**FROM TEACHERS FOR TEACHERS**

TECHNOLOGIES IN STEM EDUCATION

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# Digital Measurement System in Physics Education Based on Raspberry Pi

Measurement System Features:

- low-cost, accurate measurement system with a wide range of sensors for teacher-led and student-centred physical laboratory experiments
- open-source PhyPiDAQ-Software manages acquisition, display and storage of data obtained from physical sensors through one Graphical Interface
- multiple graphical representation such as graph of one or more measured quantities over time, bar charts and XY-graphical relationships of physical quantities for the display of real-time data
- numerous capabilities like adapting the range of measurement to the characteristics of the sensors and to the experimental goals, or adding formulae into the configuration of a sensor to obtain a direct visualization of a desired quantity
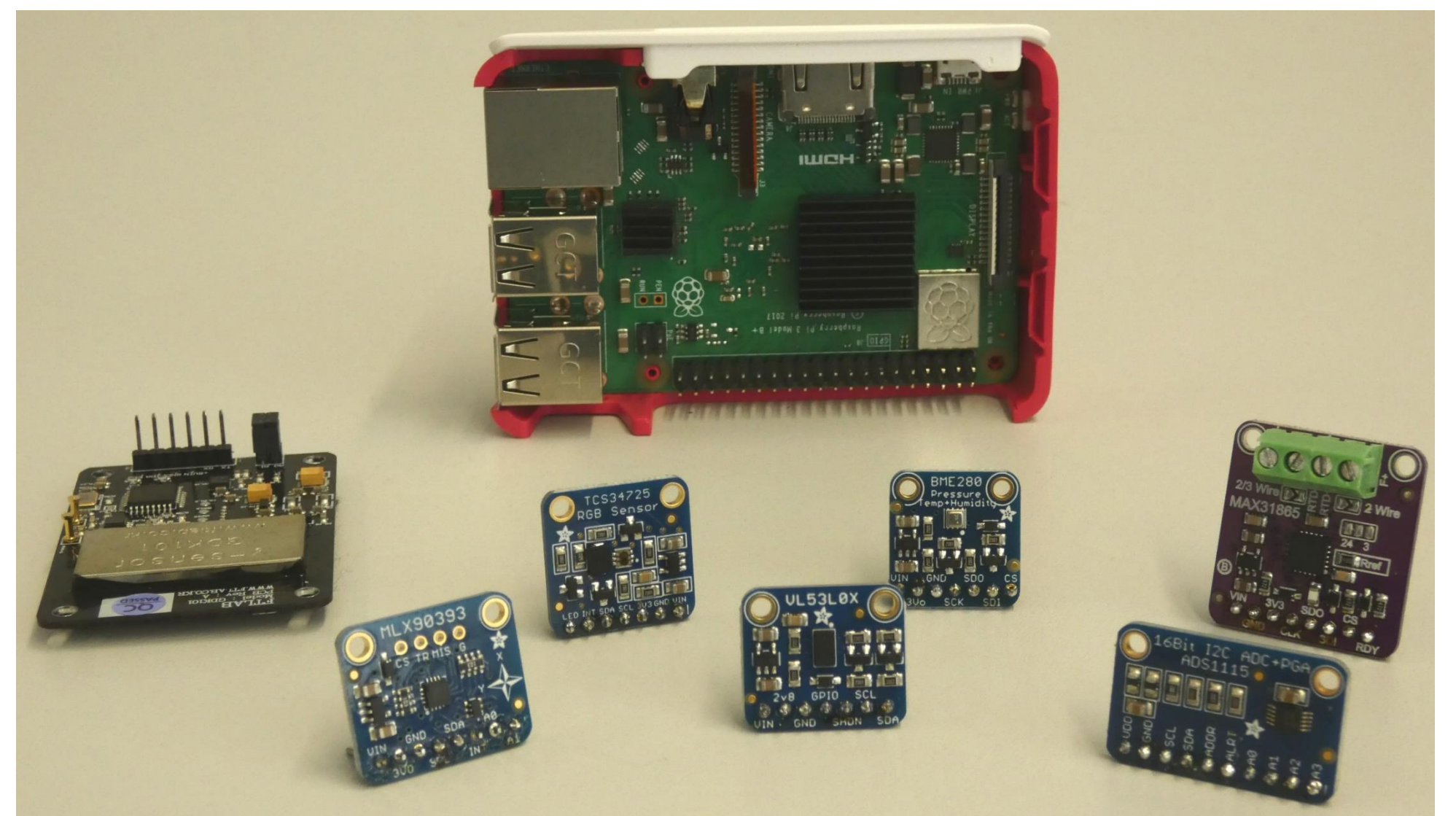
Didactical Aspects:

