



PROGRAMME

CIGRE SC D2 Colloquium 2019
Helsinki, Finland June 11–14, 2019

Tuesday June 11 Welcome Reception

Venue: Old Court House / Vanha Raatihuone
Address: Aleksanterinkatu 20, 00170 Helsinki

18:30–19:30 Welcome Reception hosted by City of Helsinki

There is no bus transportation to the Welcome Reception.

Wednesday June 12 Colloquium Day 1

Venue: Paasitorni
Address: Paasivuorenkatu 5 A, 00530 Helsinki

08:00 Registration opens, Morning coffee, Technical Exhibition (Sirkus Foyer)

08:30 Welcome (Room: Sirkus)

08:45 Preferential Subject 1: Session 1, Special Reporter Marcelo Costa De Araujo (Room: Sirkus)

PS1-01
JASMIN HELJIĆ, EMINA KREŠTALICA:
Distributed Information System for Customer Connections (DISP)

PS1-02
LIANG XIAO, GAO KUNLUN, AN NINGYU, ZHAO BAOHUA:
Practice of Big Data Protection for the Electric Power Utilities Based on Data Masking

PS1-03
JUAN RAMÓN FEIJOÓ MARTÍNEZ, MARIO CASTRO FERNÁNDEZ:
Maintenance Strategy and Condition Assessment for Critical assets in an Electrical Grid

PS1-04
P. KOPONEN, H. NISKA, A. MUTANEN:
Combining the strengths of different load modeling methods in short-term load forecasting of a distribution grid area with active demand

PS1-05
GARETH A TAYLOR, MOHAMMED RADI, ERIC LAMBERT, FRANK MARTEN,
MATHIAS USLAR:
Design and Development of Enhanced Data Exchange to Enable Future TSO-DSO Interoperability

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PS1-06
K. MITANI, Y. SHIGEMOTO:
Introduction of Anomaly Predictor Detection System in Thermal Power Stations

PS1-08
ALENKA KOLAR:
Dangerous Liaisons in IT – OT convergence

10:10 Coffee break and Technical Exhibition (Sirkus Foyer)

10:40 Preferential Subject 1: Session 2 (Room: Sirkus)

PS1-10
NAIWANG GUO, YUN SU, YINGJIE TIAN, YANG ZHOU:
Residential Electricity Demand and Heterogeneity — Analysis based on the finite mixture model

PS1-11
K. KATSURA, S. INO, Y. OI, S. HOSOI, A. YAGUCHI:
Research and Application of Deep Learning for Improving T&D Maintenance Efficiency

PS1-12
A.I. KHALYASMAA, S.A. EROSHENKO:
The issues of high-voltage equipment technical state assessment systems development based on unsupervised machine learning approaches

PS1-13
E. TSYDENOV, A. PROKHOROV, P. KHAUSTOV:
Active power flow control using machine learning

PS1-14
P. CHONGFUANGPRINYA, B. YANG, Y. YE, Y. TOMITA, S. TOBE:
Spatial Prediction for Outage Location Using Machine Learning Techniques

PS1-15
GAO KUNLUN, CHEN QIPENG:
An Intelligent Power Line Inspection Image (Video) Analysis System

11:35 Lunch (Restaurant Paasin Kellari) and Technical Exhibition (Sirkus Foyer)

12:50 Preferential Subject 1: Session 3 (Room: Sirkus)

PS1-16

A. KANAZAWA, N. ITAYAGOSHI, T. SATO, T. SAITO, K. YANO:

Implementation of multiple system environments built by an on-premises private cloud with data virtualization technology

PS1-19

HU ZIWEI, LIN WEIMIN:

Research on ICT Architecture and a SDN-based WAMS Design in Energy Internet

13:55 Parallel Tutorials: Tutorial 1 (Room: Sirkus) & Tutorial 2 (Room: Tivoli)

Tutorial 1: Responsible **Alberto Del Rosso** (US) and **Gasper Lakota** (DE)
Advanced Utility Data Management and Analytics for Improved Operation Situational Awareness of EPU Operations.

