IFPRI BRIEF TEMPLATE

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

Descriptive Title	Mechanism and control of aeration and de-aeration for formulated products
Working Title[1]	Aeration and de-aeration
Technical Area[2]	Wet Systems
Date	06/25/2019
Short Description	Control of dissolved and undissolved air/gas in a product is very important for cosmetic, food and pharmaceutical companies. The, presence of air bubbles in cosmetic and pharmaceutical formulation preparation is generally undesirable, yet, a controlled amount of aeration is required to make other materials, such as foams. During making and subsequent packing of these formulations, uncontrolled amount of air is added/removed based on the process conditions.
Objectives	1. The review seeks to understand the key mechanisms to control the amount of aeration/de-aeration in a suspension/slurry/foam from product making to packing operations. This includes both dissolved and un-dissolved air/gas. 2. The review should also include typical process equipment used for aeration/de-aeration with their associated pros and cons related to scale, throughput, and cost
Scope	1. Mechanism of air bubble formation/removal 2. Should include both external entrainment (through mixing, pumping, pouring, jetting, powder incorporation) and internal generation (through chemical reaction and physical changes) 3. Should include both dissolved and undissolved air

Recommended Contractors (2 or 3)		
Name	**Institution**	**Email Address**
Prof Philip Cox	University of Birmingham	p.w.cox@wlv.ac.uk
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Dr. L. L. Schramm	Saskatchewan Research Council	

[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

Submitted By:	
Name	**Organization**
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