

# 23rd Wind & Solar Integration Workshop

organized by energynautics

08-11 OCT '24

HELSINKI  
FINLAND



## AGENDA AS OF 23 JULY 2024

Important: This preliminary program is subject to changes. It is strongly recommended to check back regularly.



TERA SPONSOR



MEGA SPONSOR

### WORKSHOP AMBASSADORS



Renewables  
Grid Initiative



Wind  
EUROPE

### MEDIA PARTNER



### ORGANIZER



## TIMETABLE 23<sup>RD</sup> WIND & SOLAR INTEGRATION WORKSHOP

TUESDAY 08 OCTOBER 2024				WEDNESDAY 09 OCTOBER 2024					
Workshop Day 1				Workshop Day 2					
08:30 – 10:10	FENNIA II			FENNIA I			NORDIA	PRESS ROOM	
	SESSION 3A: GRID FORMING ASPECTS II			SESSION 3B: HYBRID POWER PLANTS			SESSION 3C: GRID CODE CERTIFICATION I	SESSION 3D: TITLE TBA	
AS OF 09:00: REGISTRATION / FOYER				COFFEE BREAK (30 MIN)					
10:40 – 12:30	FENNIA II			FENNIA I			NORDIA	PRESS ROOM	
	SESSION 4A: GRID FORMING I			SESSION 4B: BATTERY ASPECTS			SESSION 4C: STABILITY ASPECTS I	SESSION 4D: IEA WIND AND PVPS TASK 51 AND 16	
LUNCH 13:00 – 14:00				LUNCH 12:30 – 13:30					
14:00 – 16:00	FENNIA I + II			FENNIA II			FENNIA I	NORDIA	PRESS ROOM
	SESSION 1 – KEYNOTE SESSION			SESSION 5A: GRID FORMING II			SESSION 5B: HYDROGEN GRID INTEGRATION	SESSION 5C: GRID CODE CERTIFICATION II	SESSION 5D: FORECASTING ASPECTS
COFFEE BREAK & GROUP PHOTO (30 MIN)				COFFEE BREAK (30 MIN)					
16:30 – 18:40	FENNIA II	FENNIA I		NORDIA			PRESS ROOM		
	SESSION 2A: GRID FORMING ASPECTS I	SESSION 2B: ENTSO-E + RGF 2.0		SESSION 2C HYBRID POWER PLANTS IEA WIND TASK 50			SESSION 6A: GRID FORMING AND WIND POWER	SESSION 6B: HYDROGEN ASPECTS I	SESSION 6C: STABILITY ASPECTS II
18:40	POSTER SESSION / WORKSHOP NETWORKING EVENT – Foyer –			19:00 WORKSHOP NETWORKING EVENT / DINNER – to be booked separately –					

THURSDAY 10 OCTOBER 2024					FRIDAY 11 OCTOBER 2024			
Workshop Day 3					Workshop Day 4			
08:30 – 10:15	FENNIA II	FENNIA I	NORDIA	PRESS ROOM	09:00 – 10:40	FENNIA II	FENNIA I	NORDIA
	<b>SESSION 7A:</b> POWER SYSTEM ISSUES	<b>SESSION 7B:</b> COUNTRY STUDIES I	<b>SESSION 7C:</b> SOLAR INTEGRATION ASPECTS	<b>SESSION 7D:</b> TITLE TBA		<b>SESSION 11A:</b> TITLE TBA	<b>SESSION 11B:</b> COUNTRY STUDIES II	<b>SESSION 11C:</b> POWER QUALITY ASPECTS
10:40 – 12:30	COFFEE BREAK (30 MIN)				11:00 – 12:20	COFFEE BREAK (20 MIN)		
	FENNIA II	FENNIA I	NORDIA	PRESS ROOM		FENNIA II	FENNIA I	NORDIA
	<b>SESSION 8A:</b> GRID FORMING III	<b>SESSION 8B:</b> ELECTROLYZER INTEGRATION I	<b>SESSION 8C:</b> OFFSHORE WIND POWER	<b>SESSION 8D:</b> IEC SC8A - IEA FORECASTING STANDARD		<b>SESSION 12A:</b> POWER SYSTEM ASPECTS	<b>SESSION 12B:</b> TITLE TBA	<b>SESSION 12C:</b> DISTRIBUTION GRID ASPECTS II
	LUNCH 12:30 – 13:30					SHORT BREAK 12:20 – 12:30		
13:30 – 15:30	FENNIA II	FENNIA I	NORDIA	PRESS ROOM	12:30 – 13:30	FENNIA I + II		
	<b>SESSION 9A:</b> GRID FORMING IV	<b>SESSION 9B:</b> SESSION 9B–ELECTROLYZER INTEGRATION II	<b>SESSION 9C:</b> POWER SYSTEM INTEGRATION STUDIES	<b>SESSION 9D:</b> WIND TURBINE ASPECTS		<b>SESSION 13:</b> CLOSING SESSION PANEL DISCUSSION		
	COFFEE BREAK (30 MIN)					LUNCH 13:30 – 14:30		
16:00 – 18:40	FENNIA II	FENNIA I	NORDIA	PRESS ROOM				
	<b>SESSION 10A:</b> GERMAN ASPECTS	<b>SESSION 10B:</b> HYDROGEN ASPECTS	<b>SESSION 10C:</b> DISTRIBUTION GRID ASPECTS I	<b>SESSION 10D:</b> WIND POWER ASPECTS				
18:45	<b>POSTER SESSION &amp; ENERGNAUTICS EVENING</b>							

## TUESDAY, 08 OCTOBER 2024

### 09:00 Start Registration

All times in the session tables show the on-site time in Helsinki, Finland (Eastern European Summer Time /EEST = UTC+3), the highlighted stripes show the starting times of the respective sessions in additional time zones.

14:00 – 14:20	WELCOME
07:00 New York   08:00 Rio de Janeiro   13:00 Berlin   16:30 New Delhi   18:00 Jakarta   19:00 Beijing   20:00 Tokyo   22:00 Sydney	
14:20 – 16:00	SESSION 1 – KEYNOTE SESSION
07:20 New York   08:20 Rio de Janeiro   13:20 Berlin   16:50 New Delhi   18:20 Jakarta   19:20 Beijing   20:20 Tokyo   22:20 Sydney	
> Session Chair	Thomas Ackermann (Energynautics, Germany)
14:20 – 15:40	Presentations (20 min. each)
	<ul style="list-style-type: none"><li>• <b>Fingrid</b> NN (Fingrid, Finland)</li><li>• <b>Title 2</b> NN (Affiliation, Country)</li><li>• <b>Power System Stability Enhancement with Grid Forming Controls and Process towards Grid Forming Grid Code</b> P. Partinen, O.-P. Janhunen, A. Harjula, L. Linnamaa (Fingrid Oyj, Finland) (Submission-ID WISO24-009)</li><li>• <b>TSO Experience with Converter Driven Stability Management in Outage Planning.</b> R. Korhonen, V. Hytti (Fingrid Oyj, Finland) (Submission-ID WISO24-105)</li></ul>
15:40 – 16:00	Discussions

### 16:00 – 16:30 COFFEE BREAK | GROUP PHOTO

<b>16:30 – 18:40</b>	<b>SESSION 2A – GRID FORMING ASPECTS I</b>
09:30 New York   10:30 Rio de Janeiro   15:30 Berlin   19:00 New Delhi   20:30 Jakarta   21:30 Beijing   22:30 Tokyo   00:30 Sydney	
> Session Chair	TBA
<b>16:30 – 18:18</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Status of phase II of the ENTSO-E Task Group "Grid Forming capability of Power Park Modules" (TG GFC) working on defining the basis for the Implementation Guidance Document (IDG) for NC RfG 2.0</b> J. Fortmann (HTW Berlin - University of Applied Sciences, Germany), N. Mario (Tennet, Germany), N. Farrokhseresht (Elia Grid, Luxembourg) (Submission-ID WISO24-268)</li> <li>• <b>Assessing Compliance of Power Park Modules with Future Grid-Forming Capability Requirements</b> C. Zanabria, T. Prevost, A. Guironnet, C. Cardozo (RTE, France) (Submission-ID WISO24-124)</li> <li>• <b>Grid-Forming Capability of Power Plant Control: Optimization through Battery Energy Storage Integration</b> S. Kamalhosseini (Friedrich-Alexander-Universität Erlangen-Nürnberg – FAU   Siemens, Germany), I. Burlakin (Friedrich-Alexander-Universität Erlangen-Nürnberg – FAU, Germany), A. Kuri (Siemens, Germany), G. Mehlmann, M. Luther (Friedrich-Alexander-Universität Erlangen-Nürnberg – FAU, Germany) (Submission-ID WISO24-249)</li> <li>• <b>Actual Considerations for Instantaneous Reserve Provided by DC Connected Offshore Wind Farms</b> S. Höhn, G. Deiml, F. Rauscher (TenneT TSO, Germany) (Submission-ID WISO24-033)</li> <li>• <b>Weakly Connected Grid-Forming Offshore Wind Power Plants: Capabilities and Limitations</b> S. Ghimire (Siemens Gamesa Renewable Energy, Denmark   Technical University of Denmark – DTU, Denmark), M. Pedersen (Technical University of Denmark – DTU, Denmark), G. M. Gomes Guerreiro (Siemens Gamesa Renewable Energy, Denmark   Technical University of Denmark – DTU, Denmark), K. Vatta Kkuni, E. Guest, K. H. Jensen (Siemens Gamesa Renewable Energy, Denmark), G. Yang (Technical University of Denmark – DTU, Denmark) (Submission-ID WISO24-064)</li> <li>• <b>Real-Time Software-in-the-Loop EMT Models of Wind Turbine and Power Plant Controller: Applicability and Experiences</b> G. M. Gomes Guerreiro (Siemens Gamesa Renewable Energy, Denmark   Technical University of Denmark – DTU, Denmark), K. V. Vilerá (DTU Wind &amp; Energy Systems, Denmark   Typhoon HiL, Serbia), K. Zarzavatsakis, H. Nair, (Siemens Gamesa Renewable Energy, Denmark   Technical University of Denmark – DTU, Denmark), L. Negi (Siemens Gamesa Renewable Energy, Denmark), S. Ghimire (Siemens Gamesa Renewable Energy, Denmark   Technical University of Denmark – DTU, Denmark), R. Sharma (Siemens Gamesa Renewable Energy, Denmark), G. Yang (DTU Wind &amp; Energy Systems, Denmark), T. Dreyer (Siemens Gamesa Renewable Energy, Germany) (Submission-ID WISO24-068)</li> </ul>	
<b>18:18 – 18:40</b>	<b>Discussions</b>

<b>16:30 – 18:30</b>	<b>SESSION 2B – RESSOURCE ADEQUACY ASSESSMENT + RFG 2.0</b>
09:30 New York   10:30 Rio de Janeiro   15:30 Berlin   19:00 New Delhi   20:30 Jakarta   21:30 Beijing   22:30 Tokyo   00:30 Sydney	
> Session Chair	Marlene Petz (APG, Austria)
<b>16:30 – 18:10</b>	<b>Presentations (20 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>European Resource Adequacy Assessment (ERAA) - methodological development and challenges</b> G. Iotti (Austrian Power Grid, Austria), N. Müller (Amprion, Germany) (Submission-ID WISO24-132)</li> <li>• <b>Resource Adequacy Assessment – Steps of Development from Early Analyses until Implementation of the Current EU Legislative Framework</b> R. Pfeiffer (Amprion, Germany), M. Petz (Austrian Power Grid, Austria) (Submission-ID WISO24-131)</li> </ul> <p><b>17:10 – 17:30 Discussion</b></p> <ul style="list-style-type: none"> <li>• <b>BNetzA</b> NN (Affiliation, Country) (Submission ID 000)</li> <li>• <b>SMA</b> NN (Affiliation, Country) (Submission ID 000)</li> </ul>	
<b>18:10 – 18:30</b>	<b>Discussions</b>

<b>16:30 – 18:40</b>	<b>SESSION 2C – HYBRID POWER PLANTS – IEA WIND TASK 50</b>
09:30 New York   10:30 Rio de Janeiro   15:30 Berlin   19:00 New Delhi   20:30 Jakarta   21:30 Beijing   22:30 Tokyo   00:30 Sydney	
> Session Chair Vahan Gevorgian (NREL, USA) + Kaushik Das (DTU – Technical University of Denmark, Denmark)	
<b>16:30 – 18:20</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Open-Source Modelling of Electrical Control of Hybrid Power Plants</b> K. Das (DTU – Technical University of Denmark, Denmark)</li> <li>• <b>Experiences from Control, Test and Demonstration of Hybrid Power Plants</b> V. Gevorgian (NREL, USA)</li> <li>• <b>A Developer's View on Design Factors for Hybrid Power Plants</b> H. Abildgaard (Better Energy, Denmark)</li> <li>• <b>Vattenfall's Experience on Control of Hybrid Power Plants</b> G. A. Raducu (Vattenfall, Denmark) – TBC</li> <li>• <b>Control of Hybrid Power Plants with Offshore Wind Power</b> M. P. Sidorof Gryning (Ørsted, Denmark) – TBC</li> <li>• <b>Grid code requirements for Hybrid Power Plants</b> F. Brinch Nielsen (Energinet, Denmark) – TBC</li> <li>• <b>Interoperability of Hybrid Power Plants</b> F. Iov (Aalborg University, Denmark) – TBC</li> </ul>	
<b>18:18 – 18:40</b>	<b>Discussions</b>

