

Newsletter



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Dear Reader

We are pleased to present you the latest SCCER Mobility news. This issue communicates major advancements and events of our research platform. Enjoy reading!

Dr. Gloria Romera, Co-Managing Director SCCER Mobility

Management Office News

Proposal for new phase submitted

We successfully submitted the SCCER Mobility funding application 2017-2020 by the end of March. The proposal confirms our general strategic direction but contains several adaptations, as suggested by the CTI Evaluation Panel. As a next step, the CTI Evaluation Panel has invited the Head and the Deputy Head to present the plans for phase II at a short hearing on May 31. The SCCER Steering Committee will then meet in early July and we hope to receive a first feedback soon after this meeting. In case the Steering Committee requires us to amend the funding application we will have time until September to provide further information. The Committee will take its final decision in October, to be approved by the CTI Board in November 2016.

Dr. Jari Kauppila joins the SCCER Mobility Advisory Board

We are happy to announce that **Dr. Jari Kauppila**, Head of Statistics and Modeling, at the International Transport Forum at the OECD in Paris, has been approved as new Advisory Board Member. The management office greatly appreciates his readiness to support the SCCER Mobility. Do not miss the chance to meet Dr. Kauppila at the 3rd SCCER Mobility Annual Conference.

SCCER Summer School on Energy Storage in Batteries

The upcoming Summer School "Energy Storage in Batteries: Materials, Systems, and Manufacturing", co-organized by SCCER Mobility and SCCER HaE, finds a positive echo: over 60 participants have pre-registered to attend the course; twice as much as places available. We look forward to an interesting week with fifteen speakers from academia, industry and public administration.

MAS | CAS ETH in Future Transport Systems (MAS | CAS ETH in Mobilität der Zukunft)

The new interdisciplinary MAS-program with three integrated CAS-programs will start in January 2017. Registration for the MAS and the first CAS in Systemic Aspects will be open from July 1 to October 31, 2016. Detailed information and the link to the new, MAS-dedicated, website will follow soon. Stay tuned!

Upcoming Events

SCCER Mobility Seminar: The Vehicle is here (again) - And why it might stay this time!

By **Prof. Dr. A. Vezzini** and **Prof. Dr. K. Boulouchos**, **May 24, 2016, 5.15pm** at **ETH Zurich, HG E5**. After the seminar, you are welcome to visit the exhibition organized by the ETH Formula Student Project. Eight self-designed AMZ racecars will be exhibited in the hall of the ETH main building. Please register until May 17 using this [doodle link](#) or via e-mail to [Fiorella Meyer](#).

SCCER Mobility 3rd Annual Conference

The 3rd SCCER Mobility Annual Conference will take place on **Friday, September 16, 2016**, at ETH Zurich, HG D 7.1. Confirmed key note speakers are: Dr. Jari Kauppila, International Transport Forum at the OECD, Paris and Karin Tausz, SBB AG, Bern, Leitung Programm Selbstfahrende Fahrzeuge (SFF). Please save the date! Look out for updates and detailed information on our webpage. [Annual Conference](#)

News and Highlights

Swiss Mobility Days 2016

SCCER Mobility was well represented at the [Swiss Mobility Days 2016](#) by Andrea Vezzini and Véronique Michaud, EPFL Lausanne. Visit our website for a [press releases](#) concerning the conference and [slides of the presentations](#).

Renewed institutional support to innovative projects in sustainable mobility

DZM - now KOMO "Koordinationsstelle für nachhaltige Mobilität" - renews its support to innovative projects in sustainable mobility. The program with an increased budget of 1 million, will offer two annual application deadlines and focuses on one major topic each year. Goals of the program are: support innovative sustainable projects and disseminate success stories. [KOMO](#)

Swiss Energy Research Conference 2016

Last April, the 10th edition of the [Swiss Energy Research Conference](#) took place in Lucerne under the heading of "Invention to Innovation". The SCCER Mobility Head and Deputy Head, Konstantinos Boulouchos and Andrea Vezzini, contributed to a panel discussion about the past four years of federally funded energy research and expectations for the future.