- promote scientific inquiry process and engineering design
- stimulate students to interact directly with various electrical components
- measurement data used in interdisciplinary ways can enhance the students insight in mutual relationships between Physics concepts and mathematical tools in modelling them
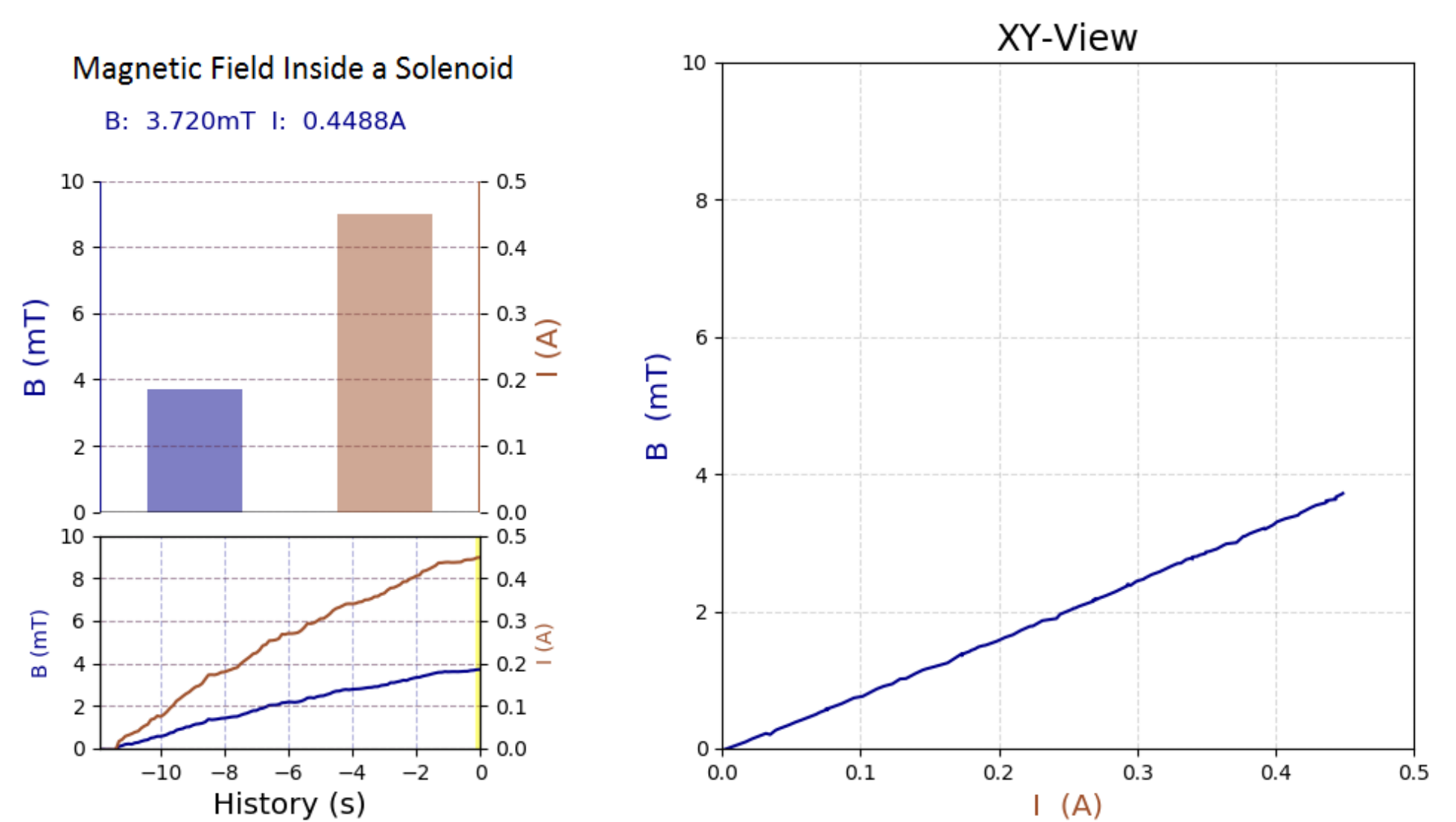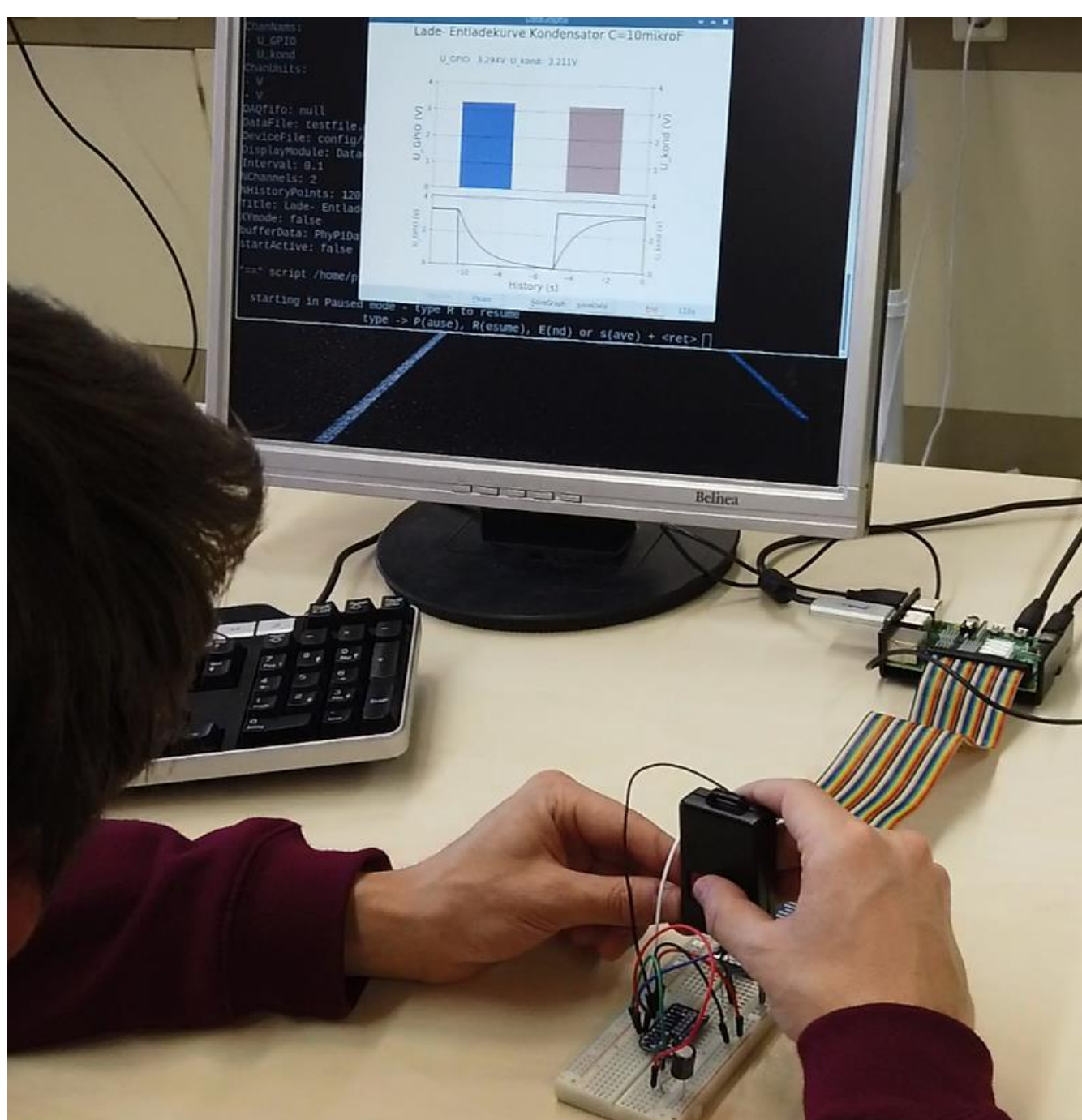
The Raspberry Pi based Digital Measurement System offers a wide range of learning opportunities for STEM concepts and practices spreading within and across the disciplines and grade levels in an integrated curriculum.