



### Join us at Flavor University!

Flavor University classes provide food professionals with a practical understanding of the creation and use of flavors in food and beverage product development. These complimentary classes fill quickly, so register today!

Visit [flavoruniversity.com](http://flavoruniversity.com) or call 630.578.8600 for complete course details.

#### Course Schedule

We recommend completion of Flavor 101® in preparation for 201-level seminars.

FALL 2014  
GENEVA, ILLINOIS  
Flavor 101®  
Nov. 10 - 11

#### New Special Marketing Session!

FONA Trend Exploration  
Nov. 10

For upcoming spring 2015 courses, please refer to [flavoruniversity.com](http://flavoruniversity.com).



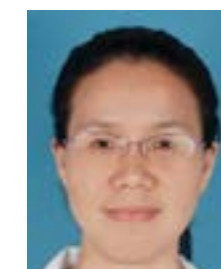
# FLAVOR news

CONFECTION / GRAIN / BEVERAGE / MARKET DEVELOPMENT

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## Faces of FONA



#### NEW HIRE Tracy Ni, Food Scientist — China Innovation Center

We're happy to introduce Tracy Ni, a Food Scientist based at our China Innovation Center in Guangzhou. Tracy has an extensive product development background with more than 10 years of experience working with a variety of sweet, confectionery, prepared foods and beverage applications. We are excited to have Tracy join our flavor experts to collaborate on new product innovations with our customers in China and Southeast Asia. Tracy holds a B.S. in food science and technology from Huazhong Agriculture University.



#### PROMOTION Jason Mittelheuser, Senior Applications Technologist — Beverage

Jason is an expert in taste modification and excels with dry nutritional, juice/juice drinks and dairy/dairy alternatives. He continues to build strong relationships with our valued partners and has also helped develop a protein and BCAA library. Jason has a B.S. in professional chemistry from Northern Illinois University and is an American Chemical Society certified chemist.

### Award

## FONA Named Best Company to Work for in Chicago

FONA International took home the top honor at this year's 101 Best and Brightest Companies to Work For competition, being named Chicago's Best of the Best for the second time in four years.

Luke Slawek, President of FONA, said, "This award says wonderful things about the community we've built here at FONA and the exciting energy built for our bright future."

The 101 Best and Brightest Companies to Work For award honors local companies that recognize employees as their greatest asset. Companies are evaluated based on their competency in the areas of communication, community initiatives, compensation and benefits, diversity and multiculturalism, employee education and development, employee engagement and commitment, recognition and retention, recruitment and selection and work-life balance. The Best of the Best award is presented to the overall winner that excels in all of these categories.



## FLAVOR news

FONA INTERNATIONAL'S QUARTERLY NEWSLETTER



### Free trend reports on topics important to you!

Receive weekly trend reports in your newsfeed when you like us on Facebook.

## 8 WAYS

# ENCAPSULATION CAN IMPROVE YOUR FLAVORS



THERE ARE MANY TYPES OF ENCAPSULATION TECHNOLOGIES, such as spray drying and glass encapsulation, and each type has its own set of target applications and benefits. Michael Gundlach of our Research & Innovation team explains how these important benefits can help your flavor and finished product performance in a variety of ways.

Story continues inside....

### IN THIS ISSUE:

8 Benefits of Encapsulation

STAY IN THE LOOP  
Keep up-to-date on our latest flavor events and news. Send your email address to [signup@fona.com](mailto:signup@fona.com).

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## Chairman's Corner



God is so good! He has blessed us with another year of family, friends and FONA! It has been an exciting year of continued international expansion, amazing partnerships and great steps forward in becoming the very best organization we can be. We are so grateful for our valued customers and the opportunities we have to serve you each day.

On behalf of the entire FONA team, thank you for your trust in us. We love working with you and achieving shared successes. We are committed to delivering you the very best in product, service and safety.

My best to you and your families during this season of thanksgiving and gratitude.

Sincerely,

Joe Slawek  
Chairman and CEO





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# 8 Ways Encapsulation Can Improve Your Flavors

Encapsulation technologies bring many benefits to the product development process. Here is a look at eight ways they can protect your flavors and improve your products.

