unix/Linux, C language, a significative experience in software development.

Not mandatory but welcome skills: x86/x86\_64 assembly, knowledge of Windows and MacOS.

Duration: 1 year renewable 1 time

Location: INRIA Nancy

Targeted hiring date: 15/10/2012

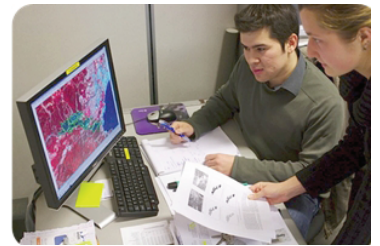
Salary: 2527 à 3054 € gross based on experience

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## Research team

PAROLE is a research team at INRIA Nancy specialized in speech processing. It gathers 30 researchers and staff covering topics such as automatic speech transcription and translation, interfaces for foreign language acquisition, and audiovisual speech synthesis. This position is part of a collaboration with the METISS (audio signal processing) and TEXMEX (multimedia indexing) teams of INRIA Rennes.

Scientist contact  
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Human resources contact  
cr-nge@inria.fr

## Assignment

Source separation lies at the core of many applications of audio signal processing: denoising for mobile phones, hearing aids, voice command, remixing of music recordings...

Main tasks and responsibilities:

- develop a reference toolbox for audio source separation featuring algorithms developed by the team,
- perform tests for robust speech recognition in noisy environments.

The recruited engineer will be jointly supervised by a researcher and an R&D engineer.

**Keywords:** audio, automatic speech recognition, signal processing, C/C++, Java.

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

Mandatory skills:

- C/C++, Java and Matlab programming, creation of GUIs, version control,
- basic signal processing, experience working in a group.

Optional skills:

- audio signal processing, applied statistics, professional audio acquisition.

Duration: 1 year renewable 1 time

Location: INRIA Nancy

Targeted hiring date: 01/12/2012

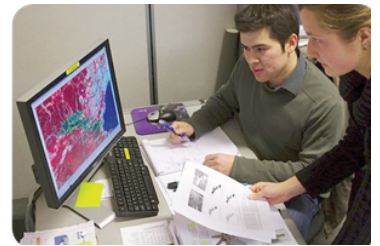
Salary: 2527 € gross not negotiable

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## Research team

The ORPAILLEUR team works on knowledge discovery, knowledge representation, and semantic Web. In knowledge discovery data are prepared, mined, and then interpreted for becoming knowledge units. These units are in turn reused by knowledge-based systems. The ORPAILLEUR team has expertise in knowledge discovery guided by domain knowledge.

Scientist contact  
Amedeo Napoli

Human resources contact  
aurelie.aubry@inria.fr

## Assignment

The engineer will have to adapt a data mining platform, named Coron, to distributed computing and distributed data. He will work on:

- \* getting used to the Coron platform and to data mining algorithms
- \* studying candidate platforms for decentralized data mining and for the management of large data (such as Hadoop MapReduce)
- \* implementing distributed knowledge discovery algorithms (pattern mining, formal concept analysis)
- \* experimenting with real word data (biology, chemistry, medicine)

**Keywords:** Knowledge discovery, Big data, Distributed computing

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

Required: Data mining (principles and algorithms) or distributed programming  
Optional: Java or C++ programming, Hadoop

Duration: 1 year renewable 1 time

Location: INRIA Nancy - Grand Est

Targeted hiring date: 01/10/2012

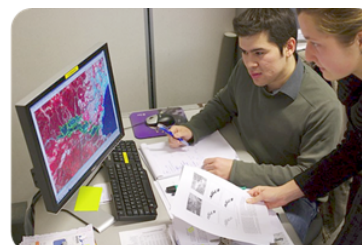
Salary: 2527 € gross not negotiable

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### Équipe de recherche

L'ingénieur intégrera l'équipe technique d'une dizaine d'ingénieurs de l'Action de Développement Technologique (ADT) ALADDIN-G5K, qui vise à coordonner l'activité d'Inria autour de l'infrastructure laissée par le projet Grid'5000 ([www.grid5000.fr](http://www.grid5000.fr)), soit 1582 nœuds disposant de 7000 cœurs de calculs. L'objectif du projet est la construction d'une infrastructure pour l'expérimentation des systèmes parallèles et distribués à grande échelle.

Contact scientifique

[David.Margery@inria.fr](mailto:David.Margery@inria.fr)

Contact Ressources Humaines

[aurelie.aubry@inria.fr](mailto:aurelie.aubry@inria.fr)

### Mission

Autour des outils d'administration par gestion de configuration (puppet) et d'une description de référence des machines et réseau de Grid'5000, la mission consiste à contribuer à l'administration système et réseau de Grid'5000 ainsi qu'au développement des outils et de l'infrastructure au sein d'une équipe d'une dizaine de personnes. Cette mission comporte en particulier (mais pas seulement) des aspects réseau, pour administrer les réseaux de Grid'5000 (LAN, AS et intersite) et contribuer à leur instrumentation pour les utilisateurs.

**Mots clés :** ASR, LINUX, RESEAU, PUPPET, RUBY

### Expérience et formation requises

Ingénieur Jeune Diplômé : Justifier d'une qualification équivalente à celle d'un ingénieur

Avoir obtenu son diplôme en 2011 ou 2012 (sauf exception argumentée)

### Compétences et profil recherché

Une bonne maîtrise des concepts et technique d'architecture des réseaux et des systèmes, une bonne maîtrise de Linux (administration, installation, maintenance, compilation de noyaux) et des langages de scripts (ruby en particulier).

Une bonne maîtrise de l'anglais écrit et le goût du travail en équipe et à distance.

Durée du contrat : 12 mois renouvelables 1 fois

Lieu de travail : Nancy

Date prévisionnelle d'embauche : 15/10/2012

Salaire : 2527 € brut non négociable

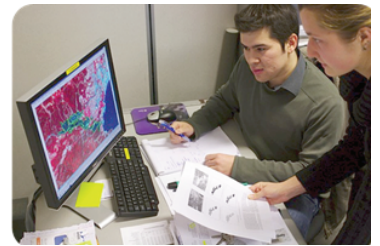
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Rennes



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**Would you participate on our research projects or on development activities in advanced technologies? Then, join us!**

## Research team

DISTRIBCOM

## Assignment

PLASMA is a new software that has been developed by young researchers at INRIA Rennes. PLASMA uses basic statistics to asses correctness of computer software.

