

# SCCER-Mobility 3<sup>rd</sup> Annual Conference

Friday, 16 September 2016 – ETH Zürich, HG D 7.1

## Poster Session

### E-Mobility - Capacity Area A1

Nr.	Title	Authors
1	Best Practice to Design an Optimal Thermal Management System for Li-Ion Batteries	<b>Gerhard Rizzo, Rouven Christen, Max Stöck</b> <i>Interstaatliche Hochschule für Technik Buchs NTB, Institute for the Development of Mechatronic Systems (EMS)</i>
2	Battery Cooling Concepts – Which is The Best for Prismatic Li-ion Cells?	<b>Gerhard Rizzo, Rouven Christen, Max Stöck</b> <i>Interstaatliche Hochschule für Technik Buchs NTB, Institute for the Development of Mechatronic Systems (EMS)</i>
3	Isolated DC-DC Converter for Battery Storage in Traction Applications	<b>Milos Stojadinovic, Jürgen Biela</b> <i>ETH Zürich, Laboratory for High Power Electronic Systems (HPE)</i>

### Chemical Energy Converters - Capacity Area A2

Nr.	Title	Authors
10	Gas Prechamber Combustion Modeling – A Hierarchical Approach for Model Development	<b>Panagiotis Kyrtatos, Michele Bolla, Maria Kotzagianni, Konstantinos Bardis, Guoqing Xu, Yuri Wright, Sotirios Benekos, Christos Frouzakis, George Giannakopoulos, Konstantinos Boulouchos</b> <i>ETH Zürich, Aerothermochemistry and Combustion Systems Laboratory (LAV)</i>
11	ALADIN II – Highly Efficient and Near-Zero Emission Micro Combined Heat and Power Plant	<b>Tammo Zobel, Philipp Elbert, Christopher Onder</b> <i>ETH Zürich, Institute for Dynamic Systems and Control (IDSC)</i> <b>Christian Schürch, Peter Obrecht, Konstantinos Boulouchos</b> <i>ETH Zürich, Aerothermochemistry and Combustion Systems Laboratory (LAV)</i> <b>Markus Staubli, Motorex</b> <b>Martin Moisi, Hoval Aktiengesellschaft</b> <b>Daniel Gohl, sa-charging solutions AG</b>

12	<b>Efficiency potential of gas engines for utility vehicles</b>	<b>Jakub Rojewski, Patrik Soltic</b> <i>Empa, Automotive Powertrain Technologies Laboratory (APTL)</i> <b>Giacomo Manca di Villahermosa</b> <i>Politecnico di Milano, Internal Combustion Engine Group</i>
13	<b>Hydrogen Enriched Methane – Impact on Ignition and Early Flame Formation</b>	<b>Thomas Kammermann, Ignacio Lobato, Wolfgang Kreutner, Patrik Soltic, Christian Bach</b> <i>Empa, Automotive Powertrain Technologies Laboratory (APTL)</i> <b>Bruno Schneider, Konstantinos Boulouchos</b> <i>ETH Zürich, Aerothermochemistry and Combustion Systems Laboratory (LAV)</i>
14	<b>Multi-scale Modeling of PEFCs</b>	<b>Philip Marmet, Jaka Dujc, Lorenz Holzer, Jürgen O. Schumacher,</b> <i>Zurich University of Applied Sciences, Institute of Computational Physics (ICP)</i> <b>Adrien Lamibrac, Felix N. Büchi</b> <i>Paul Scherrer Institute, Electrochemistry Laboratory (ECL)</i>
15	<b>NextICE - Next Generation of Alternative Fuel Converters</b>	<b>Richard Hutter, Philipp Elbert, Christopher Onder</b> <i>ETH Zürich, Institute for Dynamic Systems and Control (IDSC)</i>
16	<b>Numerical modeling of patterned porous materials for thermo-neutral fuel cells</b>	<b>Jaka Dujc, Philip Marmet, Jürgen O. Schumacher</b> <i>Zurich University of Applied Sciences, Institute of Computational Physics (ICP)</i> <b>Magali Cochet, Antoni Forner Cuenca, Pierre Boillat</b> <i>Paul Scherrer Institute, Electrochemistry Laboratory (LEC) and Neutron Imaging and Activation Group (NIAG)</i>
17	<b>Optimal and Universal Calibration of a Heavy-Duty Diesel Engine and Aftertreatment System</b>	<b>Stijn van Dooren, Philipp Elbert, Christopher Onder</b> <i>ETH Zürich, Institute for Dynamic Systems and Control (IDSC)</i>
18	<b>SwissTrolley+ – A Battery-Assisted Trolley Bus</b>	<b>Andreas Ritter, Philipp Elbert, Christopher Onder</b> <i>ETH Zürich, Institute for Dynamic Systems and Control (IDSC)</i>
19	<b>Pore-level modelling of phase-change induced flow and mass transfer in porous media: Evaporative cooling of polymer electrolyte fuel cells (PEFC)</b>	<b>M. Amin Safi, Ioannis Mantzarasa,</b> <i>Paul Scherrer Institute, Combustion Research Laboratory (CRL)</i> <b>Nikolaos Prasianakis</b> <i>Paul Scherrer Institute, Waste Management Laboratory</i> <b>Adrien Lamibrac, Felix Büchi</b> <i>Paul Scherrer Institute, Electrochemistry Laboratory (LEC)</i>

