



CCGEx at KTH Royal Institute of Technology • [www.ccgex.kth.se](http://www.ccgex.kth.se)

## CCGEx Research Days 2020 Program, September 30<sup>th</sup> – October 1<sup>st</sup>, 2020, KTH, Stockholm

Competence Center for Gas Exchange @ KTH

### Agenda - Day 1

September 30th, 2020

On-line: Zoom Webinar // KTH Campus, KTH OpenLab, Valhallavägen 79, 114 28 Stockholm

09:45-10:15 **Coffee & Preparations, KTH OpenLab (limited number of persons)**

10:15-10:45 **Opening by CCGEx Director**  
CCGEx Summary Report on Research Activities

10:45-11:30 **Keynote Speaker 1:** Prof. Ricardo Martinez-Botas: *"What drives Road Transport CO2? What about vehicle emissions?"*, Imperial College London, UK

11:30-13:00 **LUNCH BREAK**

#### Part 1 **Ongoing Projects**

13:00-14:15 **Research Area: integrated Cold side (iCOLD)**

- Mihai Mihaescu: intro + overview (15 minutes).
  - o Emelie Trigell, KTH-Mek (15+5 min). *"Turbocharger Compressor response to downstream perturbations using Large Eddy Simulations."*
  - o Stefan Sack, KTH-MWL (15+5 min). *"Experimental acoustic characterization of compressors in turbochargers."*
  - o Asuka G. Pietroniro, Ind. PhD Student, Volvo Cars (15+5 min). *"On the aerodynamically generated sound in Turbocharger Compressors."*

14:15-14:30 **COFFEE BREAK**

14:30-15:40 **Research Area: integrated HOTSIDE (iHOT)**

- Michael Liverts: intro + overview (15 minutes).
  - o Roberto Mosca, KTH-Mek (15+5 min). *"Aerothermodynamics of radial turbines under engine like conditions."*
  - o Yushi Murai & Varun Venkataraman, KTH-Mek & KTH-ICE (30+5 min). *"Time-resolved temperature measurement for engine applications."*

15:45 **Closing Day 1**

End of Day 1

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## Agenda - Day 2

October 1st, 2020

Zoom Webinar, KTH Campus, KTH OpenLab (limited number of persons)

10:00-10:30 **Coffee & Preparations, KTH OpenLab**

10:30-10:35 **Day 2 Agenda presentation by CCGEx Director**

10:35-11:30 **Research Area: Engine After Treatment (EAT)**

- Mikael Karlsson: intro + overview (15 minutes).
  - o Ghulam M. Majal, KTH-MWL/Mek (15+5 min). *"Particle behavior in corrugate pipe like geometries."*
  - o Arun Prasath, KTH-ICE (15+5 min). *"Effect of Exhaust Systems on Particles."*

11:30-13:00 **LUNCH BREAK**

13:15-14:30 **Research Area: Power Train System Integration (SYSINT)**

- Hanna Bernemyr: intro + overview (15 minutes)
  - o Sandhya Thantla, KTH-ICE (15+5 min). *"Low Temperature Waste Heat Recovery (WHR) in IC Engines."*
  - o Senthil Krishnan Mahendar, KTH-ICE (15+5 min). *"Mitigation Knock in Heavy Duty Spark Ignition Engines."*
  - o Beichuan Hong (15+5 min.) *"Thermal analysis for flow losses in ICE gas-exchange systems."*

14:30-14:50 **CCGEx Associated Projects:**

Shyang Maw Lim & Mihai Mihaescu, KTH-Mek (15+5 min.). *"Numerical and experimental investigations of turbocharger turbine aerodynamics."*

14:50-15:00 **COFFEE BREAK**

15:00-15:40 **Keynote Speaker 2:** Dr. Peter Kelly Senecal: *"The use of CFD and HPC to support a diverse set of propulsion technologies."*, Convergent Science Inc., USA.

15:45 **Closing Day 2 for presentations**

### Part 2

15:45-17:00 **IAB meets CCGEx leadership team & CCGEx Board**

End of Day 2

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