Your mission:

- you design an interactive graphical interface for PLASMA
- you create a web site for the tool
- you study distributed versions of algorithms implemented in PLASMA
- you generat test cases
- you study the potential integration of the toolset in a smart phone

Scientist contact  
Axel Legay (alegay@inria.fr)

Human ressources contact

**Keywords:** distributed algorithms, smart phones, website, graphical interface, test cases

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

we need a good engineer with some experience in formal methods and a very solid programming background both in Java and C++. Good knowledge of common design patterns is also needed. Knowledge of technical terms in English language. Ability to work in a team.

Duration: 12 months extendible

Location: INRIA -- Rennes

Targeted hiring date: 01/09/2012

Salary: 2527 € gross not negotiable

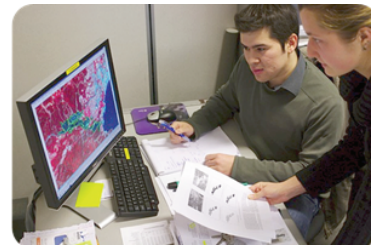
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### Research team

The research interests of the ALF team include computer architecture, software/compiler optimization, and real-time systems. The long-term goal of ALF is to let end-users benefit from the 2020's many-core processors.

Scientist contact  
erven.rohou@inria.fr

Human resources contact  
Myriam.Vinouze@irisa.fr

### Assignment

Because of the long lifetime of software, and the increasing diversity of hardware, a growing number of applications run on hardware that did not even exist when they were designed. In a cloud environment, resources are also shared with other unknown applications. These observations results in many opportunities to optimize software at run time.

The assignment consists in developing a software infrastructure for the implementation of such optimizations. This infrastructure shall facilitate automatic detection of hot spots, as well as code transformations. Optimizations shall happen on the unmodified binary code, while the application is running, and without any programmer's action.

The platform shall be sufficiently robust and documented to allow distribution.

**Keywords:** optimization, performance, portability, dynamic rewriting, architecture, microarchitecture.

### Qualification & experiences

Ingénieur Confirmé : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience

### Skills & qualities

Good knowledge of the C language, possibly C++.

Good knowledge of Linux system programming.

Experience with compilation technology, experience with JIT compilers a plus.

Understanding of processor architecture and microarchitecture.

Knowledge of the x86 instruction set (32 et 64 bits).

Duration: 24 months

Location: Rennes, France

Targeted hiring date: 01/10/2012

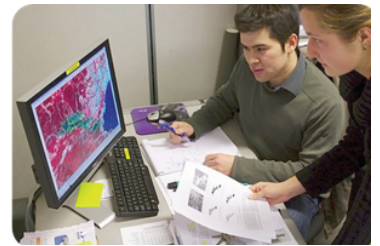
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## Research team

VR4I

Scientist contact  
anatole.lecuyer@inria.fr

Human ressources contact  
Myriam.Vinouze@irisa.fr

## Assignment

Software development for Brain-Computer Interfaces (enabling to send commands to machines or computers by means of cerebral activity only), and OpenViBE open-source software (<http://openvibe.inria.fr>).

Main assignments are : 1) redesign the software architecture of OpenViBE to enable extensions of its current capabilities, 2) develop new functionalities in OpenViBE, 3) supervise and lead the development activities of a team of young engineers, 4) support and disseminate OpenViBE.

**Keywords:** Brain-Computer Interfaces; C++, Open-Source, Software Architecture, OpenViBE

## Qualification & experiences

"Ingénieur Confirmé" : Engineering degree (or equivalent), with 2-8 year experience in Computer Science

## Skills & qualities

Background in computer science : ability to understand and exploit pre-existing softwares ;  
Programming language: C++ , excellent skills (debug, test, build, versioning, documentation) ;  
Excellent skills in software architecture ;  
Excellent skills in software development ;  
Good knowledge in technical and scientific English.

Duration: 12 months (+ 12 months)

Location: Rennes

Targeted hiring date: 01/10/2012

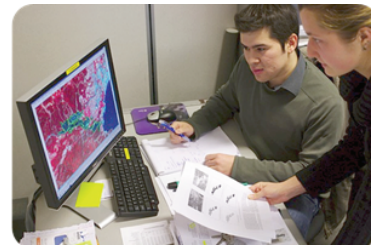
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## Research team

Visages Research Team (jointly affiliated with Inria / Inserm / CNRS):  
<https://www.irisa.fr/visages>

National collaboration with Inria research teams: Asclepios, Athena et Parietal

Scientist contact  
Olivier.Commowick@inria.fr

Human resources contact

## Assignment

This job proposal takes place in a national project medInria (<http://med.inria.fr>) aimed at developing for Inria a platform to show and distribute its research developments in medical image processing. This software, based on dtk ([dtk.inria.fr](http://dtk.inria.fr)) and Qt, will gather developments from the 4 major teams at Inria in this field. The recruited person will have two major objectives: further develop the application core (API, interface to define/run processing workflows, scripting - python, plugin web store). He/she will strongly collaborate with other teams on these aspects. He/she will also be in charge of developing plugins and their interface for the specific Visages team's research developments (registration of surfaces, diffusion imaging, tractography), and workflows for multiple sclerosis lesions segmentation.

**Keywords:** Medical imaging, Qt, image processing, visualization

## Qualification & experiences

Experienced Engineer : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience

## Skills & qualities

Perfect knowledge of C++ language mandatory. Experience with the following libraries: ITK, VTK, Qt.  
Good knowledge of python. Good knowledge of version management softwares (SVN, Git)  
Skills (and experience) in medical image processing  
Autonomy and ability to work in a (nationally distributed) team  
French language would be a plus

Duration: 1 year (renewable)

Location: Rennes

Targeted hiring date: 01/10/2012

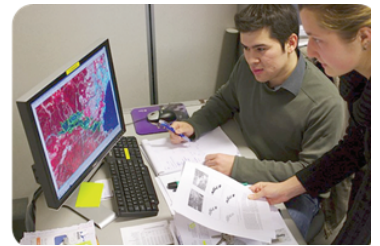
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## Research team

CIDRE

Scientist contact  
Ludovic.Me@inria.fr

Human resources contact  
Myriam.Vinouze@inria.fr

## Assignment

This projet aims at enhancing two pieces of software curruntly under development in INRIA and SUPELEC. These pieces of software (Blare and JBlare) monitor information flow respectively within the linux kernel and within the JVM JamVM. They allow the detection of illegal information flow, wrt a security policy previously defined.

The objectives of the projet will be:

- to enhance and finish the current tools (and, for the linux monitor, to prepare its inclusion in the staging branch of the kernel) ;
- to desing and realize a cooperation mechanism between the two tools ;
- to initiate a community (web, wiki, bug track, etc.) for these tools.

