

**Workshop on Multiphase Flow Research  
National Energy Technology Laboratory  
Morgantown, WV, June 6-7, 2006**

**AGENDA**

**June 6**

Time	Title	Speaker/Leader
7:30-8:15	Breakfast/Registration	
8:15-8:20	Welcome	C. Bauer (Director, NETL)
8:20-8:30	Workshop objectives and agenda	M. Syamlal (ORD-NETL)
8:30-9:15	NETL technology development direction and computational science needs	A. Cugini (Acting Associate Director, ORD-NETL)
9:15-9:45	Dense gas-solids flows and Granular flows	P. Mort (P&G), J. McCarthy (U. Pittsburgh)
9:45-10:15	Dilute Gas-Solids Flows	R. Patel (Exxon-Mobil), S. Subramaniam (Iowa State)
10:15-10:45	Break	
10:45-11:15	Liquid-solids/Gas-liquid flows	P. Ma (Air Products), R. Fox (Iowa State)
11:15-11:45	Computational Physics and Applications	R. Cocco (PSRI), C. Hrenya (U. Colorado)
11:45-12:00	Organization of tracks	Track chairs
12:00-1:00	Lunch	
1:00-2:30	Parallel technical track breakout sessions	Track chairs
2:30-3:00	5-minute track summaries to the whole group	Track chairs
3:00-3:30	Break	
3:30-4:30	Parallel technical track breakout sessions	Track chairs
4:30-5:00	Day's wrap up, information for next day	

## June 7

Time	Title	Speaker/Leader
7:30-8:00	Breakfast	
8-8:15	Recap workshop objectives and day's agenda	
8:15-9:45	Presentations on the results of 4 breakout sessions and general discussion	Track chairs
9:45-10:15	Break	
10:15-10:45	Integration of technical track presentations	D. Gidaspow (IIT) and S. Sundaresan (Princeton)
10:45-11:45	Vision for a Collaboratory on Multiphase Flow Research: presentation and panel discussion	T. O'Brien (NETL), W. Rogers (NETL), M. Syamlal (NETL), R. Turton (WVU)
11:45-12:00	Conference wrap up	
12:00-1:00	Lunch (on your own)	
1:00-2:30	Discuss follow up action items; attended only by the organizing committee.	Track chairs and discussion leaders
1:00-4:00	Optional (NETL lab tour, other discussions)	

- Technical track presentation: Challenges in each technical track presented by technical track chairs based on information collected from the participants. 20 minutes presentation followed by a 10-minute discussion period.
- Technical track breakout sessions: Discuss topics of each technical track. Each technical track will have around 10 members, who are selected well before the meeting. The discussions are moderated by the technical track chair. The group will discuss the following topics.
  - a. Status of the technology today
  - b. Identify outstanding scientific problems and data gaps in the track
  - c. Prioritize the problems: what needs to be solved immediately? What can be done later? Say 1-3 years, 3-5 years, 5-10 years
  - d. What paths can be taken to solve these problems?
  - e. How can we leverage research in other areas?
  - f. Who has the capability to solve these problems? If none exists, how can we develop the capability?
  - g. *How can we collaboratively work to achieve the targets of the roadmap?*
    - i. Plans for working collaboratively
    - ii. Set overall milestones 3, 5, and 10 years

- iii. Make a virtual project plan: what will be done, who will do it, what are the milestones and deliverables, how much will it cost, and identify potential funding sources and plans for securing funding.
- Responsibilities of participants
  - Submit a 1-2 page write up on areas of research in their opinion are important to the technology development of future power plants. Ideas in the write up should conform to the workshop objectives outlined above. Also identify the research areas where the participant can make significant contributions. Please submit your response by email to Dr. Madhava Syamlal (madhava.syamlal@netl.doe.gov ) before April 14, 2006.
  - Comment on the documents posted on the website by April 28, 2006
  - Participate in the discussions during the meeting
  - Fill out the conference evaluation form and give it to conference chair
  - Contribute to the conference report as requested by the track chairs
  - Comment on the draft reports posted on the website by July 21, 2006
- Responsibilities of NETL track champion
  - Assist the track chair in organizing the track discussions
  - Act as a NETL resource person for the track chair
  - Work with the track chairs to ensure that the track discussions result in the workshop deliverables
  - Keep track of the milestones
  - Act as a backup, if necessary
- Responsibilities of track chairs
  - Select a cochair
  - Develop plans for the track in collaboration with cochair and NETL track champion
  - Assemble all the submissions and group them into main challenges by May 5, 2006
  - Prepare a presentation based on the submissions and post the presentation for comments on the workshop web site by May 12, 2006
  - Make the presentations at the workshop or assign someone to make the presentations
  - Lead the discussions during the breakout sessions
  - Give action items to participants
  - Collect information from workshop participants and post a draft report for the track (5-10 pages, excluding appendices) on the website by July 7, 2006
  - Submit the final report by August 4, 2006