

**IEEE PES**  
***Analytic Methods for Power Systems (AMPS) Committee***  
**Intelligent Systems Subcommittee (ISS)**

**Working Group on Multi-Agent Systems (MAS)**  
*Virtual Meeting, 1-2 PM ET, July 20, 2021*

Chair: Amin Kargarian, Louisiana State University

The meeting started at 1:00 PM with the following **Agenda**:

1. Welcome and introduction
2. WG Activities in the past year
3. Panel/Tutorial for PESGM 2022 (& other conferences)
4. Webinars
5. Electing new chair, secretary, and webmaster
6. Website
7. Other Business

**1. Welcome and introduction**

The Chair welcomed everyone present in the meeting and each attendee introduced him/herself. Participants were asked to put their names, affiliations, and emails in the chat. The meeting has been attended by 13 people fully or partially.

**2. WG Activities in the past year**

The two panels organized by the MAS WG that are taking place at PESGM 2021 have been introduced:

- i. Optimization and Learning in networked Transactive Energy – July 29, 10 am- 12pm (Live)  
Panel chair  
Javad Mohammadi, Carnegie Mellon University, [jmohamma@andrew.cmu.edu](mailto:jmohamma@andrew.cmu.edu)  
Presentations
  - Donald J Hammerstrom, [Donald.Hammerstrom@pnnl.gov](mailto:Donald.Hammerstrom@pnnl.gov), On Applying Transactive Energy Systems to System Resilience, PNLL
  - Javad Mohammadi, Carnegie Mellon University, [jmohamma@andrew.cmu.edu](mailto:jmohamma@andrew.cmu.edu), Distributed Learning over Networked Cyber-physical Transactive Energy systems

- Pedro Moura, University of Coimbra, [pmoura@uc.pt](mailto:pmoura@uc.pt), Transactive Community Microgrids to Share Energy Storage Resources in Portugal
  - Ashkan Rahimikian, on Applying Transactive Energy Systems to System Resilience
  - Zoltan Nagy, CityLerarn: Standardizing Research in Multi-agent Reinforcement Learning for Demand Response and Urban Energy Management
- ii. Multi-Agent Systems for Transactive Energy: Theory, Platforms, and Demonstrations – July 27, 10 am – 12 pm (Live)
- Panel chairs
- Bishnu Bhattarai, Pacific Northwest National Laboratory, [bishnu.bhattarai@pnnl.gov](mailto:bishnu.bhattarai@pnnl.gov)  
 Sarmad Hanif, Pacific Northwest National Laboratory, [sarmad.hanif@pnnl.gov](mailto:sarmad.hanif@pnnl.gov)
- Presentations
- Bishnu Bhattarai/Sarmad Hanif, PNNL, [bishnu.bhattarai/sarmad.hanif@pnnl.gov](mailto:bishnu.bhattarai@sarmad.hanif@pnnl.gov), TE simulation with large-scale MAS w/ 10s/100s of thousands of agents
  - Anuradha Annaswamy, MIT, [aanna@mit.edu](mailto:aanna@mit.edu), Theoretical aspects of MAS for transactive energy (TE)
  - Farrokh Rahimi, OATI, [Farrokh.Rahimi@oati.net](mailto:Farrokh.Rahimi@oati.net), Blockchain-based Transactive Energy Platform and Functions
  - Koen Kok, Eindhoven University of Technology, [koen.kok@tno.nl](mailto:koen.kok@tno.nl), Design criteria for multi-agent system control and coordination for TE
  - Mads Almassalkhi, University of Vermont, [malmassa@uvm.edu](mailto:malmassa@uvm.edu), characterizing demand-side flexibility from fleets of distributed energy resources agents

### **3. Panel/Tutorial for PESGM 2022 (& other conferences)**

Two topics for potential panel proposals for PES-GM 2022 have been introduced: “Intelligent decision making in power and energy systems using multi-agent systems”, by Tiago Pinto and “Multi-agent systems for distributed optimal power flow in integrated Microgrids” by Ashkan Rahimikian.

The possibility of organizing a review paper / white paper that has been introduced in previous meetings has been discussed. Tiago Pinto has volunteered for leading a file where WG members can put ideas on the main topics where MAS can contribute and send out call for contributions/ideas.

### **4. Webinars**

The possibility for organizing online seminars has been discussed. Proposals for the topics of such webinars are requested.

## **5. Electing new chair, secretary, and webmaster**

Amin Kargarian has announced the intention for stepping down as WG Chair and asked for volunteers to act as officers of the WG. Tiago Pinto and Ashkan Rahimikian volunteered to assume officer positions.

## **6. Website**

The WG website is currently down (<https://site.ieee.org/pes-mas/>). Volunteers are needed to help with this. Tiago has volunteered to check how this problem can be resolved. Ashkan suggested to make the website more interactive and to add project presentations. Tiago suggested to use the topics/ideas from the call mentioned in point 3. to be used as guidelines for the new website organization.

## **7. Other Business**

No other business has been brought up.

The meeting was adjourned at 2:00 PM.

## **List of attendees:**

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