

# THE WAVE



*The newsletter publication of the International Microwave Power Institute*

January/February 2015



*A meeting room at the Kona Kai Resort & Marina, site of IMPI's 49<sup>th</sup> Symposium, June 16-18, 2015.*

## Letter from the President

*by Bob Schiffmann*

Welcome to 2015! I hope you had a good holiday season and will enjoy a Happy and Healthy New Year! At IMPI, we have a great number of activities planned for 2015 including webinars, the symposium, a Fall short course, and more. You will learn about some of these activities in this newsletter as well as follow-up messages from Molly.

I've been thinking a lot about how, like Janus, innovation and technology has two faces. For example, we live in an age in which the transmission of information is universal and instantaneous, but at the same time the transmission of misinformation is also universal and instantaneous. Elsewhere in the newsletter you'll see an article by IMPI's distinguished member Dr. John Osepchuk addressing an instance of misinformation concerning Wi-Fi phobia, with solid science. As we all know, misinformation about microwaves and microwave ovens probably occupy more terabytes on the web than what is real.

Another thing that concerns me a great deal is the proliferation of so-called "microwavable" products in the marketplace. As I've stated elsewhere, I firmly believe that the only things that should be heated in microwave ovens are foods, and yet we see many personal care and other non-food products being sold in our stores and over the Internet. As an expert witness, I've dealt with many injuries to consumers caused by products such as these. I was reminded of it by a piece that appeared in an English newspaper describing a fire that occurred using wheat bags, heated in microwave ovens, and the article goes on to say "... (wheat bags) are often used as an additional source of warmth and therapeutic brain relief, but if not used incorrectly, they can pose a real danger."

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## LAST CALL: IMPI 49 CALL FOR PAPERS DEADLINE!

There are only 2 weeks left to submit abstracts for the 49<sup>th</sup> Annual Microwave Power Symposium. Abstracts are due by February 2, 2015. **Please note this change from recent years, IMPI 49 does not require a full paper submission, rather an abstract only, to be considered for the program.** Authors will have the option to provide an extended abstract (up to 2 pages) for the Proceedings; those wishing to publish extended versions of their work are encouraged to submit to JMPEE.

### The Call for Papers contains all the information you will need.

IMPI 49 will be held at the beautiful Kona Kai Resort & Marina, June 16-18, 2015 in San Diego, California, USA. You can reserve your hotel room now at the special \$149 group rate (includes complimentary in-room internet and no resort fee).

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## *President's Message Continued*

Wheat bags and similar products have been involved in a number of fires and injuries to consumers. But the author of the article is mistaken by implying that when they are used correctly they are not a danger. This is erroneous, since products such as this are inherently dangerous when heated microwave ovens. These products tend to become hottest in the interior, giving the consumer a false sense of security because, when removing it from the microwave oven, the surface may feel comfortably warm while the interior may be hot enough to ignite. This, as we all know, is one of the strange results encountered with microwave heating since the air in the microwave oven is cold and that along with the shape, dimensions and dielectric properties of the product may create a condition with a cooler surface and hotter, possibly much hotter, interior. How can a product such as this be in the marketplace? I believe it is because the manufacturer would like to make a profit, and is either ignorant of or incapable of testing the products properly. These products must be tested in numerous ovens each with different properties; in my laboratory we tested products in at least 10 different microwave ovens of different characteristics. We often found that a product failed, sometimes catastrophically, in one or more of the ovens. A manufacturer that doesn't test products in a large variety of ovens under different conditions may produce and sell a faulty product with a false sense of security only to learn through consumer complaints or even worse, injuries, that the product is not as safe as was originally thought.

Countering this problem is a significant challenge but one that we must take on. Personally, whenever possible, I write comments in blogs to correct misinformation, and often on manufacturer's websites where comments are possible. Sometimes I even contact the manufacturer but am often amazed by how unresponsive they are. New product groups are generally custodial about their products, food or nonfood, and as a result, often don't test them sufficiently. I've always urged companies to go to independent laboratories for product testing. Over the years, when my lab was been doing product testing, we found numerous flaws in products of which the client was totally unaware, in some cases so serious that major changes had to be made to the product and in one case the product was withdrawn from the marketplace.

I believe it's important for IMPI to provide useful information for consumers and manufacturers regarding the many fallacies that are being spread about on the web. Also, with manufacturers, I feel we have an obligation to teach them more about how to evaluate and test their products in order to prevent the kinds of injuries that are becoming more common.

I invite your comments and suggestions on what we can do better to meet these challenges.

With best wishes for 2015,

Bob



## **Rebuttal of “Shield Your Body” Statements**

*by John M. Osepchuk, PhD*

Recent publicity about a start-up company in Las Vegas, named “Shield Your Body”, has produced much misinformation about EM (electromagnetic) energy and its exposure hazards. We single out here one particularly offensive set of statements but we point out that this is just one example of a fairly wide-spread electrophobia, which nowadays is focused on “low-level” sources like smart meters, WiFi in addition to cell (mobile) phones.

On the Vegas, Inc. website on Dec. 2, 2014, there was an interview with the founder, R. Blank, of the “Shield Your Body” company with some comments. The interview included several outrageous allegations of demonstrated health hazards of low-level EM radiation like WiFi from computers etc.

