

by Tara McHugh

## Processing Growth Opportunities

This year's IFT annual event promises to be both exciting and educational, providing an opportunity to grow our understanding of food processing. The theme "Feed Your Future" has relevance in that food processing innovation is critical to advancing the science of food and feeding the future.

For those interested in the intersection between food processing and food disruption, there are several IFTNEXT sessions during the annual meeting that promise to be eye-opening. These are the IFTNEXT Food Disruption Challenge™ Pitch Competition on Tuesday, June 4, at 8:30 a.m. and an IFTNEXT stage presentation titled "The Future of Food Innovation—Commercialization, Supply Chain" on Tuesday, June 4, at 4 p.m. Another symposium focused on this intersection is session 106, "Food Startups and the Risks They Pose," which will be held at 10:30 a.m. on Monday, June 3. In addition, an IFTNEXT stage session at 3 p.m. on Monday, June 3, will focus on "Building Effective Ecosystem Partnerships to Address Key Issues in Sub-Saharan Africa."

Plant-based milk processing was the topic of the December 2018 Processing column, and several IFT19 sessions will focus on plant protein processing, including session 108, "Plant Protein Ingredients: Recent Advances in Food Processing" at 10:30 a.m. on Monday, June 3, and session 228, "Future (Plant) Protein Processing," at 2:15 p.m. on Tuesday, June 4. Session 122, "The Plant-Based Meat Revolution," and session 219, "Chasing the Perfect Bite: Advancements in the Alternative Meat Landscape Technology," scheduled for Monday, June 3, at 3:30 p.m. and Tuesday, June 4, at 12:30 p.m., respectively, will highlight recent efforts in processing meat alternatives.

Session 209, "Shaking It Up: How to Improve Quality and Marketability of Shelf-Stable Foods," at 10:30 a.m. on Tuesday, June 4, promises to be an exciting session on the processing of new foods.

Nonthermal food processing is a major focus area for this year's meeting. Sessions include "Twenty Years of Advancement in Nonthermal Food Processing Technologies," part 1 of which occurs at 10:30 a.m. on Monday, June 3 (session 111), with part 2 (session 121) at 3:30 p.m. that day, as well as "Emergent Non-Thermal Food Preservation Technologies" (session 220) and "Intense Pulsed Light Technology" (session 235) on Tuesday, June 4, at 12:30 p.m. and 2:15 p.m., respectively. »»

## Exhibitor Information

Here's a look at some of the processing-related exhibits that will be on display at the IFT19 Food Expo.

**The *Sani-Pro* spiral element product line** offered by Koch Membrane Systems for food, beverage, and life science markets features elements designed to operate under higher pressure and to withstand harsh chemical cleanings without impacting performance or membrane life. Customers will also benefit from increased energy efficiency and overall productivity, driving down operating costs and risks of contamination. *Sani-Pro* sanitary spirals are drop-in replacements, available in all common product configurations for applications such as protein concentration and purification, fermentation broth clarification, product recovery, gelatin concentration, juice color concentration, sugar separations, and sweetener clarification. All *Sani-Pro* spirals are FDA, 3A, EU, and halal compliant. Koch Membrane Systems has more than 50 years' experience engineering solutions in the advanced membrane filtration industry. *Koch Membrane Systems, Booth 4651*



**The newly developed, laboratory-scale FT74XA HTST/UHT service unit** is a versatile system that offers increased flow, heat transfer area, heating capacity, and space optimization. Its new features include an ArmBUS system that is easily adaptable for different configurations and offers improved process control and response times as well as a tubular heat

exchanger that is self-draining and provides higher thermal efficiency and increased CIP effectiveness. Other features include a lower hopper to make filling and monitoring easier and quicker; a CIP pump within the unit frame that has higher flow rates and is easy to connect in-line; and a preheat boost that ensures closer control over preheat temperature, lower response time to set point changes, and rapid start-up. Armfield's services include full design, manufacture, delivery, installation, commissioning, and training across the company's portfolio. *Armfield, Booth 3849*

Additional nonthermal processing sessions on safety and validation will be held on Tuesday, June 4, at 10:30 a.m. and 12:30 p.m., respectively. "Advances in Pulsed Electric Field Processing Toward Future Sustainable, Healthy, and Safe Food Production" (session 214) will be held on Tuesday, June 4, at 12:30 p.m. Then, on Wednesday, June 5, there will be a session on "Nonthermal Processing with Light and Plasma: Microbes and Mycotoxins" (session 301) and a session on "Ultraviolet Treatment of Beverages" (session 312), both beginning at 8:30 a.m. Several of the highlighted technologies have been written about in previous Processing columns, including high pressure (May 2016), cold plasma (February 2016), and pulsed electric field (January 2016).

New and interesting topics will be highlighted in a session titled "Leveraging Big Data and Artificial Intelligence for Ushering Innovations from Farm to Fork" (session 115), which is scheduled for 10:30 a.m. on Monday, June 3, and "Using Robotics for Safe and Sustainable Food Production," which will take place on the IFTNEXT stage at 1 p.m. on Wednesday, June 5. Both of these topics expand upon the November 2017 Processing column on robotics in food processing.

Since innovative food processing often involves intellectual property, the topic of patenting will be highlighted in a session at 12:15 p.m. on Monday, June 3; it is titled "Patents: Career Development and Business Intelligence" and will take place at the IFT Central booth. Session 326 on "Emerging Food Processing and Packaging Technologies" will be held at 1:15 p.m. on Wednesday, June 5.

