



# Journal of Energy Resources Technology

## CALL FOR PAPERS Special Issue on Digital Twins in Energy and Automotive Industries

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### Special Issue on Digital Twins in Energy and Automotive Industries

Digital twins which are an integral part of the Industrial Internet of Things (IIOT) or Industry 4.0, enable digitization across various industries. A digital twin, when combined with data streaming from IIOT sensors and a software framework to handle end-end operations, is an evergreen digital representation of an asset that could be useful in a variety of ways. For example, a validated design digital twin of a component could reduce development costs in design and manufacturing for the end user. Similarly, operational digital twins of existing assets in the field could support in health monitoring, diagnostics, and in extending the useful life through adaptive control techniques.

This Special Issue focuses on technology developments using digital twins in the broader areas of energy including fossil fuel driven power generation (coal, natural gas, etc.), power generation from renewables, oil and gas supply chain, and automotive (conventional IC engine, BEVs, EVs, connected mobility) sectors, and seeks contributions specifically in the following topic areas related to digital twins.

#### Topic Areas

- Modeling and simulation for digital twins (physics based, ML/AI, etc.)
- Enabling technologies (platforms & computing, IIOT sensors, automation, AR/VR, visualization, data ingestion approaches)
- Digital twins for Additive Manufacturing
- Closing the loop on digital twins using digital thread
- Digital twin case studies – operating assets (health monitoring, diagnostics, operations optimization at a station level or plant level, digital twin application/traceability/integration in supply chain)
- Cybersecurity issues for digital twins

#### Publication Target Dates

Paper submission deadline: **August 15, 2021**  
Initial review completed: **October 15, 2021**  
Special Issue publication date: **March 2022**

#### Submission Instructions

Papers should be submitted electronically to the journal at [journaltool.asme.org](http://journaltool.asme.org). If you already have an account, log in as author and select **Submit Paper** at the bottom of the page. If you do not have an account, select **Submissions** and follow the steps. In either case, at the **Paper Submittal** page, select the [ASME Journal of Energy Resources Technology](#) and then select the Special Issue **Digital Twins in Energy and Automotive Industries**.

Papers received after the deadline or papers not selected for inclusion in the Special Issue may be accepted for publication in a regular issue.

#### Special Issue Guest Editors

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