

# TECHNOLOGIES IN STEM EDUCATION



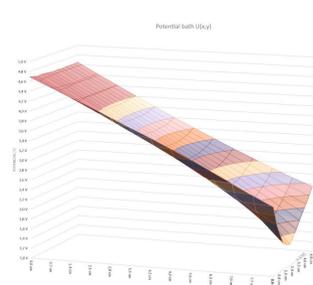
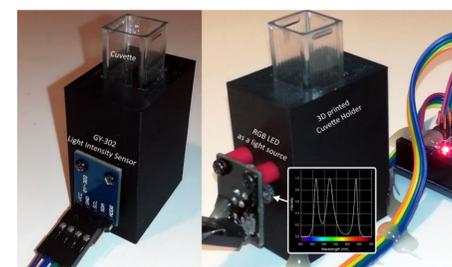
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## STEM recipes for digital natives

This FAIR is a platform which will show my cooking processes for the microcontroller-based experiments. My recommended recipes may not fit on this poster, so if you want to rebuild one of them, read in the QR code that will take you to a detailed description of how to build the equipment.



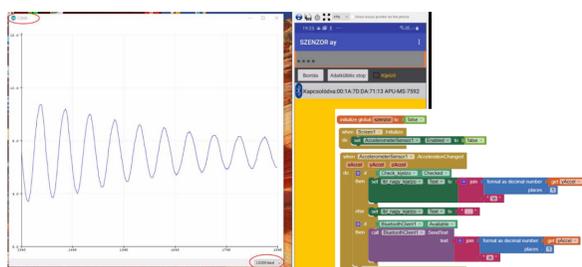
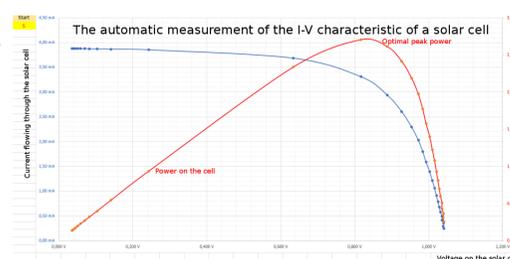
First, I would like to present my 3D printed, LED based, inexpensive photometer developed for chemistry and biology teachers that can be controlled by a mobile-phone. The Arduino card that controls the measurement communicates with the phone via a Bluetooth module.



I also would like to present my automated potential bath, which was successful in the European Code League final 2020. This Arduino and Excel DataStreamer based project has been developed together with my students.



My third recipe is an automatic testing of the solar cells. This Arduino and Excel DataStreamer based equipment can test automatically the efficiency of solar cells.



I'm introducing another mobile-phone app coding in the AppInventor for the physics teachers. The app sends real-time data from sensors built in our Android phone via a Bluetooth channel to a DataStreamer.



At the end I will show you a beautiful physics experiment that can be shown in a classroom. I'll demonstrate the standing waves on a vibrating fluorescent rubber string is illuminated by an UV stroboscope, controlled by mobile-phone app.

