IFPRI
International Fine Particle Research Institute

IFPRI BRIEF TEMPLATE

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

Descriptive Title	A review of dynamic powder flow
Working Title[1]	Review of dynamic powder flow
Technical Area[2]	Dry Systems
Date	June 22, 2021
Short Description	The review will cover recent developments in models, experiments and numerical simulations of dynamic flows of powders and grains, including free-surface and confined flows, transitions from static to rapid flows, rheological models, numerical techniques, and consequences for particle segregation.
Objectives	Review dynamic powder flows from the experimental, modeling and simulation standpoints.
Scope	Decades of research on flows of powders and grains have produced a wide array of experimental data, models and numerical simulations. Models have ranged from the highly-complicated (kinetic theory) to the deeply empirical (e.g. "mu(I) rheology"). Recent advances in numerical simulations have offered a glimmer of hope for designing practical industrial units, but their size and scope are limited. This review will provide a synthetic view of the state-of-the-art, which will not be limited to the reviewer's own interests.

Recommended Contractors (2 or 3)		
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[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

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