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Robotic workshop at CERN

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[Forum \(https://forum.poppy-project.org\)](https://forum.poppy-project.org)

[Photos \(https://www.flickr.com/photos/poppy-project/albums\)](https://www.flickr.com/photos/poppy-project/albums)

[Documentation \(http://docs.poppy-project.org/en/\)](http://docs.poppy-project.org/en/)

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POPPY ERGO JR WORKSHOP AT CERN

A day to build and program your robot!

[Théo \(https://twitter.com/theosegonds\)](https://twitter.com/theosegonds) and [Stéphanie \(https://twitter.com/Sblackpowder\)](https://twitter.com/Sblackpowder) from Poppy Education team from [Inria \(https://flowers.inria.fr/\)](https://flowers.inria.fr/) were at [CERN \(https://home.cern/fr/about\)](https://home.cern/fr/about) near Geneva to host a workshop on the construction and programming of the robotic arm [Poppy Ergo Jr \(https://www.poppy-project.org/en/robots/poppy-ergo-jr\)](https://www.poppy-project.org/en/robots/poppy-ergo-jr) as part of the [Coding Pi Science Event \(https://codezlasceience.web.cern.ch/csd/\)](https://codezlasceience.web.cern.ch/csd/).

This educational event was organized by the CERN Micro Club, and CERN IdeaSquare (in partnership with Google Education and EU Code Week) around three scientific kits based upon the [Raspberry Pi \(https://www.raspberrypi.org/\)](https://www.raspberrypi.org/), a mini-computer to initiate in sciences and in computing.

In addition to the [Poppy Ergo Jr \(https://www.poppy-project.org/en/robots/poppy-ergo-jr\)](https://www.poppy-project.org/en/robots/poppy-ergo-jr) robotic arm, participants could also discover 2 other scientific kits:

- The Muon Hunter Cosmic Ray Detector kit (<http://www.muonhunter.com/>), designed as a partnership between Mr Mihaly Vadai and members of the CERN Micro Club.
- The Programmable Wifi car GianoP (<https://github.com/cmrobotics/drivar>), invented in partnership with the campus La Chataîgneraie, for the International School of Geneva.

By the way, we recommend this great article published on the Raspberry Pi blog written by William Bell (<https://twitter.com/WilliamHBell>), describing well the event and the technologies: CERN coding Pi science event (<https://www.raspberrypi.org/blog/cern-coding-pi-science-event/>).

Here is a small report of what happened concerning the Poppy Ergo Jr robot, followed by a feedback on the workshop and the list of the resources that were used.

On Friday evening: discovering Poppy Ergo Jr

The Coding Pi Science days started with the presentation of the three scientific kits. We gave a quick overview of Poppy Ergo Jr: its story, its features and its applications.

(slides are in french but english speakers said they understood thanks to images and videos ;-))



@poppy_project

Inria

Poppy Ergo Jr

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| Slide 1 |

This conference was a good appetizer and allowed us to exchange with very motivated participants!

Saturday: a day to build and program their robot

7 groups of students with teachers and/or parents, of all ages, levels and backgrounds were there!

After a brief introduction of the day –and a bit of sweating due the Swiss Customs not wanting to let the ordered robots go through :-)-, each group was given one kit. The workshop then began.

Théo and Stéphanie were there to coach and guide the groups and answer all their questions!

The morning

With the help of the facilitators, the first mission was to assemble the Poppy Ergo Jr robot using the [documentation \(https://docs.poppy-project.org/en/assembly-guides/ergo-jr/index.html\)](https://docs.poppy-project.org/en/assembly-guides/ergo-jr/index.html). The goal? Success of the various stages (prepare the Raspberry Pi, configure the motors, assemble the robot parts using rivets...) without get mixed up!



Jules built his robot super fast. Maybe a little too much: some parts were upside down! Never mind! Building and deconstructing is part of robotics :-)



In the end, all groups did very well (thanks to the younger ones :p) and finished in time for lunch!

The afternoon

Once the robots were built, the groups were ready to start their second mission: animate the robot. Some have programmed with the visual language Snap! (similar to Scratch) and others in Python.