Tutorial 2: Responsible **Sacha Kwik Allan** (ES) and **Krister de Vries** (SE)
Design, deployment and maintenance of optical cables associated to overhead hv transmission lines.

15:10 Coffee break and Technical Exhibition (Sirkus Foyer)

15:40 Tutorial 3 (Room: Sirkus)

Tutorial 3: Responsible **Giovanna Dondossola** (IT) and **Roberta Terruggia** (IT)
Cyber Security Management – a key player in the EPU resilience strategy.

17:00 Programme ends



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Wednesday June 12 Colloquium Dinner

Venue: HSS Paviljong

The venue is on a small island and the ferry ride takes approximately 7 min.

Ferry address: Merisatamanranta HSS wharf

Venue address: Liuskasaari, Helsinki

18:00 Bus transportation to Merisatamanranta HSS wharf from Paasitorni

18:30 Non-stop ferry from Merisatamanranta HSS wharf to HSS Paviljong at Liuskasaari

19:00 Colloquium Dinner starts

21:30 Colloquium Dinner ends

22:00 Last non-stop ferry back to Merisatamanranta HSS wharf

There is no bus transportation back to Paasitorni.

Thursday June 13 Colloquium Day 2

Venue: Paasitorni
Address: Paasivuorenkatu 5 A, 00530 Helsinki

08:00 Morning coffee, Technical Exhibition (Sirkus Foyer)

08:30 Preferential Subject 2: Session 1 Special Reporter Giovanna Dondossola
(Room: Sirkus)

PS2-18

A. HAHN, V. VENKATARAMANAN, J. WAITE, A. SRIVASTAVA:
TOMATo: Threat Observability & Monitoring Assessment Tool for Resilience

PS2-16

J. ISHII:
Integration and Sophistication of Cybersecurity Monitoring

PS2-15

ERIK HJALMAR EMILLON:
Brief Overview of Blockchain applications in the Swedish Utility industry

PS2-14

O. FEDOROV, P. LITVINOV, A. NEBERA, S. NESTEROV:
Blockchain technology as a cybersecurity solution for protection relay settings management

PS2-13

M. G. TODESCHINI, G. DONDOSSOLA:
Cyber security requirements of multi-operator IT/OT architectures based on NISTIR 7628 guidelines

PS2-12

ROBERTA TERRUGGIA GIOVANNA DONDOSSOLA:
Cyber security standard and architectural assessment for a new digitalized power infrastructure

PS2-11

C.-C. SUN, R. ZHU, C.-C. LIU:
Cyber Attack and Defense for Smart Inverters in a Distribution System

10:00 Coffee break and Technical Exhibition (Sirkus Foyer)

10:30 Preferential Subject 2: Session 2 (Room: Sirkus)

PS2-10

SI-WEI MIAO, HUAN YING, LI-FANG HAN, CHAO-YANG ZHU:

Cyber Security and Protection of Power System with Renewable Energy System

PS2-09

TOM KO, MARTIN JENKNER:

Cybersecurity Defense System for Distributed Communication Network in IEC-61850 Power Substations

PS2-08

JUNHO HONG, CHEN-CHING LIU, SUNGSOO CHOI:

Cyber Attack Resilient Intelligent Electronic Devices (IEDs) in Digital Substation

PS2-07

D. HOLSTEIN, G. RASCHE, R. KING:

Leveraging the Capabilities of an Integrated Security Operations Center (ISOC)

PS2-05

P.K. AGARWAL, N.S. SODHA, A. B. SENGUPTA:

Cyber Secured Grid Management in Indian Power System

11:40 Lunch (Restaurant Paasin Kellari) and Technical Exhibition (Sirkus Foyer)

13:00 Preferential Subject 2: Session 3 (Room: Sirkus)

