

THE WAVE



The newsletter publication of the International Microwave Power Institute

November/December 2016



FOLLOWING SUCCESSFUL FALL SHORT COURSE, IMPI SETS SIGHTS ON 2017 PROGRAMMING

Over 50 industry professionals took part in IMPI's Fall Short Course, "A Roadmap to Microwavable Food Success" which was held October 25-27, 2016 in Philadelphia, PA, USA. Sponsored by the Campbell's Soup Company, the 2 day short course featured presentations on consumer behavior, packaging, microwave heating physics, FSMA, holistic waste reduction, nutrition, ingredients and product development and testing.

New this year, the short course featured live equipment demonstrations, such as the thermocouple hedgehog, infrared thermography and fiber-optic thermometry. Eighteen attendees took advantage of the pre-short course: Microwave 101: The Fundamentals of Microwave Heating. The event featured a Welcome Reception, networking luncheons and a group dinner at a popular local restaurant.

IMPI will close out our 2016 educational programming with a webinar on November 29th at 11am EST. Dr. Klaus Werner of the RF Energy Alliance will present a one hour webinar on "Solid-State Generation of RF and Microwave Energy and its Applications." The webinar will explore the fundamentals of solid state RF generation, the technologies involved, typically used system architectures, control schemes, as well as existing and future markets, the associated applications and the role of the RF Energy Alliance. *Continued on Page 3*

PRESIDENT'S MESSAGE

A recent publication "Not child's play: National estimates of microwave – related burn injuries among young children" (Lowell, G. & Quinlan, K., J Trauma Acute Care Surg, volume 81, number 4, 520 – 524, 2016) was sent to me by Randall Cooper, VP Technical Operations and Standards for AHAM (Association of Home Appliance Manufacturers). The authors examined the extent of scald injuries sustained by children between the age of 12 months and four years as a result of removing microwave heated foods from a microwave oven. Previous studies had shown the children as young as 18 months were able to open a microwave oven and remove its contents, sometimes causing severe scalds. The authors examined the NEISS (National Electronic Injury Surveillance System) database maintained by the Consumer Product Safety Commission,

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"A ROADMAP TO MICROWAVABLE FOOD SUCCESS" FALL SHORT COURSE



Clockwise from top left: Dr. Ric Gonzalez of Conagra Brands, Mr. Mark Watts of Campbell Soup Company, Mr. Darren Seifer of the NPD Group, Attendees enjoying the Welcome Reception in the Wine Room of the Penn's View Hotel, Mr. Steve Drucker of Droaster demonstrating the thermocouple hedgehog.

Cover Photo: Bob Schiffmann teaching the Mw 101 Pre-Short Course on October 25, 2017.

IMPI PROGRAMMING 2017 *Continued from Page 1*

Our next major event will be [the 51st Annual Microwave Power Symposium \(IMPI 51\)](#) which will take place June 20-22, 2017 at the Sonesta Hotel Coconut Grove in Miami, Florida, USA.

The [Call for Papers is now available for download](#) and the deadline to submit an abstract is January 20, 2017. IMPI 51 will feature short courses, a Spotlight Session on Solid State Applications on June 20th followed by two full days of keynote, invited, panel, oral and poster presentations on a variety of topics including: Medical Applications, Food & Agriculture, Dielectric Properties, Industrial and RF Applications, Plasma, Chemistry, Food Science & Technology. A full list of topics and additional details can be found in the [Call for Papers](#).

The Technical Program Co-Chairmen for IMPI 51 are Dr. Ric Gonzalez of Conagra Brands and Dr. Graham Brodie of the University of Melbourne; Bob Schiffmann will serve as Chairman of the Food Science & Technology Program Committee. More details on IMPI 51 can be [found here](#).

IMPI is also holding a Spring Webinar Series (February, March, April) and a Fall Webinar Series (September and November). As a reminder, all webinars are offered FREE OF CHARGE as part of your IMPI membership. If you have a topic you would like us to cover, please send an email to molly.poisant@impi.org by December 1, 2016.

The 2017 Fall Short Course will take place next October. More details will be shared as they become available.

PRESIDENT MESSAGE *Continued from Page 1*

which collects information regarding all injuries treated in a nationally representative sample of approximately 100 Emergency Departments in the United States. In this case, the authors queried in the NEISS database and yearly increments from January 2002 through December 2012, focusing upon microwave related injuries to children in the age range of 12 months to four years. Their results indicated that approximately 11,000 children experienced microwave-related burns in that period, and of those, over 7000 were cases of children burned after accessing the contents of the microwave oven by themselves. A total of 1124 cases required hospitalization or transfer from the treating Emergency Department.

