

Special issue on “Sensors for hydrostatic level measurement in deep bore wells”

October 2022

Groundwater is the water found underground in the cracks and spaces in soil, sand, and rock. Groundwater is stored in and moves slowly through geologic formations of soil, sand, and rocks called aquifers. The groundwater satisfies 51% of drinking water globally and is also used as a major source for irrigation. Hence, groundwater is an essential necessity for humankind, it is always required for measurement of groundwater level, mineral content, location, and water quality. The groundwater level measurement is used to inspect the groundwater resource, where it is, how much volume it contains, and at what depth it is located. Further, this groundwater level measurement may also be recorded to determine the effect of precipitation, seasonal changes, and water extraction. When a deep bore well is commissioned for extracting water, the deep bore wells extend tens or hundreds of meters or yards underground in a very small diameter extraction borehole. There is a need for a deep bore well sensor-based water level measurement system to protect the pump from coil burn when borewell running dry. As well as, to monitor and prevent not too much water is been extracted.

A common platform is always in need to share the views of different researchers relating to the complicated facets of sensor-based real-time measurement and monitoring devices for hydrostatic level in deep bore wells. The device must ensure the water level of deep bore wells from running dry, monitors water extraction, and also measuring groundwater location, mineral content and water quality will be an added feature. We invite authors from both industry and academia to submit original research and review articles that cover the design, and model of sensor-based measurement and monitoring devices in the following topics (but not limited to):

- Design and development depth sensor probe for bore wells
- Measuring hydrostatic level in deep bore wells
- Methods for monitoring hydrostatic level in deep bore wells
- Application of sensors in monitoring water extraction
- Sensors for identifying groundwater location
- Sensors for measuring mineral content and water quality in deep bore wells.

Papers should present to the wide audience a general overview of one scientific subject of your interest fitting the Special Issue Topic and really framed in the Instrumentation and Measurement field.

Contributions dealing with Open Problems in IM are very welcome, also presenting challenging and ambitious solutions, which could be developed by current and advanced technology.

While drafting your paper to be submitted to IMM, you are strongly invited to take care that:

-The paper is properly framed in the field of Instrumentation and Measurement. This could be achieved by properly structuring the Review of the State of the Art and motivations of your work.

-In line with mission of the IEEE I&M Magazine, the paper aims to provide an overview of the topic addressed to the general I&M audience.

- The paper format is compliant with the IMM's author guidelines:

<https://iee-ims.org/publication/ieee-imm/new-submissions>

In general, each paper should contain 3500-5000 words, and present 4-6 figures.

When your paper is ready, please submit it completely through

<https://www.editorialmanager.com/IMM/default.aspx>

We expect to receive your paper by January 31th, 2022 to begin the review and production process. With your submission, please include a cover letter where you specify that this paper has been submitted for this special issue.

Schedule:

Full-length paper submission: January 31th, 2022

Revised manuscript due: March 31th, 2022

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