

# iNewtrition

FOOD SCIENCE EXPERTISE

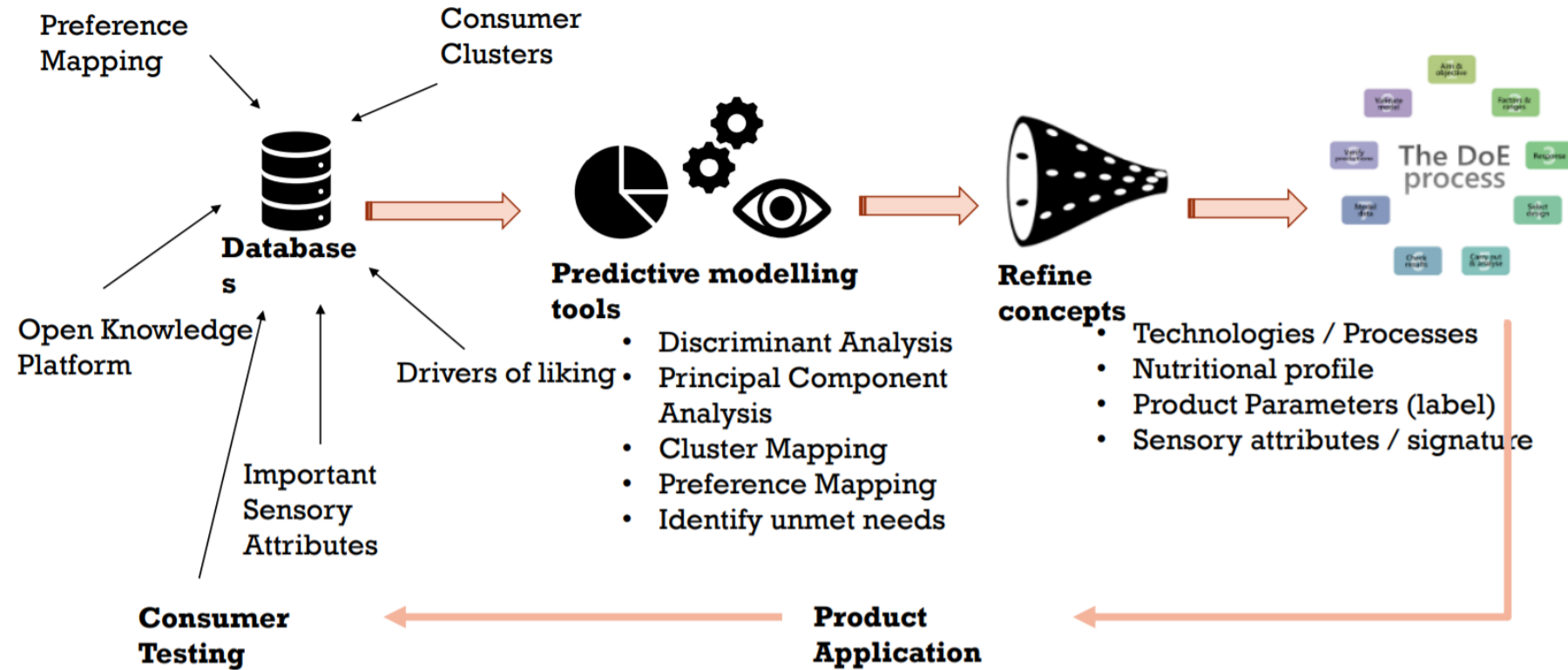
## Food Innovation using Data Science

Raphaëlle O'Connor & Sapna Negi

Proposal for 2019 POV Entrepreneurial  
Scientist & Engineer Fellowship

29/08/2019

# Challenge: obsolete R&D



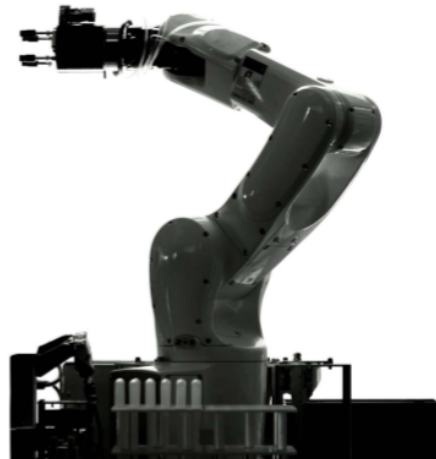
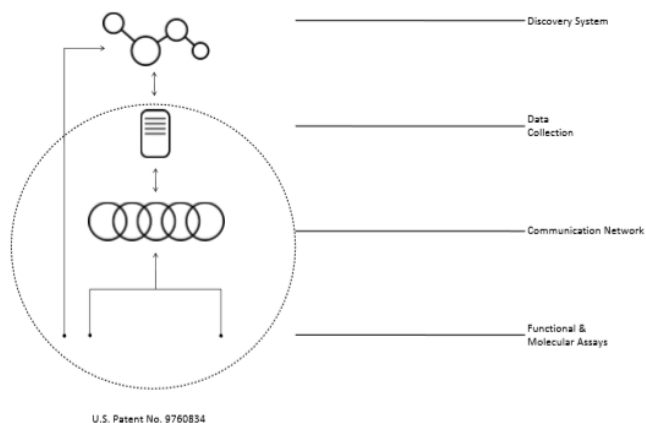
Solution: Simulation followed by focused experimentation leads to rapid product development