**Keywords:** Security, Intrusion Detection, Information Flow, Monitoring

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

Software development in the context of the linux kernel and in a java virtual mahine (JVM).

Duration: 1 year (renewable)

Location: Rennes, France (INRIA and SUPELEC)

Targeted hiring date: 15/10/2012

Salary: 2527 € gross not negotiable

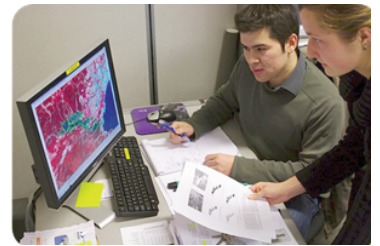
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Rocquencourt



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### Research team

SISYPHE (Signals and SYstems in Physiology & Engineering) deals with questions raised by some complex dynamical systems issued from Physiology and Engineering: modeling; identification and observation from signals; control.

Scientist contact  
frederique.clement@inria.fr

Human ressources contact  
fatima.ayad@inria.fr

### Assignment

The engineer will carry out scientific experiments and developments within a research team. He will participate in building a collaborative platform in Biomathematics dedicated to researchers in life sciences and clinicians. This platform will provide a simulation environment for laws of cell dynamics and will allow one to implement methods to analyze physiological and endocrinological data. The engineer will participate in a development and experimentation action within the research team. He will be involved in the following tasks:

- Software development and experimentation: design, implementation, testing, documentation of the GUI clients and/or of the business applications.
- platform maintenance and contact with end-users.

**Keywords:** Platform, simulation, GUI, web-services, interoperability, 3-tier architecture, SGBD

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

Software development skills and tools : IDE NetBeans or Eclipse, UML, SVN or Git, tests, software quality, Agile methods. Software Languages : JavaScript/HTML/PHP, Java/J2EE technologies (JSP/JSF, Servlets, EJB). Good knowledge of SGBD (data security, standardization) and 3-tier architecture. Technical and Scientific English. Appreciated skills : RESTful Services, Maven, GlassFish, PostgreSQL.

Duration: 16 month

Location: Rocquencourt (78) - France

Targeted hiring date: 01/09/2012

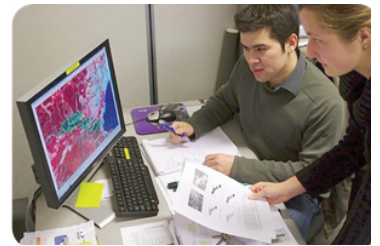
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## Research team

POMDAPI

Research center: INRIA Paris – Rocquencourt

Domaine de Voluceau, BP 105  
78153 Le Chesnay, France

Scientist contact  
jean-charles.gilbert@inria.fr

Human resources contact  
fatima.ayad@inria.fr

## Assignment

Development in C++ of a software library for solving differentiable optimization problems subject to constraints, based on the Newtonian or SQP approach. An original feature of the followed approach is to be grounded on a convex quadratic optimization solver using the augmented Lagrangian algorithm, which will have to be implemented. The library will be able to deal with dense and sparse problems (or those having more specific structures, such as in optimal control), as well as large scale problems (up to several millions of variables). The work will rest on preliminary developments made in Matlab (SQPlab) and Fortran (SQPpro).

**Keywords:** Optimization, C++

## Qualification & experiences

Ingénieur Jeune Diplômé : to be an engineering graduate or having equivalent qualification - to have obtained diploma in 2011 or 2012.

## Skills & qualities

To be interested by scientific computing and the development of C++ library in that domain. A good knowledge of numerical optimization techniques is appreciated.

Duration: 1 year renewable

Location: INRIA Rocquencourt

Targeted hiring date: 01/09/2012

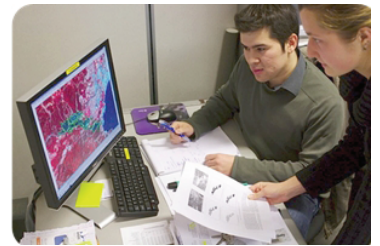
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### Research team

The work of MuSync team-project is at the intersection of two important problems in computer music: Realtime recognition of music data from audio signals, and reactive synchronous programming in computer music. MuSync is housed at Ircam, the world leader in Sound and Music Computing, a unique place for the convergence of artistic and technological innovations. MuSync's research results are disseminated largely within the electronic music community.

Scientist contact  
arshia.cont@ircam.fr

Human ressources contact  
fatima.ayad@inria.fr

### Assignment

Antescofo is an award-winning software for computer music composition and performance, and features a dedicated synchronous programming language coupled to an artificial listening machine. This development mission consist in enriching the language interpreter in the first step by including common formats such as MusicXML, and in a second place to render its current architecture autonomous with a dedicated graphical interface. This project will allow the extension of Antescofo's applications to new artistic domains and assure its ongoing relationship with the ever growing user community.

**Keywords:** Computer Music, Realtime

### Qualification & experiences

Ingénieur Confirmé : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience

### Skills & qualities

- Solid background in software engineering with C/C++
- Solid background and experience in realtime computer music (audio protocols, MIDI, XML, etc.)
- Solid background in language parsing and lexical analysis
- Familiarity with multi-platform GUI design (Juce, QT, etc.)
- Solid musical culture and willing to work in a collaborative environment with researchers and artists

Duration: 1 year, renewable

Location: Ircam - Centre Pompidou

Targeted hiring date: 01/01/2013

Salary: 2527 à 3054 € gross based on experience

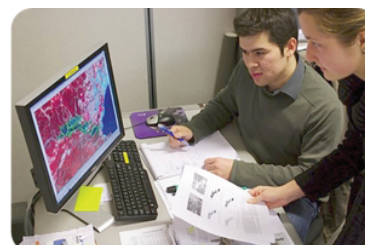
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## Équipe de recherche

BANG (Biologie Analyse Numérique et Géophysique)

L'équipe BANG travaille au développement de modèles et méthodes numériques pour la simulation des écoulements géophysiques (lacs, rivières et océans). En collaboration avec l'équipe Biocore (Inria Sophia), elle travaille à la modélisation et à la simulation des phénomènes couplant hydrodynamique et biologie.

