

Technology & Creativity for Sensory Excellence

Flavorcon will present the latest ingredients, tools, technical knowledge, development methods and creative insights for sensory success.

The global packaged food market is expanding at a compound annual growth rate (CAGR) of 4.5% and will achieve more than \$3 trillion^a in revenue by 2020, according to an Allied Market Research analysis. North America will continue to be the largest single generator of revenue during the forecast period, though Asia Pacific will be the fastest-growing region, expanding at a CAGR of 5.4%. Global growth will be led by demand in non-alcoholic beverages, baked goods, convenience foods and healthy options. The global beverage market alone is forecast to grow at a CAGR of 4.6%, totaling \$1,347 billion^b by 2017.



Connecting marketing, sensory and creativity will lead to flavor, food and beverage success.

But capturing this growth is difficult. Nielsen research^c indicates that 63% of consumers like new product introductions and that 57% purchased a new product during their last shopping trip. Yet the Harvard Business Review^d has put the failure rate of new products at 60–80%.

Meanwhile, products introduced into the retail grocery channel fail at a rate of 70–80%, according to figures cited by the University of Toronto. While the top 20 U.S. food companies

^awww.alliedmarketresearch.com

^bwww.companiesandmarkets.com

^cwww.nielsen.com

^d<https://hbr.org>

Flavorcon 2015 Schedule at a Glance

Presented by *Perfumer & Flavorist* magazine, *Flavorcon* 2015 (www.Flavorcon.com)



includes a tabletop exhibition in addition to in-depth conference sessions from leading industry experts. The conference is uniquely tailored for professionals involved in the development of flavors and food & beverage products. Registration is now open.

- Dates: November 15–17, 2015
- Location: Borgata Hotel Casino & Spa in Atlantic City, New Jersey

Sunday, November 15

- Cocktail Reception
- Tabletop Exhibition

Monday, November 16

- Continental Breakfast
- Tabletop Exhibition
- Conference Sessions
- Lunch
- Dinner

Tuesday, November 17

- Continental Breakfast
- Tabletop Exhibition
- Conference Sessions
- Lunch



enjoy a success rate of 76%, the bottom 20,000 food companies succeed at a rate of just 11.6%. How can flavor companies and product developers optimize their odds of success?

According to *Flavorcon* 2015 speaker Barbara Busch (SENSANALYSIS), the low success rate of new product development (NPD) shows that too few products perform as expected. To increase market success, development teams can establish a crucial linchpin between sensory science and market research by giving consumers a say at the development stage.

Sensory creativity is another crucial tool in successful product development. *Flavorcon* speaker Marie Wright, vice president and chief global flavorist at ADM/WILD Flavors and Specialty Ingredients, says that the flavor industry prides itself on creativity, but that the changing business model has altered that atmosphere. Wright believes that organizations can bridge creativity with market success.

To illustrate her point, Wright will present a talk that mixes creative insights with a fun-filled team-building creative exercise—with the goal of producing the “Taste of *Flavorcon*” in cocktail form. In essence, this will be an exercise in collaboration, creativity and design.

Technical and Sensory Impacts of Clean Labels

Clean label is the most important trend driving new product development today, according to Lu Ann Williams, director of innovation, Innova Market Insights. The *Flavorcon* speaker notes that clean label has evolved over the past eight years from a drive by retailers for more simplicity to consumer-driven demand for much more transparency. Williams will discuss the latest aspects of clean/clear label and highlight the impact on flavors.

Propylene glycol, a key carrier for the flavor industry, is one material that has been attacked in the media. *Flavorcon* speaker Steve Hurff, vice president of marketing and sales at DuPont Tate & Lyle Bio Products, will discuss propanediol, a non-petroleum-derived alternative to propylene glycol and glycerin. Hurff will report findings on various technical studies showing the performance of propanediol as a flavor carrier, including its solubility properties, preservative efficacy and flavor enhancement of some types of flavor chemicals.



Clean label is the top food trend of 2015.

Flavorcon Focus on Ingredients



The 2015 *Flavorcon* will include a supplier tabletop exhibition (see below), in addition to several sessions focused on materials for the flavor industry.

John Wright will lead a tasting/smelling session of interesting aromatic materials and discuss their application in flavors. Meanwhile, Judith Michalski (abelei flavors) will lead an interactive ingredient tasting panel for novel flavor materials. Products Michalski will present include 2-pentyl thiophene (FEMA# 4387), 1-(2-furfurylthio) propanone (FEMA# 4676), 4-methyl-2-(1-phenethyl)-1,3-dioxolane (FEMA# 4595) and ethyl-4,7-octadienoate (FEMA# 3682), among others.

