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

**High-Potency Sweeteners – Low-Calorie Solutions**

Unique hands-on training

A strictly-limited number of places for this acclaimed course at
Merlin Development, Plymouth, MN
October 9 & 10, 2019

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 high-potency sweeteners (HPS) have a key role to play, but are ill-understood - especially the newer candidates like stevia and monk fruit. What are their properties? How to get the best taste? This course provides answers in a complete introduction to all commercially-important HPS.

**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 HPS** - strengths, weaknesses and reasons for success
- **see the advantages - and limits - of blended HPS and synergy**
- **better appreciate how to formulate with today’s HPS**
- **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 whose business and passion is sweeteners:

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

**Melanie Goulson** (General Manager, Merlin Development Inc., formerly with Cargill Inc.) has a wealth of practical formulation experience from more than three decades as a key NPD Manager.
Dr John Fry

John Fry is an internationally-known expert on high-potency sweeteners. Since 1997 he has directed Connect Consulting, one of the world’s foremost technical resources for alternative 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, a Professional Member of the Institute of Food Technologists and a long-time member of the International Society of Beverage Technologists.
Melanie Goulson

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

Melanie has been an innovator and technical leader in the sweetener space since 2001. She was a key contributor to the team from Cargill and Coca-Cola that established food grade stevia leaf extract in 2008, 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 and 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 at St. Catherine University, St Paul, MN.
High-Potency Sweeteners – Low-Calorie Solutions

Agenda, approximate timings

Tastings of sweeteners/blends will be conducted throughout the course

DAY 1, October 9th, 2019

10:00 am  Refreshments & registration

10:30 am  Welcome and Introduction

10:40 am  **People, Sweetness and Sweeteners:** how we sense sweetness, human variation in sweet perception, using concentration-response curves, understanding potency

11:40 am  **Sweetness Potentiators:** what they are, how they work

12:00 – 12:45 pm Lunch

12:45 pm  **Measuring Sweetness:** how to determine sweetness intensity (presentation and practical exercise)

2:00 pm  **Stevia 1:** source, history, composition, understanding different commercial products, what to expect next

2:50 pm  Refreshment Break

3:10 pm  **Stevia 2:** key properties, solubility, stability, formulating with steviol glycosides

3:40 pm  **How to replace sugar:** practical issues

4:20 pm  **Other Natural High-Potency Sweeteners:** monk fruit, thaumatin, glycyrrhizin, brazzein, monatin, structures, key properties

4:50 – 5:00 pm Q&A, close for the day
DAY 2, October 10th, 2019

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

11:00 am  Blending Sweeteners: quantitative & qualitative synergy, stability, commercial blends, aspartame-acesulfame salt

11:45 – 12:30 pm  Lunch

12:30 pm  Lab-based practical exercises: blending sweeteners, managing sweet-sour balance, sweetening dairy products

2:00 pm  Sweetener safety: how safety is established, the Acceptable Daily Intake, examining some myths

3:00 pm  Q&A, Wrap-Up

Demonstrations include:

Stevioside, Rebaudioside A, Rebaudioside M, Monk Fruit, Thaumatin, Glycyrrhizin, Saccharin, Aspartame, Acesulfame-K, Sucralose, Neotame, Advantame, NHDC, Aspartame-acesulfame salt….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**

Merlin Development, Inc.
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 advance course information email info@sweetenerguru.com

**SUGGESTED HOTELS**

Sheraton Minneapolis West Hotel

Country Inn & Suites by Radisson
https://www.countryinns.com/plymouth-hotel-mn-55447/mnmouth

Hotel Landing
https://www.thehotellanding
TO RESERVE A PLACE
To pay with a credit card, call Chad Burgess at Merlin on 763 475 0224.

Need an invoice? Email merlin@merlindevelopment.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 $1250 and is available until 8th September 2019. Thereafter the full fee is $1500.

To qualify for Early Bird rate payment must be received by 8th September.
You may cancel up to 22nd September but there is a $100 cancellation fee for cancellations received after 8th September. Your fee will be refunded less $100, or you may send a substitute delegate at no charge. After 22nd September 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.

Excellent course overall. Really enjoyed it. Thanks everyone.

Outstanding course! Excellent instructors!!

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

Tastings were very helpful.

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

Great course. Stayed very engaged.

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

I really enjoyed this learning experience.