

IERE Pick-up Papers - Big Data, IoT, AI and Block-chain -



IERE Central Office

March 2020

Picked up presentations related to "Big Data, IoT, AI and Block-chain" from IERE GM/Forums and Workshops from the last 3-4 years.

Contents

1.	Energy of the New Inspires the Venerable (May 2018, Kyoto, K-1)	1
	Lawrence Orsini, CEO, LO3 Energy, USA	
2.	IERE Technology Foresight / In-depth Research on Artificial	12
	Intelligence (AI) (May 2018, Kyoto, SS-1)	
	Cheuk Wing Lee, Assistant Manager, Group Sustainability, CLP Power	
	Hong Kong, Hong Kong SAR	
3.	Estimation of Time-series Data of Electricity Demand in Distribution	35
	Network based on Public Statistical Data (May 2018, Kyoto, S1-4)	
	Yasuyuki KUNII ¹ , Junzo Takemura ¹ ,	
	Tetsuya Matsuki², Muneaki Kurimoto², Takeyoshi Kato²	
	1 Energy Applications R&D Center, Chubu Electric Power Co., Inc.	
	2 Institute of Materials and Systems for Sustainability (IMaSS), Nagoya	
	University, Nagoya, Japan	
4.	Architecture of Dispatching and Control Cloud and Its Application	47
	Prospect (May 2018, Kyoto, S3-5)	
	Chen Zhenyu, Senior Engineer, Power Automation Department, China	
	Electric Power Research Institute Beijing, China	
5.	Digital solutions for optimization of asset operation and maintenance:	61
	MHPS TOMONI® for power plant operators and MHI ENERGY	
	CLOUD® Service for large energy users (September 2018, Munich,	
	S3-4)	
	Michalis Agraniotis ¹ , Torsten Buddenberg ¹ , Christian Bergins ¹ , Emmanouil	
	Kakaras ¹ , Satoshi Kokaji ² , Masayuki Morihara ²	
	¹ Mitsubishi Hitachi Power Systems Europe, Duisburg, Germany ² Mitsubishi	
	Heavy Industries, Tokyo, Japan	
6.	Research and Practice of Machine Learning Technology in Grid	73
	Dispatching Automation (September 2018, Munich, S3-5)	
	SHAN Xin, ZHAI Mingyu, WANG Bo, YUFeixiang, ZHANG Xiaoceng,	
	ZHENG Yiming, Manager, R & D Section, NARI Group Corporation,	
	Nanjing, China	
7.	Improving Performance and Flexibility of Thermal Power Plants	95
	Combined with Advanced Digital Technologies (September 2018,	
	Munich, S4-4)	
	Christian Bergins, Emmanouil Kakaras & Falk Hoffmeister, Mitsubishi	
	Hitachi Power Systems Europe, Duisburg, Germany	

8.	Development on The Optimal Operational Power-Plant's Supporting-	110
	System (September 2018, Munich, S4-5)	
	Hideyuki ISHIGAMI, General Manager, Thermal Power Business	
	Department, CHUBU Electric Power Co., Inc., Nagoya, Japan	
	Motohiro ICHIBA, Tsuyoshi TOUBO, Manager, Thermal Power Business	
	Department, CHUBU Electric Power Co., Inc., Nagoya, Japan	
	Tomoya SOMA, Senior Expert, AI Analytics Business Development Division,	
	NEC Co., Tokyo, Japan	
	Takazumi KAWAI, Principal Researcher, Security Research Laboratories,	
	NEC Co., Kawasaki, Japan	
9.	Method and Strategy for AMI Development Based on AMR System	129
	Infrastructure to Support Electricity System Digitalization (March	
	2019, Bali, S1-1)	
	Ignatius Rendroyoko, Ardian Cholid, Ingo Shalahuddin	
	Indonesia Comnets Plus, Jakarta, Indonesia	
10.	Demonstration of Peer to Peer (P2P) Transaction of Surplus Energy	140
	Using BLOCKCHAIN Technology (March 2019, Bali, S2-3)	
	Fumiaki Ishida, General Manager, R&D Centre, The Kansai Electric Power	
	Co., Inc. Osaka, Japan	
11.	Blockchain: Inflated hype or value-adding technology for the energy	154
	sector? (March 2019, Bali, S3-1)	
	Dr. Felix Cebulla, Senior Expert, Corporate Technology, innogy SE, Essen,	
	Germany	
12.	Implementation of Plant Performance & Reliability Monitoring	166
	(P2RM) to Darajat and Salak Geothermal Power Plant (March 2019,	
	Bali, S5-5)	
	U. Anang ISCHAK, Ops Eng Team Manager, Facilities Engineering, Star	
	Energy Geothermal Darajat II, Limited, Jakarta, Indonesia	
	Ilham KURNIAWAN, Ops Eng Team Leader, Facilities Engineering, Star	
	Energy Geothermal Salak, Ltd, Jakarta, Indonesia	
13.	Electromagnetic Risk Management in Digital Power System (March	174
	2019, Bali, S5-6)	
	Prof. Ir. DrIng. Eko Supriyanto, Senior Consultant to PETRONAS and	
	Head of Electromagnetic Compatibility Laboratory, UNIVERSITI	
	TEKNOLOGI MALAYSIA	
14.	MODELLING, DESIGN, AND SIMULATION THERMAL SOLAR	196
	POWER PLANT BY USING PARABOLIC TROUGH COLLECTOR	

TO GENERATE 100KW STEAM LOCATED IN NUSA TENGGARA

	(March 2019, Bali, S5-9)	
	Hendra Yudisaputro, Junior Efficiency Specialist, Engineering, PT.,	
	Indonesia Power, Jakarta, Indonesia	
15.	An Instance Segmentation and Depth Perception based Obstacle	208
	Detection and Distance Measurement Method on Substation Patrol	
	Robot (October 2019, South Africa, S1-1)	
	Hongsheng XU(PhD), Jixiang LU, Zhihong YANG, Tianyu CHEN, NARI	
	Group Corporation (State Grid Electric Power Research Institute), Nanjing,	
	China	
16.	Application and Development of Artificial Intelligence in Power	219
	Equipment State Evaluation and Maintenance (October 2019, South	
	Africa, S1-3)	
	Qiao Ji, Engineer, Artificial Intelligence Application Research Department,	
	China Electric Power Research Institute, Beijing, China	
17.	A Real-world dataset for automatic visual diagnosis of power	237
	transmission lines (October 2019, South Africa, S2-2)	
	Min-Hee Choi, Nam-Joon Jung, Chan-Uk Lim, Senior Researcher, Digital	
	Solution Lab., KEPCO Research Institute, Daejeon-Si, South Korea	
18.	4IR technologies Application on KEPCO Power Distribution	251
	equipment maintenance (October 2019, South Africa, S2-4)	
	Gi-Dae Oh (or Kang-Sik Kim), Senior Researcher, Smart Power	
	Distribution Laboratory, KEPCO Research Institute, Daejeon, Republic of	
	KOREA	
19.	High Efficiency Status Evaluation for Main Equipments based on	265
	Cyber Physical Systems in Distribution Network (October 2019,	
	South Africa, S2-5)	
	Keyan Liu, Wanxing Sheng, Xiaoli Meng, Senior Researcher, Power	
	Distribution Department, China Electric Power Research Institute, Beijing,	
	China	