

ECN3: Engine Combustion Network 3rd Workshop

Ann Arbor, Michigan, 4-5 April 2014

Friday 4 April

- 8:00 Registration
8:15 Welcome
Volker Sick, Dave Reuss (Michigan)
8:20 Introduction and Mechanics
Lyle Pickett (Sandia), Gilles Bruneaux (IFPEN), Raúl Payri (CMT)

Diesel Spray Topic 1: Internal Flow, Near-Nozzle Break-up, Mixing, and Evaporation

- 8:50 Introduction, Sibendu Som (Argonne)
8:55 Topic 1.1 In-nozzle experiments and simulations
Chris Powell* (Argonne), David Schmidt (UMass-Amherst)
9:45 Topic 1.2 Near field fuel structure and coupled nozzle flow and spray simulations
Alan Kastengren* (Argonne), Qingluan Xue (Argonne), Julien Manin (Sandia), Chawki Habchi (IFPEN)
10:35 Break
11:05 Topic 1.3 Evaporation and parametrics
Tommaso Lucchini* (Poli. di Milano), Alessandro Montanaro (CNR Istituto Motori)
11:55 Synthesis of Topic 1 (Sibendu Som)
12:20 Panel discussion
Main participants in topic 1
12:50 Lunch (50 min., Rackham assembly hall)

Diesel Combustion Topic 2: Mixing/chemistry interaction

- 13:40 Introduction, José M. García-Oliver (CMT)
13:45 Topic 2.1 Combustion Indicators
Gianluca D'Errico* (Poli. di Milano), José M. García-Oliver (CMT), Olawole Kuti (KAUST), SY Lee (MTU), Jean-Baptiste Michel (IFPEN)
14:35 Topic 2.2 Flame structure
Bart Somers* (TU Eindhoven), Hubert Baya-Toda (IFPEN), Evatt Hawkes (UNSW), Louis-Marie Malbec (IFPEN), Maarten Meijer (TU/E), Yuri Wright (ETH-Zurich)
15:25 Break
15:55 Topic 2.3 Soot field
Scott Skeen* (Sandia), Michele Bolla (ETH-Zurich), Dan Haworth (Penn St)
16:45 Synthesis of Topic 2 (José M. García-Oliver)
17:10 Panel discussion
Main participants in topic 2
17:40 End of day 1
18:00 Dinner (near workshop at MI League Hussey Rm, included with registration costs)

Saturday 5 April

8:15 Bridging the gap: How spray details (Topic 1) affect combustion (Topic 2)
Yuanjiang Pei* (Argonne), Sibendu Som (Argonne), José M. García-Oliver (CMT)

Engine Flows and Combustion (Topic 4)

9:00 Measurements for simulation benchmarking
Brian Peterson (TU Darmstadt)

9:40 Simulation to simulation benchmarking
Cecile Pera (IFPEN)

10:10 Break

10:40 Benchmarking: comparisons, analysis and validation
Dave Reuss (Michigan)

11:10 Exploitation of SI engine simulation
Cecile Pera (IFPEN)

11:30 Engine Flows and Combustion panel discussion

12:00 Lunch (1 hr, Rackham assembly hall)

Gasoline direct-injection (Topic 3)

13:00 Gasoline Sprays: Spray G Introduction
Topic Leader: Scott Parrish (GM)

13:15 Geometry: Yongjin Jung (KAIST), Peter Hutchins (Infineum)

13:20 Flow characterization (CMT, GM): Raul Payri (CMT)

13:30 Spray visualization (Sandia, GM, IFPEN, Melbourne, Istituto Motori CNR):
Julien Manin (Sandia)

14:00 Drop size measurements (GM): Scott Parrish

14:15 Internal Flow (GM): Ron Grover

14:30 Spray Modeling (UW, Poli. di Milano, Argonne): Noah van Dam (UW)

15:00 Discussion

15:30 Break

16:00 General conclusion. Towards ECN4.

17:00 ECN game theory...(final activity at site with cash bar, MI League Vandenberg Room)