

Special Section on:

## Artificial Intelligent Based Designs and Applications for the Control of Electrical Drives

ARTIFICIAL INTELLIGENCE (AI) TECHNIQUES (expert systems, fuzzy logic systems, artificial neural networks, neuro-fuzzy systems, meta-heuristic optimization algorithms, deep learning, etc.) are well accepted in all engineering applications today, and their importance is perceived day by day. Thus, AI techniques have widely been applied to the control of electrical drives. On the other hand, electrical machines are often described by non-linear models with time-varying electrical and mechanical parameters, making their control difficult. Moreover, some states required for control are unavailable or costly to measure. Considering all these circumstances, the control methods without AI Techniques may not meet the desired control performance or their designs may be challenging. In such cases, AI-based or assisted techniques may be powerful candidates to overcome all these challenges. In the current literature, AI-based/assisted techniques have been broadly applied to the control of electrical drives for state and/or parameter estimation, state regulation, condition monitoring, fault diagnosis, and fault-tolerant control.

The purpose of this Special Section is to reveal the most recent findings associated with AI-based or assisted techniques used for the control of electrical drives. The papers to be prepared for this Special Section must include original materials that have not been submitted to or published in any other journal. Academicians and Practicing Engineers all over the world are invited to submit their recent original research contributions to this Special Section. Topics are, but not limited to:

- ✓ AI-based/assisted state and/or parameter estimators/observers for the control of electric machines
- ✓ AI-based/assisted fault diagnosis of electrical machines
- ✓ AI-based/assisted fault-tolerant control techniques of electrical machines
- ✓ AI-based/assisted condition monitoring
- ✓ High-performance control techniques combined with AI
- ✓ Efficient implementation of AI-based/assisted electric machine control techniques on different platforms such as GPU and FPGA

### Manuscript Preparation and Submission

Check carefully the style of the journal described in the “Guidelines for Authors” in the journal PEAD web site:

<https://sciendo.com/journal/PEAD> or <http://www.ped.pwr.edu.pl/Guidelines-for-authors,311.html>

Please submit your manuscript in electronic form through Editorial System: <http://www.ped.pwr.edu.pl/>

On the submitting page (after log in), in pop-up menu of manuscript type, select: “Special Section”, then upload all your manuscript files following the instructions given on the screen.

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<b>Timetable</b>			
Deadline for manuscript submissions: <b>May 30, 2023</b>	Information about manuscript acceptance: Successively, after the review	Publication date: Successively, open-volume mode	