



Catalytic Ammonia Combustion and Oxidation

Guest Editor:

Deadline for manuscript
submissions:

closed (30 September 2019)

Message from the Guest Editor

Recently, NH_3 has been considered, not only a hydrogen energy-carrier, but also “a renewable and carbon-free energy source” due to its high energy density and negligible thermal NO_x emission. However, in comparison with fossil fuels, NH_3 fuel has the following problems: (1) high ignition temperature, (2) low combustion rate, and (3) N_2O and fuel NO_x (NO/NO_2) production. To overcome these problems, the developments of novel “catalytic NH_3 combustion” technologies are required. Another very important application where selective ammonia oxidation is required is for removing the unreacted ammonia after the Selective Catalytic Reduction (SCR) process. The current state-of-the-art catalysts are not especially selective in oxidizing ammonia to N_2 and H_2O without producing a significant fraction of N_2O and NO_x . It is of utmost importance to investigate and build up knowledge on catalysts for the reaction. This Special Issue aims to widely cover recent studies of catalysts, kinetics, reactor design, simulation and theoretical calculation relating to NH_3 combustion, and selective oxidation, cracking, decomposition, etc.

