



Paul Mort, Ph.D.

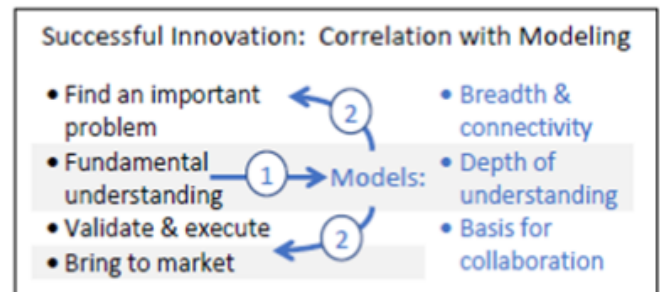
Productive use of Models in Design of Particulate Products and Processes

Abstract

Innovation is necessary to fuel growth in industry; yet innovation can be risky, especially when products rely on particle-based design and/or intermediate particle processing operations. In academia, innovation can be a useful teaching strategy, especially pertaining to adaptability and systems thinking.

How can we improve innovation efficiency in particulate product design and processing? We often see correlation between successful innovation and useful models. Combined with smart experiments, models are an excellent way to quantify fundamental aspects of an invention (1, in diagram). The exercise of making models helps us to deepen our understanding, extend breadth of connections, and can be used as a good basis for collaboration within organizations as well as external partnerships.

Conversely, these models can be flipped (2, in diagram) and extended to better describe fundamental aspects of a problem to be solved, define more robust and efficient means of validation, and even to open up new ideas for execution and acceptance of an innovative product or process in the market. This seminar considers use of models, many of which were derived from IFPRI projects, to better design particulate products and to achieve more efficient processing thereof. Models for particulate flow and particle-interactions are requisites for processing including milling, mixing, granulation, layering, compaction, and dispersion. System integration of such models is a useful approach to innovation.



Biography

Paul Mort is a 24-year veteran of the Procter & Gamble Company and is globally recognized as an expert in particulate processing and powder technology, especially as applied to product design and processing of granular detergents. He has a demonstrated history of product innovation and driving process efficiency in the consumer goods industry. Paul is currently active as a Special Editor for Powder Technology, working jointly with the International Fine Particle Research Institute (IFPRI) to develop a pipeline of perspective articles for the journal.

Paul's PhD in Ceramic Science and Engineering from Rutgers University (1993) included powder processing, granulation, mixing, compaction, and reaction engineering.

Paul is active in linking particle technology with adjacent technical communities including pharmaceutical processing, materials science, and process control. His publications include journal articles, handbook chapters, and presentations including scale-up and control of agglomeration processes, powder flow, dispersion of granules, paste rheology, ordered mixing, solid state reactivity, granular compaction, and modeling of particulate processes.