As to the previously mentioned study that children as young as 18 months can open a microwave oven, I can imagine a toddler wishing to help the parent who is preparing a meal, so the toddler opens the microwave oven door, only to have it spilled upon himself or herself. That's the basic scenario that's described throughout this paper.

This is obviously a serious problem, and one that needs to be addressed by every microwave oven manufacturer. It shouldn't be an enormous engineering task to prevent or make it extremely difficult for toddler to open the door of any microwave oven. AHAM is working with the UL 923 STP on ways to address this hazard, and in my discussion with Mr. Randall we considered whether there are any actions that IMPI can take to support this investigation. At the moment, there's much not much IMPI can do other than keep close contact with both AHAM and the UL to follow this situation. If you have other suggestions, I'd appreciate it if you would pass them on to me or to Molly.

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PRESIDENT MESSAGE *Continued from Page 3*

I want to emphasize that this appears to be an appliance problem, i.e. that it is possible for a child to a toddler to open the microwave oven door and remove hot contents. But is not is a microwavable foods products or microwave packaging problem. True, it is possible for consumers to overheat microwavable foods, but in the cases described above, the authors are writing about an unsafe condition on all microwave ovens without child locks. It is my personal opinion that this sort of "child lock" should be mandatory on all microwave ovens. One way to assure that in the United States would be for UL to make it mandatory on all microwave ovens in order them for them to pass UL inspection.

On another note, I was recently engaged as an expert in a lawsuit that involves Ramen noodle instant lunches from several different suppliers. I was struck by the fact that each of the products that I investigated contained warnings that effectively said "Do Not Microwave!", instead telling the consumer to prepare the product by adding boiling water (that could of course be heated in a microwave oven) up to the fill line and allowing it to stand. And yet, many consumers ignore that and prepare it in the microwave oven, probably because it's very convenient, despite the fact that this can be very hazardous as my lab tests showed. I'm not sure what the liability situation is regarding this situation, but I'll find out.

Recently, I received a message from IMPI Member Dr. John Osepchuk: that "the TEPRSSC (Technical Electronic Product Radiation Safety Standards Committee) serving the FDA has been resurrected and on its agenda is a revision of the microwave oven standard." The Executive Committee is addressing this issue in its next meeting.

An update: Gordon Andrews, our IMPI member from the UK, and the British representative to the IEC Microwave Oven Standards Committee, is continuing his efforts, with little success so far, to have the IEC uphold the British alphabetic identification codes used on both food packs and microwave ovens that assist consumers in choosing the correct microwave heating times for various products. I continue encouraging him to protect the system that provides a means of alleviating the chaos we have in the U.S.A.

Finally, a comment about the IMPI Fall Short Course that was held in Philadelphia near the end of October. If you weren't there, you missed an awfully good meeting with some excellent presentations, including demonstrations of various methods of measuring temperature within microwavable products both during and following microwave preparation. Feedback from the participants has been very positive and that I'm sure that Molly will have more to say about that.

Well it's almost Thanksgiving, so I wish you all a wonderful holiday with your family and friends and keep in mind that many of the turkey and stuffing leftovers are wonderful for reheating in your microwave oven. In fact, for me, it's the leftovers that I really love along with the social aspects of Turkey Day.

All the best, Bob

IMPI Needs Your Advice...

Do you have ideas or suggestions for IMPI in 2017? What are we doing well? What can we be doing better? This organization is only as strong as its membership! This is your association so please let us know how we can serve you better in 2017!

Please email IMPI's Executive Director with any feedback: molly.poisant@impi.org

Journal of Microwave Power and Electromagnetic Energy

Volume 50, Issue 4 of JMPEE is scheduled to be released by the end of December 2016. We have been very pleased with our new partnership with Taylor and Francis Publishing. As this year comes to a close, here are a few highlights:

- The Impact Factor has risen to .925 in 2015 compared to .500 in 2014 (2016 will be out this summer and we expect this will continue to improve)
- JMPEE has had over 11,000 page views since moving to the T&F platform this year
- JMPEE has been downloaded in over 36 countries over the past 6 months
- JMPEE articles have received well over 200 citations so far this year.

Access to the most recent Volume of JMPEE and the entire Archive is included as part of your IMPI membership. If you need access directions resent to you, please let us know.

Composition of Issue 4, Volume 50, 2016. Scheduled to be released December 2016.

