



# 6<sup>TH</sup> INTERNATIONAL ISTANBUL SMART GRIDS and CITIES CONGRESS and FAIR SCIENTIFIC PROGRAMME

25 APRIL 2018, WEDNESDAY

**B5- FOYER AREA**

**08:30 - 10:00** REGISTRATION

**10:00 - 12:00** OPENING CEREMONY

**Mehmet ERTURK**

*ICSG Istanbul 2018 Executive Committee Chairman*

**Mevlut UYSAL**

*Istanbul Metropolitan Municipality Mayor*

**HRH. Sana ASSEM**

*Hashemite Kingdom of Jordan Princess and The Arab  
Renewable Energy Commission Chairwoman of High  
Steering Committee*

**Ziya ALTUNYALDIZ**

*Justice and Development Party Konya Deputy, President  
of GNAT Committee on Industry, Trade, Energy, Natural  
Resources, Information and Technology*

**Dr. Berat ALBAYRAK**

*Energy and Natural Resources Minister of Turkey\**

**Mehmet OZHASEKI**

*Environment and Urbanization Minister of Turkey\**

**Dr. Faruk OZLU**

*Science, Industry and Technology Minister of Turkey\**

**Recep Tayyip ERDOGAN**

*President of Turkey\**

*\* In case of attendance*



**13:00 - 13:10** ICSG Istanbul 2018 Science Committee Chair  
**Doç. Dr. Aydın CETIN's** Welcome Speech

**13:10 - 13:40** KEYNOTE SPEAKER

**Antoni Vives TOMAS**

*Former Deputy Mayor of Barcelona, Barcelona City  
Transformation Agency CEO*

**"THE SOCIAL SOUL OF SMART CITIES"**

**13:40 - 13:50** BREAK

**13:50-14:30** SMART GRID EDUCATION SESSION

**Prof. Dr. A. Yılmaz CAMURCU**

*Honorary Chair, ICSG İstanbul 2018 Science Committee*

**Prof. Dr. Ömer USTA**

*Member, ICSG İstanbul 2018 Science Committee*

**PLAQUE PRESENTATION AND OPENING  
CEREMONY FOR THE FAIR**

**12:00 - 13:00** LUNCH BREAK

**14:30 - 16:30 SESSION SES-01**

**Wednesday:** 25/Apr/2018  
**Time:** 2:30pm - 4:30pm  
**Location:** B5- FOYER AREA  
**Session Chairs:** Prof. Dr. A. Yılmaz Çamurcu,  
 Prof. Dr. Aydoğan Özdemir

**14:30 - 14:50**

**Smart Grids and Sustainable Energy Future in the  
 International and European Legal Order**

Natalia Charalampidou  
 University of Thrace, Greece

**14:50 - 15:10**

**Identification and Comparison of Power and Energy  
 Management Capabilities of Distributed Energy  
 Resources**

Mustafa Alparslan Zehir, Antonio Barbosa,  
 Carlo Sandroni, Luigi Pellegrino, Riccardo Lazzari3,  
 Maurizio Verga, Mustafa Bagriyanik, Unal Kucuk,  
 Filipe Joel Soares, Aydogan Ozdemir

**15:10 - 15:30**

**Demand Response with Residential and Commercial  
 Loads for Phase Balancing in Secondary Distribution  
 Networks**

Vaia Zacharak1, Mustafa Alparslan Zehir,  
 Anders Thavlov, Kai Heussen, Alp Batman,  
 Dimitrios Tsiमितros1, Dimitrios Stimoniaris,  
 Aydogan Ozdemir, Evangelos Dialynas,  
 Mustafa Bagriyanik

**15:30 - 15:50**

**Demand Response by Real-time Management of  
 Flexible Loads using Dynamic Priorities**

Mehmet Ali Sonmez, Mustafa Alparslan Zehir,  
 Mustafa Bagriyanik Istanbul Technical University (ITU),  
 Istanbul, Turkey

**15:50 - 16:10 BREAK****14:30 - 16:30 SESSION POS-01**

**Wednesday:** 25/Apr/2018  
**Time:** 2:30pm - 4:30pm  
**Location:** FOYER HALL  
**Session Chairs:** Dr. Berna Kiraz  
 Dr. Hüseyin Polat

**Investigation of the Effect of Renewable Energy Sources on  
 Static Voltage Stability with Dynamic Optimal Power Flow  
 Solution in Power Systems**

Basar Baydar, Haluk Gozde, M.Cengiz Taplamacioglu

**A Robust Controlled-SMES for Islanding Microgrid  
 Distribution Systems**

Sayed M. Said, Bálint Hartmann

**A Novel Actual Time Cyber Security Approach to Smart Grids**  
 Oguzhan Oktay Buyuk, Ali Yilmaz Camurcu

**Data Storage in Smart Grid Systems**

Ercan Nurcan Yilmaz, Hüseyin Polat, Saadin Oyucu,  
 Ahmet Aksöz, Ali Saygin

**Cyber Security in Industrial Control Systems: Analysis of DoS  
 Attacks against PLCs and the Insider Effect**

Ercan Nurcan Yilmaz, Bünyamin Ciyilan, Serkan Gönen,  
 Erhan Sindiren, Gökçe Karacayılmaz

