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Hardware

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Message from the Editor-in-Chief

Hardware aims to be a platform for designs of devices produced in laboratories. Often researchers need to create purpose made instrumentation needed for their research as suitable commercial options are not available. It is also frequently desired to create low-cost alternatives. These approaches are often facilitated by making use of the inexpensive Arduino and Raspberry Pi microcontroller and microcomputer platforms. Mechanical parts can be produced with 3D printers. Researchers may want to share the designs so that these can be duplicated elsewhere saving others the time and effort needed for developing their own solutions. The devices described in *Hardware* may be purpose-made tools used in scientific laboratories but can also include devices deployed outside a research laboratory, such as instruments used for measurements and analysis in the environment, in clinical assays or tools for electronic workshops. These may often be electronic devices, but can also be of purely mechanical or optical nature. While the journal is not intended for pure software projects, the projects described in *Hardware* will often have a strong software component, which may feature strongly in the article. *Hardware* fills a special niche in that it does not focus on the experimental achievements but rather on the tools needed.

Editor-in-Chief

Prof. Dr. Peter C. Hauser

Aims

Hardware (ISSN 2813-6640) is an open access journal publishing articles detailing the construction of a broad range of scientific and laboratory instrumentation, devices and equipment. It is a platform for the dissemination of Open Source hardware designs.

The aim of *Hardware* is to provide a means to share the designs of instruments and devices, and therefore requires that any design files employed in the construction of the devices are made available in the original editable source format in an open license as supplementary information. This includes any software required to operate the devices. To support the dissemination of the hardware details, the articles have a specific format and may be of any length appropriate to the complexity of the subject. A brief demonstration of fitness for the purpose of the device described is to be included.

Scope

- Measuring devices;
- Analytical instruments;
- Field portable instruments;
- Process instrumentation;
- Electronic data acquisition;
- Adaptations of existing instruments;
- Software to modify the performance of existing commercial hardware devices;
- Low-cost alternatives;
- Optical instruments;
- Sensors and actuators;
- Laboratory equipment for sample handling;
- 3D-printed devices;
- Specially made tools for the laboratory;
- Specially made tools for building devices and instruments, and programming of electronic hardware;
- Safety devices.

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