*To read the entire blog post, [click here](#).*

## **The Journal of Microwave Power and Electromagnetic Energy**

Volume 48, Issue 4 was published in December 2014. The following papers appear in this Issue of JMPEE:

### **Investigating the Influence of Aging on Radiofrequency Dielectric Properties of Chicken Meat**

*Samir Trabelsi and Jochem Roelvink*

### **Analytical Expression of the Electric Field Induced by Uniformly Charged 3D Plates**

*Jérémy Kerneis*

### **RSM Optimization of Process Parameters for Dechlorination by Microwave Roasting from Zinc Oxide Dust from Waelz Kiln**

*Baobao Wang, Zhiqiang Li, Libo Zhang, Jinhui Peng, Jing Li, Shaohua Yin, and Aiyuan Ma*

### **Dielectric and Thermal Properties of Sweet Sorghum Biomass**

*Laura Picou Fennell and Dorin Boldor*

### **Effective Optimization of Temperature Uniformity and Power Efficiency in Two-ports Microwave Ovens**

*Xiao Ling Hu, Xiao Qing Yang, and Guo Zhu Jia*

IMPI Members are encouraged to submit manuscripts for the Journal of Microwave Power & Electromagnetic Energy.

Additional details on the submission process can be seen [here](#).

Your IMPI membership entitles you to complimentary online access to the Journal; contact [molly.poisant@impi.org](mailto:molly.poisant@impi.org) if you need assistance registering with the JMPEE website. It is not too late to order a hard copy of JMPEE Vol 48 for the special member price of \$100 domestic/\$125 international (including shipping). Please contact the office ASAP if you want a hard copy; they will ship by the end of this month.

### **IMPI 49 Continued**

There are only a limited number of rooms available at the \$149 rate so please book early! Photos of the resort can be seen on the next page. IMPI 49 will offer a Spouse/Guest program and various networking opportunities. Registration will open by February 2<sup>nd</sup>.

The Technical Program Committee Co-Chairs for IMPI 49 are Ray Boxman, Tel Aviv University, and Ulrich Erle, Nestle; Jeyam Subbiah, University of Nebraska, Lincoln will chair the Food Science & Technology Committee.

Visit [www.impi.org](http://www.impi.org) for the latest program developments. We hope to see you in San Diego!





*(Photos from Kona Kai, Resort & Marina, San Diego, California, USA, site of the 49<sup>th</sup> Annual IMPI Symposium, June 16-18, 2015)*

## Meet the New Corporate Member: PSC Inc.

PSC is part of the C. A. Litzler group of companies, which is among the largest custom manufacturers of drying and processing systems worldwide. Founded in 1969, PSC is a world leader in designing and building innovative Radio Frequency heating and drying systems. PSC dryers are used in new and unique applications throughout the world. Our PSC monorail fiberglass package dryers are the standard for progressive fiberglass manufacturers worldwide and PSC has also earned an excellent reputation in the foam, ceramics, textiles, and foundry industries.

PSC was purchased by Litzler in 1999 to add breadth and depth to their product line and engineering capabilities. This association allows Litzler and PSC to offer the best combination drying systems using any combination of convection, infrared or Radio Frequency technologies.

Our partnership with Sairem, based in Lyon, France, adds Microwave technology to PSC's growing offerings. PSC now provides the world's leading Microwave and Radio Frequency technology for tempering meat, seafood, dairy products and other foods. Pasteurization of food product is also becoming an application for our equipment, generating great interest.

Our engineering team has experience in solving many difficult heating or drying process needs. PSC consistently meets the challenge of utilizing state of the art Radio Frequency and Microwave technology, and integrating our systems into existing manufacturing lines.

PSC is located in Cleveland, Ohio, USA and our laboratories are available for testing and feasibility research for new applications with both Radio Frequency and Microwave systems.

Contact us at [info@pscrfheat.com](mailto:info@pscrfheat.com) to learn more about our custom drying and heating equipment manufacturing capabilities.

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PSC Inc. is one of IMPI's 9 Corporate Members. They join ConAgra Foods, Nestle, Heinz, General Mills, Hillshire Brands, Richardson Electronics, Campbell's Soup and Richardson Electronics. The March/April edition of "The Wave" will feature a write up on Campbell's Soup Company .

***Have you thought about a Corporate Membership for your company? More information on the benefits of Corporate Membership is available on the [IMPI.org website](http://IMPI.org).***

The logo for PSC Inc. features the letters 'P', 'S', and 'C' in a bold, red, sans-serif font. The 'P' is stylized with a thick vertical stem and a curved top. The 'S' is a simple, thick, rounded shape. The 'C' is also thick and rounded, with a slight gap at the bottom. The letters are set against a light blue background.



## INTERACTIVE IMPI *Direct links to Microwave News on the Web*

Microwave Imaging of [Breast Cancer](#)

Microwaves enable [economic recycling](#) of plastic-aluminum laminates

Developments in Microwavable [Food Packaging](#)

Innovations in [Food Trays](#)

## Calendar of Events

Klystrons, TWTs, Magnetrons, CFAs and Gyrotrons, Stetson University, January 27-30, 2015

49<sup>th</sup> Annual Microwave Power Symposium, June 16-18, 2015, Kona Kai Resort, San Diego, California, USA [www.impi.org](http://www.impi.org)

AMPERE 2015, September 14-17, 2015, Krakow, Poland, More info at <http://ampere.pk.edu.pl/>

Fall 2015 Short Course, October 2015 (exact dates TBD), Pittsburgh, PA, USA [www.impi.org](http://www.impi.org)

Do you have an upcoming event for us to list here? Email [molly.poisant@impi.org](mailto:molly.poisant@impi.org) for inclusion.

### SAVE THE DATES FOR IMPI'S SPRING WEBINARS!

*Topics and presenters will be announced in the coming days. Webinars are FREE to all IMPI Members.*

**Webinar 1:** Feb 17, 11am-12pm EST

**Webinar 2:** Mar 17, 11am-12pm EST

**Webinar 3:** Apr 21, 11am-12pm EST

Details will be added to [www.impi.org](http://www.impi.org) as they become available.



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