



THE FUTURE OF MICROWAVE/RF: FUNDAMENTALS, FEATURES & FOOD SAFETY

NOVEMBER 1-3, 2022



IMPI Fall Seminar
Presented by the International Microwave Power Institute
Hosted by Odyssey Technical Solutions
Kalahari Resort & Conventions, Round Rock, Texas, USA



FOOD SAFETY • NETWORKING • SOLID STATE COOKING • CASE STUDIES
MICROWAVE APPLICATIONS • FOOD COMPANY PROFESSIONALS • INDUSTRY LEADERS
SMART OVENS • TRENDS • CONSUMER INSIGHT • INNOVATION • SUSTAINABLE PACKAGING
BEST PRACTICES • REGULATORY UPDATES • MENU TRENDS
MICROWAVE MARKUP LANGUAGE (MML) • FOOD SERVICE



AGENDA

TUESDAY, NOVEMBER 1, 2022

- 2:00pm - 4:00pm **SOLID STATE RF ENERGY BUSINESS MEETING**
- 4:00pm - 4:45pm **TOUR ODYSSEY TECHNICAL SOLUTIONS, ROUND ROCK, TX**
- 5:30pm - 7:00pm **WELCOME RECEPTION**
Kalahari Resort, Salon F

WEDNESDAY, NOVEMBER 2, 2022

Zambezi/Nile Rooms

- 8:00am - 9:00am **CONTINENTAL BREAKFAST**
- 9:00am - 9:15am **WELCOME & OPENING REMARKS**
Odyssey Technical Solutions
- 9:15am - 10:00am **Future of Food: Data Driven Innovation and Emerging Trends.**
Kat Shear, Director of Innovation & Insights,
Datassential
- 
- Ever wonder how a trend goes from a fad to a menu staple? Datassential will take you through the art and science behind emerging trends such as plant based, personalization through wellness, and global cuisines through the scope of their syndicated tools. By capturing menus throughout the U.S., using consumer awareness and affinity, and machine learning technology the future of food is clearer than ever before.*
- 10:00am - 10:45am **New Technology for Consumer Microwave Ovens**
Eric F. Brown, Ph.D., Principal Research Scientist,
Conagra Brands
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- It seems possible that Solid-State Radio Frequency (RF) transistors will one day replace magnetrons in consumer microwave ovens. This review outlines the basics of Solid-State RF systems and the consumer ovens that are currently available. The food industry would be best served by learning more about this technology change and preparing for their products to be cooked using this type of equipment.*
- 10:45am - 11:00am **COFFEE BREAK**

WEDNESDAY, NOVEMBER 2, 2022, CONTINUED

11:00am - 11:45am

Advances in Solid State Cooking & the Advent of the Smart Kitchen 3.0

John Mastela, Vice President of Sales and Marketing, EliteRF;
John F. Gerling, President, Gerling Consulting



An overview of solid state RF technology in contrast to the legacy magnetron. Aspects like controllability, reliability, frequency ranges, and related "recipe-control" will be presented. It will be discussed how to apply the "solid state RF" advantages to improved cooking and heating applications at various "processed mass scales". Consequences for system and process design will be addressed. Furthermore, we will present a scalable "food description language", which is dubbed "microwave markup language (MML)" that enables a "push button, get food" operation on supporting solid state equipped microwave ovens.

11:45am - 12:15pm

ROUND TABLE DISCUSSION WITH MORNING PRESENTERS

12:15pm - 1:15pm

NETWORKING LUNCH

1:15pm - 1:45pm

Introduction to Nestlé Research on Sustainable Packaging Solutions

Gerhard Niederreiter, Ph.D., Head of the Institute of Packaging Sciences, Nestlé



This presentation will explore: Nestlé commitments for 2025 – 100% of our packaging has to be recyclable or reusable; Reasoned, development and achievement on sustainable packaging.

