

## **IFPRI Workshop**

**Nearly all of the faculty (if not all) have active industrial collaborations.**

1. Our priorities and needs

### **PROBLEM DEFINITION**

Big problems that are cross-cutting and will have the biggest impact  
(short-term problems work with faculty on a 1-yr consulting basis - there is not a disconnect here)

### **MODEL FORMULATION**

Must be a collaborative effort making a system

A **publishable** model formulation

that avoids / eliminates confidentiality  
free access to information

Benchmark systems

Poon: Example - three or more phase systems like those found in granulation

IFPRI has advantages:

NO IFPRI IP

Cross-sector collaborations that avoid proprietary issues

### **BENCHMARK CHALLENGE**

Existing / past IFPRI work has done this

A curator maintaining known outcomes (to hide from modelers / simulators)

### **Our own research / work / curiosity /**

Vermant:

Hard spheres can be expanded on -  
rough, soft, patchy, shape

### **PROCESS FLOWS AND EQUIPMENT?**

### **SOFTWARE COMPANIES INVOLVED?**

### **DOCUMENTED OUTCOMES**

Statement from industry

Example from Lafarge article

2. What do we need from industry?

### **MODEL FORMULATIONS** - not a full product (no bactericide, perfume, dye, etc.)

Pre-competitive systems industrial members can agree on

Example: Chocolate rheology

Lots of good stuff from earlier part of workshop

(Koo: Knowing why ingredients are there?)

Hard spheres are no longer regarded as a model system of interest - what is next?

## **INDUSTRIAL SUPPORT FOR GRADUATE EDUCATION IN US**

Interactions with industry are less intimate

Fewer trained / prepared researchers available to companies

5 yr grad funded R&D projects

## **ADVOCACY TO US / EU FUNDING AGENCIES**

IFPRI is cross-sector, precompetitive

Probably helpful in Europe but not NSF

Can harness EU funding for outside expertise

How does this happen?

John Royer: granular materials was an example for justifying further funding with a big impact

**Public documents from IFPRI that you can cite in a proposal / paper**

Needs to be quantitative - cites needs quantitatively in BILLIONS saved

## **NEED AN INTEREST IN WHAT ACADEMIC GROUPS ARE DOING**

Frustrated by how few meetings we can engage with industry scientists and engineers

**Webinars!**

3. What could a plan look like?

### **GET REPORT OUT**

### **DEFINING KEY PROBLEMS**

IFPRI takes this initiative

### **WHAT STEPS TO TAKE TO MAKE MODEL FORMULATIONS**

must be collaborative

agree to have that discussion

definition of the state of the art

recognize that this is a priority - funding

working group of IFPRI / faculty

call for proposals

### **BENCHMARK CHALLENGE**

### **CLEARINGHOUSE**

### **MORE FREQUENT WORKSHOPS WITH MORE EXCHANGE**

Notes:

Jeff:

Need **well-defined problems**

What models are being tested and failing?

Need feedback. Did models work? How did they fail?

**Realistic time frame for work**

**A resource for exchanging needs / observations / problems**