ECN4: Engine Combustion Network 4th Workshop at Kyoto University

Saturday 5th of September 2015

8:50 Registration

9:15-9:30 Introduction and Mechanics
  Lyle Pickett (Sandia), Gilles Bruneaux (IFPEN), Raúl Payri (CMT)

Technical program (includes presentation and discussion in the time allotted)

**Spray G Gasoline Direct-Injection**

Organizers: Scott Parrish (GM), Lyle Pickett (Sandia)

Topic leads: Chris Powell (Argonne), Daniel Vaquerizo (CMT)

9:30-9:40 Introduction, Scott Parrish (GM)

9:40-10:20 Nozzle geometry and near-nozzle experiments
  Daniel Duke (Argonne)

10:20-11:00 Internal and near-nozzle flow modeling
  Ron Grover (GM)

11:00-11:30 break

11:30-12:10 Macroscopic spray visualization and modeling
  Joshua Lacey (Melbourne)

12:10-12:50 Spray mixing experiments and modeling
  Lama Itani (IFPEN), Lyle Pickett (Sandia)

12:50-13:00 Summary and Discussion

13:00-14:00 Lunch (1 hour)

**Non-Reactive Diesel Spray**

Organizer: Raul Payri (CMT)

Topic leads: Marco Arienti (Sandia), Sibendu Som (Argonne), Caroline Genzale (Georgia Tech)

14:00-14:40 Internal nozzle flow Spray A/B/C/D
  Marco Arienti (Sandia National Laboratories)

14:40-15:10 Near-nozzle mixing: RANS vs LES Spray A. Spray A vs Spray B.
  Sibendu Som (Argonne National Laboratories)

15:10-15:30 Droplet and liquid size measurements in the near-nozzle region
  Cyril Crua (Brighton University)

15:30-16:00 break
16:00-16:45  Spray A variations and multiple injections; Spray B (experiments and modeling)
            Caroline Genzale (Georgia Tech)
16:45-17:30  Experimental methodology for liquid penetration measurements; Spray C and D experiments
            Fredrik Westlye (Tech. Univ. Denmark)
18:00        Dinner at the venue (provided if selected during registration)

**Sunday 6**th of September 2015

**Diesel Combustion**

Organizer: Gilles Bruneaux (IFPEN)

Topic leads: Evatt Hawkes (UNSW), Jose Garcia-Oliver (CMT), Scott Skeen (Sandia), Louis-Marie Malbec (IFPEN)

9:00-9:05    Introduction
9:05-10:30   Spray A single-injection combustion
            Ignition, Evatt Hawkes (UNSW)
            Flame Development, Bart Somers (TU/e)
            Soot, Scott Skeen (Sandia)
10:30-11:00  break
11:00-11:30  Spray A multiple injections
            Scott Skeen (Sandia)
11:30-12:00  Spray B: test rigs versus engines
            Louis-Marie Malbec (IFPEN)
12:00-12:30  Spray C and Spray D versus Spray A (experiments), Summary
            Jose Garcia-Oliver (CMT)
12:30-13:30  Lunch
13:30-14:30  Conclusions and future directions
            Spray G in engines
            Experiments and modeling to overcome current weaknesses
15:00-17:00  Fun activity all together
            Hike to scenic Daimonji mountain. (Be prepared with water and hat).
Spirit of the ECN

- A forum for open presentation and discussion and synthesis of modeling and experimental results, not usually found at conferences.
- Synthesis creates expert reviews on topics.
- We want to know what does NOT work, what is broken.
- Airing our dirty laundry, so that it can be cleaned.
- Policy is to not duplicate conference presentations.
- Not highlighting individual laboratories or groups, but rather, common research problems.