

## Venue

The conference will take place in Madrid (Spain) at Escuela Técnica Superior de Ingenieros de Minas y Energía (Universidad Politécnica de Madrid).

**Madrid** is the capital of Spain and a very cosmopolitan place, where modern infrastructures coexist with a large historical and cultural heritage. The modern part of the city includes Gran Vía, which was built at the beginning of XX century, Paseo de la Castellana crossing the city from North to South, the business zone of Nuevos Ministerios and Azca or the Four Towers Business Area. Concerning the historical part it stands out the zone called Madrid de los Austrias, which dates back to 16th century. There are many cultural and historical attractions such as Prado Museum, Reina Sofia Art Center, Caixa Forum Madrid, Museo Thyssen-Bornemisza, The Royal Palace, the Almudena Cathedral or Plaza Mayor.



## How to participate

Participants are invited to submit an Abstract of no more than two pages to the e-mail address: [honom2019.minasyenergia@upm.es](mailto:honom2019.minasyenergia@upm.es)

## Conference fees

Regular	200 €
MSc/PhD Student	50 €

## Important dates

Deadline for Abstracts submission January 31, 2019

Registration closing February 28, 2019

## Contact

Arturo Hidalgo  
Escuela Técnica Superior de Ingenieros de Minas y Energía.  
Universidad Politécnica de Madrid.  
Ríos Rosas, 21  
28003- Madrid (Spain)

e-mail: [honom2019.minasyenergia@upm.es](mailto:honom2019.minasyenergia@upm.es)



EUROPEAN WORKSHOP ON  
HIGH ORDER NUMERICAL  
METHODS FOR  
EVOLUTIONARY PDEs -  
HONOM 2019 -

*Madrid, April 1-5 2019*



## Background

This is the VII edition of HONOM conference. The previous ones were held in Trento (2007, 2009, 2011, 2015), Bordeaux (2013) and Stuttgart (2017). Mathematical modeling, based on Partial Differential Equations (PDEs) and numerical simulation are fundamental tools in the context of problems arising in engineering, physics, biology or medicine among many others, from the point of view of computational efficiency and accuracy of the results obtained. In the field of CFD, finite volume and discontinuous Galerkin methods are commonly used. In order to achieve high order of accuracy in space, high order reconstruction methods were firstly introduced in the 80s, namely Essentially Non Oscillatory (ENO) schemes. Later on Weighted ENO (WENO) techniques and Central WENO (CWENO) methods were developed. Total Variation Diminishing (TVD) schemes allow to obtain well-established second order schemes. However, this TVD property is also used in Runge-Kutta schemes to get higher order of accuracy, such as the third order RK-TVD scheme which is widely used. More recently ADER approach, in the context of Riemann problems, was introduced which allows to obtain arbitrary order of accuracy. A step forward in ADER schemes are the so called Local Space-Time DG which allow to apply ADER method to problems with stiff source terms.

## Topics of the conference

High order finite difference and finite volume numerical schemes; DG methods; design of algorithms; adaptive mesh refinement; ENO, WENO and CWENO reconstruction, finite element methods, time stepping.

## Organizing Committee

Eleuterio F. Toro, University of Trento, Italy.  
Remi Abgral, University of Zurich, Switzerland.  
Michael Dumbser, University of Trento, Italy.  
Claus-Dieter Munz, University of Stuttgart, Germany.

## Local Organizing Committee

Arturo Hidalgo (Chairman).  
Carlos Conde.  
Francisco Javier Elorza.  
Alfredo López.  
José Luis Parra.  
Lourdes Tello.

## Invited speakers

Jan Hesthaven (Lausanne, Switzerland)  
Raphael Loubère (Bordeaux, France)  
Pep Mulet (Valencia, Spain)  
Ilya Peshkov (Toulouse, France)  
Gabiella Puppo (Varese, Italy)  
Vladimir Titarev (Moscow, Russia)  
Svetlana Tokareva (Los Alamos, USA)  
Maria Elena Vázquez-Cendón (Santiago de Compostela, Spain)  
Helen Yee (NASA Ames Research Center)



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