



The ignition and burning rate of condensed porous fuels is an outstanding problem in fire science

## School description

The main goal of the 2<sup>nd</sup> Asia-Pacific Combustion Institute Summer School — Fundamental Combustion Problems in Outdoor Fires (APCISS-2) is to introduce intermediate graduate students, industrial researchers and practicing engineers to fundamental combustion problems applied to outdoor fires. We expect this school to contribute to create and reinforce collaboration links between different academic institutions and research groups focused in the Asia Pacific and South America.

## Dates and location

The activities are scheduled for December 4 - 9, 2022 in the coastal cities of Valparaíso - Viña del Mar. Workshops will be held at Universidad Técnica Federico Santa María.

## Scope and objectives

The goals of APCISS-2 are to expose the attending students to the domain of combustion science with strong applications to fire safety. This includes an intensive, high-quality introduction to fundamental and applied combustion topics through lectures by highly recognized academics from leading world institutions. Specific objectives are to expose attendants to:

- High quality lectures in combustion.
- Hands-on training in combustion-based fire safety aspects, including experimental and numerical workshops.
- Form research and collaboration networks.

## Program overview

The school will have a theoretical track and a practical track. The theoretical track will consist of an introduction of fundamental combustion aspects applied to fires. The

**Students will have the opportunity to communicate their research in a friendly poster session.**

practical track will consist of lectures where applied fire safety topics will be delivered by leading scientists and practitioners, and of workshops where the students will be asked to

apply some of the knowledge covered in the lectures. For this track, students will be divided into two groups, Modeling and Experiments. In both, we wish to present fire science aspects in a more practical way, which will finalize with a hands-on workshop session at the combustion and computer labs at USM in Valparaiso.



Central Chile is characterized by its excellent wines and beautiful scenery

	Morning	Afternoon	Evening
Sun. 4			Reception
Mon. 5	<i>Introduction to fundamental combustion challenges</i> - Prof. Kohse-Höinghaus <i>Fire Dynamics</i> - TBD	<i>Non-homogeneous gas-solid interactions</i> - Prof. Fernandez-Pello	
Tue. 6	<i>Introduction to combustion chemistry</i> - Prof. Kohse-Höinghaus <i>Radiative heat transfer</i> - Dr. Liu	<i>Soot production</i> - Dr. Liu <i>Experimental insight into flames</i> - Prof. Kohse-Höinghaus	
Wed. 7	<i>Wildland fire dynamics</i> - Prof. Simeoni <i>Fire risk management at the WUI</i> - Prof. Pastor		Patagonian Barbeque
Thu. 8	<i>Flammability testing</i> - Dr. Tamanini <i>Fire modeling</i> - Dr. Trouve	Poster session	
Fri.9	Parallel session: a. Experimental workshop b. Numerical workshop	Parallel session: c. Experimental workshop d. Numerical workshop	Cocktail