Contact scientifique  
Jacques.Sainte-Marie@inria.fr

Contact Ressources Humaines  
Fatima.Ayad@inria.fr

## Mission

L'ingénieur réalisera des développements et des expérimentations sur les outils numériques développés par l'équipe, en particulier sur un code C++ dédié à la simulation du couplage hydrodynamique-biologie. A titre d'exemple, le travail pourra comporter :

- intégration du code dans une plateforme,
- développement d'outils de pré et post processing
- module de génération de trajectoires lagrangiennes et de calculs des performances moyennes, calcul des paramètres apparents.
- module de gestion de la géométrie et des conditions aux limites
- intégration de modules complémentaires (évaporation, sédimentation, conditions aux limites,...),

**Mots clés :** équations dérivées partielles, génie logiciel, production de biocarburant

## Expérience et formation requises

Ingénieur Jeune Diplômé : Justifier d'une qualification équivalente à celle d'un ingénieur  
Avoir obtenu son diplôme en 2011 ou 2012 (sauf exception argumentée)

## Compétences et profil recherché

- Formation en mathématiques appliquées/développement logiciel ;
- Calcul scientifique, analyse numérique, volumes finis ;
- Langages de programmation : C, C++, Fortran ;
- Maîtrise de l'anglais technique et scientifique ;
- Bonnes aptitudes rédactionnelles.

Durée du contrat : 12 mois renouvelable 1 fois

Lieu de travail : Paris/Rocquencourt

Date prévisionnelle d'embauche : 01/09/2012

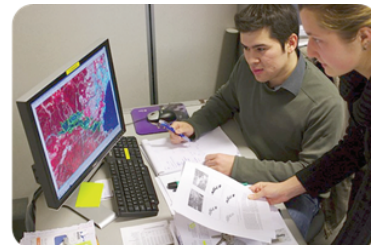
Salaire : 2527 € brut non négociable

Cette offre est valable du 15/04/2012 au 01/10/2012

Candidater uniquement en ligne sur [recrutement.inria.fr/is](http://recrutement.inria.fr/is)

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## Research team

The ARLES research team focuses on defining languages, methods and tools for developing distributed software systems, as well as defining new middleware infrastructures for ubiquitous computing. Our research domains include pervasive computing, Internet of Things, and mobile social networking.

More at <http://www-roc.inria.fr/arles/>

Scientist contact  
[Animesh.Pathak@inria.fr](mailto:Animesh.Pathak@inria.fr)

Human resources contact  
[Fatima.Ayad@inria.fr](mailto:Fatima.Ayad@inria.fr)

## Assignment

We are looking for an engineer to complement our research on mobile social networks, by achieving the following objectives:

- Preparing the first general public release of Yarta
- Implementing hooks to popular social networks for the Data Extraction Manager
- Incorporating technique to infer social links by analyzing non-social data such as call and SMS logs
- Developing an initial set of applications and releasing them on the Android Market and other venues
- Allowing the user to distribute his social knowledge between the various devices owned by him, such as a home desktop and a smart phone, including the ability to smartly cache this data based on social context

**Keywords:** Mobile Social Networks, Android, Java, Middleware

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

- Proficiency in Java 2SE, and its usage in the Android mobile operating system
- Ability to analyze existing software codebase and find performance bottlenecks
- Familiarity with software project management techniques and tools (version control, testing, etc.)
- Knowledge of Semantic Technologies (Ontologies, RDF, OWL)
- Excellent command over English

Duration: 1 year renewable

Location: Paris-Rocquencourt

Targeted hiring date: 01/07/2012

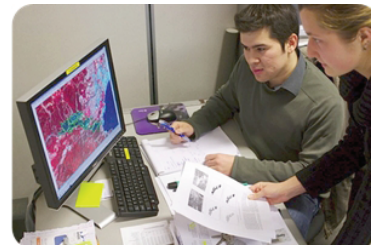
Salary: 2527 € gross not negotiable

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### Research team

The ALPAGE project-team (<http://alpage.inria.fr>) is concerned by Natural Language Processing (NLP), with, in particular, the development of a parsing processing chain for French based on a wide-coverage (meta-) grammar called FRMG (<http://alpage.inria.fr/parserdemo>).

Scientist contact  
[Eric.De\\_La\\_Clergerie@inria.fr](mailto:Eric.De_La_Clergerie@inria.fr)

Human ressources contact  
[fatima.ayad@inria.fr](mailto:fatima.ayad@inria.fr)

### Assignment

Given the large diversity of syntactic phenomena, sometimes very infrequent, the FRMG grammar is a complex object to extend, with outputs difficult to understand by the users. The objective of this proposal is to develop a WEB 2.0 service for documenting and exploiting FRMG, in an interactive and collaborative way.

The engineer will have to integrate several existing components (scripts and small Web services) in an unified plate-form for the documentation of FRMG (phase1), and its exploitation (phase2) through illustrative sentences and small textual corpora.

**Keywords:** wiki, CMS, grammar, natural language processing

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

- Programming skills : javascript, php, Perl ;
- Strong competences in Web 2.0 technologies (wiki, CMS [Drupal], Ajax, SQL, ...)
- Background in software development (versioning, compilation, documentation, tests, debug, ...);
- Bonus competences : NLP, linguistics (syntax)

Duration: 12 months - once renewable

Location: INRIA Paris-Rocquencourt

Targeted hiring date: 01/10/2012

Salary: 2527 € gross not negotiable

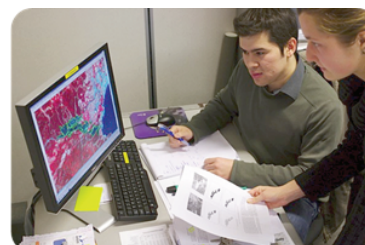
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Saclay



Les technologies numériques sont à l'origine de nouveaux services, transforment en profondeur nos modes de vie et enrichissent notre quotidien. Inria est, en France, le seul institut public de recherche entièrement dédié aux sciences du numérique. 400 ingénieurs R&D accompagnent au quotidien les chercheurs dans leurs travaux, en développant des logiciels et des outils pour faciliter leurs recherches, en mettant en place des plateformes technologiques d'expérimentation.

**Vous souhaitez collaborer à des projets de recherche ou à des actions de développement dans des technologies avancées ? Rejoignez-nous !**

## Équipe de recherche

Commands

<http://www.inria.fr/equipes/commands>

## Mission

L'objectif est d'intégrer à Bocop ([www.bocop.org](http://www.bocop.org)) la prise en compte d'incertitudes sur les modèles, par le biais de scénarios / graphes d'événements. La commande doit s'adapter à l'information révélée au cours du temps. On est donc amené à concevoir ensemble la commande nominale et une loi de feedback.

