

Best practices in R&D: From concept ideation to scaling-up

Product Development Success

July 29-30, 2026

Dairy Products Technology Center, CalPoly San Luis Obispo, CA

FREE

The course is held at the DPTC, CalPoly SLO and will feature lectures, discussions and many networking opportunities. It is designed for R&D, production, QC/QA personnel with dairy plants, students and entrepreneurs. No pre-requisites. California processors, students, supply and academic and partners can register **free** of charge by sending name, position, company and email to nvanbuskirk@cmab.net. Others: Please contact Sam Bass sibass@calpoly.edu

Wednesday, July 29

- 8:30 Introductions
- 9:00 **Where is the Next \$100M Dairy Product?**
 - Market trends in the dairy sector
 - White space opportunities in retail, foodservice, exports
 - California production gaps
- 9:30 **From Trends to Viable Dairy Product: the Process**
 - Trends mapping
 - Consumer needs, concept screening
- 10:30 Break
- 10:45 **Product Design & Formulation Fundamentals for Dairy Industry**
 - Milk and dairy ingredients composition
 - Unit operations overview: what R&D needs to know
 - Understanding milk, dairy functionality
 - How to formulate to deliver content or nutrition claim, resources
- Noon Lunch
- 1:00 **Anticipating and Solving Equipment and Process Constraints**
 - Typical processes and equipment
 - Membrane filtration systems
 - Fluid vs. dry ingredients
 - CIP and scaling up considerations
- 1:45 **When to Integrate Sensory Testing? Tools and Methods**
 - Types of tests, when to use them
 - Resources compatible with your budget
- 2:30 Break
- 3:00 **Designing Products for Successful Scale-up**
 - Ingredient interactions
 - Process tolerance windows
 - Critical formulations limits
- 3:45 **Designing Experiments that Matter**
 - Planning pilot trials, data to collect
 - Avoiding pilot to scale pitfalls
 - Where to go for prototyping
- 4:30 Q&A
- Pm Happy Hour with Speakers (21+)

Thursday, July 30

- 8:30 **Artificial Intelligence for Innovation**
 - Using AI in product development, food safety, and development of SOPs
- 9:30 **Prototyping and Bridge to Operations (Panel)**
 - Key decisions ahead of scale-up
 - Channel, distribution and shelf-life considerations
 - Constraints unique to dairy plants
- 10:15 Break
- 10:45 **Cost Modeling: Tools and Case Studies**
 - Ingredient and yield calculations
 - Dairy processing costs, margins
 - Case studies
- 11:30 Recap, Q&A, Certificates
- Noon Adjourn
- OPTIONAL SESSION (confirm when registering)**
- 1:00 **Perfecting your Pitch for your Leadership, your Audience**
 - Building the perfect pitch
 - Adjusting for timing and audience
- 2:00 **Social Media, Building your Brand Resources, Case studies & Discussions**
- 2:30 **In Action – Practice!** Group and Private Coaching Sessions
- 5:00 Adjourn

Learning Objectives

- Identify promising dairy product opportunities based on market trends and consumer needs.
- Apply a structured product development process from concept to commercialization.
- Gain an understanding of ingredient functionality and processing requirements.
- Anticipate manufacturing and scale-up challenges and design products for commercial success.
- Use sensory evaluation and experimental design tools to guide product development decisions.
- Leverage AI and other innovation tools to accelerate R&D and problem-solving.
- Communicate product concepts and business value effectively to stakeholders.

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