

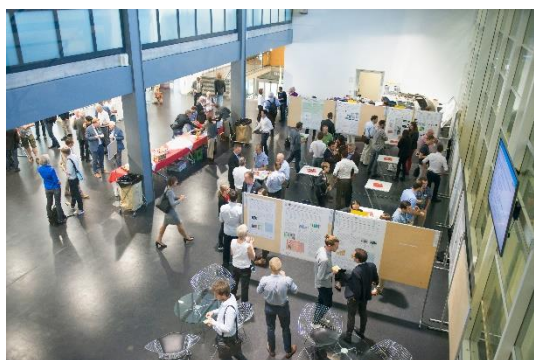
Newsletter

No. 9 / October 2018

Dear Reader

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

News & Highlights



SCCER Mobility Annual Conference 2018

The annual SCCER Mobility conference took place for the fifth time on 11 September at ETH Zurich. The event welcomed over 120 participants from the SCCER Mobility research network and representatives from industry and governmental agencies. Presentations, posters and more information are available on the SCCER Mobility website.

[Read more](#)



Capacity Area A3 at ECCM in Athens

The European Conference on Composite Materials (ECCM) is Europe's leading conference on composite materials. This year it took place from 24-28 June 2018 in Athens, Greece. During this conference, the EPFL/Lausanne Swiss Tech Convention Center was selected as the location of the ECCM conference in 2022. Capacity Area A3 partners are looking forward to displaying their composite/mobility activities within SCCER Mobility during this upcoming conference.

[Read more](#)



Energy savings through optimizing rail freight

Rail transportation in Switzerland is powered almost exclusively by hydropower, so it is not only low-emission, but due to its capacity to carry large loads over long distances, it is also very efficient. Therefore, at a first glance it may appear that there is not much room for improvement concerning energy efficiency. However, a recent study led by Dr. Valerio De Martinis (ETH IVT) shows quite the opposite.

[Read more](#)



SwissEnergy fact sheet on passenger car technologies

SwissEnergy recently published a fact sheet and background report that analyzes emissions of current and future passenger car technologies on the basis of a life cycle assessment. The study was part of the dissertation of Brian Cox, completed in the Laboratory for Energy Systems Analysis at PSI.

[Read more](#)



SCCER interview with Véronique Michaud

Prof. Dr. Véronique Michaud heads the Laboratory for Processing of Advanced Composites at EPFL. Within SCCER Mobility, she is active in Capacity Area A3 that focuses on minimizing non-propulsive energy demand of vehicles. We asked her what fascinates her about energy research and the energy transition.

[Read more](#)

[More news highlights](#)

MAS | CAS ETH “Future Transport Systems” News



Registration deadline

The MAS ETH “Future Transport Systems” will restart in January 2019 with the CAS “System Aspects”. The modular MAS program currently consists of three CAS courses covering systemic, technological and business aspects of future mobility. All CAS courses can also be visited individually. Registration deadline for the MAS and CAS “System Aspects” is **31 October 2018**.

Applications can be submitted on the ETH platform [eApply](#)

[More information](#)

[Contact](#)

Interview Prof. Dominique Foray – perspectives from an innovation economist part V



Dominique Foray is Full Professor at EPFL and leads the Chair of Economics and Management of Innovation (CEMI). He is also responsible for the content and design of the module dealing with innovation in mobility systems in the CAS "System Aspects". To get a glimpse of how an innovation economist assesses current and future developments in the transport sector, we will be featuring excerpts from an interview with Dominique Foray.

How would you advise companies in the mobility sector to persist in the light of emerging disruptive technologies? Should they invest in new technologies, which are potentially risky? Regarding new technologies, how to find the diamond in the rough? Should existing companies acquire/merge with others?

