

# CFD for Combustion SAFETY

One day workshop at CERFACS : 21/03/2023

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**Welcome:** T. Poinso - C. Lambert IMFT/CERFACS | 8h45 – 9h

Chair: T. Poinso IMFT/CERFACS

## Session 1: Industrial Needs

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|-------------------|-----------------------|---------------|
| • Y. Sommerer     | <i>Airbus</i>         | 9h – 9h15     |
| • C. Kehl         | <i>Alstom</i>         | 9h15 – 9h30   |
| • J. Prolongeau   | <i>SAFT batteries</i> | 9h30 – 9h45   |
| • A. Dutertre     | <i>TotalEnergies</i>  | 9h45 – 10h    |
| • B. Labégorre    | <i>Air Liquide</i>    | 10h – 10h15   |
| • V. Blanchetière | <i>GRTgaz</i>         | 10h15 – 10h30 |
| • N. Mechtoua     | <i>EDF</i>            | 10h30 – 10h45 |

**Coffee Break:** Poster Session 1 | 10h45 – 11h15

Chair: V. Blanchetière GRTgaz

## Session 2: Simulation for Safety | Explosions

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|--------------------------|--|---------------|
| • Q. Douasbin CERFACS    | <i>Simulation of explosions</i>                      | 11h15 – 12h35 |
| • O. Dounia CERFACS      | <i>Flame inhibitors</i>                              | 11h15 – 11h35 |
| • T. Livebardon AIRBUS   | <i>H<sub>2</sub> safety for aircraft</i>             | 11h35 – 11h55 |
| • T. Poinso IMFT/CERFACS | <i>Turbulent combustion models for H<sub>2</sub></i> | 11h55 – 12h15 |
|                          |  | 12h15 – 12h35 |

**Lunch Break:** Poster Session 2 | 12h35 – 14h

Chair: J. Prolongeau SAFT batteries

## Session 3: Simulation for Safety | Jets and Walls

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|----------------------|---|---------------|
| • A. Cellier CERFACS | <i>Li-Ion battery fires</i>                     | 14h – 15h20   |
| • F. Ravet RENAULT   | <i>Thermal runaway in automotive batteries</i>  | 14h – 14h20   |
| • L. Gallen AIRBUS   | <i>Supersonic jet flames impinging on walls</i> | 14h20 – 14h40 |
| • N. Dellinger ONERA | <i>Response of composite walls to flames</i>    | 14h40 – 15h   |
|                      |   | 15h – 15h20   |

**Coffee Break:** Poster Session 3 | 15h20 – 16h

Chair: P. Lindstedt Imperial College

## Session 4: Experimental Validations and Databases

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|-------------------------------|---|---------------|
| • E. Studer cea               | <i>H<sub>2</sub> explosions and fires</i> | 16h – 17h20   |
| • M. Bellenoue P <sup>1</sup> | <i>Experiments on battery fires</i>       | 16h – 16h20   |
| • N. Chaumeix ICARE           | <i>Explosions</i>                         | 16h20 – 16h40 |
| • G. Leplat ONERA             | <i>Free fires and torches</i>             | 16h40 – 17h   |
|                               |   | 17h – 17h20   |

