

# Flavorcon Highlights: Unusual Flavor Ingredients, Biotech and More

The debut of *P&F*'s two-day flavor conference in New Jersey engaged all of the senses.

More than 350 attendees from the flavor and consumer product industries gained technical and sensory insights during the debut of *Flavorcon* ([www.flavorcon.com](http://www.flavorcon.com)), which was presented by *Perfumer & Flavorist* ([www.perfumerflavorist.com](http://www.perfumerflavorist.com)) and held at the Borgata Hotel Casino & Spa in Atlantic City, New Jersey, on Nov. 18-19, 2013.

After *P&F*'s Editor in Chief, Jeb Gleason-Allured, officially welcomed the attendees and guest speakers, the first session of the two-day conference began with an interactive tasting panel on new and unusual flavor ingredients. Read more about the session led by Judith Michalski on page 50.

## "Flavor Bites" Brought to Life

John Wright, author of *P&F*'s "Flavor Bites" column, offered strategies for flavorists, such as the benefits of working in boxes of product category groups, flavor types and specific geographical markets, as well as radical innovation (page 20). He illustrated entrepreneurial methodology, notably his flavor-oriented version of "pirate" solutions, which is a nod to Steve Job's methodology at Apple Inc. True to its name, the session also included an evaluation of a number of flavor ingredients on blotters, including rose oxide, nerol oxide, dec-9-en-2-one, *cis*-6-nonenol and 2,5-dimethyl-6,7-dihydro-5H-cyclopentapyrazine.

## Flavor Delivery

Robert Sobel, vice president of research, quality and innovation at FONA, talked about the merits of flavor encapsulation, which was defined as the process of enclosing a flavoring ingredient within a layer of coating or a shell by chemical or physical processes. Encapsulation's benefits included flavor retention, staving off flavor degradation and enhanced product performance. Sobel, in offering examples of commercial applications that use microencapsulated flavor, spoke about an ice cream that changes its flavor profile from vanilla to cherry as it is consumed. The application uses a lipid-encapsulated cherry flavor that releases when exposed to body heat. Sobel also talked about flavor-changing chewing gum and how one can use different forms of microencapsulation to vary flavor release. He also noted the most common flavor change occurs between contrasting flavors such as berry and mint. For instance, he discussed Dentyne *Ice Cool Frost*<sup>a</sup> with its alternating burst of sweetness (aspartame) and a cooling sensation (polypols) and mint flavor.

Sobel explained that the timed release of the cooling sensation of menthol or heating sensation of cinnamic aldehyde is created by coating small (0.5 micron) particles with gum, wax, or other water-insoluble substances. Other applications included *Sipahh Straws*<sup>b</sup>, which offers flavor delivery through a straw and



Gerard Mosciano offered his perspective on a flavor material (center) as (from left) Mike Fasano (David Michael & Co.), Cyndie Lipka (Bell), Robert Pan (Symrise) and Alpa Roman (FFS) looked on.



Robert Sobel (FONA) spoke about flavor encapsulation at Flavorcon.



Adam Schreier (foreground; Kerry Ingredients & Flavours) offered the audience a sampling of his culinary creations; Harshad Patel (also Kerry) spoke leading up to Schreier's presentation.

<sup>a</sup>Dentyne is a registered trademark of Mondelez International  
<sup>b</sup>Sipahh Straws is a trademark of Unistraw International Limited.



The presentation "Reaction Flavors in Action: Where the Sciences of Food, Cooking and Flavor Meet" included a hands-on taste test.



Greg McCollum (USDA, Agricultural Research Service, US Horticultural Research Laboratory), spoke about how to keep citrus sustainable amid the threat of huanglongbing "greening" disease in Florida.



Robert Pan (Symrise) evaluated a raw material during a panel discussion; read more about this panel in "Organoleptic Characteristics of Flavor Materials" on page 50 in this month's issue.



Peter Schieberle (Technical University of Munich) discussed "Flavor Value: Chemistry Counts" and how flavor compounds affect aroma signature and sensory preference; more photos at [www.facebook.com/perfumerflavorist](http://www.facebook.com/perfumerflavorist).



John Wright spoke about "pirate solutions" for ambitious flavorists.