## 18:40 POSTER SESSION / NETWORKING EVENT

Foyer

## WEDNESDAY, 09 OCTOBER 2024

<b>08:30 – 10:10</b>	<b>SESSION 3A – GRID FORMING ASPECTS II</b>
<b>01:30 New York   02:30 Rio de Janeiro   07:30 Berlin   11:00 New Delhi   12:30 Jakarta   13:30 Beijing   14:30 Tokyo   16:30 Sydney</b>	
<b>&gt; Session Chair</b>	<b>TBA</b>
<b>08:30 – 09:50</b>	<b>Presentations (20 min. each)</b>
<ul style="list-style-type: none"><li>• <b>Assessing the Damping Performance of an HVDC System Operating in Grid-Forming Mode</b> V. Costan, C. Cardozo, P. Rault (RTE, France) (<a href="#">Submission-ID WISO24-041</a>)</li><li>• <b>Converter and System Design Impacts on the Grid Forming Performance of Converters in Multi-Vendor Multi-Terminal DC Systems</b> L. Osterkamp, P. Düllmann (IAEW at RWTH Aachen University, Germany), L. Roggenland (RWTH Aachen University, Germany), W. Leterme (IAEW at RWTH Aachen University, Germany) (<a href="#">Submission-ID WISO24-175</a>)</li><li>• <b>Enhancing Transient Stability Multi-Infeed HVDC Systems for AC Offshore Wind Power Islands</b> E. Tsotsopoulou, V. Psaras, D. Vozikis (WSP, United Kingdom), A. Paspatis (Manchester Metropolitan University, United Kingdom), J. Li, A. Emhmed (WSP, United Kingdom) (<a href="#">Submission-ID WISO24-059</a>)</li><li>• <b>Post-fault Load Flow Control in Bipolar HVDC Systems with Coupled Poles on the Offshore AC-Side Connected to Grid Forming Wind Turbines</b> C. Klein, P. Düllmann, W. Leterme (IAEW RWTH Aachen, Germany) (<a href="#">Submission-ID WISO24-089</a>)</li></ul>	
<b>09:50 – 10:10</b>	<b>Discussions</b>

<b>08:30 – 10:10</b>	<b>SESSION 3B – HYBRID POWER PLANTS</b>
<b>01:30 New York   02:30 Rio de Janeiro   07:30 Berlin   11:00 New Delhi   12:30 Jakarta   13:30 Beijing   14:30 Tokyo   16:30 Sydney</b>	
<b>&gt; Session Chair</b>	<b>TBA</b>
<b>08:30 – 09:50</b>	<b>Presentations (20 min. each)</b>
<ul style="list-style-type: none"><li>• <b>Stability Improvement for Weak Grid Integration of Hybrid Power Plants</b> F. Shahnazian, K. Das (Technical University of Denmark – DTU, Denmark), R. Yan (University of Queensland, Australia), P. E. Sørensen (Technical University of Denmark – DTU, Denmark) (<a href="#">Submission-ID WISO24-088</a>)</li><li>• <b>Formal Grid Integration of Photovoltaic and Wind Power Plants via Model Reference Control Approach</b> H. Schulte, J. Fortmann, J. Brunner (University of Applied Sciences Berlin – HTW, Germany) (<a href="#">Submission-ID WISO24-287</a>)</li><li>• <b>Profitability of Hybrid Power Plant incorporating Solar-to-X in Europe</b> F. Baize-Roch (École Polytechnique, France), J. P. Murcia Leon, M. Gupta, M. Friis-Møller, K. Das (DTU Wind, Denmark), S. Viorel Spataru (DTU Electro, Denmark) (<a href="#">Submission-ID WISO24-256</a>)</li><li>• <b>Battery Storage Sizing for Wind Farm Hybridization Considering Economic and Environmental Aspects</b> A. Anand, I. Herdiatmaja, H. Hoghooghi, C. L. Bottasso (Technical University Munich – TUM, Germany) (<a href="#">Submission-ID WISO24-197</a>)</li></ul>	
<b>09:50 – 10:10</b>	<b>Discussions</b>

<b>08:30 – 10:10</b>	<b>SESSION 3C – GRID CODE CERTIFICATION I</b>
01:30 New York   02:30 Rio de Janeiro   07:30 Berlin   11:00 New Delhi   12:30 Jakarta   13:30 Beijing   14:30 Tokyo   16:30 Sydney	
> Session Chair	TBA
<b>08:30 – 09:50</b>	<b>Presentations (20 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>IECRE OD 009 - A New International Certification Scheme on Grid Connection Requirements</b> B. Schowe-von der Brelie (FGH Research Association, Germany) (Submission-ID WISO24-273)</li> <li>• <b>WTG Grid Compliance Testing and Validation Part 1: Grid-Converter Test Rig Measurement and Verification based on the IEC 61400-21-4</b> O. Curran, G. M. G. Guerreiro, T. Dreyer, M. Neshati, R. Sharma (Siemens Gamesa Renewable Energy, Ireland) (Submission-ID WISO24-182)</li> <li>• <b>WTG Grid Compliance Testing and Validation Part 2: Combined Test Rig- and Prototype WTG-Based Model Validation Proposal</b> G. M. Gomes Guerreiro (Siemens Gamesa Renewable Energy, Denmark   DTU Wind &amp; Energy Systems, Denmark), O. Curran (Siemens Gamesa Renewable Energy, Germany), M. Neshati, R. Sharma (Siemens Gamesa Renewable Energy, Denmark), T. Dreyer (Siemens Gamesa Renewable Energy, Germany) (Submission-ID WISO24-172)</li> <li>• <b>IEC 61400 - 21-4 - Measurement and Assessment of Electrical Characteristics - A Standardized Way to Perform Grid Compliance Test &amp; Measurements At Component And Subsystem Level For Wind Turbines</b> B. Andresen (Aarhus University, Denmark), U. Jassmann (R&amp;D Test Systems, Denmark), G. Quistorf (Fraunhofer IWES, Germany), T. Dreyer (Siemens Gamesa Renewable Energy, Germany), F. Santjer (FGW e.V. – Fördergesellschaft Windenergie und andere Dezentrale Energien, Germany), A. Zuga (Fraunhofer IWES, Germany) (Submission-ID WISO24-138)</li> </ul>	
<b>09:50 – 10:10</b>	<b>Discussions</b>

<b>08:30 – 10:10</b>	<b>SESSION 3D – TBA</b>
01:30 New York   02:30 Rio de Janeiro   07:30 Berlin   11:00 New Delhi   12:30 Jakarta   13:30 Beijing   14:30 Tokyo   16:30 Sydney	
> Session Chair	TBA
<b>08:30 – 09:50</b>	<b>Presentations (20 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Statistical Scheme for the Dynamic Allocation of Wind and Photovoltaic Power Plants to Transformer Stations in the Transmission Grid</b> D. Beinert, D. Jost, M. Siefert (Fraunhofer IEE, Germany) (Submission-ID WISO24-056)</li> <li>• <b>Impact of Active Current Priority IBR Controls on Grid Voltage Stability</b> D. Howard, C. P T (GE Vernova Consulting Services, USA) (Submission-ID WISO24-193)</li> <li>• <b>Utilizing Dynamic Capacity of VSC-HVDC Systems for Improved Congestion Management</b> K. Agrawal (CITCEA-UPC, Spain   Hitachi Energy Research, Germany), K. Schönleber (Hitachi Energy Research, Germany), M. Dominguez Librandi (Technical University of Munich – TUM, Germany), E. Prieto Araujo, O. Gomis-Bellmunt (CITCEA-UPC, Spain), (Submission-ID WISO24-234)</li> <li>• <b>Coordinated Black Start Feasibility from a Bipolar MTDC Network Integrating Multiple Offshore Wind Farms</b> A. Scott, A. Khan, B. Marshall, B. Gomersall (The National HVDC Centre, United Kingdom) (Submission-ID WISO24-201)</li> </ul>	
<b>09:50 – 10:10</b>	<b>Discussions</b>

**10:10 – 10:40 COFFEE BREAK**



<b>10:40 – 12:30</b>	<b>SESSION 4A – GRID FORMING</b>
03:40 New York   04:40 Rio de Janeiro   09:40 Berlin   13:10 New Delhi   14:40 Jakarta   15:40 Beijing   16:40 Tokyo   18:40 Sydney	
> Session Chair	TBA
<b>10:40 – 12:10</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li> <b>GFM Benchmark: A Cross-Vendor Comparison of Grid Forming Converters based on Lab Testing</b>  R. Singer, P. Ernst (Fraunhofer ISE, Germany), C. Schöll (TransnetBW, Germany), S. Küchler (50Hertz Transmission, Germany), F. Rauscher (TenneT TSO, Germany), J. Massmann (Amprion, Germany), S. Rogalla (Fraunhofer ISE, Germany) (Submission-ID WISO24-123) </li> <li> <b>Grid Forming Inverters in a Network – An Experimental Analysis</b>  W. Dirksen, J. Beyrodt, T. Tegtmeier, H. Behrends, K. von Maydell (German Aerospace Center – DLR, Germany) (Submission-ID WISO24-055) </li> <li> <b>A Study on Damping Behavior of Grid-Forming Wind Turbine Using Power-Hardware-In-Loop Simulation</b>  L. Salagamsetty, L. Cai (University of Rostock, Germany) (Submission-ID WISO24-170) </li> <li> <b>Impedance-Based Analysis of the Grid-following and Grid-forming Converter Interactions</b>  S. Liu, T. Bosma (DNV, Netherlands) (Submission-ID WISO24-183) </li> <li> <b>Frequency Scan Testing of Grid-Forming Resources</b>  S. Shah, W. Yan, P. Koralewicz, V. Gevorgian, R. Wallen (National Renewable Energy Laboratory, USA) (Submission-ID WISO24-283) </li> </ul>	
<b>12:10 – 12:30</b>	<b>Discussions</b>

<b>10:40 – 13:00</b>	<b>SESSION 4B – BATTERY ASPECTS</b>
03:40 New York   04:40 Rio de Janeiro   09:40 Berlin   13:10 New Delhi   14:40 Jakarta   15:40 Beijing   16:40 Tokyo   18:40 Sydney	
> Session Chair	TBA
<b>10:40 – 12:10</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li> <b>Lessons Learned from Operating a Large-Scale Battery Storage System – Challenges and Improvements</b>  L. Koltermann, M. Celi Cortes, J. Van Ouwkerk (RWTH Aachen University   Jülich Aachen Research Alliance – JARA-Energy, Germany), D. U. Sauer (RWTH Aachen University   Jülich Aachen Research Alliance – JARA-Energy   Helmholtz-Institute Münster – IEK-12, Germany) (Submission-ID WISO24-04) </li> <li> <b>Grid-Forming Plant Controls for Self-Supply and Black Start Applications of Battery Energy Storage Systems</b>  I. Arvanitis, S. Henninger (Fluence Energy, Germany) (Submission-ID WISO24-227) </li> <li> <b>Blackstart Capability Demonstration of a Battery Energy Storage System Using EMT Simulation and On-Site Measurement</b>  P.-L. Martel, O. Saad (Hydro-Québec, Canada), H. Honvo (EVLO Energy Storage, Canada), J.-F. Hache, C. Morin (Hydro-Québec, Canada), (Submission-ID WISO24-015) </li> <li> <b>Data-Driven Modeling of Inverter Efficiency Curves for the Digital Twin of a Large-Scale Battery Storage System</b>  M. Celi Cortés, L. Koltermann, S. Shresta, J. van Ouwkerk, D. U. Sauer (RWTH Aachen University, Germany) (Submission-ID WISO24-147) </li> <li> <b>Software Tool for the Feasibility Analysis of Stationary Battery Energy Storage Systems</b>  J. I. Pérez-Díaz, D. Fernández-Muñoz (Universidad Politécnica de Madrid, Spain) (Submission-ID WISO24-264) </li> </ul>	
<b>12:10 – 12:30</b>	<b>Discussions</b>

<b>10:40 – 12:30</b>	<b>SESSION 4C– STABILITY ASPECTS I</b>
03:40 New York   04:40 Rio de Janeiro   09:40 Berlin   13:10 New Delhi   14:40 Jakarta   15:40 Beijing   16:40 Tokyo   18:40 Sydney	
> Session Chair	Jian Sun (Rensselaer Polytechnic Institute, USA)
<b>10:40 – 12:10</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Investigation of HVDC Controller Interaction in Meshed AC Grid using Impedance-Based Stability Criterion</b> R. Steinert, M. Latinovic, L. I. Colina Jimenez (TenneT TSO, Germany) (Submission-ID WISO24-253)</li> <li>• <b>Bridging Theory and Practice: Managing Stability in the Future Swedish Power System</b> O. Lennerhag, R. Rogersten (Svenska kraftnät, Sweden) (Submission-ID WISO24-290)</li> <li>• <b>Impedance-Based Small-Signal Stability Assessment of the First Australian Renewable Energy Zone</b> J. David (University of Wollongong, Australia), S. Bolik (Siemens PTI, United Kingdom), K. Summers (Ekistica, Australia) (Submission-ID WISO24-186)</li> <li>• <b>Immittance-based Black-Box Model Identification via Vector Fitting Methods for Offshore Wind Power Plant Components</b> S. Ghimire, G. M. Gomes Guerreiro, F. Malmquist, J. Haugaard (Siemens Gamesa Renewable Energy, Denmark   Technical University of Denmark – DTU, Denmark), E. Guest (Siemens Gamesa Renewable Energy, Denmark), G. Yang (Technical University of Denmark – DTU, Denmark) (Submission-ID WISO24-267)</li> <li>• <b>Impedance-Based Power System Stability Analysis Based on a Power Quality Assessment Toolbox – Advantages and Challenges</b> B. Weise, T. Würfl (DIgSILENT, Germany) (Submission-ID WISO24-255)</li> </ul>	
<b>12:10 – 12:30</b>	<b>Discussions</b>

