



ANNUAL CONFERENCE OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY

Chicago | Illinois, November 3-6, 2024

Special Session on Uncertainties: Estimation, Compensation, and Rejection in Control Systems

Organized and co-chaired by:

Dr. Morcos Metry, Texas A&M University at Qatar, Doha, Qatar
Dr. Ahmad Bala Alhassan, Nazarbayev University, Kazakhstan
Assistant Prof. Binh-Minh Nguyen, The University of Tokyo, Japan

morcos.m.metry@ieee.org
ahmad.alhassan@nu.edu.kz
nguyen.binhminh@edu.k.u-tokyo.ac.jp

Call for Papers

Technical Outline of the Session and Topics:

In the dynamic spectrum of modern systems, including power systems, electric vehicles, and electromechanical systems, achieving high precision, stability, and adaptability is paramount. However, understanding and effectively handling the associated uncertainties (e.g., modeling, parametric, harmonics, actuation, and external disturbances) requires enhancing the robustness of the control design. Model or non-model-based controllers should be robust enough to reject unwanted uncertainties. This special session will be a collaborative platform for experts and researchers to exchange insights, strategies, advancements, and challenges in designing and applying various control methods under the influence of matched or unmatched uncertainties. The designed control systems would ultimately contribute to developing more resilient, safe, and adaptive energy systems.

Topics of the Session include, but are not limited to:

- The principles and challenges of uncertainties in control systems.
- Generalized higher order observers.
- Modeling and optimization techniques
- Control theories, design, and implementation.
- Model-free and machine learning-based control!
- Model validation for enhanced credibility of control models.
- Wind energy conversion systems (WECS)
- Motor drives, robots, and cranes control
- Traction and slip control of vehicles.

Author's schedule:

Deadline for submission of special session papers	April 15, 2024
Notification of acceptance	June 10, 2024
Deadline for submission of final manuscript	July 01, 2024
Early submission is highly encouraged for early decision notifications!	



CHICAGO

All the instructions for paper submission are included in the conference website:
www.iecon-2024.org