From left: Matthias Guentert (Symrise) and Jeannette Haviland-Jones (Human Emotions Lab, Department of Psychology, Rutgers-The State University of New Jersey) closed the two-day session speaking about the relationship between flavor and human moods. For instance, clinical studies revealed specific "peppermint scent memories" and more according to Haviland-Jones.

contains beads that are encapsulated flavors with a sweetener. The straw flavors a single serving of milk. Sobel also discussed the merits of microencapsulation for dry mix beverages.

## Biotech and Flavor

During the "Biotech and the Flavorist's Palette" panel, Peter van der Schaft, technical director of Axxence Aromatic GmbH, discussed "classical" versus GMO-based biotechnology. For example, he noted that the precursor molecule ferulic acid results in the fermentation product vanillin. A material like

fusel oil, when used as a precursor starter material, results in the natural product propanol. Another natural precursor molecule, potato, results in 2,4-decadienal. Reshma Shetty, co-founder of Ginkgo BioWorks Inc., gave examples of cultured ingredients grouped in various product categories such as organic acids, terpenes, alcohols and esters, nucleoside phosphates, phenylpropanoids and enzymes.



From left: Steve Pringle and David Sitko (both Renesseenz), Gwen Buffinga (National Flavors) and Marcell Salonga (Silesia Flavors).



From left: Richard Panzarasa (Panzarasa Group), Jeb Gleason-Allured (P&F) and Michael Fasano (David Michael & Co.).



From left: Pia Henzi (MCI Miritz), Jeb Gleason-Allured and Paige Crist (both P&F), Chris English and Jennifer Romano (both Bontoux), and Diane Davis (WFFC/NAFFS/GSA).



From left: Siobhan Twohig (Pearlchem), Marcell Salonga (Silesia Flavors), Christy Sapp (Pinova) and Sharon Tortola (IFF).

Gleason-Allured moderated a panel discussion on “Applied Taste-Active Compounds,” during which Rudy Fritsch, senior vice president of flavors and nutrition, Chromocell, spoke about modes of taste active compounds, the challenge of finding receptor cells and the use of technology to identify these receptor cells. Senomyx offered a taste test of its products, and Donald Karanewsky, senior vice president and chief scientific officer at Senomyx, spoke about how S9632, although not inherently sweet, is a potent modifier of sucrose in the receptor assay and in taste tests.

### Making Flavors Cool

Markus Eckert, senior vice president of innovation at Kerry Ingredients & Flavors, moderated a panel called “Applied Trigeminal Sensory Materials,” during which the discussion and tasting session offered insights on tingling, cooling, warming, burning, numbing, astringency and mouthfeel agents in flavors and food systems. The samples available to the audience included a variety of sensory-enhanced food items including gummies that featured Renesseenz’s cooling agent WS-12 (synonym: 1R,2S,5R)-N-(4-methoxyphenyl)-5-methyl-2-(1-methylethyl)cyclohexanecarboxamide; FEMA# 4681, CAS# 68489-09-8).

### Cooking Up Flavor

The second day of the conference featured “Reaction Flavors in Action: Where the Sciences of Food, Cooking and Flavor

Meet,” during which Harshad Patel, director of R&D culinary and flavors at Kerry Ingredients & Flavours, offered the audience information on how heating food creates flavorful chemicals upon the breakdown and reaction of carbohydrates, proteins, peptides, amino acids, lipids and vitamins. Adam Schreier, director of culinary innovation at Kerry Ingredients & Flavours, offered a taste test of several dishes, as well as a first-hand perspective on how research chefs and reaction flavorists collaborate on projects.

### Flavor Regulations and the Real Definition of “Natural”

John Hallagan, from The Law Office of John B. Hallagan P.C., spoke about flavor regulations for flavorists and product developers. He explained the nuances of generally recognized as safe (GRAS) materials. The U.S. Food and Drug Administration (FDA) authority supersedes non-FDA GRAS determinations, he said. About 1,000 flavoring substances and adjuvants are “approved” by the FDA. Halligan added there are no U.S. regulatory definitions of “natural” for food, but there is an FDA definition of a natural flavor, FDA-21 CFR 101.22(a)(3).

The final sessions of *Flavorcon* featured presentations on how to keep citrus sustainable amid greening disease, and how flavor compounds affect aroma signature and sensory preference, and an examination of flavor and emotion.

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