20	<b>Real-world energy demand determination within the ESMOBIL-RED project</b>	<b>Thomas Bütler, Adrian Braun</b> <i>Empa, Automotive Powertrain Technologies Laboratory (APTL)</i> <b>Lukas Küng</b> <i>ETH Zürich, Aerothermochemistry and Combustion Systems Laboratory (LAV)</i>
21	<b>Neutron imaging characterization of a Polymer Electrolyte Fuel Cell (PEFC) with evaporative cooling</b>	<b>Magali Cochet, Antoni Forner-Cuenca, Dirk Scheuble, Victoria Manzi-Orezzoli, Pierre Boillat</b> <i>Paul Scherrer Institute, Electrochemistry Laboratory (ECL)</i>
22	<b>Feasibility Study Power-to-Hydrogen/Hydrocarbons (PtH<sub>2</sub>/HC): Potentials &amp; Value of PtG in Switzerland for the Mobility Sector</b>	<b>Sinan L. Teske</b> <i>Empa, Automotive Powertrain Technologies Laboratory (APTL)</i>

### Minimization of vehicular energy demand - Capacity Area A3

Nr.	Title	Authors
30	<b>Hierarchically roughened microplatelets enhance the strength and ductility of nacre-inspired composites</b>	<b>Tobias P. Niebel, Davide Carnelli, Rafael Libanori, André R. Studart</b> <i>ETH Zürich, Complex Materials Laboratory (CML)</i>
31	<b>Bicomponent Fibers for Thermoplastic Composites: Towards a New Intermediate Material for Rapid Stamp Forming</b>	<b>Christoph Schneeberger, Joanna C. H. Wong, Paolo Ermanni</b> <i>ETH Zürich, Laboratory of Composite Materials and Adaptive Structures (IDMS-CMAS)</i>
32	<b>Continuous Fibre Lattice Fabrication: Free Form Printing of Fibre Composite Structures</b>	<b>Martin Eichenhofer, Joanna C. H. Wong, Paolo Ermanni</b> <i>ETH Zürich, Laboratory of Composite Materials and Adaptive Structures (IDMS-CMAS)</i>
33	<b>Development of a melt Thermoplastic Resin Transfer Molding (mTP-RTM) process</b>	<b>Damiano Salvatori, Sara Dalle Vacche, Véronique Michaud</b> <i>EPFL, Laboratoire de Technologie des Composites et Polymères (LTC)</i>
34	<b>Stiff, Strong and Fracture Tough Composites Inspired by Mother of Pearl</b>	<b>Madeleine Grossman, Florian Bouville, Florian Erni, Kunal Masania, Rafael Libanori, André R. Studart</b> <i>ETH Zürich, Complex Materials Laboratory (CML)</i>
35	<b>Melt impregnation of carbon fibre fabrics by injection moulding</b>	<b>Julia Studer, Clemens Dransfeld</b> <i>FHNW, Institute of Polymer Engineering (IKT)</i>