<b>10:40 – 12:30</b>	<b>SESSION 4D – IEA WIND AND PVPS TASK 51 AND 16</b>
03:40 New York   04:40 Rio de Janeiro   09:40 Berlin   13:10 New Delhi   14:40 Jakarta   15:40 Beijing   16:40 Tokyo   18:40 Sydney	
> Session Chair	John Zack (MESO, USA) – TBC
<b>10:40 – 12:10</b>	
<ul style="list-style-type: none"> <li>- IEA Wind and PVPS Task 51 and 16: Review and Panel discussion on Forecasting and Data needs for the Weather driven Energy System</li> <li>- 1. Overview of Task 51 activities</li> <li>- 2. Overview of Task 16 activities</li> <li>- 3. Review of the minute-scale workshop and resulting activities</li> <li>- 4. Panel discussion of forecasting and data needs for the weather driven energy system</li> </ul> <ul style="list-style-type: none"> <li>• <b>IEA Wind Task 51 Forecasting for the Weather-driven Energy System: Maximizing Value from Multiple Scales of Variable Generation Forecasting Technology</b> J. Zack (MESO, USA), C. Möhrlein (WEPROG, Denmark), G. Giebel (Technical University of Denmark – DTU, Denmark), C. Draxl (NREL, USA), H. Frank (Deutscher Wetterdienst, Germany) (Submission-ID WISO24-272)</li> <li>• <b>Introduction to the IEC and IEA liaison for the Collaborative Development of a Standard for Renewables Forecasting and Forecast Evaluation</b> C. Möhrlein (WEPROG, Denmark), J. Zack (Meso Inc., USA), J. Yan (North China Electric Power University, China), G. Giebel (DTU Wind, Denmark) (Submission-ID WISO24-259)</li> </ul>	
<b>12:10 – 12:30</b>	<b>Discussions</b>

## 12:30 – 13:30 LUNCH BREAK

<b>13:30 – 15:30</b>		<b>SESSION 5A– GRID FORMING</b>
06:30 New York   07:30 Rio de Janeiro   12:30 Berlin   16:00 New Delhi   17:30 Jakarta   18:30 Beijing   19:30 Tokyo   21:30 Sydney		
> Session Chair	TBA	
<b>13:30 – 14:50</b>	<b>Presentations (20 min. each)</b>	
	<ul style="list-style-type: none"> <li>• <b>Technology Specific Challenges of Grid Forming Capabilities: Aspects to Consider when Setting Up GFM Requirements</b> T. Bülo, B. Fischer, A. Knobloch (SMA Solar Technology, Germany) (Submission-ID WISO24-189)</li> <li>• <b>Requirements and Verification Procedures for Gridforming Units – The German Approach to Ensure Power System Stability under Very High Penetration of Inverter-Based Sources</b> K. Malekian, E. Quitmann (ENERCON Global, Germany), T. Buelo (SMA Solar Technology, Germany), J. Massmann (Amprion, Germany), M. Schmiege (DlgsILENT, Germany) (Submission-ID WISO24-216)</li> <li>• <b>Enercon 2</b> NN (Affiliation, Country) (Submission ID 000)</li> <li>• <b>Analysis of the Influence of Grid Forming Control on Power System Oscillations in Large Power Systems</b> L. Cai (University of Rostock, Germany), Y. Hou (Energy Research Institute of Shandong Academy of Sciences, China), U. Karaagac (Hong Kong Polytechnic University, China) (Submission-ID WISO24-140)</li> </ul>	
<b>14:50 – 15:30</b>	<b>Discussions</b>	

<b>13:30 – 15:30</b>		<b>SESSION 5B– HYDROGEN GRID INTEGRATION SESSION</b>
06:30 New York   07:30 Rio de Janeiro   12:30 Berlin   16:00 New Delhi   17:30 Jakarta   18:30 Beijing   19:30 Tokyo   21:30 Sydney		
> Session Chair	Bernd Engel + SMA	
<b>13:30 – 15:10</b>	<b>Presentations (20 min. each)</b>	
	<ul style="list-style-type: none"> <li>• <b>Grid friendly Hydrogen – How Advanced Power Electronics Can Support Power Grids when Connecting Large Scale Electrolysis Projects</b> B. Voll (SMA Altensio, Germany) (Submission-ID WISO24-198)</li> <li>• <b>PlugPower -TBD</b> NN (Affiliation, Country) (Submission ID 000)</li> <li>• <b>H2energy - TBD</b> NN (Affiliation, Country) (Submission ID 000)</li> <li>• <b>Title 4</b> NN (Affiliation, Country) (Submission ID 000)</li> </ul>	
<b>15:10 – 15:30</b>	<b>Discussions</b>	

<b>13:30 – 15:30</b>	<b>SESSION 5C– GRID CODE CERTIFICATION II</b>
06:30 New York   07:30 Rio de Janeiro   12:30 Berlin   16:00 New Delhi   17:30 Jakarta   18:30 Beijing   19:30 Tokyo   21:30 Sydney	
> Session Chair	TBA
<b>13:30 – 15:10</b>	<b>Presentations (20 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>EMT Models for Grid Integration: International Requirements, Validation Challenges, and Compliance</b> M. Ali, B. Schowe-von der Brelie, J. Doell, E. Makki, Y. Ayadi (FGH, Germany) (Submission-ID WISO24-276)</li> <li>• <b>Compliance Criteria for Power Oscillation Damping Functions in Power Electronic Interfaced Resources</b> P. Demey (RTE, France), J. Noupowo (L2S - Université Paris Saclay – CNRS, France), C. Cardozo, A. Guironnet, G. Torresan (RTE, France), S. Tliba (L2S - Université Paris Saclay – CNRS, France) (Submission-ID WISO24-045)</li> <li>• <b>Accuracy Measures for the Validation of Power-Hardware-In-The-Loop Testing of Multi-Megawatt Wind Turbines</b> F. Hans, J. Wendt, G. Quistorf (Fraunhofer IWES, Germany) (Submission-ID WISO24-117)</li> <li>• <b>30 MW Test Facility for Validation of Multi-Megawatt Wind Turbine Models in Future Offshore Energy Systems</b> G. Quistorf, T. Jersch (Fraunhofer IWES, Germany) (Submission-ID WISO24-200)</li> <li>• <b>Lifetime Grid Compliance &amp; Voltage Sensitivity</b> P. H. Nielsen, M. Holzapfel, I. Pereira Barreira (Vestas Wind Systems, Denmark) (Submission-ID WISO24-127)</li> </ul>	
<b>15:10 – 15:30</b>	<b>Discussions</b>

<b>13:30 – 15:30</b>	<b>SESSION 5D– FORECASTING ASPECTS</b>
06:30 New York   07:30 Rio de Janeiro   12:30 Berlin   16:00 New Delhi   17:30 Jakarta   18:30 Beijing   19:30 Tokyo   21:30 Sydney	
> Session Chair	TBA
<b>13:30 – 15:18</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Quality-Assessment of High-Resolution Weather Forecasts and Gap-Filling of Real-Time Measurements for Improved Predictability in Extreme Events</b> C. Möhrlen, J. U. Jørgensen (WEPROG, Denmark), J. Arnvist (University of Uppsala, Sweden) (Submission-ID WISO24-208)</li> <li>• <b>From Static Lines to Living Maps: Using Graph Neural Networks for Weather Forecasting, Paving the Way for Dynamic Data Visualization.</b> I. Smith Salazar (The Private Financing Advisory Network, Venezuela), S. Ramlagan (La Brea Industrial Development Company Limited, Trinidad and Tobago) (Submission-ID WISO24-180)</li> <li>• <b>Solar Forecasting by Meso-Ensemble Prediction System- Case Study of Hokkaido Area in Japan and Challenges in areas with winter snowfall</b> H. Ohtake, T. Takamatsu, T. Oozeki (National Institute of Advanced Industrial Science and Technology – AIST, Japan), K. Yamaguchi (Japan Weather Association – JWA, Japan) (Submission-ID WISO24-173)</li> <li>• <b>Minute-scale Solar Energy Forecasting Across Europe Based on Generative and Convolutional AI</b> A. Meyer (Bern University of Applied Sciences, Switzerland   Delft University of Technology, Netherlands), A. Carpentieri (Bern University of Applied Sciences, Switzerland   ETH Zurich, Switzerland), K. Schuurmann (Bern University of Applied Sciences, Switzerland   Delft University of Technology, Netherlands) (Submission-ID WISO24-0293)</li> <li>• <b>Estimation and Aggregation of Wind Power Forecasts Utilizing Master Data and Zero-Shot Learning</b> D. Beinert, A. Braun, J. Schütz (Fraunhofer IEE, Germany) (Submission-ID WISO24-114)</li> <li>• <b>Baseload-forecasting in Multi-Family Houses Applying Recurrent Neural Networks with Gated Recurrent Units on Field Data</b> M. Lüdecke, M. Bialojahn, M. Meinert, B. Engel (TU Braunschweig – elenia, Germany) (Submission-ID WISO24-212)</li> </ul>	
<b>15:18 – 15:30</b>	<b>Discussions</b>

## 15:30 – 16:00 COFFEE BREAK

<b>16:00 – 18:40</b>		<b>SESSION 6A – GRID FORMING AND WIND POWER</b>
09:00 New York   10:00 Rio de Janeiro   15:00 Berlin   18:30 New Delhi   20:00 Jakarta   21:00 Beijing   22:00 Tokyo   00:00 Sydney		
> Session Chair	TBA	
<b>16:00 – 18:06</b>	<b>Presentations (18 min. each)</b>	
•	<b>Adapting Grid-Forming Strategies for Type IV Wind Turbine Generators: Exploring the Impact of Machine-Side Dynamics on Existing Grid-Forming Techniques</b> H. Udawatte (Monash University, Australia), M. H. Ravanji (Sharif University of Technology, Iran), B. Bahrani (Monash University, Australia) ( <a href="#">Submission-ID WISO24-146</a> )	
•	<b>Enabling Islanding and Re-Synchronization of Offshore Wind Power Plants with Grid-Forming Control</b> S. Ghimire, G. M. Gomes Guerreiro (Siemens Gamesa Renewable Energy, Denmark   Technical University of Denmark – DTU, Denmark), K. Vatta Kkuni, E. Guest, K. H. Jensen (Siemens Gamesa Renewable Energy, Denmark), G. Yang (Technical University of Denmark – DTU, Denmark) ( <a href="#">Submission-ID WISO24-065</a> )	
•	<b>Extended Functionalities for Stable Wind Farm Interconnections with GFM Inverters and Energy Storage</b> A. Falk, D. Duckwitz, A. Knobloch, R. Bhatia, A. Gerdemann (SMA Solar Technology AG, Germany) ( <a href="#">Submission-ID WISO24-199</a> )	
•	<b>Comparison of DC Link Controls for a Wind Turbine With Grid Forming Converter Control.</b> L. Salagamsetty, L. Cai (University of Rostock, Germany) ( <a href="#">Submission-ID WISO24-169</a> )	
•	<b>Transient Challenges of a BESS Grid-Forming Integration Project</b> J.-F. Hache, O. Saad (Hydro-Québec, Canada), H. Honvo (EVLO, Canada), P.-L. Martel, R. Desrochers, A. D. Sy (Hydro-Québec, Canada) ( <a href="#">Submission-ID WISO24-008</a> )	
•	<b>Grid-Forming Control and Operational Strategies for Offshore Wind Turbines Incorporating Electrical and Mechanical Modelling</b> C. Neumann, H.-G. Eckel (University of Rostock, Germany) ( <a href="#">Submission-ID WISO24-129</a> )	
•	<b>Grid Support with Hybrid GFL and GFM Converter in Type IV Wind Generator</b> E. Watanabe, F. Lima, L. Lima (COPPE / Federal University of Rio de Janeiro, Universidade Federal do Ceará, Brazil), C. Fernandes, G. Neves (COPPE / Federal University of Rio de Janeiro, Universidade Federal do Ceará, Brazil   CEFET - RJ, Brazil), B. Zoghdar, M. El-Sied (TotalEnergies, Brazil) ( <a href="#">Submission-ID WISO24-191</a> )	
<b>18:06 – 18:40</b>	<b>Discussions</b>	

