


7th E-Mobility Power System Integration Symposium

25 SEPT 2023

COPENHAGEN DENMARK 

organized by 



PRELIMINARY PROGRAM AS OF 23 SEPTEMBER 2023

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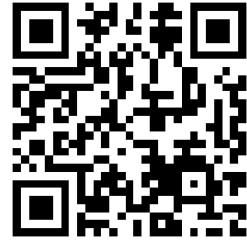
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TIMETABLE 7TH E-MOBILITY INTEGRATION SYMPOSIUM

MONDAY, 25 SEPTEMBER 2023					
E-Mobility Power System Integration Symposium					
08:00 – 09:00	FOYER LOUNGEN REGISTRATION				
09:00 – 09:20	ROOM S09 OPENING: WELCOME AND INTRODUCTION				
09:20 – 11:00	ROOM S09 SESSION 1: KEYNOTE SESSION				
GROUP PHOTO + COFFEE BREAK (30 MIN)					
11:30 – 13:20	<table border="1"> <thead> <tr> <th>ROOM S09</th> <th>ROOM S01</th> </tr> </thead> <tbody> <tr> <td>SESSION 2A: PROJECT EXPERIENCE I</td> <td>SESSION 2B: SMART CHARGING I</td> </tr> </tbody> </table>	ROOM S09	ROOM S01	SESSION 2A: PROJECT EXPERIENCE I	SESSION 2B: SMART CHARGING I
ROOM S09	ROOM S01				
SESSION 2A: PROJECT EXPERIENCE I	SESSION 2B: SMART CHARGING I				
LUNCH (60 MIN)					
14:20 – 16:00	<table border="1"> <thead> <tr> <th>ROOM S09</th> <th>ROOM S01</th> </tr> </thead> <tbody> <tr> <td>SESSION 3A: ANCILLARY SERVICES</td> <td>SESSION 3B: SMART CHARGING II</td> </tr> </tbody> </table>	ROOM S09	ROOM S01	SESSION 3A: ANCILLARY SERVICES	SESSION 3B: SMART CHARGING II
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COFFEE BREAK (20 MIN)					
16:20 – 17:55	<table border="1"> <thead> <tr> <th>ROOM S09</th> <th>ROOM S01</th> </tr> </thead> <tbody> <tr> <td>SESSION 4A: PROJECT EXPERIENCE II</td> <td>SESSION 4B: DISTRIBUTION GRID ASPECTS</td> </tr> </tbody> </table>	ROOM S09	ROOM S01	SESSION 4A: PROJECT EXPERIENCE II	SESSION 4B: DISTRIBUTION GRID ASPECTS
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SESSION 4A: PROJECT EXPERIENCE II	SESSION 4B: DISTRIBUTION GRID ASPECTS				
18:00–18:45	ROOM S09 SESSION 5 PODIUM DISCUSSION & CLOSURE				
18:45	POSTER & NETWORKING RECEPTION (FOYER LOUNGEN)				



To ask your question, select the
session room you are currently in:
A-Sessions or B-Sessions

08:00 – 09:00 Registration

09:00 – 09:20 Welcome

09:20 – 11:00 SESSION 1 – KEYNOTE SESSION

> Session Chair **Thomas Ackermann (Energynautics, Germany)**

09:20 – 10:40 Presentations (20 min. each)

- **Ten Years with EVs in Denmark – Where Did we Come from and Where Did it Take us?**
Kathrine Fjendbo Jørgensen (Capital Region of Denmark, Denmark)
- **State of Smart Charging and Vehicle-to-Grid in Europe**
Christopher Hecht (The Mobility House | RWTH Aachen University | JARA-Energy, Germany) (Submission-ID EMOB23-94)
- **Flexibility Services from EVs: Lessons Learned with the PowerBank Technology**
Alex Iriondo (Monta, Denmark)
- **From V2G to V1G and Back – a Journey through Smart Charging Projects**
Mattia Marinelli (DTU – Technical University of Denmark, Denmark)

10:40 – 11:00 Discussions

11:00 – 11:30 GROUP PHOTO + COFFEE BREAK

11:30 – 13:20 SESSION 2A – PROJECT EXPERIENCE

> Session Chair **Mattia Marinelli (DTU – Technical University of Denmark, Denmark)**

11:30 – 13:00 Presentations (18 min. each)

