



Bern University of Applied Sciences  
Engineering and Information Technology

Automotive Engineering

Laboratory for IC-Engines and  
Exhaust Emission Control (AFHB)

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SSM  
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FGAM



## Reduction of Emissions and Energy Consumption of IC Engines – Actual Challenges and Developments

INTERNATIONAL JUBILEE CONFERENCE  
40 Years AFHB, 30 Years Collaboration BAFU / AFHB,  
June 13<sup>th</sup>, Aula, BFH TI Biel, Quellgasse 21

Dear Colleagues, dear Friends, Ladies and Gentlemen,

The activities of the Laboratory for Exhaust Emission Control (AFHB) of the Bern University of Applied Sciences, Department Engineering and Information Technology (BFH-TI), Biel CH started on April 2<sup>nd</sup>, 1979 under the direction of Prof. Paul Wittwer.

Laboratories for IC-Engines & Exhaust Emission Control (AFHB) was founded as an “Environmental Laboratory of the Automotive Division” together with the Federal Office of Roads (ASTRA).

Except of great contributions to the teaching activities, AFHB could work for authorities and for industry supplying research and service works.

In the BFH, AFHB developed and keeps in service the ICE-Laboratories.

Several activities about energy consumption and alternative fuels were conducted together with the Federal Office of Energy (BfE).

In collaboration with the Swiss Federal Laboratories for Materials Science and Technology (EMPA), the AFHB contributed to several ideas about environmental consciousness in transport and about rational use of energy. AFHB represents the Swiss Networks, which work on these topics on the national and international stage.

For the 40<sup>th</sup> anniversary, we organize an international jubilee conference. Please find attached the program of the day. We are honored to welcome you on this occasion.

**Registration until May 15<sup>th</sup>, 2019.**

Participation fee including: participation, documentation, catering during the coffee and lunch break.  
(With support of the Federal Office for Environment).

regular participants:	CHF 50.-
students:	CHF 10.-
honorary guests & presenters:	free
payment:	at registration, online

Language:

English

Organization Committee and the team AFHB:

Prof. Jan Czerwinski, Prof. Danilo Engelmann, Mrs. Véro Barthe, Mr. Pierre Comte, Mr. Yan Zimmerli,  
Mr. Hervé Nauroy, Mr. Andreas Hüsey, Mr. Philippe Wili and Mr. Michel Clénin



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### TECHNICAL PROGRAM

#### June 13<sup>th</sup>, 2019

09:00 – 09:40 arrival of participants & coffee

09:40 – 09:50 welcome

Jan Czerwinski, AFHB

09:50 – 10:00 opening speech

Lukas Rohr, Director, BFH TI

10:00 – 10:25 **Switzerland's Commitment to Stricter Emissions Regulations**

Peter Bonsack

*Federal Office for the Environment (BAFU), 3003 Bern, Switzerland*

10:25 – 10:50 **Reduction of Emissions and Energy Consumption of IC Engines from the Perspective of the Federal Office of Energy**

Stefan Renz

*Renz Consulting, 4010 Basel, Switzerland*

Carina Alles and Sandra Hermle

*Federal Office of Energy (BfE), 3003 Bern, Switzerland*

10:50 – 11:15 **Overview of Tailpipe Pollutant Emissions Regulations in the EU: State of Play for Light-Duty Vehicles**

Victor Valverde-Morales

*EC-JRC, Sustainable Transport Unit, 21020 Ispra (VA), Italy*

11:15 – 11:40 **VERT – Engineering Efforts for Better Air Quality Yesterday and Tomorrow**

Andreas C.R. Mayer

*Technik Thermische Maschinen (TTM), 5443 Niederrohrdorf, Switzerland*

*VERT Association, 8166 Niederweningen, Switzerland*

11:40 – 12:05 **Chemistry in Particle Filters for Diesel- and Gasoline-Direct-Injection Engines**

Norbert Heeb

*Empa, Swiss Federal Laboratories for Materials Science and Technology,  
8600 Dübendorf, Switzerland*

12:05 – 13:30 lunch break



- 13:30 – 14:00 **Selected Examples of Real Driving Emissions for Different Combustion Engine Applications**  
Jerzy Merkisz, Head of Institute for IC-Engines  
*Poznan University of Technology, 60965 Poznan, Poland*  
*President of the Polish Scientific Society of IC-Engines, PTNSS*
- 14:00 – 14:30 **Fuel Reforming for Improvement of Propulsion Efficiency and Emissions Mitigation**  
Leonid Tartakovsky, Head of Internal Combustion Engines Laboratory  
*Faculty of Mechanical Engineering Technion, Israel Institute of Technology, 32000 Haifa, Israel*
- 14:30 – 15:00 **Contribution of Auxilliary Systems to the Fulfillment of Future CO<sub>2</sub>-Emission Objectives / Beitrag energieeffizienter Nebenaggregate für die Einhaltung zukünftiger CO<sub>2</sub>-Emissionsziele von PkW**  
Uwe Meinig, Head of Components Development  
*SHW Automotive GmbH, 88427 Bad Schussenried, Germany*
- 15:00 – 15:30 *coffee break*
- 15:30 – 16:00 Preliminary proposal: **The Future of Mobile Working Machines**  
Marcus Geimer, Head of Institute for Mobile Machinery  
*Karlsruhe Institute of Technology (KIT), 76131 Karlsruhe, Germany*
- 16:00 – 16:30 **AFHB: Emission Reduction from IC-Engines and Powertrains – from the Past to the Future**  
Jan Czerwinski and Danilo Engelmann, Head of Laboratories for IC-Engines & Exhaust Emission Control (AFHB), *Bern University of Applied Sciences Biel (BFH TI), 2560 Nidau, Switzerland*
- 16:30 – 17:00 **Discussion & closing remarks** Jan Czerwinski, AFHB  
Danilo Engelmann, AFHB
- 17:00 (approx.) end

Language : English