robotics+
Swiss National Centre of Competence in Research

EPFL
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Summerschool in robotics and artificial intelligence

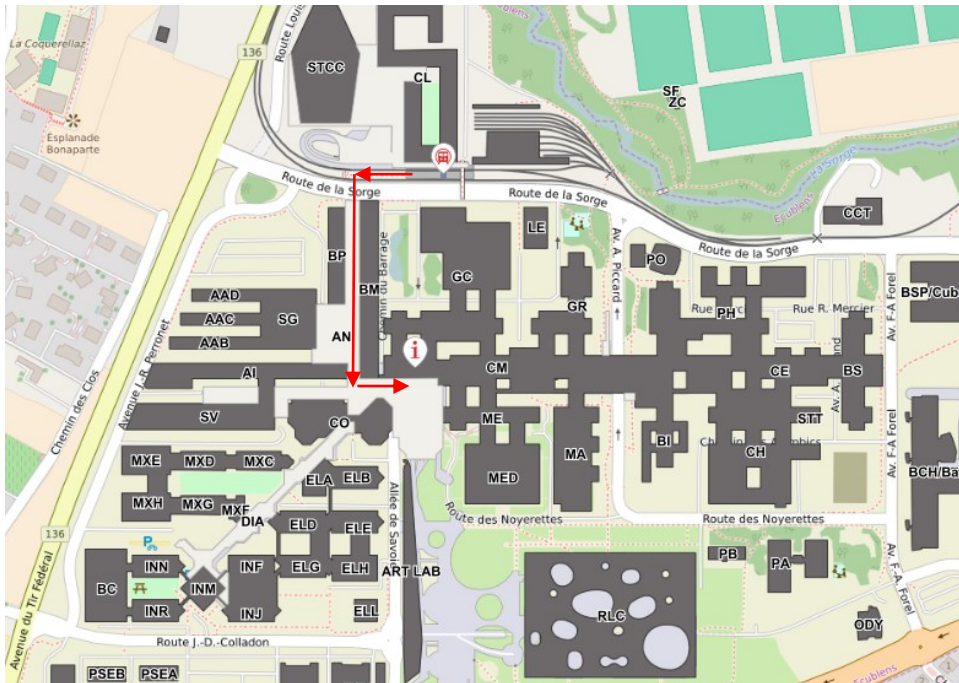**Professor Francesco Mondada /
Dr Amaury Dame
EPFL, July 09-12 2018**

Meeting point:
July 09, 09:45 Esplanade // (i) on the map
Getting to EPFL: metro line m1, stop EPFL

Contact: spe@epfl.ch / 021 693 22 81

Program

	Monday, July 9	Tuesday, July 10	Wednesday, July 11	Thursday, July 12
Goal of the day	**Program a behavior in a clean way: understand, structure, program!**	**Moving around: sensing the environment, mapping it and moving!**	**Build a brain for the robot: make a neural network that learns**	**Understand how to have the robot learn in a structured way**
9:00 - 9:45	10:00 (1st day schedule) Welcome, team building	Exercises on motion	Exercises on control	Exercises on control
10:00 - 10:45	Introduction to mobile robotics and Thymio	Motion local navigation	Theory on control and degrees of freedom.	Theory on sensor caracteristics
11:00 - 11:45	Exercises on Thymio programming	Exercises on local navigation	Exercises on control	Exercises on sensors features
Lunch	Together welcome lunch	Free time for lunch	Free time for lunch	Together farewell lunch
13:15 - 14:00	Sensors	Localization	A special controller: the artificial neural network	Machine learning theory
14:15 - 15:00	Exercises on sensors	Exercises on Localization	Exercises on neural networks	Exercises on learning
15:15 - 16:00	Reactive behaviours and state machines	Understanding mapping	Artificial neural networks that learn	Conclusion with discussion
16:15 - 17:00	Exercises on simple behaviors	Exercises on mapping	Exercises on learning	