Giovanni Battistini (Firmenich) will discuss the delivery of taste and nutrition with sustainable marine protein hydrolysates (MPH), or marine peptides. Emerging science is showing how MPH, in very low concentrations, can complement whey proteins to enhance their nutritional value and functionality—as well as effectively manage post-prandial glycemic index, support muscle growth and recovery, and even improve and prolong satiety. Finally, the *Flavorcon* tabletop exhibition will include:

- Bedoukian Research
- Berje Inc.
- Bontoux Organics, Inc.
- Citrus and Allied Essences Ltd.
- DuPont Tate & Lyle Bio Products
- Firmenich
- Florida Chemical Company, Inc.
- Fruatrom F&F Ingredients
- Gusmer Enterprises, Inc.
- JNC America Inc.
- Kalsec
- Müller USA / AIC
- Natural Advantage
- Natural Taste Consulting
- Omega Ingredients Ltd.
- Renessenz
- Robertet
- Rudolph Research Analytical
- Senomyx, Inc.
- Shank's Extracts, Inc.
- Sigma - Aldrich
- Synergy Flavors
- Teawolf

As of August 2015; for latest additions, visit www.Flavorcon.com/sponsors/

Computational Cuisine: Digital Breakthroughs in Sensory Design



What can a computer teach the food and beverage industry about sensory creativity?

Can computing reinvent food? It already has. IBM's Cognitive Cooking project scanned millions of recipes, chemical compositions and taste profiles of ingredients, extracted the information and analyzed the connections among recipes, ingredients and psychophysical aspects of flavor perception.

Cognitive Cooking has so far yielded a food truck featuring Chef Watson's own recipes, an app and a book. During *Flavorcon* 2015, IBM Fellow and Research Lead Krishna Ratakonda will discuss the role of big data in boosting creativity, while offering examples of Chef Watson's innovations and commercial applications in the flavor and fragrance industry.

New Insights: Sweet Taste Mechanisms

Why do people prefer the taste of sugars over sweeteners? There may be an answer. The detection of sugars and non-caloric sweeteners begins in specialized taste bud cells in the tongue. During *Flavorcon* Robert Margolskee, director and president of the Monell Chemical Senses Center, will share recent studies that indicate that different receptor signaling pathways underlie the detection of sweeteners vs. sugars.



New insights into the mechanisms of sweet taste are decoding consumer liking.

The T1R2/T1R3 sweet taste receptor detects and responds to all kinds of sweet substances, but in the absence of that receptor, there is a second pathway that responds only to sugars. New results indicate that this second pathway may be responsible for the unique, highly preferred taste of sugars over sweeteners.

Are Tastes and Smells Interchangeable?

How do sweet and bitter aromas interact with sweet and bitter tastes? Recent research has clarified the taste-smell interactions in the brain. Signals from taste receptor cells interact in the brain with signals from olfactory neurons. These interactions between taste and smell are important for the perception of flavor. During *Flavorcon* Paul Wise, associate member of the Monell Chemical Senses Center, will discuss ideas regarding flavor interaction and present original data on how "sweet" and "bitter" aromas interact with sweet and bitter tastes.



How do taste and smell interact?

Heat & Savory



Creating distinct, nuanced savory and spicy profiles requires technical know-how.

Flavorcon presenter Dolf DeRovira (Flavor Dynamics) will discuss the creative and technical aspects of meat and savory flavoring systems, which represent a market of more than \$8.6 billion, according to market data company RTS. DeRovira will discuss the ingredients, microbiological considerations and labeling of meat, dairy and seafood flavors, while also reviewing key chemistries and, of course, the Maillard reaction.

Meanwhile, Polly Barrett, director of product applications and sensory sciences at Kalsec Inc., will explore nuances in spicy profiles. As she notes, heat is more than a one-size-fits-all chili pepper. Food manufacturers are looking for creative ways to differentiate their products, while meeting specific labeling, nutritional and economic requirements. As consumer desire increases for food and beverages with more complex and varied heat profiles, the array of innovative heat management tools is expanding to meet this need.

Barrett's session will focus on how the human body responds to pungency, sources of spiciness and novel ways to add dimension to food using heat. Technical information will include how to measure pungency and techniques to improve consistency during manufacturing. Hands-on sampling will include a trigeminal nerve demonstration and a comparison of heat in different food matrices.

For additional details, visit www.Flavorcon.com.

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