Contact scientifique

[pierre.martinon@inria.fr](mailto:pierre.martinon@inria.fr)

Contact Ressources Humaines

[marie.domingues@inria.fr](mailto:marie.domingues@inria.fr)

**Mots clés :**

## Expérience et formation requises

Ingénieur Jeune Diplômé : Justifier d'une qualification équivalente à celle d'un ingénieur

Avoir obtenu son diplôme en 2011 ou 2012 (sauf exception argumentée)

## Compétences et profil recherché

Analyse numérique, optimisation et probabilités : commande optimale, contrôle stochastique, optimisation sous contraintes en probabilité. Calcul haute performance (grande taille); Programmation en C / C++ ;

Maîtrise de l'anglais technique et scientifique ;

Durée du contrat : 12 mois (+12 mois)

Lieu de travail : Ecole Polytechnique - Palaiseau

Date prévisionnelle d'embauche : 15/10/2012

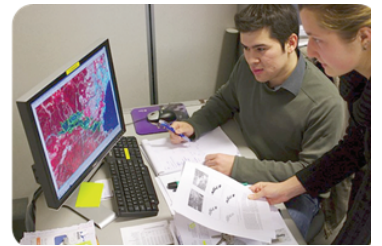
Salaire : 2527 € brut non négociable

Cette offre est valable du 13/04/2012 au 28/09/2012

Candidater uniquement en ligne sur <http://www.inria.fr/ijd>

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## Research team

Project Mexico

(<http://www.lsv.ens-cachan.fr/axes/MEXICO/mexico>) is devoted to the verification of distributed and concurrent systems. It is one of the components of Laboratoire Spécification et Vérification (<http://www.lsv.ens-cachan.fr/>).

Scientist contact

[serge.haddar@lsv.ens-cachan.fr](mailto:serge.haddar@lsv.ens-cachan.fr)

Human resources contact

[marie.domingues@inria.fr](mailto:marie.domingues@inria.fr)

## Assignment

He/she performs, within a team, the design and implementation of the framework CosyVerif.

He/she will also participate to the maintenance and to the support of this framework.

**Keywords:**

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

Knowledge of concepts, methods and tools related to SVN and Eclipse. Knowledge of Java. Knowledge of Linux. Ability to write technical documentation for users and developers. Fluent written and spoken English. The following competences would be a bonus for the project. Knowledge of concepts, methods and tools related to UML, Maven. Knowledge of script languages: PHP, XML, Shell.

Duration: 12 months (+12 months)

Location: LSV - ENS de Cachan

Targeted hiring date: 15/10/2012

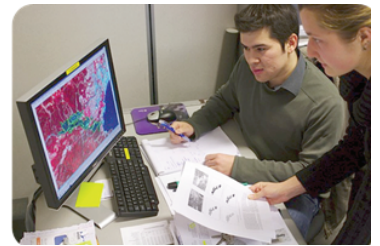
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## Research team

Macs

The Macs team carries out research on physical and mathematical modeling, and scientific computing, for problems mainly arising from biomechanics, in particular in cardiac modeling.

Scientist contact  
philippe.moireau@inria.fr

Human resources contact  
marie.domingues@inria.fr

## Assignment

To develop a cardiac mechanical simulation software in a high-performance computing (HPC) environment, based on an existing research software.

**Keywords:**

## Qualification & experiences

Ingénieur Confirmé : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience

## Skills & qualities

Expertise in C++ programming

Basics in parallel computing

Basics in discretization of Partial Differential Equation

Duration: 12 months (+12 months)

Location: Inria - Palaiseau

Targeted hiring date: 15/10/2012

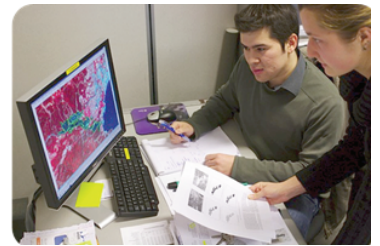
Salary: 2527 à 3054 € gross based on experience

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## Research team

Parietal

<http://www.inria.fr/equipes/parietal>

Scientist contact

[bertrand.thirion@inria.fr](mailto:bertrand.thirion@inria.fr)

Human resources contact

[marie.domingues@inria.fr](mailto:marie.domingues@inria.fr)

## Assignment

The candidate will develop a plugin dedicated to functional imaging for the MedINRIA software (<http://med.inria.fr/>), based on open source Python libraries, such as nipy (<http://nipy.sourceforge.net/nipy>). While a first version of this plugin has currently being developed, but it is limited in terms of available functionalities. The developer's main task is thus to build the MedINRIA graphical interface for a number of modules developed in nipy, and then to code additional functionalities that are not currently available in nipy to process brain images. This code will be added to the nipy library and interfaced into MedINRIA. The developer will be co-supervised by Bertrand Thirion, Gaël Varoquaux and Alexandre Abadie.

**Keywords:**

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

[Required] Programming in Python. [Required] Software quality (test-oriented development, version control [git], technical documentation). [Required] Software design: impose a consistent API while integrating code from various contributors. [Required] Prior experience on image processing. Unix/Linux environment. Knowledge of the open-source community. A good knowledge of Qt, ITK and CMake would be a plus. Technical English. Team-working skills

Duration: 12 months (+12 months)

Location: Neurospin CEA Saclay

Targeted hiring date: 15/10/2012

Salary: 2527 € gross not negotiable

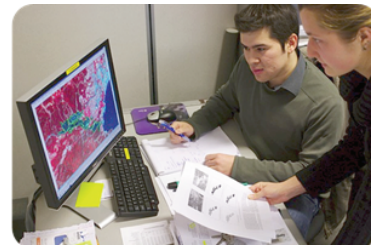
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## Research team

Grand-Large

<http://www.inria.fr/equipes/grand-large>

Scientist contact  
[laura.grigori@inria.fr](mailto:laura.grigori@inria.fr)

Human resources contact  
[marie.domingues@inria.fr](mailto:marie.domingues@inria.fr)

## Assignment

Massively parallel computers are formed today by thousands of multicore processors and accelerators. However their architecture is extremely complex, and most of the real applications do not get even 10% of the peak performance of these machines. This is because current algorithms of interest for our work are not able to scale to thousands of processors and there is a rapid degradation in their performance when the number of processors is increased to a large number. Our group focuses on solving large sparse linear systems of equations, an operation which represents the main time consuming part in many industrial and academic applications. The goal of this work is to implement highly parallel algorithms for solving these systems using preconditioned iterative methods based on an approach developed in our group

**Keywords:**

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

Good knowledge of C and C++ programming is required. Knowledge of parallel programming, MPI, pthreads will be a plus.