PS2-04

J. SUOMALAINEN A. VIRO:

Cyber Security in MPLS-TP Networks

PS2-03

J. PENNANEN, L. HAARLA, A. SILFVERBERG

Improving Cyber Security by Regular Exercises

PS2-02

RODRIGO LEAL, ALEXANDRE OLIVEIRA, ANTONIO CARLOS PIGOSSI, DANIEL SENA, EDUARDO HONORATO, EMANUELA LIMA, MARCEL TOLENTINO, PAULO ROBERTO ANTUNES, ROBERTO SEBASTIÃO, e SÁVIO RICARDO COSTA:

Cybersecurity Overview

PS2-01

P. MASCITTI, S. ABDUL SALIM:

Improving Cyber Security by Regular Implementing Cyber Security controls in an OT environment

14:10 Preferential Subject 3: Session 1, Special Reporter Sampsamatti Tanner (Room: Sirkus)

PS3-01

O. AALTONEN, A. KALLIOMÄKI, T. LAITINEN:

Using Cloud Computing for Sensor and Data Management for an Internet of Things Solution

PS3-02

AKSHAT KULKARNI, YASH KULKARNI, NARENDRA SINGH SODHA:

Large Scale IoT implementation in Indian Power Distribution Utility-A Case Study

PS3-03

T. IMAI, T. KOMATSU, T. TAGOMORI:

Japanese Use Cases of Utilizing Wearable Devices for Supporting On-site Operations

PS3-04

T. KIUCHI, T. OKABE:

Sensor Information Transmission Using a Smart Meter Communication Network to Monitor Electric Power Facilities

14:50 Coffee break and Technical Exhibition (Sirkus Foyer)

15:20 Preferential Subject 3: Session 2 (Room: Sirkus)

PS3-05

T. YAMADA, K. TANAKA:

Collection of Equipment Information using Communication Systems utilizing IoT

PS3-06

H. YAMAGUCHI, K. TANAKA:

Drone Use for Disaster Response, Power Equipment Patrol and Inspection of Power Grids

PS3-07

Y. YE, S. TOBE, B. YANG, P. CHONGFUANGPRINYA, Y. TOMITA:

An Open IoT Data Analytical Framework for Distributed Energy Resource Management

PS3-10

HANTAO LI, YILING WU, BIN YANG:

IoT-G: A millisecond-level-latency wireless communication technology for private distribution network in UHV power grid

PS3-11

WEISI DONG, RILIANG LIU, YANG YI, QIAOYIN YANG:

Research and Practice of the D-IoT System

16:30 Conclusions, Awards, Farewell (Room: Sirkus)

17:00 Programme ends

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Friday June 14 Technical Excursion

Departure and return: Paasitorni
Address: Paasivuorenkatu 5 A, 00530 Helsinki

GROUP A (max 20 people)

08:15 Bus transportation leaves from Paasitorni
09:00 Visit to Nokia Executive Experience Center
11:30 Lunch at Nokia (provided by Nokia)
12:15 Bus transportation to Digita Control Center
13:00 Visit to Digita Control Center (max 20 people)
15:00 Visit ends, bus transportation to Paasitorni
15:30 Bus returns to Paasitorni

GROUP B (max 20 people)

08:15 Bus transportation leaves from Paasitorni
09:00 Visit to Nokia Executive Experience Center
11:30 Lunch at Nokia (provided by Nokia)
12:15 Transportation to Telia Data Center
13:00 Visit to Telia Data Center
15:00 Visit ends, bus transportation to Paasitorni
15:30 Bus returns to Paasitorni

GROUP C (no max limit)

08:15 Bus transportation leaves from Paasitorni
09:00 Visit to Nokia Executive Experience Center
11:30 Lunch at Nokia (provided by Nokia)
12:15 Bus transportation to Paasitorni
13:00 Bus returns to Paasitorni