<b>16:00 – 18:30</b>		<b>SESSION 6B – HYDROGEN ASPECTS I</b>
09:00 New York   10:00 Rio de Janeiro   15:00 Berlin   18:30 New Delhi   20:00 Jakarta   21:00 Beijing   22:00 Tokyo   00:00 Sydney		
> Session Chair	TBA	
<b>16:00 – 18:00</b>	<b>Presentations (20 min. each)</b>	
•	<b>The Role of Hydrogen Storage and Pipelines in Highly Sector Coupled European Energy Systems</b> M. Koivisto, S. Yamujala (DTU Wind and Energy Systems, Denmark) ( <a href="#">Submission-ID WISO24-079</a> )	
•	<b>Flexible Electrolyzers as a Tool for Renewable Integration and Congestion Management: A Transmission Grid Case Study for Germany 2030</b> J. Kisse, P. Hahn (University of Kassel, Germany), M. Braun (University of Kassel   Fraunhofer IEE, Germany) ( <a href="#">Submission-ID WISO24-176</a> )	
•	<b>Technical Challenges of Co-location of Renewable Hydrogen</b> Y. Sun, L. Beloqui Larumbe (Shell Global Solutions International, Netherlands), H. Mu, D. Yang (Eindhoven University of Technology, Netherlands) ( <a href="#">Submission-ID WISO24-271</a> )	
•	<b>Towards Optimization of Harmonic Currents Emissions in Plants for Production of Green Hydrogen</b> G. Arnold, K. Virani (Fraunhofer IEE, Germany) ( <a href="#">Submission-ID WISO24-223</a> )	
•	<b>Levelised Cost Based Approach for Integration of Renewable Hydrogen in Industrial Processes.</b> M. Rizwan (DNV, Norway), D. Geerdink (DNV, Netherlands), M. S. Bogen (DNV, Norway), M. Eijgelaar (DNV, Netherlands), E. A. Hektor (DNV, Norway) ( <a href="#">Submission-ID WISO24-031</a> )	
•	<b>Power-to-X Export Potential from Chile to Europe on the Pathway to Carbon Neutrality</b> L. Jansen, E. Duque Pérez, B. Häckner (Fraunhofer IEE, Germany   University of Kassel, Germany), M. Pfennig (Fraunhofer IEE, Germany) ( <a href="#">Submission-ID WISO24-233</a> )	
•	<b>Hydrogen Projects in Finland</b>	
<b>18:00 – 18:30</b>	<b>Discussions</b>	

<b>16:00 – 18:30</b>	<b>SESSION 6C – STABILITY ASPECTS II</b>
09:00 New York   10:00 Rio de Janeiro   15:00 Berlin   18:30 New Delhi   20:00 Jakarta   21:00 Beijing   22:00 Tokyo   00:00 Sydney	
> Session Chair	Jian Sun (Rensselaer Polytechnic Institute, USA)
<b>16:00 – 18:00</b>	<b>Presentations (20 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Stability and Power Quality Considerations for Energy Augmentation of BESS Projects</b> A. Jenkins, S. Deeney, C. Stauffer (Mitsubishi Electric Power Products, Inc., USA) (Submission-ID WISO24-206)</li> <li>• <b>An Impedance-Based Approach for Harmonic Emission Assessment of Power Generation Plants</b> S. Rogalla, S. Kaiser (Fraunhofer ISE, Germany), B. Weise (DIgSILENT, Germany), F. Safargholi (Fraunhofer IEE, Germany) (Submission-ID WISO24-073)</li> <li>• <b>On the Specification of Subsynchronous Damping Capabilities for DFIG Based Wind Turbine Generators</b> A. Pawellek, F. Goudarzi (Nordex SE, Germany) (Submission-ID WISO24-269)</li> <li>• <b>Frequency-Domain Network Modeling for the Identification of Converter-Grid Resonance During Power System Restoration</b> B. Sütő, D. Raisz (Budapest University of Technology and Economics, Hungary) (Submission-ID WISO24-226)</li> <li>• <b>Broadband Impedance Measurement Method and Device for Renewable Energy Power Units</b> Y. Xiao, W. Wang, G. Li, G. He (China Electric Power Research Institute, China) (Submission-ID WISO24-070)</li> <li>• <b>Small-Signal Stability Analysis of Energy Island Type Systems Considering Parallel Operation of Grid-Following and Grid-Forming Converters</b> J. Bollerslev (Energinet, Denmark), H. Wu, X. Wang (Aalborg University, Denmark), J. Bum Kwon, Y. Liao (Energinet, Denmark) (Submission-ID WISO24-043)</li> </ul>	
<b>18:00 – 18:30</b>	<b>Discussions</b>

<b>16:00 – 18:40</b>	<b>SESSION 6D – POWER SYSTEM STUDIES</b>
09:00 New York   10:00 Rio de Janeiro   15:00 Berlin   18:30 New Delhi   20:00 Jakarta   21:00 Beijing   22:00 Tokyo   00:00 Sydney	
> Session Chair	TBA
<b>16:00 – 18:06</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>The Essential Role of Frequency-Dependent Power Control Mechanisms in Ensuring System Stability</b> S. Walujski, T. Sauer, B. Engel (TU Braunschweig – elenia, Germany) (Submission-ID WISO24-025)</li> <li>• <b>MILP Capacity Expansion Planning for Island Grids</b> S. Hempel, P.-P. Schierhorn (Energynautics, Germany) (Submission-ID WISO24-297)</li> <li>• <b>Evaluating the Synthetic Inertia of a Real Solar Photovoltaic Power Facility</b> R. Villena-Ruiz, J. Jiménez-Ruiz, A. Honrubia-Escribano (University of Castilla-La Mancha, Spain), J. C. Hernández (University of Jaén, Spain), E. Gómez-Lázaro (University of Castilla-La Mancha, Spain) (Submission-ID WISO24-019)</li> <li>• <b>Demonstration of Run-of-river Hydropower Plant and Battery as a Black-start Capable Unit</b> W. Yan, V. Gevorgian (NREL, USA) (Submission-ID WISO24-229)</li> <li>• <b>Managing High Voltage Constraints in Transmission Grids</b> E. Monnot, J. His (EDF R&amp;D, France), L. Chatonnet (EDF DTG, France) (Submission-ID WISO24-053)</li> <li>• <b>Impact of Inverter-Based Generating Systems on Synchronous Machine Subsynchronous Torsional Interactions</b> A. Karisik, T. Bertes (DIgSILENT Pacific, Australia) (Submission-ID WISO24-035)</li> <li>• <b>Real World Case Study of Impedance-Based Analysis of System-wide Subsynchronous Oscillations Involving IBRs</b> S. Shah (National Renewable Energy Laboratory, USA), J. Lu, N. Modi (Australian Energy Market Operator – AEMO, Australia) (Submission-ID WISO24-282)</li> <li>• <b>Decision Dependent Uncertainty Modeling Methodology for Renewable-dominant Power Systems</b> W. Wang, Z. Wang, S. Feng (China Electric Power Research Institute, China), F. Liu (Tsinghua University, China), Y. Hou (The University of Hong Kong, China), B. Wang (China Electric Power Research Institute, China) (Submission-ID WISO24-054)</li> </ul>	
<b>18:06 – 18:40</b>	<b>Discussions</b>

**19:00/19:30 NETWORKING EVENT/DINNER**

– To be booked separately –

## THURSDAY, 10 OCTOBER 2024

<b>08:30 – 10:15</b>	<b>SESSION 7A – POWER SYSTEM ISSUES</b>
<b>01:30 New York   02:30 Rio de Janeiro   07:30 Berlin   11:00 New Delhi   12:30 Jakarta   13:30 Beijing   14:30 Tokyo   16:30 Sydney</b>	
<b>&gt; Session Chair</b>	<b>TBA</b>
<b>08:30 – 10:00</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"><li>• <b>Wide-area Oscillations Damping Services by IBRs without Pre-curtailment</b> V. Gevorgian (NREL, USA) (<a href="#">Submission-ID WISO24-016</a>)</li><li>• <b>Demystifying Resilience: Towards a Unified Framework for Studying Structural and Operational Resilience</b> N. Menemenlis, R. Zgheib, D. Komljenovic (Hydro-Québec, Canada) (<a href="#">Submission-ID WISO24-028</a>)</li><li>• <b>Navigating Power Fluctuations in Renewable-Dominated Grids with Inertia Management</b> D. V Pombo (EPRI Europe, Ireland), D. Alonso Sørensen (University of the Basque Country   Artech R&amp;D, Spain) (<a href="#">Submission-ID WISO24-081</a>)</li><li>• <b>Advanced Production Simulation and Unit Commitment in PyPSA</b> P.-P. Schierhorn, R. Alsayyed, A. Hösl, S. Hempel (EnergyNautics, Germany) (<a href="#">Submission-ID WISO24-298</a>)</li><li>• <b>Modelling and Validation of the Nordic Transmission System Based on Open Data</b> H. Hodel, P. Chen, L. Göransson, O. Carlson (Chalmers University of Technology, Sweden) (<a href="#">Submission-ID WISO24-030</a>)</li></ul>	
<b>10:00 – 10:15</b>	<b>Discussions</b>

<b>08:30 – 10:15</b>	<b>SESSION 7B – COUNTRY STUDIES I</b>
<b>01:30 New York   02:30 Rio de Janeiro   07:30 Berlin   11:00 New Delhi   12:30 Jakarta   13:30 Beijing   14:30 Tokyo   16:30 Sydney</b>	
<b>&gt; Session Chair</b>	<b>TBA</b>
<b>08:30 – 10:00</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"><li>• <b>A Deeper Perspective on IBR-Driven Oscillations</b> D. Brahma, M. O'Malley, B. Chaudhuri, J. Bialek (Imperial College London, United Kingdom) (<a href="#">Submission-ID WISO24-xxx</a>)</li><li>• <b>Japan's Green New Deal Scenario for 2035 and 2050</b> J. Asuka (Tohoku University, Japan), K. Sato (Tokyo Keizai University, Japan), S.-J. Park (Kansai Gakuin University, Japan), H. Matsubara, Y. Yasuda (Institute for Sustainable Energy Policies, Japan), M. Utagawa (National Institute of Advanced Industrial Science and Technology, Japan) (<a href="#">Submission-ID WISO24-165</a>)</li><li>• <b>High Fidelity Modeling Framework of Grid Forming Inverter-Based Resources to Improve Dynamic Stability of a Future Japanese Power System</b> R. Pandey, K. Kiriwara, T. Yoshihara, O. Tomobe (Hitachi R&amp;D, Japan) (<a href="#">Submission-ID WISO24-220</a>)</li><li>• <b>Possible Transition of Japan's Power System with Flexibility Supply from Distributed Resources</b> K. Ogimoto, Y. Iwafune, M. Imanaka, K. Kataoka (The University of Tokyo, Japan), S. Segawa, H. Azuma, A. Isonaga, S. Fukutome (J-Power Business Service Co., Japan) (<a href="#">Submission-ID WISO24-214</a>)</li><li>• <b>Country Study Case: PV Integration Grand Bahama</b> P. Henzel, P.-P. Schierhorn (EnergyNautics, Germany) (<a href="#">Submission-ID WISO24-299</a>)</li></ul>	
<b>10:00 – 10:15</b>	<b>Discussions</b>



**08:30 – 10:15      SESSION 7C – SOLAR INTEGRATION ASPECTS**

**01:30 New York | 02:30 Rio de Janeiro | 07:30 Berlin | 11:00 New Delhi | 12:30 Jakarta | 13:30 Beijing | 14:30 Tokyo | 16:30 Sydney**

**> Session Chair      TBA**

**08:30 – 09:50      Presentations (20 min. each)**

- **Tackling Solar Energy Integration Challenges on the Ireland and Northern Ireland Power System**  
A. Moshari, S. Aldahmor, M. Hurtado, T. Kërçi, S. Tweed, E. Kennedy (EirGrid, Ireland) (Submission-ID WISO24-261)
- **Automated Modeling Methodology for Existing PV Systems to Analyze Losses and Economic Efficiency for Enhanced Reactive Power Provision**  
H. Köppe, W. Kusno, B. Engel (TU Braunschweig – elenia, Germany) (Submission-ID WISO24-243)
- **Sub-Synchronous Oscillation Damping by means of Large-Scale Inverter-Based PV and Energy Storage Systems**  
A. Knobloch (SMA Solar Technology, Germany), M. Hau (Fraunhofer IEE, Germany), D. Duckwitz (SMA Solar Technology, Germany), M. Wecker (Fraunhofer IEE, Germany), F. Castro Elgueta, G. Lammert, C. Hardt (SMA Solar Technology, Germany) (Submission-ID WISO24-185)
- **Distributed Energy Resources and its Potential Ancillary Services in the Future Power System**  
M. Z. Che Wanik (Hamad Bin Khalifa University, Qatar) (Submission-ID WISO24-275)

**09:50 – 10:15      Discussions**

**08:30 – 10:15      SESSION 7D – TITLE TBA**

**01:30 New York | 02:30 Rio de Janeiro | 07:30 Berlin | 11:00 New Delhi | 12:30 Jakarta | 13:30 Beijing | 14:30 Tokyo | 16:30 Sydney**

