

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 6th 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.