**Combustion kinetics**

**(Aalto, 1st march 2023, 120 minutes including discussion)**

1) Phenomena Observed in the Combustion of Hydrocarbons

* Slow Oxidation - Cool Flames – Ignition
* Relationship between structure and reactivity
* Nature of reaction products

2) Generalities about Gas Phase Kinetics

* Activation mode
* Molecularity – Fall off Effect
* Radical Reaction Mechanisms

3) Modeling of the oxidation of Fuels

* Oxidation Chemistry at Low and High Temperatures
* Elementary Reactions Involved in Mechanisms
* Origin of the NTC
* Estimation of Kinetic and Thermodynamic Data
* Model Performance and kinetic analysis