**> Session Chair      TBA**

**08:30 – 10:00      Presentations (18 min. each)**

- **ResilientMicrogrid Formation with Renewable Integration**  
P. Zhang (Stony Brook University, USA) (Submission-ID WISO24-294)
- **Advanced OptiTwin: An Innovative High-Resolution Data and Forecast Incorporating Simulation Framework for more realistic Home Energy Management Systems Use Case Analysis**  
D. Reiners, F. F. Sehr, A. Beblek, V. Grinewitschus (EBZ Business School, Germany) (Submission-ID WISO24-184)
- **Hardware-in-the-loop Dynamic Testing of a New Control of Heat Pumps' Active Power Modulation for Grid Services.**  
D. Cheze (CEA, France), T. Prevost (RTE, France), F. Bruyat (CEA, France) (Submission-ID WISO24-058)
- **Predictability of the Operating Behaviour of Different Types of Heat Pump Systems**  
J. Dobschinski (Fraunhofer IEE, Germany | University of Kassel, Germany), D. E. Hollermann, D. Jost, A.-K. Goldmaier, P. Giron, J. Rodriguez Santiago (Fraunhofer IEE, Germany) (Submission-ID WISO24-134)
- **Renewable Integration and Electricity Spot Prices: Trends, Drivers, and Economic Implications Beyond LCoE**  
S. Yamujala, M. Koivisto (Technical University of Denmark – DTU, Denmark) (Submission-ID WISO24-137)

**10:00 – 10:15      Discussions**

**10:15 – 10:40      COFFEE BREAK**

<b>10:40 – 12:30</b>	<b>SESSION 8A – GRID FORMING III</b>
03:40 New York   04:40 Rio de Janeiro   09:40 Berlin   13:10 New Delhi   14:40 Jakarta   15:40 Beijing   16:40 Tokyo   18:40 Sydney	
> Session Chair	TBA
<b>10:40 – 12:10</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Estimation of Grid-Supporting Parameters of Generation Units Tested by Passive FRT-Tester</b> R. Klosse (EESYST, Germany) (<a href="#">Submission-ID WISO24-239</a>)</li> <li>• <b>Grid-Forming Control: Identification through Benchmark and Hardware-in-the-Loop Testing</b> P. Hackl, Z. Zhang, R. Schuerhuber (Graz University of Technology, Austria) (<a href="#">Submission-ID WISO24-036</a>)</li> <li>• <b>Frequency Analysis of Droop-Controlled Inverter-Based Generators: Introducing a current feed-forward control</b> A. Hebing (TU Darmstadt, Germany) (<a href="#">Submission-ID WISO24-119</a>)</li> <li>• <b>Comparison between a Virtual Synchronous Machine and a Synchronverter Based on Characteristic Grid-Forming Benchmark Scenarios</b> P. Weber, A. Bisseling, L. Hörmann, M. Suriyah, T. Leibfried (IEH Karlsruhe Institute of Technology – KIT, Germany) (<a href="#">Submission-ID WISO24-142</a>)</li> <li>• <b>Tiers of Small-Signal Performance for GFM Assets</b> D. Howard, I. Vieto (GE Vernova Consulting Services, USA) (<a href="#">Submission-ID WISO24-163</a>)</li> </ul>	
<b>12:10 – 12:30</b>	<b>Discussions</b>

<b>10:40 – 12:30</b>	<b>SESSION 8B – ELECTROLYZER INTEGRATION I</b>
03:40 New York   04:40 Rio de Janeiro   09:40 Berlin   13:10 New Delhi   14:40 Jakarta   15:40 Beijing   16:40 Tokyo   18:40 Sydney	
> Session Chair	TBA
<b>10:40 – 12:10</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Case Study on Electrolyzer Integration into Weak Grids with Grid-forming Energy Storage System</b> C. Kaufmann (Fraunhofer IWES, Germany   CITCEA-UPC Universitat Politècnica de Catalunya, Spain   HAW Hamburg, Germany), F. Hans, A. R. Asim (Fraunhofer IWES, Germany), G. Pangalos (Fraunhofer IWES, Germany   HAW Hamburg, Germany), O. Gomis-Bellmunt (CITCEA-UPC Universitat Politècnica de Catalunya, Spain) (<a href="#">Submission-ID WISO24-104</a>)</li> <li>• <b>Powering the Future: Integrating Hydrogen-Based Power Plants in the Grid</b> M. Ali, B. Schowe-von der Brelie, J. Doell (FGH, Germany) (<a href="#">Submission-ID WISO24-274</a>)</li> <li>• <b>Risk Assessment of Electrolyser Failure During Grid Disturbances for Dynamic Voltage and Angle Stability</b> S. Bose (Technical University of Munich – TUM, Germany), D. Stenzel (Tennet TSO, Germany), R. Witzmann (Technical University of Munich – TUM, Germany), W. Winter (Tennet TSO, Germany) (<a href="#">Submission-ID WISO24-240</a>)</li> <li>• <b>Investigating Degradation Effects on Electrolyzers How to Avoid Safety and Economic Risks of Electrolyzers Through Modeling and Monitoring</b> N. Eggers, T. Birth-Reichert (Fraunhofer IFF, Germany   University of Applied Sciences Hamburg, Germany), M. Scheffler, S. Jentsch (Fraunhofer IFF, Germany) (<a href="#">Submission-ID WISO24-002</a>)</li> <li>• <b>Validation of a Two Phase Fluid Model for Transient Simulation of Alkaline Electrolyzers</b> H. Wiggerhauser, F. Sedeqi, F. Egert, F. Razmjooei, A. Ansar (German Aerospace Center – DLR, Germany) (<a href="#">Submission-ID WISO24-238</a>)</li> </ul>	
<b>12:10 – 12:30</b>	<b>Discussions</b>

<b>10:40 – 12:30</b>	<b>SESSION 8C– OFFSHORE WIND POWER</b>
03:40 New York   04:40 Rio de Janeiro   09:40 Berlin   13:10 New Delhi   14:40 Jakarta   15:40 Beijing   16:40 Tokyo   18:40 Sydney	
> Session Chair	TBA
<b>10:40 – 12:10</b>	<b>Presentations ( 18 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Control of an MMC-Based HVDC Link for Offshore Wind Farms to Enable Reliable Ancillary Service Provision via Wind Turbines</b> M. Hildebrandt, C. Neumann, N. Hammes, M. Schütt, H.-G. Eckel (University of Rostock, Germany) (Submission-ID WISO24-071)</li> <li>• <b>Adaptive Fault Current Limiting Control of MMC for Protection of Multiterminal HVDC Systems</b> P. Huang, S. Shah (National Renewable Energy Laboratory, USA) (Submission-ID WISO24-281)</li> <li>• <b>Enhanced Voltage Control in Offshore Wind Farms with Fast-Tapping On-Load Tap-Changers</b> I. Burlakin, E. Scheiner, G. Mehlmann, M. Luther (Friedrich-Alexander-Universität Erlangen-Nürnberg – FAU, Germany), S. Rehkopf, M. Wolfram, C. Hurm (Maschinenfabrik Reinhausen, Germany) (Submission-ID WISO24-245)</li> <li>• <b>Overview of Methodologies for Investigating Control Interactions in Multi-Vendor Offshore Wind Power Plants</b> G. R. Mugambi, N. A. Cutululis, O. S. Romano (Technical University of Denmark – DTU, Denmark), H. Khazraj, A. G. Raducu (Vattenfall Vindkraft Denmark, Denmark) (Submission-ID WISO24-266)</li> <li>• <b>Protection Challenges and Solutions for Offshore Wind Power: Towards a Converter-Dominated Power System</b> A. Novikov, N. Cutululis, G. Yang (Technical University of Denmark – DTU, Denmark), R. Sharma, F. Martin, D. Vitoldas (Siemens Gamesa Renewable Energy, Denmark) (Submission-ID WISO24-133)</li> </ul>	
<b>12:10 – 12:30</b>	<b>Discussions</b>

<b>10:40 – 12:30</b>	<b>SESSION 8D – IEC SC8A - IEA FORECASTING STANDARD</b>
03:40 New York   04:40 Rio de Janeiro   09:40 Berlin   13:10 New Delhi   14:40 Jakarta   15:40 Beijing   16:40 Tokyo   18:40 Sydney	
> Session Chair	Corinna Möhrten (WEPROG, Denmark)
<b>10:40 – 12:10</b>	
<ul style="list-style-type: none"> <li>• <b>Let's talk Standard for Forecasting and Evaluation of Wind and Solar in an Energy System with 100% Renewables</b> <ol style="list-style-type: none"> <li>1. Overview of the IEC-IEA effort to establish forecasting standards and the IEA RP documents &amp; evaluation tool</li> <li>2. Inspirational short-talk (2-3 x 5min)</li> <li>3. Panel Discussion on needs and interests for the development of a standard</li> </ol> </li> </ul>	
<b>12:10 – 12:30</b>	<b>Discussions</b>

## 12:30 – 13:30 LUNCH BREAK

<b>13:30 – 15:30</b>		<b>SESSION 9A– GRID FORMING IV</b>
06:30 New York   07:30 Rio de Janeiro   12:30 Berlin   16:00 New Delhi   17:30 Jakarta   18:30 Beijing   19:30 Tokyo   21:30 Sydney		
<b>&gt; Session Chair</b>		<b>TBA</b>
<b>13:30 – 15:10</b>	<b>Presentations (20 min. each)</b>	
	<ul style="list-style-type: none"> <li>• <b>Case Study: Interoperability of Two Independently Designed Grid-Forming Converters</b> R. Denninger (Fraunhofer ISE, Germany), T. Erckrath (Fraunhofer IEE, Germany), P. Ernst (Fraunhofer ISE, Germany), P. Unruh, M. Jung (Fraunhofer IEE, Germany), S. Rogalla (Fraunhofer ISE, Germany) (Submission-ID WISO24-072)</li> <li>• <b>The Integration Characteristics Research and Experimental Practice of Grid Forming Wind Power</b> J. Zhang, W. Wang, Q. Li, S. Li, S. Qin (China Electric Power Research Institute, China) (Submission-ID WISO24-100)</li> <li>• <b>Power Oscillation Damping with Grid-Forming Converters: A Simulative and System-Theoretical Analysis</b> L. Piepka, C. Schöll, J. Lehner (TransnetBW GmbH, Germany) (Submission-ID WISO24-110)</li> <li>• <b>Stability Analysis of Grid-Forming Converters under Hybrid Synchronous Control Mode</b> Z. Zhang, P. Hackl, R. Schuerhuber (Graz University of Technology, Austria) (Submission-ID WISO24-014)</li> <li>• <b>Coordinate Control of Fast Power Reference Response and Inertial Support for Grid-Forming VSCs</b> L. Zhao, X. Wang (KTH Royal Institute of Technology, Sweden) (Submission-ID WISO24-279)</li> </ul>	
<b>15:10 – 15:30</b>	<b>Discussions</b>	

<b>13:30 – 15:30</b>		<b>SESSION 9B– ELECTROLYZER INTEGRATION II</b>
06:30 New York   07:30 Rio de Janeiro   12:30 Berlin   16:00 New Delhi   17:30 Jakarta   18:30 Beijing   19:30 Tokyo   21:30 Sydney		
<b>&gt; Session Chair</b>		<b>TBA</b>
<b>13:30 – 15:10</b>	<b>Presentations (20 min. each)</b>	
	<ul style="list-style-type: none"> <li>• <b>Analysis of the Potential of Electrolyzers to Cover the Future Inertia Demand</b> T. Sauer, J. Grobler, B. Dammann, B. Engel (TU Braunschweig – elenia, Germany) (Submission-ID WISO24-107)</li> <li>• <b>Dynamic Modelling and Grid Integration of Thyristor Connected PEM Electrolysis Plants, Part 1: Plant Modelling</b> A. Salman, A. Wunsch, S. Eichner, R. Singer (Fraunhofer ISE, Germany), S. Höhn, F. Rauscher, D. Robin, G. Deiml (TenneT TSO, Germany) (Submission-ID WISO24-026)</li> <li>• <b>Dynamic Modelling and Grid Integration of Thyristor Connected PEM Electrolysis Plants, Part 2: Grid Stability Analyses</b> S. Eichner, A. Salman, A. Wunsch, R. Singer (Fraunhofer ISE, Germany), S. Höhn, F. Rauscher, D. Robin, G. Deiml (TenneT TSO, Germany) (Submission-ID WISO24-027)</li> <li>• <b>Comparison of Aggregated and Detailed Large-Scale Hydrogen Electrolyzer Models for Grid Integration Studies</b> T. Heins, T. Heynen (RWTH Aachen University, Germany), S. Simon (Shell Deutschland, Germany), S. K. Gurumurthy (RWTH Aachen University, Germany), A. Monti (RWTH Aachen University, Germany   Fraunhofer FIT, Germany), W. Leterme (RWTH Aachen University, Germany) (Submission-ID WISO24-102)</li> <li>• <b>Evaluation of Fast Power-Ramping Capability of Hydrogen-Electrolyzers for Frequency Services</b> T. Heynen, T. Heins, M. Kuhn, W. Leterme (RWTH Aachen University, Germany), A. Monti (Fraunhofer FIT, Germany   RWTH Aachen University, Germany) (Submission-ID WISO24-091)</li> </ul>	
<b>15:10 – 15:30</b>	<b>Discussions</b>	

