

Merlin Development in conjunction with Dr John Fry are delighted to present

Low-Calorie Sweeteners: The Alternatives to Sugar

Unique hands-on training

A strictly-limited number of places for this acclaimed course at
Merlin Development, Plymouth, MN
May 9 & 10, 2023

**REVISED
PROGRAM**
New updates on
tagatose, allulose &
protein sweeteners

There is intense pressure to cut sugars, reduce the energy density of processed foods, and to do so with cleaner labels. Yet sweetness is such a key driver of liking that low-calorie alternatives to sugars are essential. Natural and synthetic low-calorie sweeteners (LCS) have a key role to play, but are ill-understood - especially candidates like stevia and monk fruit. Newer bulk sweeteners like allulose and tagatose are also unfamiliar. What are their properties? How to get the best taste? This course provides answers in a complete introduction.

You will:

- *grasp the basics of sweetness perception & measurement – better understand your consumer and tune your development process*
- *taste each sweetener for yourself*
- *receive a comprehensive introduction to every commercially significant high-potency sweetener (HPS) and new low-calorie bulk sweeteners – strengths, weaknesses and reasons for success*
- *see the advantages - and limits - of blended HPS and synergy*
- *better appreciate how to formulate with today's low-calorie sweeteners*
- *catch the latest trends, the sweeteners of tomorrow*
- *be guided through practical exercises by Merlin's expert staff*

INTENDED AUDIENCE

Product development technologists, flavorists, marketing and purchasing executives concerned with alternative sweeteners. Anyone involved with cutting sugars use. No previous knowledge required. While delegates with a chemistry, food science or food technology background will gain a deeper understanding due to their experience, the course has been designed to be accessible to all.

COURSE ORGANIZERS

Taught by two international experts for whom sweeteners are a passion:

Dr John Fry (Director, Connect Consulting, formerly with Holland Sweetener Company) is one of the world's foremost experts in alternative sweeteners, with more than 30 years' experience in this area.

Melanie Goulson (President, Merlin Development Inc., formerly with Cargill Inc.) has a wealth of practical formulation experience from more than three decades as a product development and applications leader.

Introduction

Presenters



Dr John Fry

John Fry is an internationally-known expert on alternative sweeteners. Since 1997 he has directed Connect Consulting, one of the world's foremost technical resources for sweetener manufacturers and users.

John has been personally involved in the technical launch, marketing and application of aspartame, acesulfame-K, aspartame-acesulfame salt (which he invented), sucralose and stevia-based sweeteners around the world. He was for 12 years Principal External Consultant on Sweeteners to Cargill, and speaks and trains widely on sweeteners, sweetness and calorie-control.

Previously, John was Director of Scientific & Technical Services at Holland Sweetener Company, before which he managed the Science Group at the world-renowned Leatherhead Food Research in the UK.

John has a BSc and PhD in Food Science from Leeds University. He is also a Chartered Chemist, Fellow of the Royal Society of Chemistry, Fellow of the Institute of Food Science & Technology, Fellow of the British Society of Flavourists, and an Emeritus Member of the International Society of Beverage Technologists.



Presenters



Melanie Goulson

Melanie Goulson is the President and Principal Scientist at Merlin Development, an independent provider of product development, ingredient applications, and research services to the food industry for more than thirty years.

Melanie has been an innovator and technical leader in the sweetener space since 2001. She has contributed to the development of new sweetener ingredients, created now low/no sugar food and beverage products, and provided consulting and training on sweeteners to the industry during her 8 years at Merlin Development. Before that, she was a key contributor to the team from Cargill and Coca-Cola that established food grade stevia leaf extract as well as the lead product developer for the introduction of Truvia® brand consumer products.

Prior to her role at Merlin Development, Melanie was Applications Manager at Cargill for 26 years where she led a team of scientists focused on establishing the properties and performance of health and wellness ingredients while assisting many customers in their new product development work.

Melanie has a B.S. in Biotechnology and M.S. in Food Science from University of Minnesota. She is a member of the Institute of Food Technologists and an Adjunct Professor of food science and nutrition at St. Catherine University, St Paul, MN.