Special CTI measures for export-oriented SMEs conducting CTI R&D projects

CTI has announced special measures to facilitate conditions for export-oriented SMEs conducting CTI R&D projects. The cash contribution made by the implementation partner may be partially or wholly waived and the proportion of the total project costs met by the implementation partner may be reduced to 30% (usually > 50%). Project applications with relaxed conditions can be submitted from May 2 – October 31, 2016. [read more](#)

Please visit the SCCER Mobility web page for more [highlights](#) of our partners.

SCCERs

The **PhD summer school "Eurotech-Energy Systems: from Physics to Systems"**, June 6 to 17, 2016 / EPFL, Lausanne is organized by EPFL in collaboration with SCCER-FURIES and SCCER-HaE. The aim of this summer school is to provide PhD students with methodological approaches to address multi-

disciplinary energy-related challenges. The registration is free of charge for all SCCER partners but priority is given to first-year PhD students. For further details please visit: eurotech.epfl.ch.

The FURIES Annual Conference will take place next December 2, 2016 / SwissTech Convention Center in Lausanne. [SCCER FURIES](#)

SoE Annual Conference Hydropower and Deep Geothermal Electricity Production in Switzerland - Challenges and Prospects, September 12 - 13, 2016, HES-SO in Sion. The first day will be devoted to hydropower, the second to geo-energy.

EIP Annual Conference 2016: This year's SCCER EIP Annual Conference will be organized as special session at the ILMAC 2016 on September 20, 2016 in Basel. There will be several presentations, a booth with posters and information material of SCCER. www.ilmac.ch

FEEB&D, Fachkongress Energie+Bauen 2016: Together with Empa, SCCER FEEB&D organizes the Fachkongress Energie+Bauen on May 27, 2016 in St. Gallen. With the topic "From research into practice", the congress shows the implementation of research results in the fields of energy-efficient buildings, sites and neighborhoods of the future into practice. Further information and registration is available at www.empa.ch/eub.

Status-Seminar 2016: SCCER FEEB&D will present its research activities at the 19th Status-Seminar on September 8-9, 2016 at ETH Zurich. The Status-Seminar provides a synoptic of Swiss research and development activities in the field of urban and rural settlements as well as building architecture and technology. More information is available at www.brenet.ch.

SCCER Mobility Glossary

This section is intended to widen the common ground between all SCCER Mobility partners. Contributions from our members are welcome. To make suggestions for this section, please contact the Management Office.

Modern internal combustion engines use **Direct Injection (DI)** technology, where fuel is supplied to each cylinder directly via a dedicated fuel injection valve in order to better control the combustion process. In **Compression Ignition Direct Injection (or Diesel) engines**, fuel is injected at high pressure (up to 3000 bar) into the cylinder near the end of compression, resulting in a fast **fuel auto-ignition** and subsequent combustion as the fuel jet mixes with the surrounding charge. In **Gasoline Direct Injection engines (GDI)**, fuel is supplied during the charge intake or the compression processes, and ignited near the end of compression using a spark plug.

In **pre-chamber engines**, a small pre-chamber (typically 1-5% of the total engine volume) houses the spark plug, and is connected to the main chamber through small openings. In **scavenged pre-chamber engines**, additional fuel is added to the pre-chamber to better control ignition. Once combustion starts, the pressure in the pre-chamber increases forming high temperature reacting jets (also called torches) that exit from the pre-chamber into the main chamber, igniting the mixture of the main chamber.

Premixed Combustion Compression Ignition (PCCI), also called Partially Premixed Compression Ignition (PPCI), is a type of **CIDI** combustion. Contrary to traditional CIDI combustion, in PCCI, fuel is injected early during compression and auto-ignites near the end of compression, well **after the injection has ended**. This allows a **rather homogeneous mixture** of fuel and air to be formed before its ignition, resulting in very low formation of **soot** and **nitrogen oxides (NO_x)**.

Quiz

Next June, the world's longest rail tunnel will officially open. How long is the Gotthard-Basis tunnel? The first person to send the correct answer to fiorella.meyer@sccer.ethz.ch will be the winner (e-mail subject: QUIZ).

Solution of previous quiz: **23 research groups** from 9 different institutions participate in the SCCER Mobility.

This information is provided by the Management Office of SCCER Mobility. Our newsletter is issued 2-3 times a year. If you have information you would like to share, please contact [Gloria Romera](#). You do not wish to receive our newsletter in the future? [Unsubscribe](#) here.

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