

# 4<sup>th</sup> Protein Basics Short Course

May 20<sup>th</sup> & 21<sup>st</sup>, 2024

Food Science and Nutrition Building  
1334 Eckles Ave, Saint Paul, MN 55108  
Room 15



Plant Protein  
Innovation Center



## Monday, May 20<sup>th</sup>, 2024

7:45 – 8:30 am

Registration and Networking Breakfast

8:30 – 8:45

### *Welcome and Introductions*

B. Pam Ismail, PPIC Director & Founder, Professor, University of Minnesota

8:45 – 10:00

### *Overview of Food Proteins and Trends (Topic 1)*

B. Pam Ismail, PPIC Director & Founder, Professor, University of Minnesota

10:00 – 10:15

**BREAK**

10:20 – 11:40

### *Protein Chemistry and Functionality: Relating Structure to Function (Topic 2)*

B. Pam Ismail, PPIC Director & Founder, Professor, University of Minnesota

11:40 – 12:40 pm

**LUNCH**

12:45 – 1:30

### *Industrial Challenges of Plant Proteins – from Field to Fork (Topic 3)*

Jennifer Kimmel, Head of R&D Americas, Roquette America, Inc.

1:35 – 2:45

### *Holistic Formulation Approaches and Strategies to Develop Plant-Based Foods (Topic 4)*

Dilek Uzunalioglu, Senior Director, Food Discovery & Design, Motif FoodWorks

2:50 – 3:40

Groups Oat and Camelina: Protein Extraction and Modifications  
Structural Characterization and Functionality Testing

Groups Hemp and Chickpea: Product Formulation with Dilek Uzunalioglu

3:40 – 4:10

**Refreshments & Networking**

4:10 – 5:00

Groups Oat and Camelina: Product Formulation with Dilek Uzunalioglu

Groups Hemp and Chickpea: Protein Extraction and Modifications  
Structural Characterization and Functionality Testing

6:00 – 8:00

### **Networking Dinner (pre-reserved add-on)**

Axel's Restaurant, 2540 Cleveland Ave N, Roseville, MN



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### Tuesday, May 21<sup>st</sup>, 2024

7:45 – 8:30

**Networking breakfast**

8:30 – 9:25

***Protein Modification to Enhance Functionality (Topic 5)***  
B. Pam Ismail, PPIC Director & Founder, Professor, University of Minnesota

9:30 – 10:40

***Principles and Practice of Plant Protein Extrusion (Topic 6)***  
Robert Mitchell, Senior Process Engineer, Buhler

10:40 – 10:55

**BREAK**

11:00 – 12:00 pm

***Proteins and Flavor (Topic 7)***  
Gary Reineccius, Professor Emeritus, University of Minnesota

12:00 – 1:00

**LUNCH**

1:00 – 1:50

*Groups Oat and Camelina: Extrusion Demonstration*  
Robert Mitchell, Senior Process Engineer, Buhler  
*Groups Hemp and Chickpea: Protein Isolation Illustration in the Pilot Plant,*  
Mitchell Maher, Researcher, Pilot Plant, University of Minnesota

1:55 – 2:45

*Groups Oat and Camelina: Protein Isolation Illustration in the Pilot Plant,*  
Mitchell Maher, Researcher, Pilot Plant, University of Minnesota  
*Groups Hemp and Chickpea: Extrusion Demonstration*  
Robert Mitchell, Senior Process Engineer, Buhler

2:45 – 3:15

**Refreshments & Networking**

3:15 – 4:05

*Groups Oat and Camelina: Laboratory Demonstrations:*  
*Emulsion Formation & Spray-Drying*  
*Protein-Flavor Interactions*  
*Groups Hemp and Chickpea: Application: Product Tasting with Dilek Uzunalioglu*

4:10 – 5:00

*Groups Oat and Camelina: Application: Product Tasting with Dilek Uzunalioglu*  
*Groups Hemp and Chickpea: Laboratory Demonstrations:*  
*Emulsion Formation & Spray-Drying*  
*Protein-Flavor Interactions*