# Differentiation



Commercial available ingredients vs. isolation of functional (Shiru) or bioactive compounds

The first-ever patent covering machine learning methods and systems for food ingredient discovery.



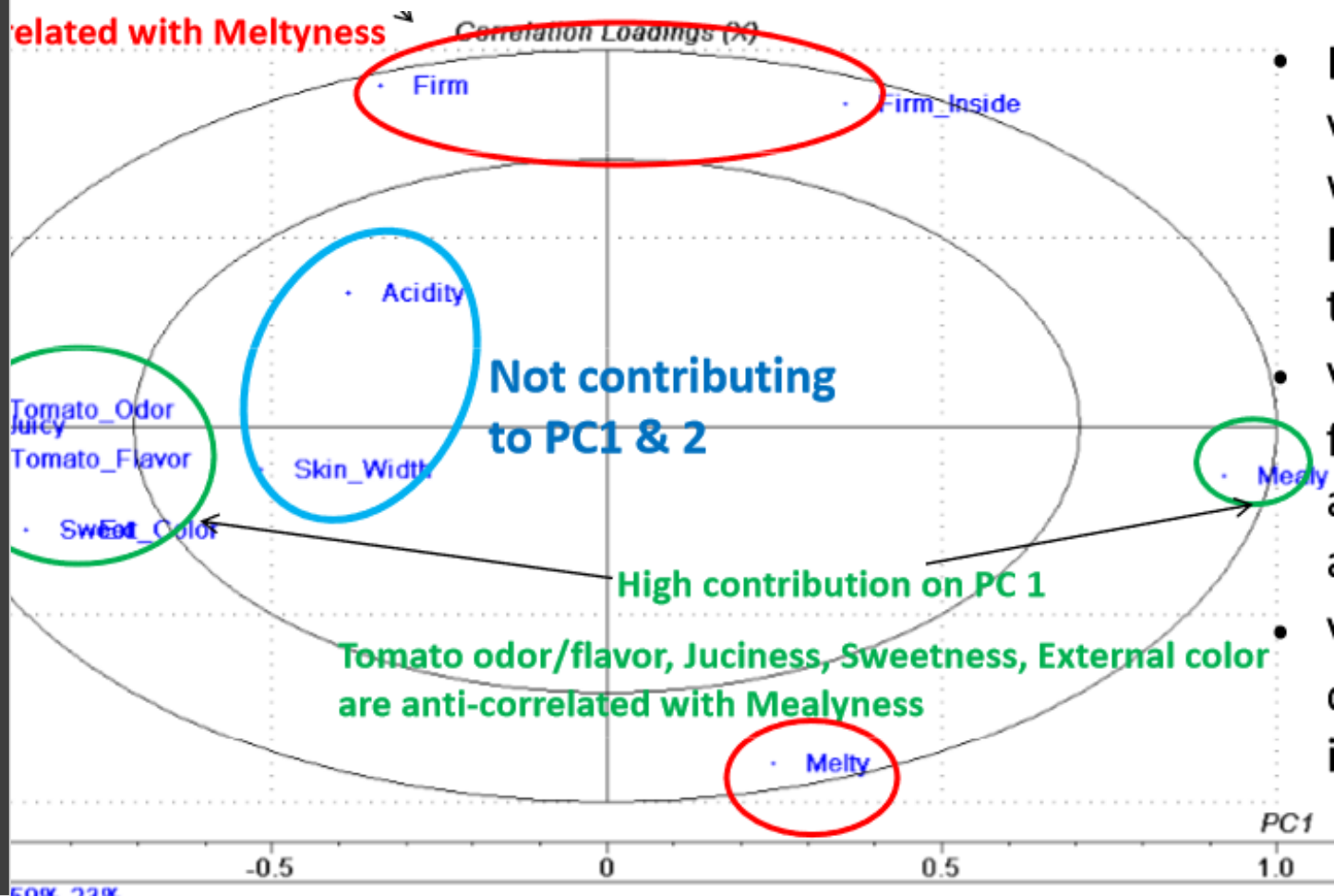
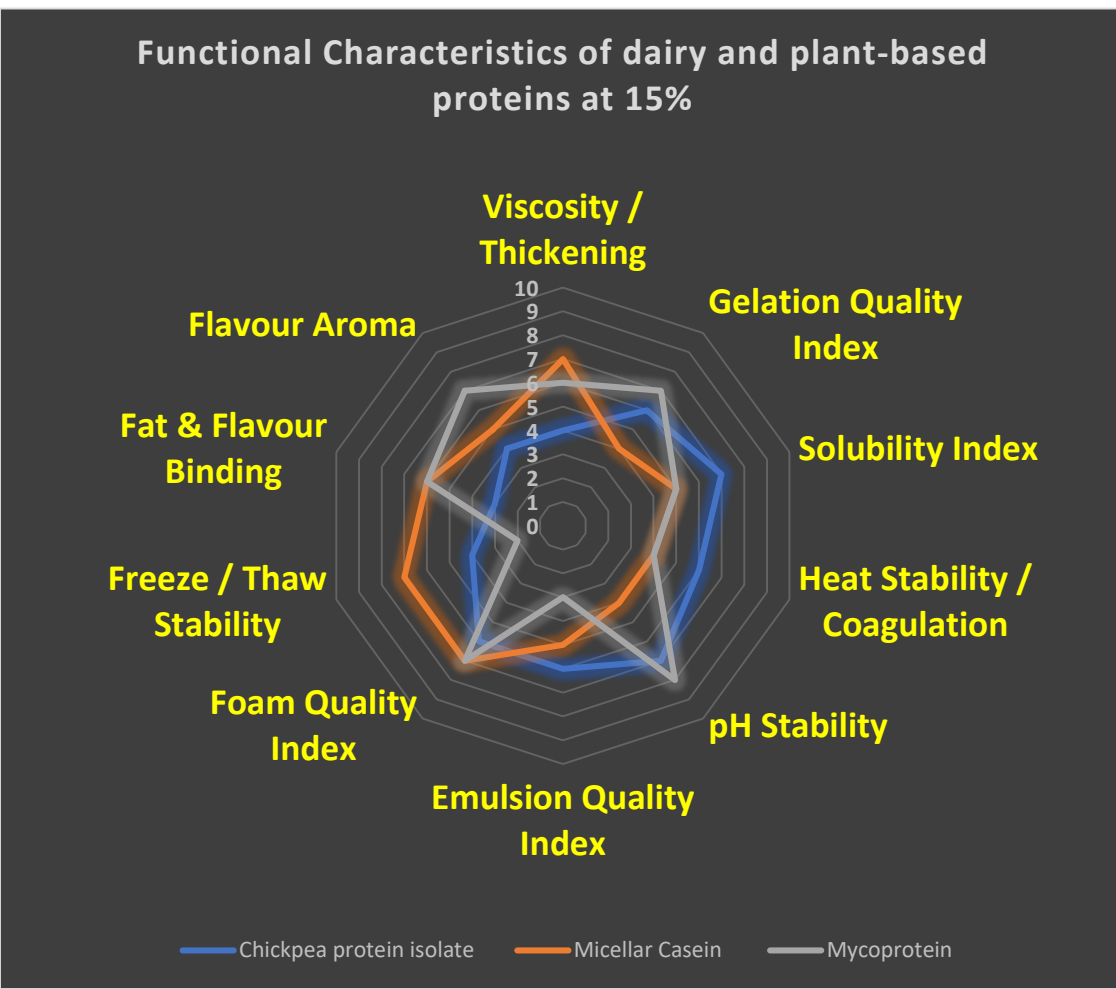
# Business model & value proposition

- B2B
- Software/data science platform for food innovation
- Ingredients prediction and (possibly) market insights
- Formulation by design model using non-animal nutrient profiling system database
- Multi-dimensional database of functional & nutritional ingredients that are commercially viable
- Collection and synergies of functional & nutritional ingredients & suppliers to develop plant-based foods and beverages.
- Plant-based culinary solutions
- Innovative ingredients solutions

