



## Location

The workshop will be held at the TRACC Collaboratory located on the third floor of the **DuPage Airport Flight Center in West Chicago**, pictured above (see directions on reverse side). The workshop sessions will also be linked to Internet2 videoconferencing sites upon request and broadcast over the Internet using Adobe Connect. The link to the Adobe Connect session will be provided to registered participants.

## Remote Location Participation

Remote participation via Internet2 video conferencing can be arranged by contacting TRACC.

## Registration is Free

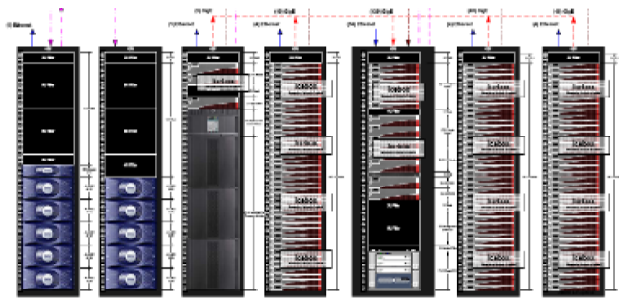
Participation in the workshop is free. Travel, lodgings, and other expenses are the responsibility of the participant. Please contact TRACC at the number or E-mail address shown below if you would like to attend the training sessions either by Internet or in person.

### Contact Information:

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www.tracc.anl.gov

# Computational Hydraulics for Transportation Workshop

September 23-24, 2009  
West Chicago, Illinois



The Transportation Research and Analysis Computing Center at Argonne National Laboratory will hold a workshop on the use of computational hydraulics for transportation applications.

The goals of the workshop are:

1. Bring together people who are using or would benefit from the use of high performance cluster computing in the analysis of hydraulics problems in transportation.
2. Share ideas and review status in the development of 3D CFD scour models.
3. Learn about hydraulic and scour modeling capabilities of major commercial CFD software.
4. Discuss roles of 2D and 3D hydraulics software.
5. Discuss current and future needs in computational hydraulics analysis for transportation applications and how best to address them.

**[www.tracc.anl.gov](http://www.tracc.anl.gov)**

**TRACC**  
**Transportation Research and  
Analysis Computing Center**  
**at Argonne National Laboratory**



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# Computational Hydraulics

## Workshop Sessions

- Sessions will start at 9:00 A.M. (CST) and end at 5:00 P.M.
- A more detailed agenda will be sent out in early September.
- A working lunch will held from 12:00 PM till 1:00 PM.
- There will be a break in the mornings and afternoons.
- Audience participation is expected to help identify the most promising paths forward in enhancing 3D CFD analysis capabilities for analysis of bridge scour.
- Please let us know if you would like to make a presentation or moderate a discussion.

## Wednesday-Thursday

## September 23-24, 2009

**9:00 AM - 5:00 PM (CST)**

### Day 1, Wednesday, September 23, 2009 Sessions

1. Introduction and overview of TRACC facility
2. Needs and overview of FHWA Turner-Fairbank Highway Research Center Hydraulics Laboratory, including plans and research goals for the next 10 years
3. Overview of the capabilities of the TRACC cluster and information for users
4. Current state of 3D scour modeling and challenges in determining sediment entrainment rates
5. Working lunch with a speaker/moderator
6. Challenges in full 3D simulation of scour processes at bridges and alternatives to overcome them, such as the large difference between the flow time scale and the scour time scale. Topics and speakers will be announced.

### Day 2, Thursday, September 24, 2009 Sessions

1. Scour analysis capabilities of STAR-CD and STAR-CCM+
2. Scour analysis capabilities of FLOW-3D
3. Working lunch with a speaker/moderator
4. Scour analysis capabilities of FLUENT
5. Role of 2D versus 3D analysis
6. Interface requirements and methods to build interfaces between 2D and 3D CFD software.
7. General applications and computational and visualization needs



## Location

- 42 miles from downtown Chicago
- 8 miles from Interstate 88 (East/West)
- 13 miles from Interstate 90 (East/West)
- 14 miles from Interstate 355 (North/South)

## Directions

- From I-88 (Coming from the East or West)
  - To Farnsworth/Kirk Rd: Going North
  - To 38/ Roosevelt Rd: Going East
  - To Kautz Rd: Turn Left
  - To International Drive: Turn Right
- From I-90/ Northwest Tollway (Coming from either direction)
  - To Route 59: Going South
  - To 64/ North Ave: Going West
  - To Kautz Rd: Turn Left
  - To International Drive: Turn Left
- From I-355/ North-South Tollway (Coming from the South)
  - To 38/ Roosevelt Rd: Going West
  - To Kautz Rd: Turn Right
  - To International Drive: Turn Right
- From I-355/ North-South Tollway (Coming from the North)
  - To 64/ North Ave: Going West
  - To Kautz Rd: Turn Left
  - To International Drive: Turn Left

## Hotel

### Pheasant Run Resort

4051 East Main Street,  
St. Charles, IL 60174

[www.pheasantrun.com](http://www.pheasantrun.com)

### ANL-TRACC Corporate Rate 2009:

ROH – Guestroom \$106.00

Wireless Internet Included

Reservations: 800-474-3272

Hotel Contact: Diane Turner

Email: [dtuner@pheasantrun.com](mailto:dtuner@pheasantrun.com)