<b>13:30 – 15:30</b>		<b>SESSION 9C– POWER SYSTEM INTEGRATION STUDIES</b>
06:30 New York   07:30 Rio de Janeiro   12:30 Berlin   16:00 New Delhi   17:30 Jakarta   18:30 Beijing   19:30 Tokyo   21:30 Sydney		
<b>&gt; Session Chair</b>		<b>TBA</b>
<b>13:30 – 15:10</b>	<b>Presentations (20 min. each)</b>	
	<ul style="list-style-type: none"> <li>• <b>Recommended Practices for Wind and Solar Integration Studies</b> H. Holttinen (Recognis   IEAWind Task 25, Finland), J. Kiviluoma, N. Helistö (VTT, Finland), B. Frew (NREL, USA), D. Flynn (UCD, Ireland), N. Cutulus (DTU, Denmark) (<a href="#">Submission-ID WISO24-145</a>)</li> <li>• <b>Benefits of Interregional Transmission for Resilience</b> D. Lew (ESIG, USA) (<a href="#">Submission-ID WISO24-032</a>)</li> <li>• <b>Framework to Identify and Evaluate Dynamic Performance Characteristics of IBRs in a Transmission Network</b> A. Siler (Telos Energy, USA), S. Thakar (Electric Power Research Institute – EPRI, USA), M. Richwine (Telos Energy, USA), D. Ramasubramanian (Electric Power Research Institute – EPRI, USA), N. Miller (HickoryLedge, USA), J. Matevosyan (Energy Systems Integration Group – ESIG, USA) (<a href="#">Submission-ID WISO24-047</a>)</li> <li>• <b>Flow Based Market Coupling Motivated Network Modelling for High-VRE Future Scenarios</b> A. Hösl, R. Alsayyed (Energynautics, Germany) (<a href="#">Submission-ID WISO24-300</a>)</li> <li>• <b>Pushing the Limits in a Modified Nordic Test System with High Penetration of Renewable Energy Sources</b> E. Scheiner, I. Burlakin (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany), A. Kuri (Siemens, Germany), G. Mehlmann, M. Luther (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany) (<a href="#">Submission-ID WISO24-257</a>)</li> </ul>	
<b>15:10 – 15:30</b>	<b>Discussions</b>	

<b>13:30 – 15:30</b>		<b>SESSION 9D– WIND TURBINE ASPECTS</b>
06:30 New York   07:30 Rio de Janeiro   12:30 Berlin   16:00 New Delhi   17:30 Jakarta   18:30 Beijing   19:30 Tokyo   21:30 Sydney		
<b>&gt; Session Chair</b>		<b>TBA</b>
<b>13:30 – 15:10</b>	<b>Presentations (20 min. each)</b>	
	<ul style="list-style-type: none"> <li>• <b>Extended Chopper Capability for Wind Turbines with Doubly Fed Induction Generator in Wind Farms with Weak Grid Connection</b> C. Prignitz, M. Laubrock, C. Wessels (Nordex Energy SE, Germany) (<a href="#">Submission-ID WISO24-112</a>)</li> <li>• <b>Assessing During-Fault Stability of Type IV Wind Turbines through Power Flow Analyses</b> R. Abritta Aguiar Santos (Norwegian University of Science and Technology – NTNU, Norway), G. Miguel Gomes Guerreiro (Technical University of Denmark – DTU, Denmark), A. Pavlov, D. Varagnolo (Norwegian University of Science and Technology – NTNU, Norway), B. Tore Børresen (Equinor ASA, Norway) (<a href="#">Submission-ID WISO24-195</a>)</li> <li>• <b>Control Strategies and Efficiency Enhancement for Doubly Fed Induction Generator Wind Turbines</b> M. Galler (DEIF Wind Power Technology Austria, Austria), H. Eickhoff (Silicon Austria Labs, Austria) (<a href="#">Submission-ID WISO24-221</a>)</li> <li>• <b>Validation and Performance Aspects of a MFRT Event for a Type 3 Windfarm in Australia</b> M. Laubrock (Nordex Energy, Germany), M. Gordon (Nordex Oceania PTY, Australia), M. Gómez Nogales, L. Pérez Andrés (ACCIONA, Spain), M. Shafiei (ACCIONA Energía, Australia) (<a href="#">Submission-ID WISO24-196</a>)</li> <li>• <b>Enhancing Fault Detection and LFRT Behaviour at Double-Fed Wind Turbines</b> M. Galler (DEIF Wind Power Technology Austria, Austria), H. Eickhoff (Silicon Austria Labs, Austria) (<a href="#">Submission-ID WISO24-246</a>)</li> </ul>	
<b>15:10 – 15:30</b>	<b>Discussions</b>	

**15:30 – 16:00**

**COFFEE BREAK**

**16:00 – 18:40      SESSION 10A – GERMAN ASPECTS**

09:00 New York | 10:00 Rio de Janeiro | 15:00 Berlin | 18:30 New Delhi | 20:00 Jakarta | 21:00 Beijing | 22:00 Tokyo | 00:00 Sydney

> Session Chair      TBA

**16:00 – 18:06      Presentations (18 min. each)**

- **Detailed Requirements on Connection of Power to Gas Facilities in Germany**  
R. Bogner (TenneT TSO, Germany), H. Popella, V. Schulz (Amprion, Germany), J. Weidner (50Hertz Transmission, Germany), C. Schöll (TransnetBW, Germany) (Submission-ID WISO24-260)
- **Who will Pay for Offshore Wind Integration? Impact of Bidding Zone Design, Part 2**  
P.-P. Schierhorn, R. Alsayed, A. Hösl (Energynautics, Germany) (Submission-ID WISO24-300)
- **Techno-Economic Analysis of the User-Based Multi-Use of Residential Battery Storage Systems**  
H. Wagner, M. Lüdecke, M. Meinert, B. Engel (TU Braunschweig – elenia, Germany) (Submission-ID WISO24-252)
- **Implementation of Operational Flexibility for the Control of the Smart Grid: Evaluation of an Exemplary Residential District in Germany**  
F. Peñaherrera V. (OFFIS - Institute for Information Technology, Germany | Carl von Ossietzky University of Oldenburg, Germany), S. Fayed (University of Applied Sciences Emden/Leer, Germany), J. P. Hörding (OFFIS - Institute for Information Technology, Germany | Carl von Ossietzky University of Oldenburg, Germany), H. Wagner (TU Braunschweig – elenia, Germany), A. Nieße (OFFIS - Institute for Information Technology, Germany | Carl von Ossietzky University of Oldenburg, Germany) (Submission-ID WISO24-217)
- **Peer-to-Peer Communication Using Enhanced German Smart Meter Gateway Infrastructure**  
E. Niehs, J. Essers, J. Rotherth, B. Engel (TU Braunschweig – elenia, Germany) (Submission-ID WISO24-254)
- **Zero-Shot Learning based on Multi-Task Learning for Weather-based Dynamic Line Rating**  
D. E. Hollermann, A. Wessel, G. Hein, T. Kanefendt, M. Siefert (Fraunhofer IEE, Germany) (Submission-ID WISO24-151)
- **Dynamic Line Rating in Germany: Integrating Machine Learning and Terrain Data for Improved Forecasts**  
A. Wessel, D. E. Hollermann, G. Hein, T. Kanefendt (Fraunhofer IEE, Germany) (Submission-ID WISO24-286)

**18:06 – 18:40      Discussions**

**16:00 – 18:30      SESSION 10B – HYDROGEN ASPECTS**

09:00 New York | 10:00 Rio de Janeiro | 15:00 Berlin | 18:30 New Delhi | 20:00 Jakarta | 21:00 Beijing | 22:00 Tokyo | 00:00 Sydney

> Session Chair      TBA

**16:00 – 18:00      Presentations (20 min. each)**

- **Optimal Design of a Hydrogen System of Grid-Connected Flexible Industrial Microgrids**  
P. Muñoz-Peña, L. Bruno, E. Gonzalez-Iakl (CITCEA - Universitat Politècnica de Catalunya, Spain), A. Señís, M. Fajardo (Schneider Electric, Spain), M. Cheah-Mane, O. Gomis-Bellmunt, E. Prieto-Araujo (CITCEA - Universitat Politècnica de Catalunya, Spain) (Submission-ID WISO24-152)
- **Experimental and Simulative Design of Isothermal High Temperature Electrolyser Controller for Coupling with Renewable Energies**  
D. Fortunati, M. Riegraf, M. P. Heddrich, S. A. Ansar (German Aerospace Center – DLR, Germany) (Submission-ID WISO24-224)
- **Renewable Virtual Power Plants. Optimal Design using Hydrogen for Energy Storage and Balancing**  
R. Antunes (Universidade Nova de Lisboa, Portugal), A. Estanqueiro (LNEG - Laboratório Nacional de Energia e Geologia, Portugal), I. Catarino (Universidade Nova de Lisboa, Portugal), (Submission-ID WISO24-270)
- **Subsea Hydrogen Long Duration Energy Storage**  
T. Mhyre, A. Labes, H. Rønning Ausen (TechnipFMC, Norway) (Submission-ID WISO24-210)
- **Blackstart of Small Islanded Renewables for Scottish Islands**  
J. Merriweather, A. Egea-alvarez, L. Xu (University of Strathclyde, United Kingdom) (Submission-ID WISO24-251)
- **Large-Scale Integration of Electrolyzers into the German Transmission System: Scenario 2030**  
E. Nika (Technical University of Munich, Germany), A. Panosyan (Siemens Energy, Germany) (Submission-ID WISO24-250)
- **H2 in Finland**

**18:00 – 18:30      Discussions**

<b>16:00 – 18:30</b>	<b>SESSION 10C – DISTRIBUTION GRID ASPECTS I</b>
09:00 New York   10:00 Rio de Janeiro   15:00 Berlin   18:30 New Delhi   20:00 Jakarta   21:00 Beijing   22:00 Tokyo   00:00 Sydney	
> Session Chair	TBA
<b>16:00 – 18:00</b>	<b>Presentations (20 min. each)</b>
•	<b>Undesired Effects of Widespread Implementation of Control And Optimization Algorithms in Residential Electricity Grids</b> R. Singh, M. Eijgelaar, T. Bosma, E. Petkovski (DNV, Netherlands) (Submission-ID WISO24-080)
•	<b>On the Large-Scale Integration of Renewable Energy Communities into the Distribution Network</b> F. T. Streb, B.-V. Rao, D. Reihs, D. Schwabeneder, H. Brunner, M. Stefan, F. Kupzog (AIT Austrian Institute of Technology, Austria), B. Klöckl (Vienna University of Technology, Austria) (Submission-ID WISO24-248)
•	<b>Simulation Modeling of PV Systems in Low Voltage Networks according to Grid Codes</b> T. Weinmann, S. Seifried, T. Lechner, M. Finkel (Technische Hochschule Augsburg, Germany), G. Kerber (Hochschule München, Germany), T. Garn, B. Engel (TU Braunschweig, Germany) (Submission-ID WISO24-150)
•	<b>Distributed Energy Resource Grid-forming Inverter Aggregation and Control for Power Inertia Auxiliary Service in Virtual Power Plant</b> J. Dong (China Electric Power Research Institute, China) (Submission-ID WISO24-063)
•	<b>Design of a Robust Grid-Forming Control for Low-Voltage Grids</b> B. O. Winter, N. Schulz, M. Gand, B. Engel (TU Braunschweig – elenia, Germany) (Submission-ID WISO24-092)
•	<b>Active Management of Voltage Stability in Emerging Distributed Grids with High PV Penetration (Eswatini Case Study)</b> N. Mathunjwa, P. K. Folly (University of Cape Town, South Africa) (Submission-ID WISO24-190)
<b>18:00 – 18:30</b>	<b>Discussions</b>

<b>16:00 – 18:30</b>	<b>SESSION 10D – WIND POWER ASPECTS</b>
09:00 New York   10:00 Rio de Janeiro   15:00 Berlin   18:30 New Delhi   20:00 Jakarta   21:00 Beijing   22:00 Tokyo   00:00 Sydney	
> Session Chair	TBA
<b>16:00 – 18:00</b>	<b>Presentations (20 min. each)</b>
•	<b>Investigation of Aggregation and Clustering Approaches for Modeling Onshore Wind Energy Generators</b> C. Wirtz, M. Murglat (FGH e.V., Germany), A. Zwikirsch (RWTH Aachen University, Germany), S. Krahl (FGH e.V., Germany), A. Moser (IAEW RWTH Aachen University, Germany) (Submission-ID WISO24-225)
•	<b>Control Parameter Estimation Encompassing Time and Frequency Domain Test Cases Using Particle Swarm Optimization</b> K. V. Vilera (Typhoon HIL, Serbia   Technical University of Denmark – DTU, Denmark), D. Majstorovic (Typhoon HIL, Serbia), G. M. Gomes Guerreiro (Siemens Gamesa Renewable Energy, Denmark   Technical University of Denmark – DTU, Denmark), G. Yang (Technical University of Denmark – DTU, Denmark) (Submission-ID WISO24-060)
•	<b>Development of Type IV WTG Short Circuit Model and Integration into Commercial Short Circuit Software</b> G. M. Gomes Guerreiro (Siemens Gamesa Renewable Energy, Denmark   DTU Wind & Energy Systems, Denmark), T. Nguyen, C. Weldy (ASPEN, USA), R. Abritta (Norwegian University of Science and Technology – NTNU, Norway), C. Briscoe, P. Mahat, R. Sharma (Siemens Gamesa Renewable Energy, Denmark) (Submission-ID WISO24-236)
•	<b>Calculating the Infeed of Wind and PV-Systems for Future Grid Planning Based on Real Measurement Data</b> S. Seifried, S. Storch, D. Storch, R. Helmschrott (University of Applied Sciences Augsburg, Germany), K. Schaarschmidt (LEW Verteilnetz, Germany), M. Finkel (University of Applied Sciences Augsburg, Germany) (Submission-ID WISO24-211)
•	<b>Type 5 Wind Turbine Technologies: three main candidates compared</b> G. Henderson (SyncWind Power, New Zealand), V. Gevorgian (NREL, USA), D. Flynn, W. Mendieta (University College Dublin, Ireland) (Submission-ID WISO24-158)
•	<b>Hydrostatic Transmission Technology for Wind Turbines: Grid-Forming, System Service and Maintenance Capabilities</b> W. Mendieta, D. Flynn (University College Dublin, Ireland) (Submission-ID WISO24-280)
<b>18:00– 18:30</b>	<b>Discussions</b>