# Deliverables, Phases

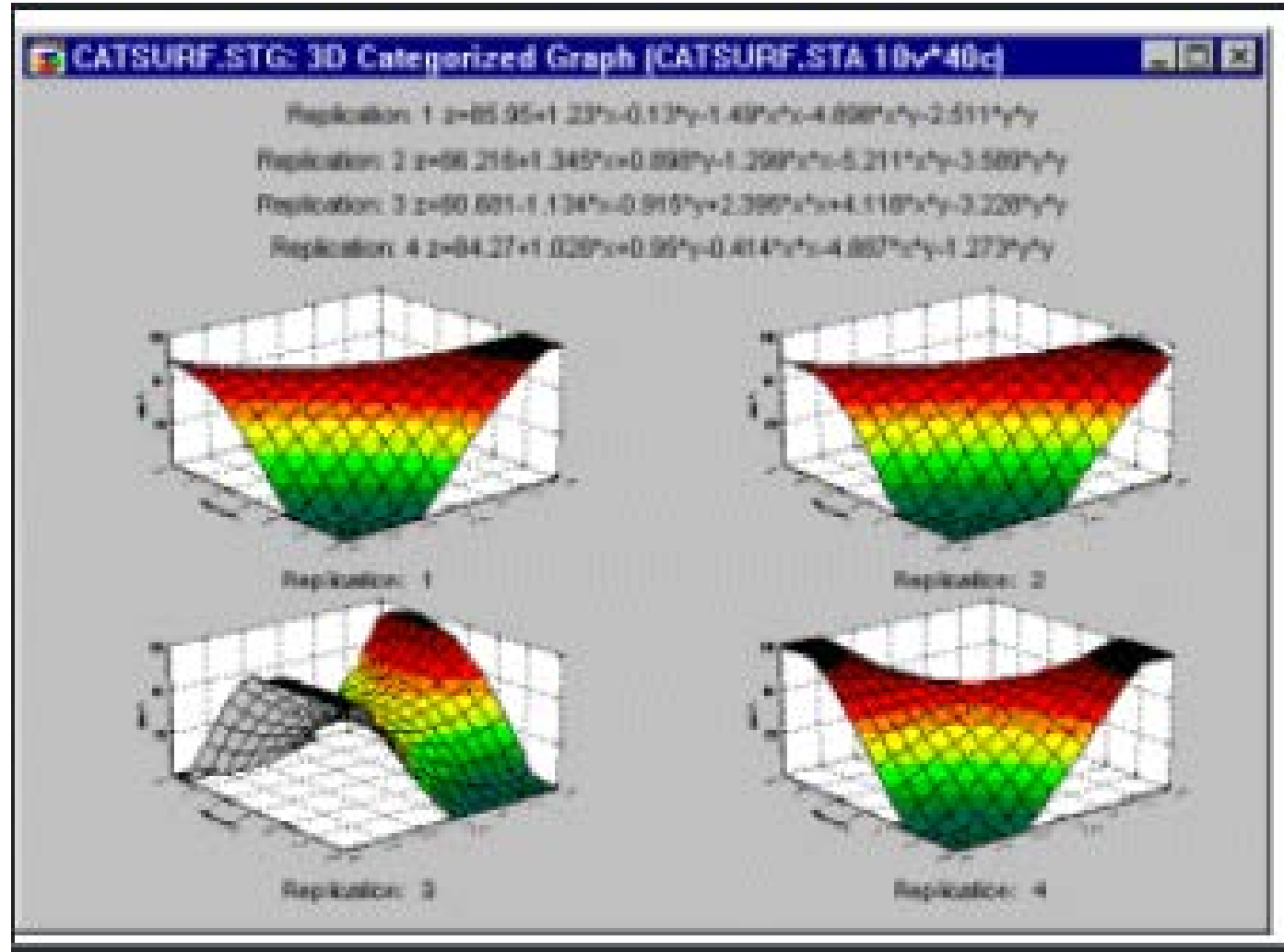
1. Review state of the art of data science in food innovation and technology. Leverage research papers, collect existing open/paid data sets
2. Datasets preparation, additional proprietary data
3. Prediction algorithms
4. Prototype of data science platform
5. Evaluation/validation of algorithms, lab testing of the predictions
6. Incorporating feedback in the algorithm/data science platform

# Multidimensional Mapping



# Multidimensional Mapping

3D Texture  
Modelling in  
Food



# Data modelling & analytics to build predictive models (AI)



## Innovation management:

- New Product Development
- Product reformulation
- Portfolio management
- Product adaptation



## Deep market insights:

- Competitive market
  - mapping
- Emergent preference
  - prediction



## Cognitive marketing:

- Flavor profile preference priming
- Consumer value chain psychology prediction



# Draft Timeline

[illegible]

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*Thank You*



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