Duration: 12 months (+12 months)

Location: Inria PCRI - Gif Sur Yvette

Targeted hiring date: 15/10/2012

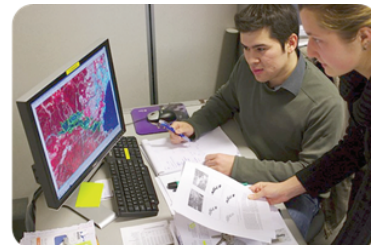
Salary: 2527 € gross not negotiable

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### Research team

Maison de la Simulation is a joint laboratory between 5 partners (CEA, CNRS, Inria, université Paris Sud and université de Versailles – St Quentin), with the aim of promoting efficient use by the scientific community of the available supercomputers, as well as research in high performance computing.

Scientist contact  
michel.kern@inria.fr

Human ressources contact  
marie.domingues@inria.fr

### Assignment

Develop parallel computing methods applied to simulations in electro-physiology. In order to better understand cardiac rythm disorders, the Carmen team develops computer codes that simulate the electrical cardiac activity. The project has the following objectives : Write a parallel version of a code used by the Carmen team; Compare scalable preconditioning methods; Carry out a simulation on a large scale configuration of interest to the medical partners.

**Keywords:**

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

Engineering degree with a specialization in scientific computing or applied mathematics. Knowledge of the C++ programming language, of software developments tools (make, svn) is required, an experience in parallel computing will be a plus. Willingness for life sciences and multidisciplinary work is needed.

Duration: 12 months (+12 months)

Location: Maison de la Simulation - Saclay

Targeted hiring date: 15/10/2012

Salary: 2527 € gross not negotiable

This offer is available from 13/04/2012 to 28/09/2012

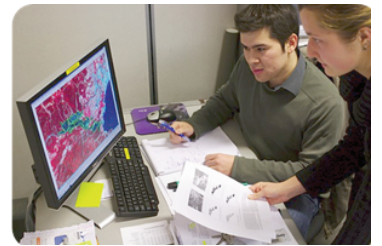
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## Job opportunity Engineer R & D



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### Research team

In-Situ

[http://www.inria.fr/content/search/\(key word\)/INSITU](http://www.inria.fr/content/search/(key word)/INSITU)

### Assignment

The position consists of developing software tools for the design and implementation of advanced interaction techniques in VCoRE.

Scientist contact

[stephane.huot@inria.fr](mailto:stephane.huot@inria.fr)

Human ressources contact

[marie.domingues@inria.fr](mailto:marie.domingues@inria.fr)

**Keywords:**

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

Software Engineer with specialization in Interactive Systems / Human-Computer Interaction. Skills: Programming in Java, C and C++; Good knowledge of patterns and models (MVC, PAC, state machines...) and development tools for interactive systems (graphical interfaces, interaction techniques...) is required. Previous experience with computer graphics (java2d, OpenGL...), mobile technologies (Android, iOS), distributed systems and input devices (drivers, USB/HID protocols, VRPN...) is a plus.

Duration: 12 months (+12 months)

Location: Inria PCRI - Gif Sur Yvette

Targeted hiring date: 15/10/2012

Salary: 2527 € gross not negotiable

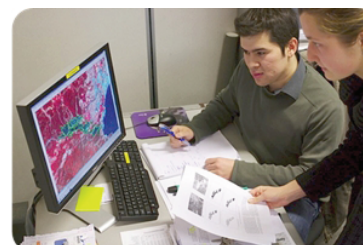
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Sophia



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## Research team

The Algorithms - Biology - Structure project-team, see <http://team.inria.fr/abs/>, undertakes algorithmic developments for structural bioinformatics, with two privileged applications, namely modeling protein complexes and modeling macro-molecular flexibility. These developments involve advanced geometric and topological modeling, coupled to scientific software development. In-silico validations are carried out on proteins and protein complexes.

Scientist contact  
Frederic.Cazals@inria.fr

Human resources contact  
Marie-Line.Ramfos@inria.fr

## Assignment

The mission will consist of developing the reference C++ software suite for geometric and topological modeling in structural bioinformatics, consisting of:

- (i)ABS-Core: repackaged versions of our C++ applications, see <http://team.inria.fr/abs/software/>, into highly generic C++ classes.
- (ii)ABS-lib: instantiation of classes from ABS-Core for specific problems in structural biology.
- (iii)ABS-applis: updated versions of our applications using ABS-lib.
- (iii) ABS-frontends: plugins of our applications for VMD and Pymol, as well as web portals.

**Keywords:** van der Waals models, Voronoi diagrams, C++, generic programming.

## Qualification & experiences

Ingénieur Confirmé : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience

## Skills & qualities

Advanced knowledge of geometric and topological modeling; advanced skills in C++ and generic programming, knowledge of the Computational Geometry Algorithms Library a plus; proficiency in python; good knowledge of biophysics and structural bioinformatics. The developments will be conducted using distributed revision control and source code management systems.

Duration: 12 months, renewable 1 time.

Location: INRIA Sophia-Antipolis

Targeted hiring date: 15/10/2012

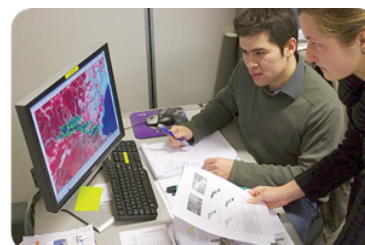
Salary: 2527 à 3054 € gross based on experience

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## Équipe de recherche

L'équipe de recherche GALAAD travaille sur des méthodes algébriques pour la modélisation géométrique. Les applications de ses travaux concernent des domaines comme la CAO, la simulation numérique, la biologie, la robotique, ...

Contact scientifique  
Bernard Mourrain

Contact Ressources Humaines  
Marie-Line Ramfos

## Mission

L'ingénieur réalisera des développements logiciels et des expérimentations scientifiques au sein de l'équipe de recherche GALAAD. Il étendra les fonctionnalités du logiciel de modélisation géométrique AXEL (<http://axel.inria.fr/>), en renforçant son interopérabilité avec d'autres plateformes de calcul scientifique. A travers un mécanisme de plugin, de nouveaux outils pour la représentation des formes, le calcul géométrique et la visualisation scientifique seront mis en place. L'environnement sera également couplé à un système de calcul algébrique pour le traitement de tâches complexes et la résolution de problèmes combinant modélisation, simulation et analyse.

**Mots clés :** Modélisation géométrique; représentation algébrique; bspline; CAO; simulation; visualisation; plugins;

## Expérience et formation requises

Ingénieur Jeune Diplômé : Justifier d'une qualification équivalente à celle d'un ingénieur  
Avoir obtenu son diplôme en 2011 ou 2012 (sauf exception argumentée)

## Compétences et profil recherché

Formation en informatique et connaissance du développement logiciel et des outils associés (gestionnaire de versions, compilation, documentation, tests, débogage, ...);

Langages de programmation : C, C++; Maîtrise de l'anglais technique et scientifique;

Compétences appréciées : bibliothèques graphiques OpenGL, QT, VTK; Python; systèmes d'exploitation Linux, MacOS et Windows.