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Low-Calorie Sweeteners: The Alternatives to Sugar

Agenda, approximate timings

Tastings of sweeteners/blends will be conducted throughout the course

DAY 1, May 9th, 2023

9:30 am Refreshments & registration

10:00 am Welcome and Introduction

10:10 am **Basics of Sweetness:** *how we sense sweetness, human variation in sweet perception*

10:45 am **Measuring Sweetness:** *understanding units, instruments and basic taste panels*

11:15 am **High-potency & Bulk Sweeteners Contrasted:** *key differences, concentration-response curves, understanding potency, dynamics*

11:45 – 12:30 pm Lunch

12:30 pm **Measuring Sweetness:** *how to determine sweetness intensity (presentation and practical exercise)*

1:15 pm **Stevia 1:** *source, history, composition, understanding different commercial products, what to expect next*

2:00 pm Refreshment Break

2:20 pm **Stevia 2:** *key properties, hygroscopicity, solubility, stability*

2:45 pm **Protein High-Potency Sweeteners:** *including thaumatin, miraculin, brazzein, designer proteins, key properties*

3:20 pm **Other Natural High-Potency Sweeteners:** *monk fruit, glycyrrhizin, key properties*

3:45 pm **Newer Bulk Sweeteners:** *allulose, tagatose, erythritol, key properties*

4:15 pm **Q&A**

4:30 pm Close for the day

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DAY 2, May 10th, 2023

8:30 am **Review Day 1**

9:00 am **Saccharin, Cyclamate, Aspartame & Acesulfame-K:** *history, structure, key properties*

10:00 am **Refreshment Break**

10:20 am **Sucralose, Neotame, Advantame, Alitame, NHDC:** *history, structure, key properties*

11:05 am **Blending Sweeteners:** *quantitative & qualitative synergy, stability, commercial blends, aspartame-acesulfame salt*

11:45 – 12:30 pm **Lunch**

12:30 pm **How To Replace Sugar:** *practical issues*

1:10 pm **Lab-based practical exercises:** *blending sweeteners, managing sweet-sour balance, sweetening dairy products*

2:45 pm **Q&A, Wrap-Up**

Demonstrations include:

Tagatose, Allulose, Erythritol, Rebaudioside A, Rebaudioside M, Monk Fruit, Thaumatin, Glycyrrhizin, Saccharin, Aspartame, Acesulfame-K, Sucralose, Neotame, Advantame, NHDC....and a few surprises!

The course will be held at Merlin Development, just west of Minneapolis in Plymouth, MN near the intersection of I-494 and Carlson Parkway.

MERLIN DEVELOPMENT

181 Cheshire Lane, Suite 500
Plymouth, MN 55441
Main: 763-475-0224

www.merlindevelopment.com

Merlin Development is located on the far north end of the office park at 181 Cheshire Lane. Just turn right when you enter the complex. Free parking is available.

To contact the venue directly Phone: 763-475-0224 Email: merlin@merlindev.com
For queries about course content, please email info@sweetenerguru.com



SUGGESTED HOTELS

Crowne Plaza Minneapolis West

<https://www.ihg.com/crowneplaza/hotels/us/en/reservation>

Sheraton Minneapolis West Hotel

<https://www.marriott.com/hotels/hotel-rooms/mspws-sheraton-minneapolis-west-hotel/>

Country Inn & Suites by Radisson

<https://www.countryinns.com/plymouth-hotel-mn-55447/mnmouth>

Hotel Landing

<https://www.thehotellanding.com>

TO RESERVE A PLACE

To pay with a credit card, call Chad Burgess at Merlin on 763 475 0224.

Need an invoice? Email merlin@merlindev.com with subject line "Sweetener Course" and include the following details:

- Your company name
- Address or email address for invoice
- Name(s) of delegate(s)
- Phone number to contact you if necessary

Because of the number of tasting samples provided, and to maximise interaction with the presenters and instructors during lab sessions, **the number of attendees is strictly limited to a maximum of 25. Book soon!**

Early bird discounted course fee is \$1450 and is available until 8th April, 2023. Thereafter the full fee is \$1650.

To qualify for Early Bird rate payment must be received by 8th April. You may cancel up to 24th April but there is a \$100 cancellation fee for cancellations received after 8th April. Your fee will be refunded less \$100, or you may send a substitute delegate at no charge. After 24th April no cancellations will be accepted, but you are welcome to send a substitute delegate.

UNABLE TO ATTEND BUT INTERESTED IN FUTURE COURSES?

For more information on this or other courses on alternative sweeteners and sugar reduction, including customized in-house training, email info@sweetenerguru.com

WHAT PREVIOUS DELEGATES SAID.....

Great presentation!

Enjoyed tasting different samples and got sense on potency and intensity.

I liked tasting samples, I liked having the history as well.

Tastings were very helpful.

Excellent course overall. Really enjoyed it. Thanks everyone.

Outstanding course! Excellent instructors!!

Pace of class was good and had a good level of information.

I really enjoyed this learning experience.

Great course. Stayed very engaged.

This was an excellent review - very comprehensive and presented very well.