## Integration and Optimization - Capacity Area B1

Nr.	Title	Authors
40	Location-based User Profiling for Personalized Mobility Support	David Jonietz, Dominik Bucher, Martin Raubal <i>ETH Zürich, Chair of Geoinformation-Engineering</i>
41	Challenges and Results from Deploying the GoEco! Tracker App	Dominik Bucher, David Jonietz, Martin Raubal <i>ETH Zürich, Chair of Geoinformation-Engineering</i> Francesca Cellina, Roman Rudel <i>SUPSI, Institute for Applied Sustainability to the Built Environment (ISAAC)</i> Francesca Mangili, Claudio Bonesana, Andrea E. Rizzoli <i>USI - SUPSI Dalle Molle Institute for Artificial Intelligence</i>
42	Integration of charging infrastructure and its interaction with the grid	Olivier Duvanel, Patrick Habermacher, Vinzenz V. Härri <i>HSLU Luzern, CC Integrale, Intelligente &amp; Effiziente Energiesysteme (IEE/ES)</i>
43	Noise-Footprint of Personal Mobility Demand	Stefano Cucurachi <i>Bren School of Environmental Science and Management, UC Santa Barbara</i> Samuel Schiess, Andreas Froemelt, Stefanie Hellweg <i>ETH Zürich, Chair of Ecological Systems Design, Institute of Environmental Engineering</i>
44	A RCG rescheduling model for energy savings in mixed rail traffic	Ambra Toletti, Valerio De Martinis, Ulrich A. Weidmann <i>ETH Zürich, Institute for Transport Planning and Systems (IVT)</i>

## Integrated Assessment - Capacity Area B2

Nr.	Title	Authors
50	Characterization of the Usage of the Swiss Heavy Duty Trucks with the purpose of assessing the sectorial Energy Demand	Giacomo Pareschi, Lukas Küng, Gil Georges, Konstantinos Boulouchos <i>Aerothermochemistry and Combustion Systems Laboratory, ETH Zürich</i>
51	Environmental and Cost Assessment of Current and Future Urban Buses	Brian Cox, Chris Mutel <i>Paul Scherrer Institute, Laboratory for Energy Systems Analysis (LEA)</i>
52	Environmental Assessment of Swiss Aircraft Fleet	Brian Cox, Wojciech Jemiolo, Chris Mutel <i>Paul Scherrer Institute, Laboratory for Energy Systems Analysis (LEA)</i>
53	Integrated assessment of future mobility – SCCER Mobility & THELMA results	Stefan Hirschberg, Christian Bauer, Brian Cox, Thomas Heck, Johannes Hofer, Warren Schenler <i>Paul Scherrer Institute, Laboratory for Energy Systems Analysis (LEA)</i>

54	Long term Swiss Mobility Energy Scenarios – An integrated energy systems approach	<b>Kannan Ramachandran, Stefan Hirschberg</b> <i>Paul Scherrer Institute, Laboratory for Energy Systems Analysis (LEA)</i>
55	Strategic Guidance: Example interventions on the Swiss road-based Freight Sector	<b>Lukas Küng, Giacomo Pareschi, Michael Hugentobler, Gil Georges, Konstantinos Boulouchos</b> <i>Aerothermochemistry and Combustion Systems Laboratory, ETH Zürich</i>
56	Swiss Mobility System: Transformation Potential and Process (B2.4)	<b>Merja Hoppe, Tobias Michl</b> <i>University of Applied Sciences ZHAW</i>
57	Energy literacy, environmental attitudes, and efficient vehicle ownership	<b>Adan L. Martinez Cruz</b> <i>ETH Zurich, CEPE</i> <b>Bettina Hirl</b> <i>Università della Svizzera italiana</i>