- **EV Mobility Diffusion and Future Perspectives in the EU: Results from the FLOW Project**
M. Secchi (DTU – Technical University of Denmark, Denmark), A. Ivanova, J. Eichman (IREC – Institute for Energy Research of Catalunya, Spain) (Submission-ID EMOB23-198)
- **Field Test of a Battery Electric Logistics Fleet: Results from a Field Test and Comparison of Different Charging Strategies**
L. Ebbert, G.-L. Di Modica, B. Engel (TU Brunswick, Germany) (Submission-ID EMOB23-188)
- **Mathematical DC Charger Model Considering Grid- and EV-Side Parameters and their Influence**
A. Stadler, F. Grumm (Helmut Schmidt University/University of the Bundeswehr Hamburg, Germany), J. Brombach, K. Rieger, D. Liebig (Shell Global Solutions, Germany), D. Schulz (Helmut Schmidt University/University of the Bundeswehr Hamburg, Germany) (Submission-ID EMOB23-201)
- **Test Device for in-Field Validation of Grid-Friendly Controlled Electric Vehicle Supply Equipment in AC/Mode 3 and DC/Mode 4 Charging**
L. Baum, A. Stadler, S. Darvish, D. Schulz (Helmut Schmidt University/University of the Bundeswehr Hamburg, Germany) (Submission-ID EMOB23-190)
- **Application of Electric Vehicle Charging Station for Power Factor Correction of Industrial Load**
A. Nath, **Z. Rather** (Indian Institute of Technology Bombay, India) (Submission-ID EMOB23-85)

13:00– 13:20 Discussions

11:30 – 13:20 **SESSION 2B – SMART CHARGING I**
> Session Chair **Eckehard Tröster (Energynautics, Germany)**

- 11:30 – 13:00** **Presentations (18 min. each)**
- **PV Charging at Company Car Park: Investigation of Future Use, and Resulting Charging Requirements**
D. Huschenhöfer, J. Petzschmann, J. Binder (Center for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW), Germany), M. Pawellek (Eltroplan Engineering, Germany) ([Submission-ID EMOB23-202](#))
 - **Integration of Flexible Charging Processes of Battery Electric Vehicles in Transmission Grid Congestion Management**
M. Teodosic, S. Kammerer, J. Peper, C. Rehtanz (TU Dortmund University, Germany) ([Submission-ID EMOB23-44](#))
 - **Dynamic Pricing Models for Regionally Generated PV Electricity Based on Artificial Intelligence**
J. Holzinger, J. Rößler, C. Neufeld, C. Lecon, A. Nagl (Aalen University, Germany), K. Bozem (bozem | consulting associates | munich, Germany), A. Ensinger (Überlandzentrale Wörth/l.-Altheim Netz AG, Germany) ([Submission-ID EMOB23-64](#))
 - **Measurement of ICT Latency and Full Activation Time for Fast Demand Response of Electric Vehicle Charging**
M. Imanaka, H. Baba, K. Ogimoto (The University of Tokyo, Japan) ([Submission-ID EMOB23-93](#))
 - **Smart EV Charging with Event Driven Tariffs in the German Smart Meter Infrastructure**
C. Kübler (Biberach University of Applied Sciences, Germany), E. Niehs (TU Brunswick, Germany), M. Grandel (Biberach University of Applied Sciences, Germany), B. Engel (TU Brunswick, Germany) ([Submission-ID EMOB23-16](#))

13:00 – 13:20 **Discussions**

13:20 – 14:20 **LUNCH BREAK**

14:20 – 16:00 **SESSION 3A – ANCILLARY SERVICES**
> Session Chair **Peter-Philipp Schierhorn (Energynautics, Germany)**

- 14:20 – 15:40** **Presentations (20 min. each)**
- **Providing Grid Services with an Electric Car-Sharing Fleet – A Swiss Case Study**
B. Barahona, S. Nowak, M. Friedli, B. Bowler, A. Papaemmanouil (Lucerne University of Applied Sciences and Arts, Switzerland) ([Submission-ID EMOB23-196](#))
 - **Integration of Electric Fleet Virtual Power Plants in Energy Markets**
K. Schert (SAP, Germany), Z. Nochta (Karlsruhe University of Applied Sciences, Germany) ([Submission-ID EMOB23-104](#))
 - **Investigation of Parameters Impacting the Energy Consumption of Electric Buses**
A. Jahic (Helmut Schmidt University/University of the Bundeswehr Hamburg, Germany), R. Soliman (Hamburger Hochbahn AG, Germany), M. Eskander, M. Plenz, E. Avdevicus, D. Schulz (Helmut Schmidt University/University of the Bundeswehr Hamburg, Germany) ([Submission-ID EMOB23-19](#))
 - **Planning and Assessment of E-Car Smart Charging with User Preferences**
M. Noor, G. Engelbrecht, D. Valerio, E. Fuchs, A. Einfalt (Siemens, Austria) ([Submission-ID EMOB23-195](#))

