## Ciclo Seminari
## Dottorato Technology for Health

# "Big Data Analysis: from Industry 4.0 to Smartcities"

## Relatore: Prof. Diego Silva

## Program

*IoT is a promising trend whose greatest impact is related to how the information is exchanged and exploited. For instance, in smart cities scenario, as well as in industrial scenarios, there are today many consumer devices able to produce data but unable to store their own data, thus the need for transmission and storage give rise to other solutions. In this new reality, network protocols and cloud platforms specialized for the new trends play a key role.*

*To be efficient in the information era, one the main challenges is how to use all the data collected by distributed devices to extract useful information to optimize (industrial) process and easy the life of people (in cities). The data analysis and the other solutions related to IoT already attracted attention from the Industry sector, and the application of those technologies in the industry, with all the inherent requirements, is called Industrial IoT (IIoT), which is one of the drivers of the fourth industrial revolution, also known as Industry 4.0.*

*The seminar will give detailed outlook of current industrial solutions, highlighting their relations with smart cities in order to propose the best synergy.*

*The next section lists the topics which proposed for the seminars, for a total of 10 hours divided in 5 sessions.*

## Seminar schedule

| Date, time, and place | Title and duration |
| --- | --- |
| Tuesday 15/05 14.30 - Room 45 – DII Via Branze 38 | Building a IoT backend for cloud environment based on open source software (2h) |
| Wednesday 16/05 14.30 - Room 45 – DII Via Branze 38 | IoT Architecture for building automation, health care and smart vehicles (2h) |
| Thursday 31/05 14.30 - Room 45 – DII Via Branze 38 | Big Data analysis for IoT and Industry 4.0. An Overview (2h) |
| Thursday 07/06 13.30 - Room 45 – DII Via Branze 38 | Big Data analysis for Industry 4.0 with python. Use case in Alarms and Events (2h) |
| Thursday 07/06 15.30 - Room 45 – DII Via Branze 38 | Big Data analysis for IoT with python. Use case in Health Care and Smart Vehicles (2h) |

**Prof. Diego Silva** is an Associated Professor at the Federal University of Rio Grande do Norte, and current an official Visiting Professor to the University of Brescia. He has experience in Computer Engineering, with emphasis on Industrial Automation, where he has been developing projects for the Brazilian industry since 2003 in various topics such as alarm management, connectivity and industrial protocols, asset management and data visualization. In addition, he has also been involved in technological development projects in the areas of education and building automation. His interests include Industry 4.0, IoT, IIot, signal processing, cloud computing, among others. He did postdoctoral studies at the University of Southern California between 2015 and 2016, where he delved into the subject of Digital Signal Processing in Graphs.

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