

## IEEE PES INTELLIGENT SYSTEMS SUBCOMMITTEE MEETING

### Minutes

#### IEEE PES GM Vancouver, Canada

Date and Time: Tuesday, 23<sup>rd</sup> July 2013, 11am to 1pm

Venue: Vancouver Convention Centre, East, Room No.4

Chair: Alexandre P. Alves da Silva, GE Global Research, Brazil

Vice-Chair: Zita Vale, Polytechnic of Porto, Portugal

Technical Secretary: Sukumar Mishra, Indian Institute of Technology, Delhi, India

#### AGENDA

1. Approval of the Minutes
2. Announcements
3. Working Group and Task Force Activities
  - 3.1 Working Group on Multi-Agent Systems – Chair: Dave Cartes
    - 3.1.1 Task Force on Agent-Based Modeling – Chairs: Ivana Kockar and Leigh Tesfatsion
  - 3.2 Working Group on Intelligent Control Systems – Chair: Ganesh Kumar Venayagamoorthy
    - 3.2.1 Task Force Micro-Grid Control System – Chair: Jignesh Solanki
  - 3.3 Working Group on Intelligent Data Mining and Analysis – Chair: Zita Vale
  - 3.4 Working Group on Modern Heuristic Optimization – Chair: Kwang Lee
  - 3.5 Task Force on ISS Scope and Application Areas
  - 3.6 Review of WG and Task Force activities
4. Other Technical Activities – ISS website
5. Linking ISS activities to application areas and industrial interests
6. Panels and Paper sessions for GM 2014 and other meetings
7. Tutorials
8. Other Business
9. Next Meeting

The meeting started at 11am

The chair welcomed everyone to the Intelligent Systems Subcommittee (ISS) meeting and passed around an attendance list which was signed by 18 people attending the meeting.

1. The minutes of the ISA subcommittee meeting at IEEE PES GM 2012 in San Diego is approved with a correction in the number of attendees from 32 to 27.
2. Announcements  
The Chair announced the list of panels supported by the IS subcommittee during the 2013 IEEE PES GM. This information is summarized in table 1.

**Table 1: Panel Sessions sponsored by the IS Subcommittee in IEEE PES GM 2013, Vancouver**

Session Type	Session Title	Time & Venue
Panel	Data mining for operational and economics decisions	22July 2013, 01:00-03:00 PM, REN – Ballroom III
Panel	Multi-agent systems test beds and applications	22July 2013, 01:00-05:00 PM, MAR – Dunderave
Panel	Intelligent OPF in uncertain and variable environment	23July 2013, 10:00 AM-12:00 PM, VCC East – East Meeting Room 8 & 15
Panel	Big data analytics for electric power grid operations *	24July 2013, 01:00-05:00 PM,, VCC West – West Meeting Room 115
Panel	Challenges and opportunities of modern heuristic methods in power system operation and planning	25July 2013, 10:00 AM-12:00 PM, REN – Port of Singapore

\* Co-sponsored By ISS and Computer Analytical Methods subcommittee (CAMS)

### 3. Working Group (WG) and Task Force (TF) Activities

#### 3.1 Working Group on Multi-Agent Systems –Chair: Dave Cartes, Florida State University, USA

The WG proposed a panel session on “Benefits and challenges of deploying multi-agent systems” for the IEEE PES GM 2014.

The WG will work on another transactions paper based on the IEEE PES GM 2013 panel.

##### 3.1.1 Task Force on Agent-based Modeling – Chairs: Ivana Kockar and Leigh Tesfatsion

One of the task force chairs (Prof. Leigh Testfatsion) has requested to be replaced due to new commitments from her side. This matter is being discussed and will be included in PSACE meeting on Wednesday, 24h July 2013.

#### 3.2 Working Group on Intelligent Control Systems- Chair Ganesh Kumar Venayagamoorthy, Clemson University, USA

On behalf of the working group chair, Sukumar Mishra informed that in the Special Section on Computational Intelligence Applications in Smart Grid of the IEEE Transactions on Smart Grid, 115 two page extended abstracts were received and reviewed. Authors of 47 selected abstracts were then invited to submit full paper and in second round 20 papers were accepted for publication.

A panel session on “Forecasting and intelligent control of microgrids” is proposed for the IEEE PES GM 2014 which is initiated from the Micro-Grid Control System Task force. Prof. Ganesh Kumar Venayagamoorthy and Dr. G. Solanki will chair the panel. This panel is also proposed for the IEEE ISGT 2014 (North America).

The WG proposed a tutorial on “Computational intelligence for smart grids” for IEEE PES GM 2015

### 3.2.1 Task-Force on Micro-Grid Control System – Chair: Jignesh Solanki

On behalf of the TF chair, Sukumar Mishra informed that during the discussion it was agreed that there is a quick need for a benchmark micro grid model. It was further conclude that the topology of a physically existing microgrid model will be made available for general use by the Task Force.