## 19:00 Poster Session and Energynautics Lounge

## FRIDAY, 11 OCTOBER 2024

<b>09:00 – 10:40</b>	<b>SESSION 11A – TITLE TBA</b>
<b>02:00 New York   03:00 Rio de Janeiro   08:00 Berlin   11:30 New Delhi   13:00 Jakarta   14:00 Beijing   15:00 Tokyo   17:00 Sydney</b>	
<b>&gt; Session Chair TBA</b>	
<b>09:00 – 10:30</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Power Adjustments for the Provision of Inertia by a Grid-Forming Inverter in the Low Voltage Grid</b> J. Grobler, T. Sauer, M. Gand, B. Engel (TU Braunschweig – elenia, Germany) (<a href="#">Submission-ID WISO24-128</a>)</li> <li>• <b>Sequenced Active Fault Management for Offshore HVDC Grids</b> P. Zhang (Stony Brook University, USA) (<a href="#">Submission-ID WISO24-289</a>)</li> <li>• <b>Grid Stability Enhancement in Renewable-Integrated Power Systems through Grid-Forming Control</b> S. Gupta, A. Shukla (Indian Institute of Technology Jammu, India) (<a href="#">Submission-ID WISO24-178</a>)</li> <li>• <b>Power System Stability in Island Offshore Grids with Wind Turbine Generators</b> J. Kolb (Unitech Power Systems, Norway), B. Abecia (Siemens Gamesa Renewable Energy, Denmark), B. Pushpanathan, B. Monsen (Equinor, Norway), B. Ek (Unitech Power Systems, Norway) (<a href="#">Submission-ID WISO24-010</a>)</li> <li>• <b>Comparison and Combination of Axial Induction and Wake Redirection Control for Wind Farm Power Output Maximization and Grid Power Reference Tracking</b> A. Dittmer (German Aerospace Center – DLR, Germany) (<a href="#">Submission-ID WISO24-228</a>)</li> </ul>	
<b>10:30 – 10:40</b>	<b>Discussions</b>

<b>09:00 – 10:40</b>	<b>SESSION 11B – COUNTRY STUDIES II</b>
<b>02:00 New York   03:00 Rio de Janeiro   08:00 Berlin   11:30 New Delhi   13:00 Jakarta   14:00 Beijing   15:00 Tokyo   17:00 Sydney</b>	
<b>&gt; Session Chair TBA</b>	
<b>09:00 – 10:30</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Increasing Curtailment of Wind and Solar in the Australian NEM: Observations and Solutions for Continuing Success</b> J. Dyson (Greenview Strategic Consulting, Australia) (<a href="#">Submission-ID WISO24-213</a>)</li> <li>• <b>Estimation of the Risk of Generation Curtailment of Renewable Energy Sources in the Perspective of the Development of the Polish Power System in 2030-2040</b> P. Kacejko, M. Wancerz (Lublin University of Technology, Poland) (<a href="#">Submission-ID WISO24-164</a>)</li> <li>• <b>Impact of Offshore Wind Parks to the Brazilian Interconnected Power System</b> G. Taranto (Federal University of Rio de Janeiro, Brazil) (<a href="#">Submission-ID WISO24-143</a>)</li> <li>• <b>Country Study Case: RE Expansion Planning Sint Maarten</b> S. Hempel, T. Ackermann (Energynautics, Germany) (<a href="#">Submission-ID WISO24-301</a>)</li> <li>• <b>Overvoltage Ride Through Requirements in the Finnish Converter Dominated Power System</b> M. Lindroos, O.-P. Janhunen (Fingrid, Finland) (<a href="#">Submission-ID WISO24-078</a>)</li> </ul>	
<b>10:30 – 10:40</b>	<b>Discussions</b>



<b>09:00 – 10:40</b>	<b>SESSION 11C – POWER QUALITY ASPECTS</b>
02:00 New York   03:00 Rio de Janeiro   08:00 Berlin   11:30 New Delhi   13:00 Jakarta   14:00 Beijing   15:00 Tokyo   17:00 Sydney	
> Session Chair	TBA
<b>09:00 – 10:30</b>	<b>Presentations (18 min. each)</b>
<ul style="list-style-type: none"> <li> <b>Adaptive Narrowband Damping for Improving Harmonic Stability of Modular Multilevel Converters</b>            P. Huang, S. Shah (National Renewable Energy Laboratory, USA) (Submission-ID WISO24-284)         </li> <li> <b>Frequency Domain Modelling of the First Australian Renewable Energy Zone: Stability and Harmonic Emissions Assessment</b>            J. David (ACERZ, Australia), S. Bolik (Siemens PTI, United Kingdom), K. Summers, M. Seidaliseifabad (ACERZ, Australia), E. Rivero-Barneto (Siemens PTI, United Kingdom) (Submission-ID WISO24-288)         </li> <li> <b>Offshore Wind Farm Grid Integration: Challenges and Solutions for Harmonic Distortion</b>            A. Kannan, S. Oliver, A. Atallah, A. H Manchola, I. A Aristi (Siemens Energy Global, Germany) (Submission-ID WISO24-012)         </li> <li> <b>Power Quality Solutions for Inertial Challenges in the Grids of the Future</b>            A. Owens, R. Heydari, A. Stiger (Hitachi Energy, Sweden) (Submission-ID WISO24-022)         </li> <li> <b>Assessment of Power Quality of Renewable Plants: Experience of Western Region of India</b>            V. Puppala, P. Seshadri, S. Raghuvanshi, P. Sanodiya, S. Chitturi, V. R. Minnakuri, O. Kumbhar (Grid Controller of India, India) (Submission-ID WISO24-103)         </li> </ul>	
<b>10:30 – 10:40</b>	<b>Discussions</b>

## 10:40 – 11:00 COFFEE BREAK

<b>11:00 – 12:20</b>	<b>SESSION 12A – POWER SYSTEM ASPECTS</b>
04:00 New York   05:00 Rio de Janeiro   10:00 Berlin   13:30 New Delhi   15:00 Jakarta   16:00 Beijing   17:00 Tokyo   19:00 Sydney	
> Session Chair	TBA
<b>11:00 – 12:00</b>	<b>Presentations (20 min. each)</b>
<ul style="list-style-type: none"> <li> <b>Multi-Objective Evolutionary Tuning of Synchronous and Non-Synchronous Generation Control For Power Oscillation Damping</b>            M. Skwarski (Better Energy, Denmark   Warsaw University of Technology, Poland), H. Abildgaard (Better Energy, Poland), S. Robak (Warsaw University of Technology, Poland) (Submission-ID WISO24-034)         </li> <li> <b>Impact of Mode Switching of Fault Ride-Through Strategy on Transient Stability in Weak Grid</b>            L. Ge, L. Zhu, N. Chen, W. Wang (China Electric Power Research Institute, China) (Submission-ID WISO24-074)         </li> <li> <b>Increasing the Accuracy of Feasible Operating Regions in Meshed Grid Topologies by Using Grid Equivalents</b>            F. Korff, M. Schwenke, J. Hanson (TU Darmstadt, Germany) (Submission-ID WISO24-106)         </li> </ul>	
<b>12:00 – 12:20</b>	<b>Discussions</b>

<b>11:00 – 12:20</b>	<b>SESSION 12B – TITLE TBA</b>
04:00 New York   05:00 Rio de Janeiro   10:00 Berlin   13:30 New Delhi   15:00 Jakarta   16:00 Beijing   17:00 Tokyo   19:00 Sydney	
<b>&gt; Session Chair</b> TBA	
<b>11:00 – 12:00</b>	<b>Presentations (20 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Smart Windfarm Controller - Concept and Pilot Test Campaign</b> D. Coimbra, J. Fischer (Energiekontor, Germany) (Submission-ID WISO24-021)</li> <li>• <b>ProPower: Integrating Weather Forecast Uncertainty into Power Systems Management</b> H. Bents (German Aerospace Center – DLR, Germany) (Submission-ID WISO24-029)</li> <li>• <b>Modelling Aspects on Cables in the Frequency Domain</b> A. F. Negrete Romero, M. De La Hoz Lambraño, D. Alonso Sorensen (Artech Group, Spain) (Submission-ID WISO24-258)</li> </ul>	
<b>12:20 – 12:20</b>	<b>Discussions</b>

<b>11:00 – 12:20</b>	<b>SESSION 12C – DISTRIBUTION GRID ASPECTS II</b>
04:00 New York   05:00 Rio de Janeiro   10:00 Berlin   13:30 New Delhi   15:00 Jakarta   16:00 Beijing   17:00 Tokyo   19:00 Sydney	
<b>&gt; Session Chair</b> TBA	
<b>11:00 – 12:00</b>	<b>Presentations (20 min. each)</b>
<ul style="list-style-type: none"> <li>• <b>Redispatch in Active Distribution Grids Exchanging Flexibility Bands and Setpoints at TSO-DSO Interfaces</b> M. Schwenke, F. Korff, J. Hanson (TU Darmstadt, Germany) (Submission-ID WISO24-101)</li> <li>• <b>An Integrated Open-Source Algorithmic Approach for Comprehensive Operating Limit Management in Low Voltage Grid Simulations</b> S. Fayed (University of Applied Sciences Emden/Leer, Germany), F. Peñaherrera V. (OFFIS Institute for Information Technology, Germany), H. Wagner (TU Braunschweig – elenia, Germany), A. Nieße (OFFIS Institute for Information Technology, Germany   Carl von Ossietzky University of Oldenburg, Germany), J. Rolink (University of Applied Sciences Emden/Leer, Germany), (Submission-ID WISO24-244)</li> <li>• <b>Harmonic Emission Limit Allocation within Renewable Energy Zones for Multiple System Operating Conditions</b> J. David, D. Robinson, S. Elphick (University of Wollongong, Australia) (Submission-ID WISO24-154)</li> </ul>	
<b>12:00– 12:20</b>	<b>Discussions</b>

## 12:20 – 12:30 SHORT BREAK

<b>12:30 – 13:30</b>	<b>SESSION 13 – CLOSING SESSION</b>
05:30 New York   06:30 Rio de Janeiro   11:30 Berlin   15:00 New Delhi   16:30 Jakarta   17:30 Beijing   18:30 Tokyo   20:30 Sydney	
<b>&gt; Session Chair</b>	
<b>12:30 – 13:00</b>	<b>Panel discussion</b>
<b>TOPICS ADDRESSED: TBA</b>	
<b>Panelists:</b>	
<ul style="list-style-type: none"> <li>- TBA</li> <li>- TBA</li> <li>- TBA</li> <li>- TBA</li> </ul>	
<b>13:00 – 13:25</b>	<b>Discussions</b>
<b>13:25 – 13:30</b>	<b>Closing Remarks</b>