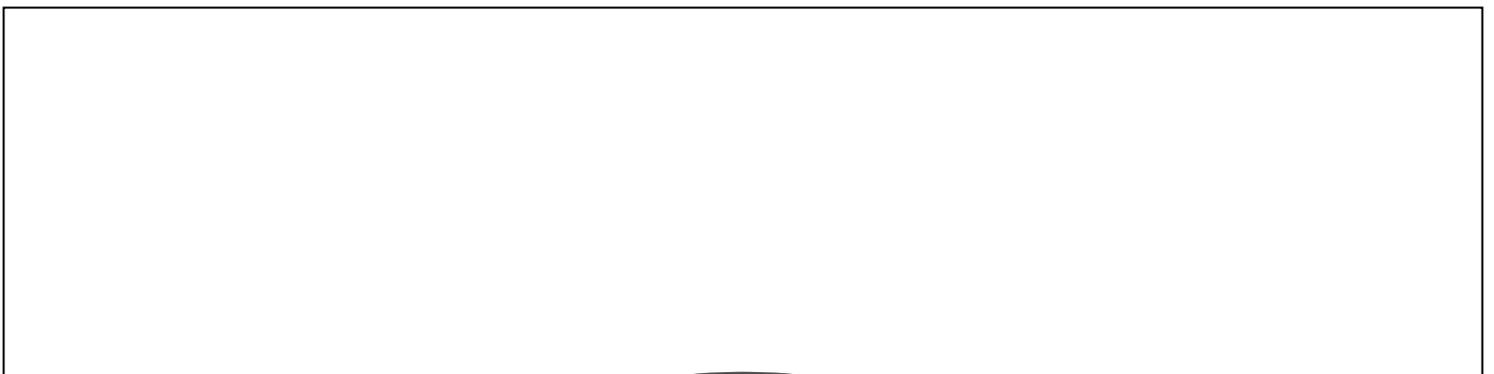
Jade programming the worm dance in Snap! ([see the result in video \(https://youtu.be/BTx-b0MQMKg\)](https://youtu.be/BTx-b0MQMKg))

Without having received any special instructions, the groups gave free rein to their creativity by drawing their inspiration from the pedagogical booklet, from the Jupyter Notebooks tutorials, and from their own imagination.

Some choose to build Christmas tree robot, while others built a ball thrower. A robot even danced the samba!

Guillaume Delille, a senior year student at the Jeanne d'Arc de Gex high school, had to present this day to his class.

He made this video which allows to relive the workshop:





To reproduce this workshop in class or at home, you can use the resources below:

- **Get your robot:** The kit Ergo Jr kit is distributed by Génération Robots (<https://www.generationrobots.com/en/328-poppy-ergo-jr-robot>). You can also browse the source files (<https://github.com/poppy-project/poppy-ergo-jr>) to build your own.
- **Build Poppy Ergo Jr:** assembly guide (<https://docs.poppy-project.org/en/assembly-guides/ergo-jr/index.html>)
- **Learn Snap!** (visual programming language): download the pedagogical booklet (<https://drive.google.com/uc?export=download&id=0B2jV8VX-IQHwTUxXZjF3OGxHVGM>) (in french) or get started with this quick tutorial (<https://docs.poppy-project.org/en/programming/snap.html>) (in english)
- **Program in Python:** with Jupyter notebook (https://github.com/poppy-project/community-notebooks/blob/master/demo/poppy-ergo_Record%2C%20Save%2C%20and%20Play%20Moves.ipynb)
- **Share with the community Poppy:** on the forum (<https://forum.poppy-project.org/c/education>)

Many thanks to Brice Copy (the main organizer) and all the volunteers of the event!

 (<https://github.com/poppy-project>)

 (https://twitter.com/poppy_project)

 (<https://facebook.com/poppycommunity>)

 (<https://www.flickr.com/photos/poppy-project/albums>)

 (<https://www.youtube.com/c/PoppyProjectOrgVideos>)

Contribute to this page (https://github.com/poppy-project/poppy-project.org/blob/master/_posts/2016-12-08-poppy-ergo-jr-workshop-at-cern.md)

Contact the community (</en/contact>)

