IFAC INTERNATIONAL FEDERATION OF AUTOMATIC CONTROL
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IFAC 2020 World Congress

IFAC 2020

Call for Papers for the Open Invited Track
Results on Nonlinear System Identification Benchmarks

The objective of this invited track is to present novel data-driven modeling approaches for nonlinear systems. Solicited contributions should **illustrate the developed methods and techniques on one or more nonlinear system datasets that are available on the nonlinearbenchmark.org platform**. This open invited track aims, by promoting interaction through the benchmark setups, to develop a better understanding of and insight in state-of-the-art data-driven modeling approaches. Ten different datasets are available ranging from well-established benchmark challenges in the nonlinear system identification community (e.g. the Silverbox and the Wiener-Hammerstein datasets) to recent challenging datasets of real life systems (e.g. the F-16 Ground Vibration Test and the Cortical Response Evoked by Wrist Joint Manipulation datasets). The invited track follows the success of the Workshop on Nonlinear System Identification Benchmarks which has been organized yearly over the last 4 years. Solicited contributions should describe solutions to one or more of these benchmark problems.

The objective of this invited track is to **advance the current knowledge in nonlinear system identification by encouraging the exchange of ideas between the systems and control, mechanical, machine learning communities** and any other research community working on the data-driven modeling of nonlinear systems. These communities have developed over the years various and numerous nonlinear modeling approaches driven by different backgrounds, constraints and end-uses. Moreover, they generally focus on different aspects of the modeling problem as they face different limiting factors in terms of model quality and identification cost. This is why we believe that, by promoting interaction through the benchmark setups, significant benefit can be mutually gained.

Tentative Dates

Draft manuscript submission: October 31, 2019
Acceptance notification: February, 2020
Final paper submission: March 31, 2020

Organizers

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Submission Information

This open invited track welcomes both regular papers (6-8 pages) and extended abstracts (short papers of 2-4 pages, to appear in the congress preprints but not in IFAC PapersOnLine). The code for submission is **27qyg**. The conference program committee will decide the placement of the accepted contributions into the open invited track or the regular program. Further information about submission is available at www.ifac2020.org.

Websites

http://www.nonlinearbenchmark.org
https://www.ifac2020.org/call/open-invited-tracks/#oi44