Durée du contrat : 1 an renouvelable

Lieu de travail : Sophia Antipolis

Date prévisionnelle d'embauche : 15/10/2012

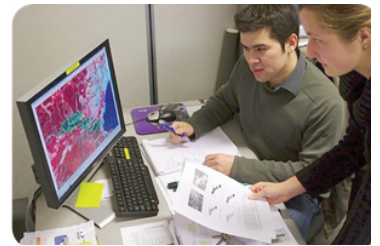
Salaire : 2527 € brut non négociable

Cette offre est valable du 03/05/2012 au 07/09/2012

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### Research team

The Nachos project-team from the INRIA Sophia Antipolis - Méditerranée research center coordinates the "C2S@Exa" INRIA Large Wingspan Action and will host the Ingénieur Jeune Diplômé that will be in charge of the proposed mission. Nevertheless, the Ingénieur Jeune Diplômé will have to interact with other researchers from the 10 project-teams involved in the "C2S@Exa" project.

Scientist contact  
Stéphane Lanteri

Human resources contact  
Marie-Line Ramfos

### Assignment

The objective of this work is the design of a collaborative software platform for the development, validation and demonstration activities that will be conducted in the "C2S@Exa" project. The "C2S@Exa: Computer and Computational Sciences at Exascale" INRIA Large Wingspan Action aims at establishing a continuum of skills in the applied mathematics and computer science fields for a multidisciplinary approach to the development of numerical simulation tools that will take full benefits of the processing capabilities of emerging high performance massively parallel architectures.

**Keywords:** computational sciences, high performance computing, collaborative work

### Qualification & experiences

Ingénieur Confirmé : To be at least an engineering graduate or having equivalent qualification and to have from 2 to 7 years' software development experience

### Skills & qualities

Programming languages: C, C++, Fortran and MPI (OpenMP and/or OpenCL would be assets)  
Software development and administration under Linux  
Distributed computing, high performance computing, scientific computing

Duration: 12 months (renew. x1)

Location: Sophia Antipolis

Targeted hiring date: 15/10/2012

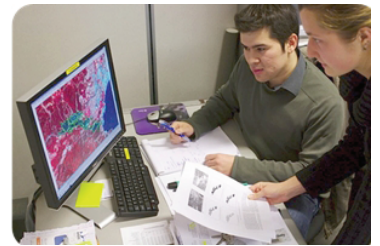
Salary: 2527 à 3054 € gross based on experience

This offer is available from 15/04/2012 to 07/09/2012

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Digital technologies are generating new services, they deeply change our lifestyles and improve our daily life. In France, Inria is the only public research institute entirely dedicated to digital sciences. 400 R & D engineers assist the scientists in their daily work, they develop software tools to facilitate the research and set up technology platforms for experimentation.

**Would you participate on our research projects or on development activities in advanced technologies? Then, join us!**

### Research team

The ATHENA team (based in Sophia Antipolis) develops tools for structural and functional imaging of the brain.

One of its research interests is in exploiting electroencephalographic functional signals. In particular such signals can be exploited in Brain Computer Interfaces which provide a new means to explore and exploit brain signals and to understand the information they convey.

Scientist contact  
Maureen.Clerc@inria.fr

Human ressources contact  
Marie-Line.Ramfos@inria.fr

### Assignment

The engineer will contribute to the development of Brain Computer Interfaces, specifically via the open source software OpenViBE (<http://openvibe.inria.fr>). Brain Computer Interfaces allow to send commands to a computer directly through brain activity. The goal is to refactor OpenViBE to improve its handling of time, with an objective of millisecond control. Synchronization, scheduling and performance analysis are central to this assignment.

**Keywords:** Brain Computer Interfaces; C++; OpenViBE; performance, timing management.

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

Training in computer science; Ability to understand and exploit pre-existing software;  
Programming language: C++  
Software development (debug, test, build, versioning, documentation)  
Good knowledge of software architecture, synchronization and scheduling;  
Good knowledge of technical and scientific English.

Duration: 12 months (+ 12 months)

Location: Sophia Antipolis

Targeted hiring date: 15/10/2012

Salary: 2527 € gross not negotiable

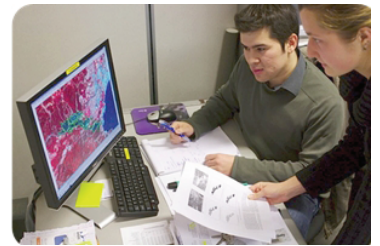
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## Research team

The Geometrica team is an INRIA research group dedicated to computational geometry and topology. The team is located both in Saclay and in Sophia-Antipolis, France. Research carried out at GEOMETRICA divides into three major fields: mesh generation and geometry processing; topological and geometric inference; data structures and robust geometric computation.

Scientist contact  
Marianne.Yvinec@inria.fr

Human resources contact  
Marie-Line.Ramfos@inria.fr

## Assignment

Within the Geometrica team, the engineer will develop software to advance the field of geometric and topological data analysis. This new field considers data as point sets in high-dimensional spaces, usually corrupted by outliers and noise. In most applications, these points lie close to a structure of small intrinsic dimension. Extracting this structure from the point set and analyzing its topological and geometrical properties is a major step towards the understanding of the underlying system that generated the data. The work will notably include the construction and representation of simplicial complexes and the computation of persistent homology.

**Keywords:** Geometric inference, topological persistence, generic programming, C++ templates

## Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

## Skills & qualities

Qualification in computer science and knowledge of software development and related tools (versions manager, compilation, documentation, tests, debugging,...); knowledge of the programming languages C++, qualification in object programming and static polymorphism (C++ templates); master of technical and scientific English. Basic knowledge in computational geometry, topology and parallel code development would also be appreciate.

Duration: 12 months, possible renewal

Location: Inria Sophia Antipolis or Inria Saclay

Targeted hiring date: 15/10/2012

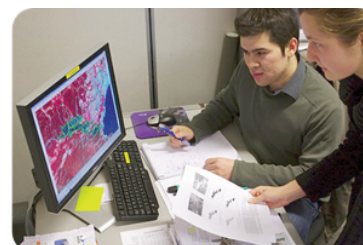
Salary: 2527 € gross not negotiable

This offer is available from 15/04/2012 to 07/10/2012

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Les technologies numériques sont à l'origine de nouveaux services, transforment en profondeur nos modes de vie et enrichissent notre quotidien. Inria est, en France, le seul institut public de recherche entièrement dédié aux sciences du numérique. 400 ingénieurs R&D accompagnent au quotidien les chercheurs dans leurs travaux, en développant des logiciels et des outils pour faciliter leurs recherches, en mettant en place des plateformes technologiques d'expérimentation.