D.F.: Facing disruptive events, incumbents can be smart if they do not overreact (because of the huge uncertainty about whether the potential disruption will really happen). They strengthen relationships with the core consumers by investing in progressive and sustaining innovation (to improve what made their business model solid and coherent). They understand and experiment at small scale the disruptive technology and business model, they buy time to find the effective response and possibly jump to the new model. In general even small and local transport companies are not that weak in the face of disruptive events and the startups which want to "uberize everything". Local companies have strong assets (customer base, knowledge and human capital) and they can lever their long-standing relationships with large suppliers to build effective responses.

[More information MAS](#)

Upcoming events

SCCER Mobility Academia-Industry Dialogue

The Academia-Industry Dialogue themed "**Decarbonizing the freight sector in Switzerland**" will take place on **29 November** at ETH Zurich. It will bring together experts to discuss options for vehicle technology, infrastructure and refueling requirements. Inputs from academia, industry and public offices will serve as a basis for the discussion, which aims to guide our future research and competency development towards investigating relevant questions for businesses active in the freight sector. More information and registration details can be found [here](#).

SCCER Mobility Seminar Series

New this semester we will host a pilot seminar series to promote exchange between the various research groups and locations. Detailed information will follow soon.

[More upcoming events](#)

SCCERs



Heat and Electricity Storage 7th Symposium

The SCCER Heat and Electricity Storage invites you to its 7th Symposium on **6 November 2018** at the University of Applied Sciences Rapperswil (HSR). The morning session covers the ambitious area of long-term energy storage in hydrogen and methane. In the afternoon, CO₂ conversion and recent developments in the field of batteries are presented. The late afternoon is dedicated to heat storage including excursions to heat storage, ice storage and power to gas facilities operated by the HSR. Find out more on the [HaE website](#).

SCCER Mobility Glossary

This section intends 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](#).

System dynamics (SD) is a method and computer simulation technique for framing, understanding and discussing complex issues and problems. It attempts to comprehend problems systemically and understand the structure that shapes the past behavior and future development of systems. In particular, it is used to study the behavior of complex systems, in which system structure is fixed and assumed to be the primary cause of the behavior. Such systems display counterintuitive behavior and circular causality, where symptoms and causes are not necessarily close to each other in space and time. These properties arise from the components of the system that are linked through interdependencies, mutual interactions, information flow and feedback loops. These interactions can lead to further characteristics like nonlinearity, oscillations, path dependency and sensitivity to initial conditions. SD models are composed of stocks and flows, where stocks represent the state or memory of the system and flows depict the rate of change in the stocks. SD is applied in many different fields to understand the dynamic behavior of social, managerial, economic, environmental or biological/ecological systems.

Social network analysis (SNA) is a method and tool to map and analyze interactions and flows within social systems, i.e. between people, groups, organizations or other connected information/knowledge hubs. It provides both visualization and quantitative analysis of the interactions and flows, represented as links, between the studied entities, represented as nodes. The results of network analysis are used to investigate the patterns of interaction, emergence of clusters and the importance of specific nodes/clusters in the network. SNA is not only applied in sociology and organizational studies, but in e.g. biology, demography, communication studies, economics and information science as well.

The **Learning Lab - Future Transport Systems** (L2-FTS) is an integrative cross-capacity project that started in the second phase of SCCER Mobility. Broadly, it aims to analyze interventions and transition paths to a sustainable future of the Swiss transport system. It will use SD to model components and feedbacks within the Swiss transport system tailored to specific research problems. The SNA approach will help to define interfaces, synergies and future research questions and areas. To find out more, contact [Amin Dehdarian](#), who started as L2-FTS project leader in April.

Quiz

In a Swiss case study, how much energy was saved by optimizing the speed profile of freight trains? The first 10 people to send the correct answer to [Fiorella Meyer](#) will enter the final drawing and have a chance to win (e-mail subject: QUIZ).

Solution of the previous quiz: Green Class pilot costumers reduced their individual CO₂ footprint by about 1.5 t per year. The winner was Simon Nigsch, NTB. Congratulations!

This information is provided by the Management Office of SCCER Mobility. Our newsletter is issued 4 times per year. If you have information that you would like to share, please contact [Kirsten Oswald](#).

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