1:45pm - 2:15pm

Food Safety: Salmonella Initiatives, Microwave Use, and Validated Cooking Instructions

Selena Kremer-Caldwell, Ph.D., Sr. Microbiologist, USDA Food Safety and Inspection Service
Sterling Brown, Microbiologist, USDA Food Safety and Inspection Service



FSIS intends to propose to declare Salmonella an adulterant in raw breaded and stuffed raw chicken products at certain levels. FSIS has conducted consumer behavior research on these products to understand consumer practices. Data from past illness outbreaks continues to identify consumers self-reporting microwave use to cook these stuffed chicken products when the validated cooking instructions require oven use. FSIS continues to provide important microwave food safety information on the FSIS website and provide validated cooking instruction guidance to industry.

WEDNESDAY, NOVEMBER 2, 2022, CONTINUED

2:15pm - 5:00pm

Workshop: Industrial Food Safety Challenges and Solutions: Basic Principals & Case Studies

M. Sylvain Tissier, Food Development Manager, SAIREM



During the first part of this presentation, we will review a list of typical challenges such as microwave technology misconceptions, process adaptability, product susceptibility, frequency selectivity, cost etc.

During the second part of this presentation, we will present a number of case studies illustrating a number of challenges highlighted in the first part of this presentation and how we are able to overcome those.

A 15 Minute Coffee Break will be offered midway through the Workshop

6:30pm

GROUP DINNER

THURSDAY, NOVEMBER 3, 2022

Zambezi/Nile Rooms

8:00am - 9:00am

CONTINENTAL BREAKFAST

9:00am - 9:45am

Application of Microwaves to Vertical Vessels for Processing Food and Industrial Products

Lou A. Honary, Ph.D., President, Environmental Lubricants Manufacturing, Inc.



The application of microwaves to the processing of industrial greases was developed as a safer alternative to conventional methods prone to hazardous combustion. Volumetric heating using microwaves also improves product quality by precise regulation of process temperature and elimination of hot spots in the vessel. This presentation covers the process and products and the improvements to the technology over the last decade.

9:45am - 10:30am

Ensuring Microbiological Safety and Quality through Microwave power: Food and Laundry Applications

Onay Dogan, Ph.D., Postdoctoral Research Investigator, Texas Tech University



Foodborne and hospital-acquired illnesses pose a great burden on public health and food spoilage cause economic losses and damage to consumer trust, therefore; it is essential to provide innovative solutions to control the risks. The talk will focus on the applications of microwave technology to control pathogenic and spoilage microorganisms in a variety of food matrices, and laundry applications to reduce transmission of pathogens in hospital environments with examples from current and previous studies.

10:30 - 10:45am

COFFEE BREAK

THURSDAY, NOVEMBER 3, 2022, CONTINUED

10:45am - 11:30am

A New Fix for Food Safety

Don Stull, PE, MBA, Texas Tech University



Food safety remains a major concern for the food industry with ongoing recalls impacting companies and consumers. Economic impact due to food safety is a continuing large cost. Hospitalizations, illnesses and even death remain at high levels with many current interventions not providing safe food for customers. A new fix is needed.

11:30am - 12:00pm

PANEL: MICROWAVE/RF APPLICATIONS – WHAT’S NEXT?

12:00pm

CLOSING REMARKS & CONFERENCE CONCLUDES

Lunch will be available at Noon (Dine-In or Carry Out)

REGISTRATION

FALL SEMINAR (Circle one)

	Regular Registration
IMPI Member	\$650
Non-Member	\$750
Odyssey Employees	\$400
Students	\$200

Registration Fee Includes: All Sessions, Tour of Odyssey Technical Solutions, Welcome Reception, two Continental Breakfasts & Networking Luncheons, three Coffee Breaks, Post-Conference Access to Presentations.

ADD-ONS (Optional)

Group Dinner at local restaurant: \$50

[CLICK HERE TO REGISTER TODAY](#)

Hotel Rooms: Book your room at the [Kalahari Resort here](#).