## WHAT IS MICROENCAPSULATION?

It's a process of covering individual flavor particles with a coating for protection against a broad range of environmental factors. It's like wrapping a protective shell around a core or grouping of flavor materials.

Microencapsulation is often used to provide uniform taste, time-release tastes and smells, colorings, increased shelf-life, improved taste, and protection from harsh conditions (e.g. heat) during production of the finished product.

1

### INCREASED SHELF-LIFE STABILITY

Encapsulation prevents flavor ingredients from interacting with other product elements, which can change a food's color, texture or other properties.

2

### IMPROVED HEAT, OXIDATION & WATER RESISTANCE

Many external factors can degrade a flavor, making encapsulation critical because it:

- Protects from processing heat, reducing volatility/evaporation of molecules.
- Protects flavor from degradation caused by air.
- Protects against water damage. The spray chilling method of encapsulation is particularly effective in this area.



3

### PROVIDES TEXTURE/ MOUTHFEEL IN FINISHED PRODUCTS

- Coatings applied to flavor ingredients can provide texture when consumed (melted), as you find in refrigerated biscuits, microwave popcorn and even ice cream.
- Encapsulation can also create inclusions for products such as chocolates, gum, panned candies, ice creams, cake mixes or frostings.

4

### CUSTOMIZATION

Products can be coated with diverse secondary shell materials customized to the finished product application.

5

### IMPROVED FLAVOR IMPACT AND PROFILE

When a liquid flavor is incorporated into food material during processing, part of the flavor is driven off, creating an altered flavor that is not consistent with the original formulation. Using an encapsulated flavor, rather than a liquid form, prevents this loss and results in a flavor that stays truer to the originally designed profile.

6

### FLAVOR RELEASE AT LOW-TO-MID TEMPERATURES

Flavor can be developed to release at lower temperatures when encapsulation technologies are used. This is useful in products when it is advantageous to deliver a flavor experience at the point of consumption.



#### CONTRIBUTOR

**Michael Gundlach** is a scientist on FONA's Research & Innovation team where he focuses on the collaborative development of microencapsulation technology for flavor protection and delivery, and

on flavor-based solutions for modifying taste perception. Additionally, Michael leads an area of proactive research exploring how flavor compounds interact with different food materials, including proteins and fats. Michael received his B.S. in neuroscience and physics from The University of Chicago, and is currently a graduate student at Northwestern University's Kellogg School of Management and Robert R. McCormick School of Engineering and Applied Science.

7

### MANUFACTURED IN MULTIPLE PARTICLE SIZES

- Small particles can be manufactured to fit in a certain machine or large particles that don't dust, or a combination of the two to extend perception of flavor duration.
- Large particles (which dissolve faster than small ones) are also ideal for products such as protein powders where consumers seek quick, easy dissolution in liquid.
- Very precise, uniform shell coatings can be created on the food ingredients. This enables them to be released in a uniform manner, producing even and reproducible flavor experiences.

8

### REASON TO BELIEVE

Encapsulation's ability to deliver diverse colors provides consumers with visual reasons to believe in a flavor experience (e.g. a bright green lime flavor instead of a colorless one).



FONA's in-house equipment, including this Büchi B-290 Spray Drier and Chiller, allows quick and efficient pilot-size runs for product development and faster commercialization.



#### Read More

To learn more about four particular types of encapsulation and which applications they're best suited for, download Michael's complete white paper here or find it in the Resource Center on our website: [fona.com](http://fona.com) > resource center > white papers > Benefits of Encapsulation.

## EXPERTISE YOU CAN TRUST

Let FONA's flavor and product development experts help you find the solution that works best for your particular product, while working through the unique set of characteristics and challenges presented. We understand how to integrate the complexities of flavor with your brand development, technical requirements, and regulatory needs to deliver a complete taste solution.

CONTACT OUR SALES SERVICE DEPARTMENT at 630.578.8600 to request a flavor sample or visit [www.fona.com](http://www.fona.com).