### 3.3 Working Group on Intelligent data Mining and Analysis- Chair: Zita Vale, Polytechnic of Porto, Portugal

The WG proposed a panel session on “Data mining for power market regulatory issues” for the IEEE PES GM 2014.

The WG is also working on the organization of panels in other conferences:

- IEEE PES T&D 2014: SCADA and market data mining for smart grids
- IEEE ISGT Europe: the WG is envisaging contacts with the organizers after analyzing the WG members’ participation in the conference.

The group highlighted the importance of interaction with industry and told that they plan increase the efforts to ensure higher industry participation to the upcoming panels.

### 3.4 Working Group on Modern Heuristic Optimization: Chair :Kwang Lee,Baylor University

The WG proposed a panel on “Modern heuristic optimization methods benchmarking” for the 2014 IEEE PES GM. The preparation process for this panel will include a competition in the panel area and the panel will present the competition finalists’ results.

The chair of the working group informed that it has been decided to convert the planned white paper into an edited book to be published by Wiley. He will be contacting the envisaged authors so that the book can be expected in a couple of years.

The WG Chair also announced the organization of the mini symposium on Smart Grid Control, Computer, and Communications (SmartGridC3) in the scope of the IFAC 19th

World Congress, to take place in Cape town, South Africa. The deadline for submitting invited sessions and paper proposals is August 15<sup>th</sup> 2013.

### 3.5 Task Force on ISS Scope and Application Areas

There was no update given by this Task Force. No one attended the meeting, chaired by Alexandre P. Alves da Silva. It was decided to wait for the feedback on the WG scope analysis from Dagmar Niebur to decide on the prosecution of this TF work.

### 3.6 Review of Working Group and Task Force activities

It was brought to the notice that there are around 500 working groups across the PES. Importance of updating scopes of WG, so as to avoid overlapping was highlighted. If WG fails to prove uniqueness of scope, the possibility of getting merged with related WG and TF should be considered.

## 4. Other Technical Activities - ISS Website

Even though last year it was requested to forward the updates of working groups so as to update the website, no encouraging responses were received. All working groups were once again requested to forward the updates to Zita Vale, Polytechnic of Porto, Portugal ([email.zitavale@gmail.com](mailto:email.zitavale@gmail.com)).

## 5. Linking ISS activities to application areas and industrial interests

Need for participation from industry was emphasized. It was reiterated that effort to be made to organize panels with special invitees from industries.

## 6. Panel and paper sessions for IEEE PES GM 2014 and other meetings

Last year five panels were proposed and all got accepted. Similarly for GM 2014 five panels are proposed, one by each WG and one for the IS subcommittee, co-sponsored by Computer Analytical Methods subcommittee (CAMS), on “Challenges and Solutions of Big Data for Power System Operations”.

The details of the panel sessions proposed for the IEEE PES GM 2014 are given in table 2.

**Table 2: Panel Sessions proposed by the ISS for the IEEE PES GM 2014, Washington D.C., USA**

Session Type	Session Title
Panel	Benefits and challenges of deploying multi-agent systems

Panel	Data mining for power market regulatory issues
Panel	Modern heuristic optimization methods benchmarking
Panel	Forecasting and intelligent control in microgrids
Panel*	Challenges and Solutions of Big Data for Power System Operations *

\* Co-sponsored by ISS and CAMS

Besides these panel sessions, the following panel sessions are proposed for other meetings:

- IEEE ISGT 2014 (North America)
  - Forecasting and intelligent control in microgrids
- IEEE PES T&D 2014
  - SCADA and market data mining for smart grids
- IEEE ISGT Europe
  - Envisaging contacts after analyzing members participation.

## 7. Tutorials

ISS Chair was informed that the subcommittee's proposals for two tutorials last year were rejected. As the dead line for the proposal for 2014 has already elapsed, a proposal on "Computational intelligence in Smart Grid" by WG on Intelligent control systems will be submitted for the IEEE PES GM 2015.

## 8. Other Business

The subcommittee thanked the team of ISAP 2013, namely the very good work by Prof. H. Mori, and welcomes the team of ISAP2014 in Portugal. The following upcoming events were announced:

- Mini Symposium on Smart Grid Control, Computer, and Communications (SmartGridC3) in the scope of the IFAC 19th World Congress, August 2014, Cape Town, South Africa
- ISAP 2014, September 2014, Porto, Portugal
- IFAC Symposium on Power Plants and Power Systems Control, December 2015, Delhi, India.

## 9. Next meeting

The next meeting of IS subcommittee will take place in Washington DC, in the scope of IEEE PES GM 2015

The meeting was adjourned at 11.48pm

Respectfully submitted,

Sukumar Mishra

**ANNEX: IEEE PES GM 2013 IS Subcommittee Meeting Attendance List**

<b>Name</b>	<b>Institution</b>	<b>Email</b>