

Program

Sunday, 08 March 2020

16:00 – 20:00 Registration

18:00 – 19:30 *BUFFET SUPPER and get-together*

Session Chairs: A. Dreizler, H. Pitsch

19:30 – 20:00 Andreas Dreizler **Welcome and introduction**
Heinz Pitsch

Keynote lecture:

20:00 – 21:00 Katharina **Combustion perspectives: Some**
Kohse-Höinghaus **contributions from physical chemistry**

Monday, 09 March 2020

07:30 *BREAKFAST*

Session Chair: U. Riedel

08:30 – 09:30 Viktor Scherer **Waste derived fuels: significance,**
challenges, solutions

09:30 – 10:30 Burak Atakan **Piston engines for polygeneration**

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:20 Francesco Contino **Uncertainty quantification of energy**
systems

11:20 – 11:40 Liming Cai **Highly-automated model development**
for promising e-fuels from renewable
electricity

11:40 – 12:00 Paulo Debiagi **A fundamental model of char oxidation**

Program

Monday, 09 March 2020

12:00 *LUNCH*

Session Chair: Y. Wright

13:30 – 14:30 **Poster presentations**

14:30 – 16:00 **Poster session and COFFEE**

16:00 – 17:00 Olaf Deutschmann **Controlling the emissions of internal combustion engines: Current status and future challenges**

17:00 – 18:00 Konstantinos Boulouchos **Towards a better understanding of reactive thermofluidics in I.C. engines - potential and limitations of direct numerical simulation**

18:15 *HERAEUS DINNER*
(social event with cold & warm buffet with complimentary drinks)

Program

Tuesday, 10 March 2020

07:30 *BREAKFAST*

Session Chair: A. Kempf

08:30 – 09:30 Osvalda Senneca **Thermal annealing of coal and biomass:
from combustion science towards new
carbon materials**

09:30 – 10:30 Benedicte Cuenot **Large Eddy simulation of turbulent
combustion in gas turbines**

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:20 Arvind Gangoli Rao **Energy transition in aviation: The role
of cryogenic fuels**

11:20 – 11:40 Isaac Boxx **An experimental study of hydrogen-
enriched natural gas swirl flames in a
gas turbine model combustor**

11:40 – 12:00 Bo Shu **Experimental and modeling study on
the auto-ignition properties of
ammonia/methane mixtures at
elevated pressures**

12:00 – 12:10 **Conference Photo** (in the front of the lecture hall)

12:10 *LUNCH*

Program

Tuesday, 10 March 2020

Session Chair: T. Kaspar

13:30 – 14:30 **Poster presentations**

14:30 – 16:00 **Poster session and COFFEE**

16:00 – 17:00 Angela Violi **The known and unknown of nanoparticle formation in combustion and their health effects**

17:00 – 18:00 Andreas Güntner **Combustion-made gas sensors: from nanoparticle design to devices**

18:00 **DINNER**

Session Chairs and Discussion Leaders: C. Schulz, J. Janicka

19:30 – 21:30 **Panel discussion “Transformation of the energy system”**

Panelists:

- Klaus Dieterich (Innovation-Consultant)
- Zijad Lemeš (ENTEKA AG)
- Joachim Martin Paul (Bosch)
- Eberhard Umbach (KIT)
- Kurt Wagemann (DECHEMA e.V.)

Program

Wednesday, 11 March 2020

07:30 *BREAKFAST*

08:30 – 08:45 Stefan Jorda **About the Wilhelm and Else Heraeus-Foundation**

Session Chair: M. Pfitzner

08:45 – 09:45 Francesca Di Mare **Large Eddy simulation of combustor-turbine interaction for innovative, decentralised power generation**

09:45 – 10:45 Walter Leitner **Harnessing renewable energy through catalytic production of carbon-neutral and low-emission fuels**

10:45 – 11:15 *COFFEE BREAK*

11:15 – 11:35 Cooper Welch **Machine learning-based analysis of the early flame kernel in a spark-ignition engine to predict combustion performance**

11:35 – 11:55 David Escofet-Martin **Transient thermal boundary layer development and flame wall interaction studies using 1d HRCARS and TGP in a constant volume chamber**

11:55 – 12:15 Georgios Kelesidis **Morphology, composition and optical properties of flame-made nanoparticles**

12:15 *LUNCH*

14:00 – 16:30 **Joint hike**

Session Chair: H. Pitsch

17:00 – 18:00 **Poster presentations**

18:00 – 19:00 *DINNER*

19.30 – 21.00 **Poster session**

Program

Thursday, 12 March 2020

07:30 *BREAKFAST*

08:30 – 09:30 Simone Hochgreb **Narrowing the gap between
experiments and models in turbulent
reacting flows**

09:30 – 10:30 Oliver Paschereit **On our way to zero emission power
plants**

10:30 – 11:00 *COFFEE BREAK*

Session Chairs and Discussion Leaders: C. Schulz, J. Janicka

11:00 – 12:30 **Final discussion**

12:30 – 12:45 Andreas Dreizler **Closing words**
Heinz Pitsch

12:45 *LUNCH*

End of the seminar and departure

NO DINNER for participants leaving on Friday morning