**A Brief Review of Power Quality Issues in Smart Grid and a  
 Simple User Friendly Software**

Murat H. Sazlı, İlhan Koşalay, GalbadraKh Erdenesaikhan

**DC-DC Converter Distributed Control for Active Renewable  
 Energy Sources Generators**

Soukaina Boudoudouh, Mohamed Maaroufi

**Performance of ML Methods in Estimating Net Energy  
 Produced in A Combined Cycle Power Plant**

Ali Alperen Islikaye, Aydin Cetin

**Best-Effort Algorithm for Predicting Cloud Motion Impact on  
 Solar PV Power Systems Production**

Nisrine Kebir, Mohamed Maaroufi

**Autonomous Aerial Navigation and Mapping for Security of  
 Smart Buildings**

Egemen Ertugrul, Umurcan Kocaman, Ozgur Koray Sahingoz

**Augmented Reality Application for Smart Tourism:  
 Gökovar Ömer Faruk Demir, Enis Karaarslan**

**Detecting Citizen Problems and Their Locations Using  
 Twitter Data**

Gizem Abali, Ali Hurriyetoglu, Feristah Dalkilic, Enis Karaarslan

**16:05 - 17:45 SESSION SES-02**

**Wednesday:** 25/Apr/2018  
**Time:** 4:05pm - 5:50pm  
**Location:** B5- FOYER AREA  
**Session Chairs:** Prof. Dr. Ömer Usta  
 Dr. Erkan Danacı

**16:05 - 16:25**

**Ambient Energy Harvesting for Low Powered  
 Wireless Sensor Network based Smart Grid  
 Applications**

Muhammad Faheem, Asri Bin Ngadi,  
 Rizwan Aslam Butt, Mohammad Waqar Ashraf,  
 Basit Raza, Muhammad Anwar Shahid

**16:25 - 16:45**

**Smart Hybrid Wind-Solar Street Lighting System  
 Fuzzy Based Approach: Case Study Istanbul-Turkey**

Mohammed Wadi, Abdulfetah Shobole,  
 Mehmet Rida Tur, Mustafa Baysal

**16:45 - 17:10**

**Assessment of Plug-in Electric Vehicles Charging  
 Impacts on Residential Low Voltage Distribution  
 Grid in Hungary**

Hassanien Ramadan, Abdelfatah Ali, Csaba Farkas

**17:10 - 17:30**

**Mitigation of Voltage Fluctuation in Distribution  
 System Connected with PV and PHEVs Using  
 Artificial Bee Colony Algorithm**

Abdelfatah Ali, David Raisz, Karar Mahmoud

**17:30 - 17:50**

**A New Approach for Intelligent Street Lights Using  
 Wireless Sensor Networks and Computer Vision**

Orhan Yaman, Mehmet Karakose

CLOSING

**16:30 - 18:10 SESSION POS-02**

**Wednesday:** 25/Apr/2018  
**Time:** 4:30pm - 6:10pm  
**Location:** FOYER HALL  
**Session Chairs:** Assoc. Prof. Dr. Ercan Nurcan Yılmaz  
 Dr. Ayla Gülcü

**Residential Load Scheduling Optimization for Demand  
 Side Management under Time of Use Rate**  
 A. Can Duman, Önder Güler, Ömer Gönül, Kaan Devci

**Advanced PLL Structure for HVDC Transmission under  
 Unbalanced Grid Conditions**  
 Sinan Kaya, İbrahim Alışar, Gürkan Gök

**Development of a Prototype of Renewable Source(Wind)  
 Prediciton-based Modular Multi-purpose Energy Conversion  
 System with Energy Storage**

Gürkan Gök, Sinan Kaya, Erçin Aydemir, Hasan Demir,  
 İbrahim Alışar

**Design and Simulation of the Antenna for RF Energy  
 Harvesting Systems**

Kayhan Çelik, Erol Kurt

**A Novel Short-term Load Forecasting Approach Using  
 Adaptive Neuro-Fuzzy Inference System**  
 Emre Akarslan, Fatih Onur Hocaoğlu

**UAV Fuel Preferences for Future Cities**  
 Kubra Celik, Haluk Eren

**Smart Office for Managing Energy of Lighting Control System**  
 Furkan Hasan Sakacı, Emine Çetiner, Haithem Chaouch,  
 Suayb Cagri Yener

**Towards to Smart Grid: Dynamic Line Rating**  
 Alper Nabi Akpolat, Secil Varbak Nese, Erkan Dursun

**A Dynamic Distribution Network Planning Considering  
 Intermittency of Load and Renewable Power Generation**  
 Faruk Ugranlı

**Digital Frequency Protection for Micro-Grid Coordinated with  
 LFC Considering High PV/Wind Penetration Level**  
 Emad Younis, Gaber Magdy, Yasunori Mitani

**A Face Recognition Method in the Internet of Things for  
 Security Applications in Smart Homes and Cities**  
 Nashwan Adnan Othman, İlhan Aydın

