Workshop on Metal Fuels and Metal Dust Combustion

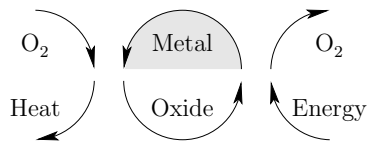## Call for Contributions

Objectives

- Common forum for thought exchange

- Identification of kinetic gaps

- Discussion of *target flames*

When and where?

- Friday, 29/09/23, 8:30am – 5:30pm
  (After '31. Deutscher Flammentag')

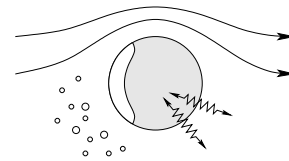- Waldorf Astoria, Berlin City Center

Session topics – Experiments, Modelling approaches, Numerical methods

Metal fuels
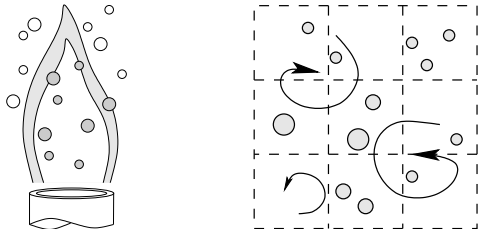

- Economic viability and cycle efficiency

- Retrofitting and infrastructural changes
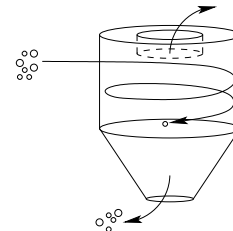
Combustion of single metal particles

- Chemistry, smoke & Pollutants

- Intra-particle chemistry & Phase changes

Metal dust flames

- Dust descriptions

- Gas-particle interaction & Turbulence

Particle dispersion and retrieval

- Cyclonic extraction and filtering

- Energy penalty

Important

- Abstract submission: 30/04/23
  Author notification: 31/05/23

- Presentations: (12 + 2) min

- Participation fee $\approx$ €79

Contact

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More details on the abstract submission procedure, the workshop venue and the accompanying guest lecture held by Prof. J. M. Bergthorson are contained on the following page.

Emmy Noether Group for Multiphase Flows

Department of Energy Plant Technology

Workshop on Metal Fuels and Metal Dust Combustion

Scope and aims

Over the course of the past decade, the idea of using metal powders as recyclable, carbon-neutral energy carriers has gained momentum and research groups all over the world have begun to address open questions, both fundamental and applied, on single particle combustion, dust flames, recycling strategies or practical combustor technologies. In order to provide a common forum for these efforts, to support the synthesis of experimental and modelling endeavours and to facilitate thought exchanges, we are organizing a workshop with chaired sessions on recent and on-going research pertaining to the emerging field of an energy economy based on metal fuels. A particular objective of the workshop is to discuss the definition of a set of target dust flames for which experimental databases for model calibration and validation can be established and maintained.

Abstract submission

We kindly invite submissions to the workshop of **200-word abstracts** on relevant scientific contributions **until Sunday, 30/04/23**. Please email your abstract to fabian.sewerin@ovgu.de before the deadline. The submissions will be screened, organized into session topics and invited as oral presentations (duration 12 min, questions 2 min). In the event of very many submissions, we may decide to convert some submissions to poster presentations. The book of abstracts will be supplied to all participants ahead of the workshop.

If you wish to attend the workshop without contributing a presentation, then please also email us at fabian.sewerin@ovgu.de for registration purposes.

Guest lecture

The event will be attended by Prof. J. M. Bergthorson who will also give a guest lecture on
                    'The physics and chemistry of metal combustion and metal-water reactions'
as part of the preceding '31. Deutscher Flammentag' at the TU Berlin. The guest lecture will take place from 1:40 pm to 2:40 pm on 28/09/23 in a lecture theatre that we will communicate in due time. All workshop participants are welcome to attend this lecture at no extra charge.

Venue

The workshop will be held at the Waldorf Astoria in the city center of Berlin (Berlin Zoologischer Garten) and is easily reachable by public transport (U-Bahn and S-Bahn). The venue is also in walking distance from the TU Berlin. The address of the Waldorf Astoria is: Hardenbergstrasse 28, 10623 Berlin. For updates, please email us or have a look at the web page:
https://www.mvt.ovgu.de/MetalFuelCombustion.html

Sponsoring and Fees

The workshop is financially supported by the German Research Foundation (DFG). The participation fee of approximately €79 per person covers sustenance-related expenses and includes non-alcoholic beverages as well as catering during lunch and coffee breaks. As the number of participants is difficult to estimate at present, we reserve the right to adjust the participation fee.

OTTO VON GUERICKE
UNIVERSITÄT
MAGDEBURG

RUHR
UNIVERSITÄT
BOCHUM

RUB

EAT

Emmy Noether Group for Multiphase Flows   Department of Energy Plant Technology