"Solving The Food Waste Disgrace" was the topic of the August 2018 Processing column, and that theme will be addressed in session 125 titled "Food Loss and Waste Minimization in Fruit and Vegetable Chains" at 3:30 p.m. on Monday, June 3. A session titled "3-D Food Printing: State of Art, Future Prospects, and Consumer Acceptance" (session 128) will be held concurrently. 3-D food printing was the topic of the food processing column in April 2017.

Another topic of continued importance at this year's meeting is the relationship between processed foods and health, which was highlighted in the July 2018 Processing column titled "Is Healthy Processed Food An Oxymoron?" On Tuesday, June 4, at

**With competencies ranging** from pilot plant testing and scale-up to engineering, process integration, automation, installation, training, and after-sales service, GEA Group is one of the largest suppliers of technology and solutions for the food processing industry. Clients put GEA solutions and equipment to use in a broad range of applications, including flavors, proteins, colors, stabilizers, and enzymes, in liquid and powder form. GEA's expertise includes extraction, mixing, clarification, filtration, homogenization, pasteurization, cleaning, product recovery, concentration, and drying. *GEA Group, Booth 2425*



**The new Macrowave Express-Series** drying system from Radio Frequency Co. combines the benefits of hot air impingement with radio frequency drying. It increases drying efficiency and line productivity while simultaneously reducing carbon emissions and water activity. The company points out that radio frequency energy allows products to heat uniformly, evaporating moisture in situ and forcing the escaping vapor to the product surface, where it is swept away by the impinged hot air, leaving the product uniformly dry. The moisture uniformity naturally creates a product with low water activity and eliminates checking and surface cracks that are sometimes created by hot air alone.

The company has also announced a new addition to its *Bantam-Series* air-cooled post-baking dryers: a more powerful two-zone design dubbed the *Double-Bantam*. It maintains the simple yet robust design of the single-zone dryers as well as lower capital and installation costs when compared to the company's larger *Ultra-Series Dryers*. *Radio Frequency Co., Booth 627*

**Thirtieth anniversary edition processors** in MicroThermics' line of small-scale UHT/HTST equipment feature advanced controls and automation and are easy to operate thanks to PCs, run-dry protection, centralized homogenizer controls, and more. MicroThermics ensures quality and durability with its tubular, plate, steam injection, and *Aseptiwave* microwave heating with in-line homogenizers, custom hold tubes, and filling options that include a fully automated aseptic laboratory filler. The MicroThermics product assortment ranges from entry-level processors to its flexible Development Series to custom and small-scale production processors. *(MicroThermics continued on p.109)*



10:30 a.m., session 201 titled “NOVA: Clearing Up the Confusion about Processed Food and Health” will be held to further learning and discussion in this area.

Two additional sessions worth highlighting are “Tribology in Food: Past, Present and Future” (session 223), which promises to explain the important role of friction and lubrication, at 12:30 p.m. on

Tuesday, June 4, and “Current Issues and Innovations in Commercial Brewing” (session 308) at 8:30 a.m. on Wednesday, June 5.

Finally, I would like to call your attention to the numerous outstanding and informative poster sessions. Posters also support increased understanding of food processing and provide the means to interact directly with the researchers

who performed the studies.

May we grow together in our understanding of food processing at this year’s annual event.



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The company has also increased the services of its Miniature Plant Trials lab, and in honor of its anniversary, it is offering special pricing on equipment. MicroThermics’ support services include training, Certified Operator Programs, preventive maintenance, tune-ups, repairs, and more. And finally, MicroThermics has created a new company, MTI BioScience, to service cannabis/CBD product processing. *MicroThermics, Booth 3112*



**RDSW-3SS retort** from Dixie Canner for R&D and specialty canning operations provides in-container sterilization and heat processing. The retort features a convex, hinged cover balanced to promote circulation and drainage and is machine-grooved for neoprene gaskets to ensure easy operation and long

gasket life. Construction with T-304 stainless steel offers rust resistance and encourages sanitation. Dixie retorts are sturdy and easily installed thanks to their three angled iron legs and 14 ready-arranged connections. Bonus features of the retort include cooling water inlets 4 inches below the overflow outlets. The unit is A.S.M.E.-registered for 60 psi working pressure. Dixie Canner reports that a recent installation of the *RDSW-3SS* system for cold brew coffee processing allowed the coffee, which comes in aluminum cans, to be quickly and efficiently sterilized on the company’s manufacturing line. *Dixie Canner, Booth 1119*



**Thin film evaporators** from LCI Corp. allow for continuous and reliable processing of heat-sensitive, viscous, foaming, or fouling materials. The short residence time and the open, low-pressure drop configurations allow for moisture removal without product degradation. The thin film technology is well-suited for processing products such as the following: cheese bases up to 65% total solids; sugar solutions to 99.9% total solids; fruit and vegetable purees to 55% total solids; and

shelf-stable food products. In addition, LCI’s Circle Feeder is an effective solution for difficult-to-feed materials. The company’s sanitary feeders are capable of metering a wide variety of ingredients that have issues with bridging or ratholing in traditional feeders. GMP-certified feeders are easy to clean and allow for continuous processing of bulk solid ingredients. *LCI Corp., Booth 3124 FT*