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ENAC-SIE, microelectronics Project, Fall 2017	Start:	19/09/2017
	End:	22/12/2017 (approx.)

Title	**Chatting with a scientific device**
Supervisors	Dott. Paolo Benettin, Prof. Andrea Rinaldo
Objective	Communicate remotely with a streamwater sampler and trigger operations via sms or telegram commands
Abstract	The evaluation of streamwater quality is usually based on the acquisition of water samples from rivers. Typical automatic samplers have a resistent but old technology which does not include remote control. This is a problem for field sites which are in remote areas and cannot be easily accessed. The use of microcontrollers with wireless shields is thus a valuable option to communicate with the instrument and trigger sample acquisition. The primary goal of this project is to establish communication and send simple basic commands (like start/stop) to the sampler. More elaborate operations may include retrieving the instrument status and storing data in the cloud.

Task description	1. establish remote communication with the instrument via a wireless Arduino shield
	2. code simple commands (e.g. start/stop a program) to be triggered via sms or telegram
	3. test the system in lab and field conditions
	4. code more advanced commands (e.g. retrieve program status)

Required skills	• experience with Arduino microcontrollers (hardware and software)
Location	EPFL campus, Lausanne (CH)
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