






Brandon Foubert





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-  <https://scholar.google.com/citations?user=U0rhPQoAAAAJ>


Professional Experiences


- 2018 Sep. – ····  **Ph.D. Student, Inria, Lille, France.**
Thesis title: *Polymorphical wireless communication for connected agriculture.*
Advisor: Mrs. Nathalie Mitton
In the scope of my Ph.D.'s work, I am conceiving a wireless communication protocol for multi-technologies wireless sensor networks. In collaboration with the Sencrop company, nodes will be deployed in agricultural fields to monitor the environment and state of crops.

- 2018 Jan. – Aug.  **M.Sc. Intern, ICube laboratory, Strasbourg, France.**
Thesis title: *Cooperation between multiple RPL networks.*
Advisor: Mr. Julien Montavont
In the scope of my Master's internship, I conceived a RPL-based protocol for inter-network collaboration, aiming to increase network performance and resilience. It has been implemented in ContikiOS and evaluated on the FIT IoT-LAB test-bed.

- 2017 Jan. – May.  **M.Sc. Student, ICube laboratory, Strasbourg, France.**
Project title: *Wake-up radio MAC layer in wireless sensor networks.*
Advisor: Mr. Antoine Gallais
In the scope of my Master's study and research course, I studied LPL and TDMA-based protocols for wireless sensor networks and wake-up radio systems.

- 2016 Jul. – Aug.  **B.Sc. Intern, ICube laboratory, Strasbourg, France.**
Internship title: *GPU parallelization of molecular interactions computations.*
Advisor: Mr. Pierre Collet
As an intern, I ported an OpenMP-based software in CUDA on a GPU Nvidia GTX780. Based on the EASEA software from the CSTB research group, it was aiming to compute the interaction energy of a molecular system.

- 2015 May. – Jul.  **B.Sc. Intern, ICube laboratory, Strasbourg, France.**
Internship title: *Network timing system – deployment and measurements.*
Advisor: Mr. Pascal Mérendol
As an intern in the D-CART project, I set up a custom Linux kernel on a Raspberry Pi. The goal was to configure the time synchronization protocol RADclock and measure its performance against NTP.

- 2014 – 2015  **Janitor, OPH OPUS 67, Molsheim, France.**
Manager : M. Florent Rehel
As a student job, I cleaned and maintained common areas in public housing. I took care of green areas, done various repairs, painting, etc.

Education

- 2018 – ···· **Ph.D. in Computer Science, Inria, Lille, France.**
Thesis title: *Polymorphical wireless communication for connected agriculture.*
- 2016 – 2018 **M.Sc. in Computer Science, University of Strasbourg, France.**
Field of study: *Computer networks and embedded systems.*
- 2012 – 2016 **B.Sc. in Computer Science, University of Strasbourg, France.**

Teaching

- 2021 **Internet of Things (30h), M.Sc., Central School of Lille, France.**
- 2020 **Computer networking (36h), B.Sc., University of Lille, France.**
- 2019 **Object-oriented design (42h), B.Sc., University of Lille, France.**

Skills

- Languages **Strong reading, writing and speaking competencies for English and French.**
- Databases **MySQL, Oracle Database.**
- Web Dev **HTML, CSS, JavaScript, Apache Web Server.**
- Systems **Linux, Windows, Android, Cisco, Juniper, Contiki OS.**
- Coding **Java, C, C++, PHP, Python, Ruby, OCaml, SQL, XML, Bash, Lua, L^AT_EX, Visual Basic.NET, C#.NET, Prolog, ASM (X86, MIPS).**

Service

- 2021 **Committee Center Representative, Inria, Lille, France.**
Reviewer, APPLIED SCIENCES, ELECTRONICS, AGRONOMY, ICCCN.
- 2020 **Shadow PC Member, ALGOTEL & CORES, Lyon, France.**
Reviewer, WIMOB, GLOBECOM, PERCOM, ADHOC-NOW, ICSNC.
- 2019 **Sudent Volunteer, INFOCOM, Paris, France.**
Reviewer, WIMOB.

Miscellaneous

- Help **Private math lessons, college gym supervisor.**
- Sports **Hiking, martial arts, bodybuilding, climbing, couple dance, shooting, swimming...**
- Hobbies **Reading, playing the guitar, gaming, electronics, tinkering, gardening...**

References

Nathalie Mitton

Research Director

Inria Lille – Nord Europe,

Villeneuve d'Ascq, France.

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Julien Montavont

Associate Professor

University of Strasbourg,

Illkirch-Graffenstaden, France.

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Research Publications

- 1 **Foubert, B.** & Mitton, N. (2021a). Joint Technology and Route Selection in Multi-RAT Wireless Sensor Networks with RODENT. *IWCMC 2021*. <https://hal.inria.fr/hal-03186044>
- 2 **Foubert, B.** & Mitton, N. (2021b). Des capteurs multitechnologies pour surveiller les champs : les épouvantails 2.0. *The Conversation*. <https://hal.inria.fr/hal-03205794>
- 3 **Foubert, B.** & Mitton, N. (2021c). Lightweight network interface selection for reliable communications in multi-technologies wireless sensor networks. *DRCN 2021*. <https://hal.inria.fr/hal-03141833>
- 4 **Foubert, B.** & Mitton, N. (2021d). RODENT: a flexible TOPSIS based routing protocol for multi-technology devices in wireless sensor networks. *Journal on Future and Evolving Technologies*, 2(1). <https://hal.inria.fr/hal-03165426>
- 5 **Foubert, B.** & Mitton, N. (2021e). Routing Over Multiple Technologies with RODENT. *Percom 2021 (Demo)*. <https://hal.inria.fr/hal-03106247>
- 6 **Foubert, B.** (2021). Routing in Multi-Technologies Wireless Sensor Networks. *EWSN 2021 (PhD Forum)*. <https://hal.inria.fr/hal-03080085>
- 7 **Foubert, B.** & Mitton, N. (2020a). Sélection d'interface de communication dans les réseaux de capteurs multi-technologies. *CoRes 2020*. <https://hal.inria.fr/hal-02570838>
- 8 Ferreira, A. E., Ortiz, F. C., Maciel Kosmalski Costa, L. H., **Foubert, B.**, Amadou, I. & Mitton, N. (2020). A study of the LoRa signal propagation in forest, urban, and suburban environments. *Annals of Telecommunications*. <https://hal.inria.fr/hal-02907283>
- 9 **Foubert, B.** & Mitton, N. (2020b). Long-Range Wireless Radio Technologies: A Survey. *Future internet*, 12(1), 13. <https://hal.inria.fr/hal-02440409>
- 10 Amadou, I., **Foubert, B.** & Mitton, N. (2019). LoRa in a haystack: a study of the LoRa signal behavior. *WiMob 2019*. <https://hal.inria.fr/hal-02284062>
- 11 **Foubert, B.** & Mitton, N. (2019). Autonomous Collaborative Wireless Weather Stations: A Helping Hand for Farmers. *ERCIM News*, (119), 37–38. <https://hal.inria.fr/hal-02308015>
- 12 **Foubert, B.** & Montavont, J. (2019). Sharing is caring: a cooperation scheme for RPL network resilience and efficiency. *ISCC 2019*. <https://hal.inria.fr/hal-02095410>
- 13 **Foubert, B.** (2018). *Cooperation between multiple RPL networks* (Master's thesis). Université de Strasbourg. <https://hal.inria.fr/hal-02307955>