15:40 – 16:00 **Discussions**

14:20 – 16:00 **SESSION 3B – SMART CHARGING II**
> Session Chair **Bernd Engel (TU Brunswick, Germany)**

- 14:20 – 15:40** **Presentations (20 min. each)**
- **Survey of Smart Charging Algorithms**
A. Rutgers (ChargeSim BV, Netherlands) ([Submission-ID EMOB23-152](#))
 - **Vertical Stakeholder Analysis of Charging an Electric Car Within the EV Charging Journey from Domestic Charging to Company Charging with Various Energy-Economic and Technical Framework Conditions.**
J. Eickelmann (PION Technology AG, Germany), B. Engel (TU Braunschweig, Germany) ([Submission-ID EMOB23-173](#))
 - **Online Optimization of a Workplace Electric Vehicle Charging Station under Grid Constraints**
A. Malkova, J. M. Zepter, M. Marinelli (DTU – Technical University of Denmark, Denmark) ([Submission-ID EMOB23-203](#))
 - **Charging Infrastructure at Rest Areas for Battery Long-Haul Trucks: A Load Modelling Approach**
F. Otteny (University of Stuttgart, Germany), L. Mauch, F. Klausmann, A.-L. Klingler (Fraunhofer IAO, Germany) ([Submission-ID EMOB23-96](#))

15:40 – 16:00 **Discussions**

16:00 – 16:20 COFFEE BREAK

16:20 – 17:55	SESSION 4A: PROJECT EXPERIENCE II
> Session Chair	Andrew Rutgers (ChargeSim, Netherlands)
16:20 – 17:35	Presentations (15 min. each)
	<ul style="list-style-type: none">• Practical Experience in Implementing a Smart Control Algorithm for Secure EV Charging D. Masendorf, N. Rhein, P. Henzel, R. Alsayyed, S. Hempel, T. Schlößer (Energynautics, Germany) (Submission-ID EMOB23-181)• Short Term Net Load Forecasting Using Computational Intelligence Techniques I. Habou Laouali, N. Italiano, Â. Casaleiro, I. Alvite, N. Pinho da Silva (R&D Nester, Portugal) (Submission-ID EMOB23-52)• Unlocking the Potential of Electric Vehicles in Brazil: Addressing Grid Integration, Collaborative Approaches and Policy Recommendations C. Grangeia, L. Santos (GESEL – The Study Group on the Electric Energy Sector Federal University of Rio de Janeiro, Brazil), R. Guimarães (GESEL – The Study Group on the Electric Energy Sector, Brazil) (Submission-ID EMOB23-199)• Solar PV and Second Life Batteries Powered EV Charging Station: Case Study for India A. Ramanan, M. Sekhar, S. Mehra (GIZ, India) (Submission-ID EMOB23-205)• Wireless Recharging System for EV's – "e-Charging" R. Junior, B. Fajardo, T. Peixoto (Eletrobras, Brazil) (Submission-ID EMOB23-207)
17:35 – 17:55	Discussions