## 13:30 – 14:30 LUNCH

## POSTER PRESENTATIONS

---

- **Fair Cost and Needed Power and Energy of BESS and PV for a Unbalance Control in LV Grids**  
C. Biedermann, B. Engel (TU Braunschweig – elenia, Germany) ([Submission-ID WISO24-003](#))
- **Integrating Renewable Energy for Sustainable Public Transportation: A Case Study on Green Hydrogen Refueling Infrastructure**  
G. Varhegyi (Siemens Energy, United Arab Emirates) ([Submission-ID WISO24-011](#))
- **Design and Implementation of Static Voltage Support Via Q-V Characteristics on Grid-Forming Inverters and Test of its Grid Support Capability in Combined Operation with Grid-Following Inverters**  
B. O. Winter, T. Garn, R. F. Herman, B. Engel (TU Braunschweig – elenia, Germany) ([Submission-ID WISO24-013](#))
- **A Hybrid Method Enabling Predictive Digital Twin during the Design Phase of Wind Turbines**  
E. Kandemir, S.-A. Alaliyat, A. Hasan, T. Kvamsdal (Norwegian University of Science and Technology – NTNU, Norway) ([Submission-ID WISO24-020](#))
- **Enhancing Manufacturing Sustainability: Implementing Rooftop Solar with Monitoring and Controlling Systems in Manufacturing Plants in Thailand Industrial Estate**  
P. Tanuphol (Electricity Generating Authority of Thailand, Thailand) ([Submission-ID WISO24-038](#))
- **Feasibility Study of Hydrogen Energy Storage System for Net Zero Energy Building: Case Study of Thanapiphat Building, Thailand**  
A. Aunwong, W. Srithiam (Electricity Generating Authority of Thailand, Thailand) ([Submission-ID WISO24-039](#))
- **Solar Horizons: A Comprehensive Assessment of Solar PV Project Feasibility**  
C. Limroscharoen (Electricity Generating Authority of Thailand, Thailand) ([Submission-ID WISO24-040](#))
- **Feasibility Study and Testing Demand Response and Virtual Power Plant Program with Energy Management System Platform in Thailand**  
W. Srithiam (Electricity Generating Authority of Thailand, Thailand) ([Submission-ID WISO24-042](#))
- **Potential of Prosumer Real-Time Scheduling to Improve Grid Area Load Forecasts in Distribution Grids**  
M. Asman, O. Koch, D. Cano-Tirado, M. Zdrallek (University of Wuppertal, Germany) ([Submission-ID WISO24-046](#))
- **Accelerating wind power investments through lower financing costs**  
N. Helistö (VTT Technical Research Centre of Finland, Finland), S. Johanndeiter (Ruhr-Universität Bochum, Germany), J. Kiviluoma (VTT Technical Research Centre of Finland, Finland) ([Submission-ID WISO24-052](#))
- **Integration of Solar, Battery, and Energy Management Systems for office: A Project Experience**  
K. Sumpaongern, P. Tanuphol (Electricity Generating Authority of Thailand, Thailand) ([Submission-ID WISO24-062](#))
- **Performance Analysis and Economic Feasibility of EGAT Wind Turbine in Phuket, Thailand: A Year-long Study**  
K. Rattanaburi, W. Srithiam (Electricity Generating Authority of Thailand – EGAT, Thailand) ([Submission-ID WISO24-066](#))
- **Development of Emergency Control Method for Deloaded Wind Turbine Generators for Improving Short-Term Frequency Stability in Power Systems**  
S. Oh, K. Kawabe, K. Ayato (Electric & Electronic Dept., Japan) ([Submission-ID WISO24-077](#))
- **Integration Cost of Solar and Wind Power : A Case Study of Korea**  
H. Kim, J. Jeong, H. Goh, S. Jeong (Korea Power Exchange, South Korea), K. Kwag, W. Kim (Pusan National University, South Korea) ([Submission-ID WISO24-085](#))
- **Optimal Configuration of ESS requirements for stable VRE integration; A Case Study of Korea**  
J. Jeong, S. Kwon (Korea Power Exchange, South Korea), J. Cho (Korea University, South Korea), Y. Kwon, M. Park (Korea Power Exchange, South Korea) ([Submission-ID WISO24-086](#))
- **Investigation of the Influence on the AC System Frequency Due to DC Voltage Fluctuations in MMC-HVDC by Analog Simulator**  
R. Shibata, S. Minotsu (Electric Power Development, Japan), T. Haraguchi, K. Yoshida (J-POWER Business Service Corporation, Japan), J. Arai (Energy and Environment Technology Research Institute, Japan), R. Onishi (Mitsubishi Electric Corporation, Japan) ([Submission-ID WISO24-087](#))
- **Battery-Enhanced Stability of DC Link Voltage: A Danish 2.1 MW Photovoltaic Plant Case Study**  
H. Andersen, K. Qian, K. Paasch, T. Ebel (University of Southern Denmark, Denmark) ([Submission-ID WISO24-093](#))

- **Second-Life Batteries for Intermittent Renewable Energy Sources: Economic Optimization for a 2.1 MW Danish PV Plant**  
H. Andersen, K. Qian, K. Paasch, T. Ebel (University of Southern Denmark, Denmark) ([Submission-ID WISO24-094](#))
- **Applications of Quantum Tunnelling Magnetoresistive Current Sensors in High Penetration Renewable Energy Grid**  
S. Liang, J. Yu, C. Yue, X. Yin (China Electric Power Research Institute, China) ([Submission-ID WISO24-097](#))
- **Experimental Validation of a Virtual Synchronous Machine Grid-Forming Converter Control Concept**  
L. Kranz (HTW Berlin - University of Applied Sciences, Germany | 50Hertz Transmission, Germany) ([Submission-ID WISO24-113](#))
- **Economic Analysis and Risk Management in Cement Industry's Shift to Carbon Neutrality**  
M. Khanra, A. Kesselring (Fraunhofer ISI, Germany), P. Patil (Fraunhofer IEG, Germany) ([Submission-ID WISO24-120](#))
- **Avenue to Success: A Comparative Analysis of Granular Energy Attribute Certificate Adoption**  
H. F. Scholta (Technical University of Munich – TUM, Germany) ([Submission-ID WISO24-121](#))
- **On Using Converter Controller DIs for Testing in a Hardware-In-Loop Testbench**  
R. Singh (DNV, Netherlands), U. Singh, Utkarsh, A. Lekic, M. Popov (TU Delft, Netherlands) ([Submission-ID WISO24-126](#))
- **Enhancing PV System through CSI-Based Topology and Grid-Forming Control**  
J. Chen, A. Paez, M. Schütt, H.-G. Eckel (University of Rostock, Germany) ([Submission-ID WISO24-130](#))
- **Development of Small Signal Model of a Wind Power Plant: From Source Code to State Space**  
J. Santo, P. Prakash, D. Pereira, A. Malkhandi (Vestas Wind Systems, Denmark) ([Submission-ID WISO24-135](#))
- **Prospective Short-Circuit Current in the Future Dutch EHV Transmission Network**  
T. Mai, B. v. Hulst, R. Versteegen (TenneT TSO, Netherlands) ([Submission-ID WISO24-136](#))
- **The Curious Case of Wind Power in the Desert**  
A. Niemi (VTT Technical Research Centre of Finland, Finland), S. Bouchakour, I. Bendaas, K. Bouchouicha, A. Razagui (Centre de Développement des Energies Renouvelables, Algeria), N. Putkonen, J. Kiviluoma (VTT Technical Research Centre of Finland, Finland) ([Submission-ID WISO24-139](#))
- **Transient Stability Enhancement of Grid-Forming Type-3 Wind Turbine Generators using Improved Active Power Controller**  
S. Hajtaleb, B. Bahrani (Monash University, Australia) ([Submission-ID WISO24-141](#))
- **EMT-Simulation of an IEEE 9-Bus Benchmark-Model adapted to European Transmission Grid Standards with 100% IBR**  
A. Bisseling, P. Weber, D. Bohn, M. Suriyah, T. Leibfried (Karlsruhe Institute of Technology – KIT, Germany) ([Submission-ID WISO24-144](#))
- **Economic Optimisation and Regulatory Potential of Electricity Generation and Consumption in Iron and Steel Industry Based on Carbon Emission Rights**  
B. Zheng, M. Pan, C. Liu (China Electric Power Research Institute, China), J. Cao, X. Xu (Xi'an Jiaotong-Liverpool University, China), Z. Zhuang, M. Duan, K. Fang (State Grid Jiangsu Electric Power, China), X. Wang (Xi'an Jiaotong-Liverpool University, China), ([Submission-ID WISO24-155](#))
- **Phasor Measurement Unit (PMU) based Monitoring and Management for Medium Voltage Network Integrated with Renewable Energy Resources**  
M. Z. Che Wanik (Hamad Bin Khalifa University, Qatar) ([Submission-ID WISO24-156](#))
- **Power Control Method for Three-terminal HVDC System between Offshore Wind Farm and Onshore Power Grids**  
T. Matsuyama, T. Nakajima (Tokyo City University, Japan) ([Submission-ID WISO24-157](#))
- **Frequency Control Method for HVDC system connecting to Remote Island Microgrid with Renewable Energy Sources and Diesel Generator**  
Y. Uchida, T. Nakajima (Tokyo City University, Japan) ([Submission-ID WISO24-159](#))
- **Study on the Impact of Grid-Forming Techniques in the Machine-Side and Line-Side Converters of Doubly Fed Induction Generators"**  
A. Paez, J. Chen, C. Neumann, H.-G. Eckel (University of Rostock, Germany) ([Submission-ID WISO24-161](#))
- **Stability of Grid Forming Converters under Electromechanical Restrictions**  
R. L. Kristiansen (Vestas Wind Systems, Denmark | Aalborg University, Denmark), G. K. Andersen (Vestas Wind Systems, Denmark), F. Blaabjerg (Aalborg University, Denmark) ([Submission-ID WISO24-181](#))
- **Internalizing Pumped Storage Hydropower Losses into the Electricity Market**  
S. Minotsu, J. Baba (The University of Tokyo, Japan) ([Submission-ID WISO24-192](#))
- **Enhanced heuristic to optimize cabling topologies of large wind farms with complex layouts**  
R. Abritta Aguiar Santos, A. Pavlov, D. Varagnolo (Norwegian University of Science and Technology – NTNU, Norway), B. Tore Børresen (Equinor ASA, Norway) ([Submission-ID WISO24-194](#))

- **Vertical Bifacial Agrivoltaics Benefits on the Photovoltaics Side: A Literature Review**  
A. Morales Vilches, S. Lahr (Next2Sun Technology, Germany) (Submission-ID WISO24-202)
- **Grid Integration Impacts of Vertical Bifacial Agri-Photovoltaics**  
S. Lahr (Next2Sun Technology, Germany), R. Fritz (Fraunhofer IEE, Germany) (Submission-ID WISO24-203)
- **Harnessing Micro Solar Water Pumps for Sustainable Agricultural Development in India**  
S. Vaish (Oxford Policy Management, India) (Submission-ID WISO24-204)
- **Optimization of Prosumer Household with Solar, Battery, and Electric Vehicles: Enhancing Residential Energy Management Considering Non-Constant Efficiency**  
J. Essers (TU Braunschweig – elenia, Germany) (Submission-ID WISO24-205)
- **Research on Energy Management and Coordinated Control Strategy of PV/battery AC Microgrid Systems**  
C. Liu, J. Man (Northeast Electric Power University, China), Z. Zhang (Graz University of Technology, Austria), H. Yang, J. Chen, M. Ren, C. Sun (Northeast Electric Power University, China) (Submission-ID WISO24-207)
- **Limitations of Cell Imbalances on the Operation of a Large-Scale Battery Storage System: example LTO**  
L. Koltermann, M. Celi Cortes, S. Zurmühlen, M. Junker (RWTH Aachen University | Jülich Aachen Research Alliance – JARA-Energy, Germany), D. U. Sauer (RWTH Aachen University | Jülich Aachen Research Alliance – JARA-Energy | Helmholtz-Institute Münster – IEK-12, Germany) (Submission-ID WISO24-218)
- **Study on Multi-Loop Overcurrent Suppression Control Method for Grid Forming Inverter**  
S. Yamamoto, T. Nakajima (Tokyo City University, Japan), Y. Mitsugi, S. Sugimori (TMEIC Corporation, Japan) (Submission-ID WISO24-230)
- **Enhancing Wind Farm Generation Modeling with Turbulence Intensity and Time-Varying Air Density for Large-Scale Energy System Studies**  
E. Simutis, J. Pablo Murcia Leon, M. Juhani Koivisto (Technical University of Denmark – DTU, Denmark) (Submission-ID WISO24-235)
- **Correlating Measurable Properties of Ancillary Services with Frequency Quality**  
K.-F. Boholm Kylesten, R. Eriksson (Uppsala University, Sweden) (Submission-ID WISO24-237)
- **Optimal Management of Aggregated Assets in Electricity Spot Markets through Peer-to-Peer Energy Trading**  
I. Habou Laouali, M. Toro-Cárdenas, Â. Casaleiro, R. Cartaxo (R&D Nester, Portugal), H. Yuan (China Electric Power Research Institute, China), N. Pinho Da Silva (R&D Nester, Portugal) (Submission-ID WISO24-241)
- **GIS-Based Evaluation of Suitability and Implementation Prospects for Solar PV Energy in Africa**  
B. Häckner (Fraunhofer IEE, Germany | University of Kassel, Germany), C. Zink, M. Pfennig, D. Geiger (Fraunhofer IEE, Germany) (Submission-ID WISO24-242)
- **Sequential Hybrid Power-Flow and EMT Simulations for Investigating Power Quality in Distribution Grids**  
C. Wirtz, A. Vanselow, C. Fröhlich, S. Krahl (FGH e.V., Germany), A. Moser (IAEW RWTH Aachen, Germany) (Submission-ID WISO24-247)
- **A Study on Frequency Fluctuation in AGC30 Japanese model for Ramp Rate Limit of Wind Farm**  
J. Suzuki (Electric Power Development, Japan) (Submission-ID WISO24-262)
- **Techno-economic Assessment of Power-to-X Import Options from Africa to the European Union**  
M. Lindenmeyer (Fraunhofer IEE, Germany), L. Jansen (Fraunhofer IEE, Germany | University of Kassel, Germany), C. Zink (Fraunhofer IEE, Germany), B. Häckner, P. Härtel (Fraunhofer IEE, Germany | University of Kassel, Germany) (Submission-ID WISO24-263)
- **Automating Power Plant and Power Electronic Controller Tuning for Enhanced Grid Stability**  
J. Thornton (Blake Clough Consulting, United Kingdom) (Submission-ID WISO24-285)
- **Real-Time Data Acquisition and Migration from SCADA/EMS System to POWERFACTORY Simulation Software**  
L. L. Chiza Segovia (Escuela Politécnica Nacional, Ecuador) (Submission-ID WISO24-295)
- **Design of Remote Microgrid Systems with a Maximum Share of Renewable Energies**  
H. Rühle, S. Hempel (Energynautics, Germany) (Submission-ID WISO24-296)