**2018-00426 - PhD : Polymorphical wireless communication for connected agriculture (M/F)**

**Contract type :** Public service fixed-term contract  
**Level of qualifications required :** Graduate degree or equivalent  
**Function :** PhD Position  
**Level of experience :** Recently graduated

**About the research centre or Inria department**

The Inria Lille - Nord Europe Research Centre was founded in 2008 and employs a staff of 360, including 300 scientists working in sixteen research teams. Recognised for its outstanding contribution the socio-economic development of the Nord - Pas-de-Calais Region, the Inria Lille - Nord Europe Research Centre undertakes research in the field of computer science in collaboration with a range of academic, institutional and industrial partners.

The strategy of the Centre is to develop an internationally renowned centre of excellence with a significant impact on the City of Lille and its surrounding area. It works to achieve this by pursuing a range of ambitious research projects in such fields of computer science as the intelligence of data and adaptive software systems. Building on the synergies between research and industry, Inria is a major contributor to skills and technology transfer in the field of computer science.

**Context**

**Job environments**

ComPAC gathers an Inria team and the Sencorp company, expert in crop monitoring. ComPAC will design an innovative solution for data collection from and to wireless sensors distributed over a field through a combination of wireless communication technologies.

ComPAC addresses different scientific challenges. Results will be experimentally validated in real situation staged by Sencrop activity and are intended to be directly exploited by Sencrop.

**The main goal** is to design a complete communication system able to dynamically select the best communication technology according to the kind of data (alarm, monitoring) and technology costs and gains (rate, range) in a multihop fashion.

A prototype will be developed to validate the solution.

A the end of the PhD, the student might be recruited by Sencrop.

**Assignment**

**Assignments**

The PhD student will be in charge of the design of the wireless multihop multitechnology bilateral communication protocols.

**Main activities**

- Analyse the requirements of Sencrop use case
- Design the communication protocol
- Design experimental platforms for validating the solution.

**Skills**

Technical skills and level required : knowlegdes in network and wireless network, C, python

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**General Information**

- **Theme/Domain :** Networks and Telecommunications  
- **System & Networks (BAP E)**
- **Town/city :** Villeneuve d’Ascq  
- **Inria Center :** CRI Lille - Nord Europe  
- **Starting date :** 2018-09-01  
- **Duration of contract :** 3 years  
- **Deadline to apply :** 2018-05-31

**Contacts**

- **Inria Team :** FUN  
- **Recruiter :** Mitton Nathalie  
  nathalie.mitton@inria.fr

**The keys to success**

- Curiosity
- Autonomous
- Ability to work in teams
- Enthusiasm

**Conditions for application**

Candidates will be treated firstly with a complete file : CV + letter of motivation + one or more letters of recommendation + transcripts from previous years.

**Defence Security :**

This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST). Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

**Recruitment Policy :**

As part of its diversity policy, all Inria positions are accessible to people with disabilities.

**Warning**

You must enter your e-mail address in order to save your application to Inria. Applications must be submitted online on the Inria website. Processing of applications sent from other channels is not
Benefits package

- Subsidised catering service
- Partially-reimbursed public transport
- Social security
- Paid leave
- Flexible working hours
- Sports facilities

Remuneration

Remunerating

1982€ gross monthly for the 1st and 2nd year, 2085€ gross monthly for the 3rd year.