16:20 – 17:55	SESSION 4B: DISTRIBUTION GRID ASPECTS
> Session Chair	Thomas Ackermann (Energynautics, Germany)
16:20 – 17:35	Presentations (15 min. each)
	<ul style="list-style-type: none">• Distribution Network Optimal Operation with Electric Vehicles F. Marasciuolo, G. Forte, M. Dicorato (Politecnico di Bari, Italy) (Submission-ID EMOB23-191)• Presenting the Project SekQuaSens³: Combining a Networked Sensor Concept with Model-Based Decisions for Optimized Energy Flow in a District N. Reininghaus, M. Kröner (German Aerospace Center – Institute of Networked Energy Systems, Germany), T. Schneider (German Aerospace Center – Institute of Vehicle Concepts, Germany), K. Waiz (German Aerospace Center – Institute of Solar Research, Germany), Y.-P. Flötteröd (German Aerospace Center – Institute of Transportation Systems, Germany), M. López Díaz (German Aerospace Center – Institute of Transport Research, Germany), R. Nippold (German Aerospace Center – Institute of Transportation Systems, Germany), M. Vehse (German Aerospace Center – Institute of Networked Energy Systems, Germany) (Submission-ID EMOB23-48)• Design Comparative Analysis of Distributed and Concentrated Electrical Power Conversion Systems for Multi-Slot Ultra-Fast Chargers P. Franzese, M. Ribera, D. Iannuzzi (University of Naples Federico II, Italy) (Submission-ID EMOB23-204)• Towards a Short-Term Forecasting Framework to Efficiently Charge Company EV fleets S. Gohlke, Z. Nochtka (Karlsruhe University of Applied Sciences, Germany) (Submission-ID EMOB23-103)• Protective Measures for SPD in DC Chargers for BEV F. Grumm (Helmut-Schmidt-University/University of the Bundeswehr Hamburg, Germany), T. Böhm, R. Brocke (DEHN SE, Germany), D. Schulz (Helmut-Schmidt-University/University of the Bundeswehr Hamburg, Germany) (Submission-ID EMOB23-193)
17:35 – 17:55	Discussions

18:00 – 18:45 SESSION 5 – CLOSING SESSION

> Session Chair Eckehard Tröster (Energynautics, Germany)

18:00 – 18:40

VEHICLE-TO-GRID – A TECHNOLOGY THAT IS BECOMING THE STANDARD?

- **Panelists:**

- Christopher Hecht (The Mobility House | RWTH Aachen University | JARA-Energy, Germany)
- Debra Lew (ESIG, USA)
- Mattia Marinelli (DTU – Technical University of Denmark, Denmark)
- Zakir Rather (Indian Institute of Technology Bombay, India)
- Yoh Yasuda (Kyoto University, Japan)

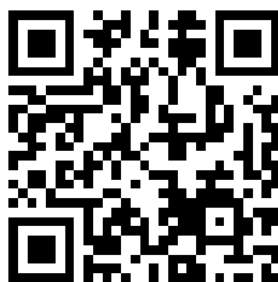
18:40– 18:45 Closure

18:45 – 21:00 POSTER & NETWORKING RECEPTION

POSTER PRESENTATIONS

- **Convolutional Neural Network Battery Pack Classification – Gramian Angular Field vs. Markov Transition Field**
H. Andersen, K. Paasch (University of Southern Denmark, Denmark) ([Submission-ID EMOB23-4](#))
- **The Challenges of Traffic Surveys in the Context of E-Vehicle Power Consumption Analysis**
L. Casey, R. Otto, V. Weiler, L. Gaspers, B. Schröter (University of Applied Sciences Stuttgart, Germany) ([Submission-ID EMOB23-65](#))
- **Electron Tank as the Mother of Future Energy**
Gh. Saleh (Saleh Research Centre, Netherlands) ([Submission-ID EMOB23-117](#))
- **Conception of an Electric Tractor for Farming in Sub-Saharan Africa**
K. Götz, C. Pizzinini (Technical University of Munich – TUM, Germany), J. Strauss (Stellenbosch University, South Africa), S. Tennakoon (Carnegie Mellon University Africa – CMU, Rwanda), **M. Menelaos**, T.Booyesen (Stellenbosch University, South Africa), M. Lienkamp (Technical University of Munich – TUM, Germany) ([Submission-ID EMOB23-197](#))
- **Assessment of Bus Depot Infrastructure under Various Uncertainties to Maximize System Reliability**
M. Eskander, A. Jahic, E. Avdevicius, D. Schulz (Helmut Schmidt University/University of the Bundeswehr Hamburg, Germany) ([Submission-ID EMOB23-206](#))
- **AI Prediction of Energy Consumption for a Regional Renewables Power Market Place**
C. Lecon, J.Rößler, J. Holzinger, C. Neufeld, A. Nagl (Aalen University, Germany), K. Bozem (bozem | consulting associates | munich, Germany), A. Ensinger (Überlandzentrale Wörth/I.-Altheim Netz AG, Germany) ([Submission-ID EMOB23-216](#))

WANT TO GET INVOLVED IN THE DISCUSSION?
SEND YOUR QUESTIONS TO THE SESSION CHAIR VIA SLIDO



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