

# 23<sup>rd</sup> International Colloquium on the Dynamics of Explosions and Reactive Systems

FIRST INVITATION and CALL FOR PAPERS



July 24--29, 2011  
Irvine, California  
USA



[The International Colloquium on the Dynamics of Explosions and Reactive Systems](#) (ICDERS), The International Colloquium on the Dynamics of Explosions and Reactive Systems (ICDERS) has been held every two years since its founding in 1967 by N. Manson, A.K. Oppenheim, and R. Soloukhin. The colloquium has been the premier international forum for the presentation of scientific contributions in the fields of explosions and unsteady combustion. The meeting provides a forum for the presentation and discussion of research primarily concerned with explosions and unsteady combustion events where there is strong coupling between reaction and fluid mechanics. It is held on alternate years from [the International Combustion Symposium](#) and is recognized by [the Combustion Institute](#) as a Specialists Meeting on the fluid dynamics of combustion.

The Dynamics of Explosions is primarily concerned with flows in which the medium's compressibility is a major factor: for example, detonations. Reactive Systems refers primarily to flows in which transient reactions or rapid fluid deformations play key roles: for example, ignition phenomena and the interaction of flames with turbulence. These definitions are intentionally broad and include fluid systems with a variety of additional chemical and physical effects. The meeting encompasses and welcomes both basic and applied research. Specific examples of contributions and topics from previous years can be found by visiting the website of the Institute for the Dynamics of Explosions and Reactive Systems (IDERS), [www.icders.org](http://www.icders.org), which has links to websites of previous meetings.

The 23<sup>rd</sup> ICDERS will be hosted in Irvine, California by the Mechanical and Aerospace Engineering Department in the Henry Samueli School of Engineering at the University of California, Irvine. The official conference website is <http://icders2011.eng.uci.edu>.

Lead Organizer: Prof. Derek Dunn-Rankin

## Prior ICDERS meetings

Bruxelles (1967), Novosibirsk (1969), Marseille (1971), San Diego (1973), Bourges (1975), Stockholm (1977), Gottingen (1979), Minsk (1981), Poitiers (1983), Berkeley (1985), Warsaw (1987), Ann Arbor (1989), Nagoya (1991), Coimbra (1993), Boulder (1995), Krakow (1997), [Heidelberg](#) (1999), [Seattle](#) (2001), [Hakone](#) (2003), [Montreal](#) (2005), [Poitiers](#) (2007), [Minsk](#) (2009).

## Scientific Program

Contributed presentations, in oral and poster sessions, plenary and special sessions will take place during the week-long Colloquium. It is ICDERS policy to encourage intensive discussions on basic and applied research of fundamental and timely topics. Extended abstracts of papers presented at the Colloquium will be published in the CD of the Proceedings. The CD will be part of the conference materials provided to participants at the meeting. Authors of papers presented at this meeting are encouraged to submit full-length versions to one of these journals: *Combustion Science and Technology*, *Combustion Theory and Modeling*, and *Shock Waves*. Submitted manuscripts will be peer reviewed according to individual journal standards but will be identified as ICDERS work individually or as part of a special issue.

**Submissions are encouraged on, but not limited to, the following topics:**

- *Detonation dynamics and structure*
- *High-speed flames*
- *High-speed diagnostics for reactive systems*
- *Numerical methods for unsteady reacting flows*
- *Generation and coupling of shock waves in an exothermic medium*
- *Relaxation phenomena in shock waves*
- *Propulsion applications of detonations and high-speed flames*
- *Flame propagation in internal combustion engines*
- *Multiphase reactive dynamics*
- *Turbulence in compressible reacting flows*
- *Accidental explosions and mitigation*
- *Dynamics of ignition*
- *Chemical reaction kinetics and reaction dynamics*
- *Flame instabilities and quenching*
- *Nonlinear analysis and reactive analogues*
- *Reactive dynamics of energetic materials*
- *Astrophysical reactive gasdynamics*

### Calendar of Events – Important Dates

Initial Submission  
DEADLINE EXTENDED  
January 21, 2011

**Initial Paper Submission (Deadline): ~~December 15, 2010~~**

**Notification of Acceptance: March 27, 2011**

**Work-In Progress Poster Submission : April 2, 2011**

**Work-In Progress Poster Notification : May 4, 2011**

**Early Registration: May 7 – June 8, 2011**

**Conference Begins: July 24, 2011**

**Conference Ends: July 29, 2011**

### Program Committee:

Y.-C. Chao (Chair), M.I. Radulescu, F.S. Marra, S.P. Medvedev, J. Wen, A. Matsuo, E.L. Petersen, S.S. Shy, U. Maas, and F. Zhang

### IDERS Board Members:

L. Bauwens, Y.-C. Chao, G. Continillo, D. Dunn-Rankin, G. Dupre, V. Gamezo, B. Gelfand, A.K. Hayashi, A. Higgins, A.L. Kuhl, J.H.S. Lee, U. Maas, A. Matsuo, E.L. Petersen, M.I. Radulescu, J.E. Shepherd (*President*), S.S. Shy, W.A. Sirignano, P. Wolanski

### Lodging and Accommodation:

A few recommended hotels with special rates, as well as on-campus accommodation options will be available (see the conference website).

**Author Instructions and Paper Submission:**

Author Instructions and the link to the paper submission website will be on-line at:

<http://icders2011.eng.uci.edu>

**Host Committee at UC Irvine:**

D. Dunn-Rankin (Chair)

W.A. Sirignano

G.S. Samuelsen

R.H. Rangel

J.C. LaRue

S.E. Elghobashi

V.G. McDonell

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**NOTE:** If you believe that you received this announcement in error, or do not wish to receive future announcements regarding this Colloquium, please send an email to [icders2011@uci.edu](mailto:icders2011@uci.edu) with REMOVE ICDERS2011 as the subject.

