

# Keoma Brun-Laguna

24 years old

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## PhD Student in Computing and Networks Inria-EVA Team, Paris

### Education

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

### Positions

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|-----------------|---|
| 2016–present    | <b>PhD Student</b><br>Deterministic Networking for Industrial Internet of Things,<br>– Deployment and implementation of Real-World Wireless Sensor Networks.<br>– Study of the TSCH protocol limits and trade-offs.<br>EVA team, Inria, Paris, France<br>Supervised by Thomas Watteyne. |
| 2015 (6 months) | <b>Internship</b><br>Multipath in 6TiSCH Networks,<br>– Solution proposal and implementation in OpenWSN<br>– Experimental analysis with IoTLab<br>ICube Laboratory, Strasbourg, France<br>Supervised by Fabrice Theoleyre.  |
| 2014 (3 months) | <b>Internship</b><br>Energy Consumption in D2D Networks,<br>– Testbed setup (Android, Adafruit INA219)<br>LIP6 Laboratory, Paris, France<br>Supervised by Marcelo Dias de Amorim.   |

## Research Interest

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

## Projects

SaveThePeaches	<b>Predicting Frost Event in Peach orchards</b> I participated in the deployment of an 18-node SmartMesh IP network to monitor a peach orchard in Mendoza, Argentina. The network is connected to a back-end system that display the data in real time. <a href="http://savethepeaches.com">http://savethepeaches.com</a>
SnowHow	<b>Monitoring the Sierra Nevada snow-pack</b> I helped to 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. <a href="http://snowhow.io">http://snowhow.io</a>
SOLsystem	<b>An End-to-end Solution for Real-World Remote Monitoring</b> SOLsystem is the back-end system used in the SaveThePeaches and SnowHow project. It allows to easily manipulate, format and visualize the data produced by a wireless sensor networks. <a href="http://solsystem.io">http://solsystem.io</a>

## Teaching

<b>ENSTA</b> Paris, France	“The Internet of Things: Theory, Standardization and Hands-On Experience” Introduction to the Internet of Things concepts, challenges and solutions. December 2016, 4 days, with Thomas Watteyne
<b>S3++</b> 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, IAR, Eclipse, Netbeans, CodeBlocks Administration: BOUML, GANTT, L <sup>A</sup> T <sub>E</sub> X, Git
<b>Programing:</b>	C, Python, Perl, PascalScript, C++, Java, C#, HTML, PHP, Coldfusion, CSS, Javascript, Shell
<b>OS:</b>	Debian, Ubuntu, TinyOS Windows: Desktop, Server
<b>BDD:</b>	InfluxDB, MongoDB, MySQL, SQLite, PhpMyAdmin, SQLServer

## Publications

- [1] Keoma Brun-Laguna et al. A Demo of the PEACH IoT-based Frost Event Prediction System for Precision Agriculture. IEEE International Conference on Sensing, Communication and Networking (SECON). Poster. June 2016. URL: <https://hal.inria.fr/hal-01311527>.
- [2] Keoma Brun-Laguna et al. Demo: SierraNet: Monitoring the Snowpack in the Sierra Nevada. ACM International Conference on Mobile Computing and Networking (MobiCom), Workshop on Challenged Networks (CHANTS). Poster. ACM, Oct. 2016. DOI: 10.1145/2979683.2979698. URL: <https://hal.inria.fr/hal-01364041>.
- [3] Keoma Brun-Laguna et al. "(Not so) Intuitive Results from a Smart Agriculture Low-Power Wireless Mesh Deployment". In: CHANTS'16. New York City, United States, Sept. 2016. DOI: 10.1145/2979683.2979696. URL: <https://hal.inria.fr/hal-01361333>.
- [4] Keoma Brun-Laguna et al. "SOL: An End-to-end Solution for Real-World Remote Monitoring Systems". In: IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC). Valencia, Spain, Sept. 2016. URL: <https://hal.inria.fr/hal-01327798>.
- [5] Thomas Watteyne et al. "PEACH: Predicting Frost Events in Peach Orchards Using IoT Technology". In: EAI Endorsed Transactions on the Internet of Things (June 2016). URL: <https://hal.inria.fr/hal-01312685>.

## Personal

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

## Rewards

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