TITLE	AUTHOR(S)
Editor's Message: Microwave Heating Courses	Juan Antonio Aguilar-Garib
Comparison of Microwave Roasting on Wet/Dry Mixture of Diasporic Bauxite with Alkaline: Revealing the Intensifying Effect of H ₂ O on Chemical Reaction	Thiquynhxuan Le, Shaohua Ju, Jinhui Peng, Liming Lu, Libo Zhang, Shixing Wang, Liexing Zhou
Use of Material Dielectric Properties in Agricultural Applications	Stuart O. Nelson, Samir Trabelsi
Modeling of Dielectric Resonator Antennas using Numerical Methods: A Review	Sounik Kiran Kumar Dash, Taimoor Khan, Asok De
Frequency Dependent Complex Dielectric Permittivity of Rubber and Magnolia Leaves and Leaf Water Content Relation	Atalay Kocakusak, Bektas Colak, Selcuk Helhel
2.45 GHz Microwave Plasma Sources Using Solid State Microwave Generators: ECR-type Plasma Source	Louis Latrasse, Marilena Radoiu, Juslan Lo, Philippe Guillot

The Passing of Lew Napleton

The word "pioneer" is often used loosely, but in the case of Lew Napleton it truly applied as you'll note below. I knew Lew for more than 30 years and am proud to have called him my friend. ... Rest in peace Lew. The following letter was sent to us by IMPI Member and longtime friend of Lew's, Gordon Andrews of GAMA Consulting. - Bob Schiffmann

I have been asked to write a few words on the passing of a dear friend and mentor, and someone whose significant influence has affected all those who knew him.

I first met Lewis Napleton in the Autumn of 1969 when I joined Philips Electrical as the Technical Commercial Engineer for microwave ovens and catering equipment, providing product technical liaison between various factories, service departments and commercial divisions. Little did I know at the time that Lewis was to play a major role in shaping my future... he was the Marketing Manager for that range of professional equipment, and had just introduced the microwave oven heating concept to leading caterers during a gala evening presentation at the London Hilton.

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Napleton Continued

The microwave ovens were very expensive, and cost the same as a Mini Minor motor car at around £600.00. Definitely a hard sell, but something Lewis overcame by introducing a Philips finance leasing scheme that justified the cost as a few Pence outlay per day, which proved very popular and significantly boosted sales. His Team at that time included Joop (Joe) Seelen, Sales Manager and Roger Thornton-Green Food Services Manager, together with key Agents and Dealers covering the UK catering and emerging Vending markets.

A couple of years into my role Lewis told me he had been approached by a major US microwave oven manufacturer and was leaving Philips, and he asked if I would be interested in joining him as Technical Services Manager. Consequently, in 1973 Joe, Roger and myself became Lewis's Marketing Team, introducing the Litton brand of microwave ovens throughout the UK and several other mainland European markets.

Under Lewis's strong leadership and by providing comprehensive dealer training, we established several key distributors, with sales and service agents through our territory, and soon became market leaders as the catering microwave oven became more popular in providing numerous solutions for the expanding food service industry. The phenomenal growth of this market sector is now just history.

Although we all went our separate ways when Litton's interest in microwave ovens waned, Lewis and I became good friends and kept in regular contact, often arranging to meet at industry events. This included the UK Microwave Association now Microwave Technologies Association where Lewis became the Newsletter Editor for 22 years before his recent retirement earlier this year.

During his career Lewis had six books published on microwave food service and related consumer food heating topics, and he has been a prolific freelance technical author of many catering industry publications.

He will be greatly missed by his family and friends.

Gordon Andrews.



Lew Napleton in presentation mode, showing (top) a Litton Minutemaster US consumer...Europe light duty commercial oven, and (bottom) two Litton MenuMaster ovens for vending and catering food service application. Photo Courtesy of Napleton's family.

CALENDAR OF EVENTS

IMPI Webinar: “Solid-State Generation of RF and Microwave Energy and its Applications”

November 29, 2016: 11am-12pm EST. [Register here.](#)

Call for Papers Abstract Deadline: January 20, 2017 for The 51st Annual Microwave Power Symposium (IMPI 51), June 20-22, 2017 at the Sonesta Hotel Coconut Grove, Miami, Florida, USA. Additional details can be found at www.impi.org

IMPI Spring Webinar Series: February, March, April 2017 (exact dates TBD).

Do you have an upcoming event you would like added to our Calendar of Events? Please email to molly.poisant@impi.org

News from Around the Web

[How Much Do Consumers Really Know about Food Safety?](#)

[Microwave Energy Based Ablation Devices Market 2016 Market Growth, Trends, Demand, Share, Analysis to 2021](#)

[Massey investigating novel food technology](#)

[Solid-state microwave oven reference designs from Infineon](#)



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