**Vous souhaitez collaborer à des projets de recherche ou à des actions de développement dans des technologies avancées ? Rejoignez-nous !**

### Équipe de recherche

L'accueil se fera dans le service informatique du centre de Sophia Antipolis, qui fournit les infrastructures matérielles aux équipes de recherche du centre. L'ingénieur est amené à collaborer avec les services informatiques des sept autres centres Inria, ainsi qu'avec l'ensemble des services de développement d'Inria.

Contact scientifique

Jean-Luc.Szpyrka@inria.fr

Contact Ressources Humaines

Marie-Line.Ramfos@inria.fr

### Mission

Inria est doté de plusieurs plateformes communautaires pour le calcul haute performance, le stockage et les calculs distribués (grille, cloud computing) depuis plusieurs années. Ces plateformes sont utilisées par de nombreuses équipes de recherche Inria ainsi que par leurs partenaires académiques et industriels.

La mission consiste à uniformiser et à structurer l'administration système et réseau de ces ressources de calcul et de stockage, ainsi que leurs évolutions dans une action conjointe des services informatiques et des services de développement.

On vise à proposer à l'ensemble des utilisateurs une interface d'accès unifiée aux différentes infrastructures matérielles, permettant de déployer une application distribuée sur des centres de calculs distants.

**Mots clés :** administration système et réseau, OS, Linux, monitoring, middleware système, grilles, clusters, cloud

### Expérience et formation requises

Ingénieur Jeune Diplômé : Justifier d'une qualification équivalente à celle d'un ingénieur  
Avoir obtenu son diplôme en 2011 ou 2012 (sauf exception argumentée)

### Compétences et profil recherché

Bonne connaissance des systèmes d'exploitation, en particulier Linux et environnements distribués,  
Bonne connaissance des protocoles réseau (TCP/IP/SSL),  
Bonne connaissance des middlewares système (LDAP, apache, SSH, schedulers...),  
Compétences en programmation système (bash, perl, python, php...),  
Maîtrise de l'anglais technique,  
Aptitudes appréciées : capacité à travailler en équipe, autonomie, sens de l'organisation, reporting.

Durée du contrat : 12 mois, renouvelable 1 fois      Lieu de travail : Sophia Antipolis

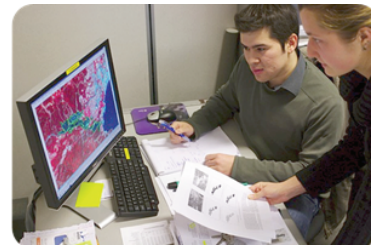
Date prévisionnelle d'embauche : 15/10/2012      Salaire : 2527 € brut non négociable

Cette offre est valable du 01/06/2012 au 07/09/2012

Candidater uniquement en ligne sur <http://www.inria.fr/ijd>

### Pour information, sécurité défense

Dans le cadre de la protection de son patrimoine scientifique et technologique, Inria fait partie des établissements à régime restrictif. A ce titre, il applique une réglementation d'accueil pour tout futur collaborateur de l'institut. Le recrutement définitif de chaque candidat est donc conditionné à l'application de cette procédure de sécurité défense.



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### Research team

The engineer will be hosted in the software development team DREAM ([www.inria.fr/sophia/dream](http://www.inria.fr/sophia/dream)) and will work in connection with the Biocore and Morphème teams, in order to structure the software developments through a high level software Framework, respectively on a microalgae culture simulator (Biocore) and biological image processing (Morphème).

Scientist contact  
[david.rey@inria.fr](mailto:david.rey@inria.fr)

Human resources contact  
[marie-line.ramfos@inria.fr](mailto:marie-line.ramfos@inria.fr)

### Assignment

The engineer will carry out software developments and scientific experimentations within two research teams. His main objectives will consist in participating to the design and implementation of software platforms for these two teams, using and recommending good practises (such as version system, tests, build and package system).

**Keywords:**

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

Having a qualification in computer science and having some knowledge of software development and related tools (versions manager, compilation, documentation, tests, debugging,...); Programming languages : C, C++, Python; To master technical and scientific English; Additional skills or abilities that would be appreciated: Swig, Qt, decentralized version system (e.g. git).

Duration: 12 months extendible

Location: INRIA Sophia-Antipolis

Targeted hiring date: 15/10/2012

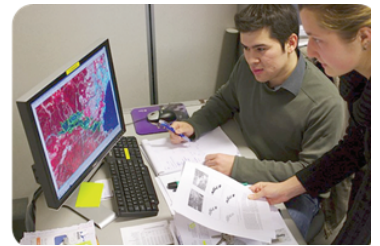
Salary: 2527 € gross not negotiable

This offer is available from 25/05/2012 to 07/09/2012

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### Research team

The Asclepios team develops image processing and model simulation for clinical applications:

<http://team.inria.fr/asclepios>

The Athena team develops computational imaging methods to explore the central nervous system using diffusion MRI, electro- and magneto-encephalography:

<http://www.inria.fr/sophia/athena>

Scientist contact  
Maxime.Sermesant@inria.fr

Human resources contact

### Assignment

This job proposal takes place in a national project medInria (<http://med.inria.fr>) aimed at developing at Inria a platform for medical image processing. This software gathers developments from the 4 major teams at Inria in this field.

The recruited person will have two major objectives: further develop the application core (API, workflows, scripting - python). He/she will strongly collaborate with other teams on these aspects. He/she will also be in charge of developing plugins and their interface for the specific Asclepios team's research developments (cardiac images, registration), and Athena team's research (electro- and magneto-encephalography, diffusion MRI).

This project is a national collaboration with Inria research teams Parietal and Visages.

**Keywords:** Medical imaging, image processing, visualization, 3D

### Qualification & experiences

Ingénieur Jeune Diplômé : To be an engineering graduate or having equivalent qualification - To have obtained diploma in 2011 or 2012

### Skills & qualities

Good knowledge of C++ language. Experience with the following libraries: ITK, VTK, Qt wished.

Knowledge of python. Good knowledge of version management softwares (Git), build (CMake), and debug.

Skills in medical image processing.

Autonomy and ability to work in a (nationally distributed) team.

French language would be a plus.

Duration: 1 year (renewable)

Location: Sophia Antipolis

Targeted hiring date: 01/10/2012

Salary: 2527 € gross not negotiable

This offer is available from 01/04/2012 to 01/10/2012

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