

Ammonia Combustion Technical Working Group Meeting #8  
July 9, 2024

- Introductory remarks
- Gaetano Magnotti, KAUST
  - Presentation
    - Measurements in canonical flames
    - Raman and NH<sub>2</sub> LIF
    - NO<sub>x</sub> predictions in counterflow flames
    - Turbulent flames
  - Q&A
    - Wesley Boyette, NETL: Why did the simple jet flame Reynold number stop at Re=11000?
      - Mostly due to time limitations, but could have gone higher with
    - Wesley Boyette, NETL: How does the differential diffusion in KAUST flames compare to DLR CH<sub>4</sub>/H<sub>2</sub>/N<sub>2</sub> flames?
      - Haven't compared directly with that data set.
- Agustin Valera-Medina, Cardiff University
  - Presentation: Use of ammonia blends for zero carbon power
    - Challenges
    - Centre of Excellence on Ammonia Technologies
    - Developments
  - Q&A
    - Subith Vasu, UCF: How do you respond when people object that ammonia is toxic and releases NO<sub>x</sub>?
      - Toxic: unfortunately there is no way around it. But we have strict regulations and it has been moved around for +100 years. Large ammonia facilities already exist.
    - Sreenath, Chicago: Cost still high – how will it reduce in the future?
      - Cost of ammonia power still very high compared to fossil fuels. New ammonia generation systems will be expensive at first but should reduce over time. Thorium reactors should be less expensive. Cost should be comparable by 2030-2040. Economics is one of the main challenges in the next 10 years.
    - Clint Bedick, NETL: Is anyone currently working on Gen 3 production technology?
      - Yes, multiple groups in different regions
    - Wesley Boyette, NETL: Is anyone currently building thorium reactors?
      - Yes, in US, Japan and China. See video link for Copenhagen Atomics.