CLOSING

**ICSG ISTANBUL 2018  
 CONGRESS AND FAIR**

**VIP GALA DINNER**

**19:00 - 20:00** Cocktail - Rıhtım 1 Seafont  
**20:00 - 22:00** VIP Gala Dinner - Harem Garden Ballroom  
**Location:** Sait Halim Pasha Mansion

08:30 - 09:40 REGISTRATION

09:40 - 10:00 OPENING CEREMONY

**09:40 - 10:00 Veli SARITOPRAK**  
 ICSG Istanbul 2018 Advisory Committee President;  
 Foundation of Turkish Industrialists and Businessmen  
 (TUSIAV) Chairman

**10:00 - 10:30 KEYNOTE SPEAKER**

Jay Giri, GE Power Systems Technology and Strategic  
 Initiative Former Director, Washington University  
 Lecturer  
 "KEEPING THE LIGHTS ON! YESTERDAY,  
 TODAY & TOMORROW!"

10:30 - 10:40 BREAK

**10:40 - 12:20 SESSION SES-03**

**Wednesday:** 26/Apr/2018  
**Time:** 10:40am - 12:20pm  
**Location:** B5- FOYER AREA  
**Session Chairs:** Prof. Dr. Tülay Yıldırım  
 Prof. Dr. M. Cengiz Taplamacıoğlu

**10:40 - 11:00****Online Power Quality Events Detection Using Weighted Extreme Learning Machine**

Ferhat Uçar, Ömer Faruk Alçın, Beşir Dandı, Fikret Ata,  
 Jose Cordova, Reza Arghandeh

**11:00 - 11:20****Data-Driven Modeling and Parameter Estimation of a Modified Heffron-Phillips Model considering AVR Effect**

Ramtin Khalili, Behrooz Zaker, Hadi Rabiyan,  
 Mehdi Karrari, Gevork B. Gharehpetian

**11:20 - 11:40**

**Frequency Estimation with Antiwindup to improve SOGI Filter Transient Response to Voltage Sags**  
 Alireza Esmaili Karkevandi, Matin Jamaliyan Daryani

**11:40 - 12:00**

**Power Line Communication Channel For Smart Grid**  
 Seda Ustun Ercan, Okan Özgönenel, David W.P. Thomas

**12:00 - 12:20**

**Stochastic Chance Constrained Transmission Expansion Decisions for Different Investment Budgets**  
 Güneş Becerik, Engin Karatepe

12:20 - 13:40 LUNCH BREAK

**13:40 - 15:00 SESSION SES-04**

**Wednesday:** 26/Apr/2018  
**Time:** 13:40pm - 15:00pm  
**Location:** B5- FOYER AREA  
**Session Chairs:** Prof. Dr. Okan Özgönenel  
 Dr. Ahmet Merev

**13:40 - 14:00**

**Multi Agent-Based Control Techniques to Reduce Losses for Smart Grid Connected Microgrids**  
 Gorkem Sen, Mustafa Baysal

**14:00 - 14:20**

**A new general controller for DC-DC converters based on SMC methods**

Bahman Taheri

**14:20 - 14:40**

**Three-Phase Three-Level T-type Grid Connected Inverter with Reduced Number of Switches**  
 Necmi Altin, Ibrahim Sefa, Hasan Komurcugil, Saban Ozdemir

**14:40 - 15:00**

**Islanding Detection of Synchronous Machine-based Distributed Generators using Signal Trajectory Pattern Recognition**

Reza Zamani, Mohammad Esmail Hamedani Golshan

15:00 - 15:15 BREAK

**15:15 - 16:55 SESSION SES-05**

**Wednesday:** 26/Apr/2018  
**Time:** 15:15am - 16:55pm  
**Location:** B5- FOYER AREA  
**Session Chairs:** Prof. Dr. Mustafa Bağrıyanık  
 Assoc. Prof. Dr. V. M. İstemihan Genc

**15:15 - 15:35**

**Load Management Strategies for Redundant Equipment in Smart Grids**

Vladimir Samoylenko, Irina Samoylenko,  
 Vladimir Fedorenko, Wahib Azab2

**15:35 - 15:55**

**Developing A New Algorithm To Prevent Icing On MV Overhead Lines**

Rauf Yapici, Doruk Güneş, Bora Alboyacı, Hasan Yılmaz,  
 Rasim Kandemir

**15:55 - 16:15**

**Protection relay settings management at Akdeniz DISCO through DlgSILENT StationWare**

Hüseyin Oğuz, Mahmut Erkut Cebeci, Osman Bülent Tör,  
 Osman Aksu, Mehmet Gümüş, Adela Bara, Simona Oprea

**16:15 - 16:35**

**Distributed Generation Control To Solve Voltage Regulation Problem in Distribution Networks: A Real Case Study in Turkey**  
 Mert Kesici, Rauf Yapıcı, Doruk Güneş, Bora Alboyacı,  
 Şahin Kurdoğlu

**16:35 - 16:55**

**Decentralized Cooperative Protection Strategy for Smart Distribution Grid Using Multi-Agent System**  
 Matin Jamaliyan Daryani, Alireza Esmaili Karkevandi