Program for course in Chemical Kinetics
(Procida, June 2015)

Teachers:

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Course Material:

- Power point presentations (pdf)
- Exercise sets
- Note material: Excerpts from Kee, Coltrin and Glarborg: Chemically Reacting Flow – Theory and Practice (Wiley, 2000)

Monday June 1

- Introduction to course and basic kinetic concepts (PG)
- Introduction to OpenSMOKE++ and pre-processing of kinetic mechanisms (AC)

Tuesday June 2

- Reaction mechanisms (PG)
    - Understanding complex gas-phase reactions
    - Developing detailed chemical kinetic models
- Task 1: Oxidation of aromatic compounds
    - Introduction (AC)
    - Solving using OpenSMOKE++ (AC, PG)

Thursday June 4

- Developing detailed chemical kinetic models (PG)
    - Approach
    - Experimental validation
    - Analysis tools
- Task 2: Engine exhaust oxidation of unburned hydrocarbons
    - Introduction (AC)
    - Solving using OpenSMOKE++ (AC, PG)

Friday June 5

- Challenges in combustion chemistry (PG)
- Numerical modeling of reacting flows with detailed kinetic mechanisms: challenges and perspectives (AC)
- Task 3: Flame inhibitors
    - Introduction (AC)
    - Solving using OpenSMOKE++ (AC, PG)