IFPRI PROJECT / REVIEW BRIEF TEMPLATE

1.0	(Working) Title	Advancing 3D printing through powder characterization
1.1	Project / Review	Workshop/ Project
1.2	Technical Area	Characterization
2.0	Submitted by	Vidya Vidyapati, Navin Venugopal
2.1	Member company/ies	P&G, Corning
2.2	Idea creation date	6/15/16
2.3	Last modification date	6/15/16
3.0	Short goal description	Identify powder characteristics that can be used to influence the quality of a 3D printed part
3.1	Objectives	Identify influence of particle size distribution, particle shape, particle packing, density, flowability etc. on quality of a 3D printed part
3.2	Scope	Explore and quantify different powder characteristics that can influence quality of a 3D printed powdered product. Techniques like Selective Laser Melting (SLM) and Electron Beam Machine (EBM) are within scope; metal and polymer powder both are in scope
4.0	Contractor	Prof Chua Chee Kai, Nanyang Technological University, Singapore; Dr. Christopher Williams, Design Research and Education for Additive Manufacturing Systems (DREAMS), Virginia Tech, USA; Prof Richard Hague, The University of Nottingham, UK; Dr. Philipp Urban, Fraunhofer IGD, Germany; Dr. Neri Oxman, MIT Media Lab, USA; Centre for Advanced Additive Manufacturing, The University of Sheffield, UK; Dr. Andrew Bayly, University of Leeds
4.1	Comments / experiences	

IFPRI PROJECT / REVIEW BRIEF TEMPLATE

1.0	(Working) Title	Suspension rheology: from colloids to (dispersed) grains
1.1	Project or Review	Workshop
1.2	Technical Area[1]	Wet systems
2.0	Submitted by	Norm Wagner
2.1	Member company/ies	DuPont, Syngenta, Unilever
2.2	Idea creation date	14 June 2016
2.3	Last modification date	15 June 2016
3.0	Short goal description	The deformation and flow of particulate systems dominated by contact forces is a hot area, and distinguishes the flow of dispersed grains (say > 10 microns) from the flow of colloidal suspensions (say, < 1 micron and dominated by Brownian motion). A significant feature of granular suspension rheology is that many, though by no means all, concepts and results, from dry granular rheology seem to be applicable, so that progress in this area may prove unifying for 'dry' and wet' particulate scientists. The timeliness of this topic is witnessed by the fact that an EU-funded workshop in Edinburgh last year (2015) on 'Rheology of dense particulate suspensions' (RDPS) has now been followed by another on the same topic in Washington DC (2016). It is likely that this will become a series, probably alternating between sites in Europe and in America. We propose an IFPRI workshop as an 'industrial satellite' to the anticipated 2018 American RDPS workshop, perhaps with a single day of overlap to benefit from the exchange of ideas.
3.1	Objectives	Outline key topics for future IFPRI programme in suspension rheology.
3.2	Scope	
4.0	Contractor(s) with contact information	Wilson Poon - Edinburgh Norm Wagner - Delaware
4.1	Comments / experiences	Seeking 2018 workshop.

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