



IFPRI BRIEF TEMPLATE

Check One: **Project** **Review** **Collaboration**
 Workshop **Other**

Descriptive Title	Summer School for Granular-”CFD” Training
Working Title¹	Summer School for Granular-”CFD” Training
Technical Area²	Dry Systems
Date	15 June 2022
Short Description	Create a weeklong summer school where participants would (1) receive training in the use of open source CFD-like software and (2) be provided an industrial flow problem to solve using this software. Attendees would be from both academia and industry.
Objectives	(1) Provide cutting-edge training for future employees (2) Identify open challenges in the use of CFD-like software to solve real problems
Scope	<p>Granular CFD-like codes, including those that can be coupled to DEM at free surfaces, have recently reached levels of success where they should be utilized on a variety of industrial situations. However, they have not yet been widely disseminated in ways that industry can use them, nor or very many people trained in their usage.</p> <p>The academic organizer would provide work space and dormitory space at their institution, up to some maximum number of participants. The target audience would be undergraduate, masters, or doctoral students, but also people working in industry who want to learn these skills from experts.</p> <p>Instructors, one or several, would provide a simple case – e.g. conical hopper drainage – for participants to use to learn to run an open source CFD-like code on the first day. For the remaining part of the summer school, participants would work in pairs to solve a real industrial flow problem using these methods.</p> <p>IFPRI Members would provide descriptions of the dimensions and material properties of a representative flow problem from their applications, and in return receive a working (partially-working) CFD -like implementation.</p>

¹ Title used in meeting agendas and file archives

² One or more from the following list: W = wet systems; D = dry systems; F = particle formation; SR = size reduction; M = modeling; SE = systems engineering

	<p>Academics working on open source CFD codes would receive feedback about what aspects of their methods need work in order to be applicable to industrial problems, by novice users.</p> <p>Participants would receive valuable experience working on an industrial problem.</p> <p>This idea is modeled on two examples: a long tradition of physics summer schools where an intense period of collaboration yields breakthroughs in thinking (e.g. Aspen Center for Physics) and applied mathematics summer schools on industrial modeling (e.g. https://www.mathsci.udel.edu/events/conferences/gsmmc-2022)</p>
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