

# Keoma Brun-Laguna

born 1992

✉ keoma.brun@inria.fr

🌐 kbl.netlib.re

☎ +33 (0)6 84 01 54 96

👤 keomabrun

## PhD Student in Low-Power Wireless networking Inria-EVA Team, Paris

### Education

2015–2016	<b>Master of Science</b> (2nd year) in Computer Networks University Pierre et Marie Curie (UPMC, Paris 6) Jointly issued by Telecom ParisTech
2014–2015	<b>Master of Science</b> (1st year) in Computer Networks and Embedded Systems University of Strasbourg
2013–2014	<b>BSc(Hons)</b> in Computer Networks University of Abertay (Dundee, Scotland) Jointly issued by the University of Pau and Pays de l'Adour
2012–2014	<b>University Technology Degree</b> in Computer Science University Institute of Technology, (Bayonne, France)

### Positions

2016–present	<b>PhD Student - Inria</b> Deterministic Networking for Industrial Internet of Things – Deployment and implementation of Real-World Wireless Sensor Networks. – Evaluating the limits and trade-offs of Time Synchronized Channel Hopping. EVA team, Inria, Paris, France Supervised by Thomas Watteyne.
2017 (4 months)	<b>Internship - Dust Networks</b> Packet Dissection and Network Analysis (Wireshark) Building and Automation (Jenkins)
2015 (6 months)	<b>Internship - ICube</b> Multipath in 6TiSCH Networks, – Solution proposal and implementation in OpenWSN – Experimental analysis with IoT-Lab ICube Laboratory, Strasbourg, France Supervised by Fabrice Theoleyre.
2014 (3 months)	<b>Internship - LIP6</b> Energy Consumption in D2D Networks, – Testbed setup (Android, Adafruit INA219) LIP6 Laboratory, Paris, France Supervised by Marcelo Dias de Amorim.

## Projects

SaveThePeaches



### **Predicting Frost Event in Peach orchards**

I led the deployment of an 23-node SmartMesh IP network to monitor a peach orchard in Mendoza, Argentina. The network is connected to a back-end system that displays the data in real time.

<http://savethepeaches.com>

SnowHow



### **Monitoring the Sierra Nevada snow-pack**

I helped update an existing SmartMesh IP network in the Sierra Nevada to monitor the montain snow-pack. This 48-node network now reports both network statistics and sensor values.

<http://snowhow.io>

SmartMarina



### **Monitoring the Cap d'Agde Marina**

I will deploy a SmartMesh IP network in the Cap d'Agde Marina in the south of France. The network will provide a security, environment and resources management system.

<http://smartmarina.org>

SOLsystem



### **An End-to-end Solution for Real-World Remote Monitoring**

I architected and developed the SOLsystem that is the back-end system used in the SaveThePeaches, SnowHow and SmartMarina project. It allows to easily manipulate, format and visualize the data produced by a wireless sensor networks.

<http://solsystem.io>

## Teaching

**ENSTA**  
Paris, France

“Computer Networks Lab”

Introduction to Unix network commands and development of an application using Sockets in C.

January 2017, 3 mornings

**ENSTA**  
Paris, France

“The Internet of Things: Theory, Standardization and Hands-On Experience”

Introduction to the Internet of Things concepts, challenges and solutions.

December 2016, April 2017, April 2018, 4 days, with Thomas Watteyne

**S3++**  
Pojeza, Croatia

“From a flower to the Internet”

How to build an automated watering system. Sensing soil moisture, actuating a water pump, and publishing data online.

July 2016, 10 days, Summer School of Science

## Technical Experience

<b>Tools:</b>	IDE: PyCharm, CLion, IAR Administration: BOUML, GANTT, L <sup>A</sup> T <sub>E</sub> X, Git, vim
<b>Programing:</b>	C, Python, Perl, PascalScript, C++, Java, C#, HTML, PHP, Coldfusion, CSS, Javascript, Shell
<b>Vitualization:</b>	VirtualBox, Vagrant
<b>OS:</b>	GNU/Linux, OpenWSN, TinyOS
<b>CD/CI:</b>	Jenkins, Travis
<b>Backend:</b>	InfluxDB, MySQL, SQLite, Nginx, Graphana, Ansible, collectd, postfix, Dovecot

## Research Interest

Internet of (Important) Things, Wireless Sensor Networks, Reliability, Low-power Wireless Technology.

## Personal

<b>Percussion</b>	
2013	<b>Creation of a Percussion Association</b> , president role for a year.
<b>Sports</b>	
	Climbing: I like to climb on rocks. Capoeira
<b>Computing</b>	
2016	In charge of the Internet Cube project in a non-profit Internet Service Provider 🌐 <a href="https://internetcu.be/">https://internetcu.be/</a>
2007	Creation of a social computing center in my home town (Parempuyre, France)
<b>Languages</b>	
	French (native), English (fluent), Spanish (fluent)

## Rewards

2016	<b>Runner up IEEE SECON 2016 Best Demo Award with</b> "A Demo of the PEACH IoT-based Frost Event Prediction System for Precision Agriculture", Keoma Brun-Laguna et al., 28 June 2016.
2011	<b>Member of the "24h de l'innovation 2011"</b> (Engeneering School ESTIA, Bidart).