Cyber COLLOIDS LTD

CyberColloids
Food Applications

CyberColloids

- The hydrocolloid experts
- Independent laboratory in Cork, Ireland

  - Hydrocolloid functionality
  - Process development and implementation
  - Research and innovation
  - Marketing and business development
  - **Application assessment**

Food Applications

- Determine which food applications a novel ingredient is most suited for
- Comparing a particular ingredient to its competitors
- Improving a specific application
- Reducing the cost of a particular application
- New product development
- From laboratory to pilot plant to factory

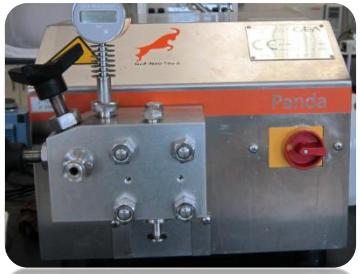
- All projects are specific to our customer needs

The food applications team

- Kevin Philp (BSc, PhD)
- Eileen Healy (BSc, MSc)
- Kevin Murphy (BSc)
- Patrycja Zakrys Waliwander (BSc, PhD)
- Selina Lennon (BSc, MSc)

CyberColloids Lab

- Dedicated R&D lab in Cork, Ireland.
  - Rheometer
  - Viscometer
  - Texture Analyser
  - HPLC
  - Autoclave
  - Centrifuge
  - Homogeniser
  - High shear mixers
  - Freeze dryer



University Facilities

- Access to facilities at the food science & technology department in University College Cork.

- Ice-cream making facilities (batch & cryo-microscope)
- Bakery facilities (mixers, proofer, bakery ovens)
- Meat facilities (injector, tumbler, smoking ovens, sausage making facilities)
- Sensory (sensory kitchen and booths)
- Milk products (standardising, pasteurising, cheese, yogurt)

- CyberColloids has experience in all of the above facilities at UCC

Moorepark Facilities

- Access to facilities at Moorepark Technology (a government backed research facility for food science & technology).

- Ice-cream making facilities (Continuous)
- Drying facilities (roller or spray dried)
- 1000L high shear scrape surface mixer
- Evaporators & decanters

- CyberColloids has experience in all of the above facilities at Moorepark.

Food Applications

- CyberColloids has experience in the following applications:

- **Frozen Foods**
  - Freeze thaw stable sauces & mayonnaise
  - Ice-cream
  - Frozen yogurt
  - Sorbet
- **Bakery**
  - Brioche
  - Muffins
  - Bread
  - Puff Pastry

Food Applications

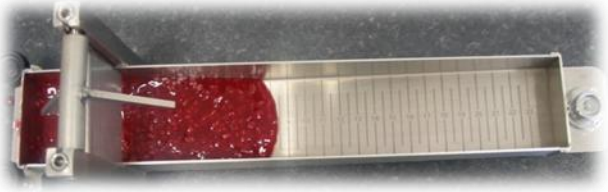
- **Dairy**
  - Yogurt (set, stirred, drinking and Greek)
  - Dairy beverages (neutral and low pH)
  - Processed cheese (block or sauce)
  - Chocolate Milk
  - Cream cheese
  - Coffee creamers (UHT or dried)
  - Dairy based alcoholic beverages
- **Vegetable**
  - Onion rings
  - Potato croquettes
  - Vegetarian sausages & burgers

Food Applications

- **Meat**
  - Sausages
  - Frankfurters
  - Deli style meats
  - Increased yield meat
- **Sauces & dressings**
  - Low fat salad creams
  - Salad dressings
  - Pasta sauces (cultured)
  - Mayonnaise
  - Autoclaved sauces
  - Concentrated tinned sauces

Food Applications

- **High Sugar**
  - Jams (low sugar also)
  - Jellies
  - Fruit preparations



- **Non dairy**
  - UHT Soya milk
  - Vegan ‘cheese’
  - Non dairy coffee creamers

How does CyberColloids work?

New Ingredient

- If you have a new ingredient and you wish to understand its capabilities, the following is usually undertaken (all projects are specific to customer needs and can be altered)

  - General analysis (how does the ingredient behave to heat, shear, homogenising, ions etc. This is completed in water).
  - Based on above results, specific applications are identified and the ingredient is tested and optimised. It can be compared to its competitors.
  - CyberColloids can accompany the sales team (as technical support), make marketing brochures, be available for trade shows and can be used as a technical centre for that company.

How does CyberColloids work?

Issue with food application

- If you are currently producing a product, but there is an issue which needs to be resolved, the following is usually undertaken (all projects are specific to customer needs and can be altered)

  - Identify the issue.
  - Replicate this using the lab or pilot plant facilities.
  - Solve the issue with one or more of the following: hydrocolloids, other ingredients, procedure, recipe reformulation etc.
  - CyberColloids can upscale to pilot plant and be available for the first factory trial if needed.

How does CyberColloids work?

New product development

- If you have an idea for a new food application, but you are unsure how to develop it, the following is usually undertaken (all projects are specific to customer needs and can be altered)

  - Market research on this product (can be done nationally or internationally).
  - Recipe development. This can be low cost or high added value product.
  - Project management of factory expansion (if needed).
  - Advice on how best to market your product.