

THE WAVE



The newsletter publication of the International Microwave Power Institute

May/June 2014



The 48th Annual Microwave Power Symposium (IMPI 48)

Today, May 14th, is the last day to register at the early bird rate!

We are just 5 weeks away from the 48th Annual Microwave Power Symposium (IMPI 48) to be held June 18-20, 2014 at the Doubletree Hotel in downtown New Orleans, Louisiana, USA. This years Symposium has the highest number of early registrations we have seen in the past 5 years, with over 70 early bird registrations thus far!

Under the leadership of IMPI 48 Technical Program Chairman, Professor Ray Boxman of Tel Aviv University, and Food Science & Technology Program Chairman, Bob Schiffmann, we have put together a strong program which includes 2 keynote addresses, 13 Invited Speakers, and dozens of technical and food related papers and presentations being presented both orally and via posters. The full program is available for [download here](#).

Member registration is \$575 (through today/\$675 after May 14th) and includes: all conference materials, Welcome Reception, continental breakfasts, lunches and coffee breaks on Thursday and Friday, a hard copy and CD copy of the conference Proceedings, unprecedented networking opportunities with the best and brightest in our field! [Register Today!](#)

IMPI 48 is offering two short courses on Wednesday, June 18th. Bob Schiffmann is teaching a Microwaves 101 short course in the morning and Vadim Yakovlev of Worcester Polytechnic Institute will be instructing an Introduction to Multiphysics Modeling in Microwave Power Engineering in the afternoon.

The Symposium will kick off with a Welcome Reception from 5pm-7pm on Wednesday evening. The posters will be available for viewing and we have 6 exhibitors for you to visit: Ferrite, Gerling Applied Engineering, Muegge GmbH, Neoptix, PSC Inc. and SAIREM.

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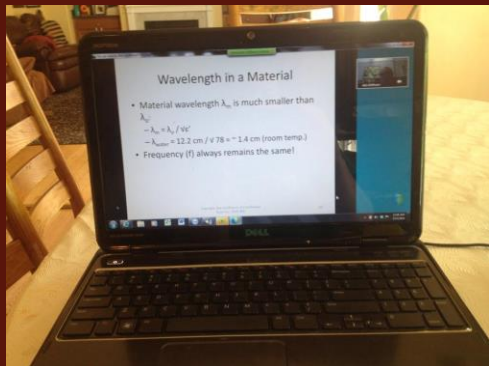
Letter from the President

by Bob Schiffmann

I do a great deal of Expert Witness work, all of it involving microwave heating. My cases have included patent infringement, contract disputes, medical malpractice, product liability, personal injury, fires and more. In all the cases in which the products involved caused injury, I found that the products were never tested properly to reveal their inherently dangerous nature. As you probably know, I have a laboratory and do a great deal of microwave oven based test work and that may often be a major part of my role as an Expert in a case. As I indicated in an earlier President's Message, nonfood products should never be heated in a microwave oven, as illustrated in a recent report about wheat bags catching fire and injuring an individual. In several of the cases I've worked on seriously overheated products resulted in injuries, sometimes so severe they required skin grafts, costly hospital stays, or worse.

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IMPI Kicks Off Webinar Series



An estimated 75 people participated in IMPI's two-part webinar series, The Basic Principles of Microwave Heating. Taught by Bob Schiffmann, and sponsored by ConAgra Foods, the course took place on May 6th and 13th.

The webinar series was free of charge to all IMPI members and \$159 for non-members. Several of IMPI's corporate members invited colleagues to participate in the webinar, broadcasting it live in their companies' conference room.

If you didn't have a chance to attend and are interested in viewing a recorded version of the series, please email molly.poisant@impi.org

One attendee had this to share following the series, "I participated in your 2 Microwave energy courses [and I] am fairly new to the frozen business as a packaging engineer. I just wanted to tell you that I learned more in those 2 hours than in entire semesters of materials engineering and physics classes. [Bob] teaches very well and explains things on a level at which one can actually understand the equations that you use in these applications. Thank you so much for taking the time to explain the technology and science behind microwaves! I look forward to more courses that [Bob] might teach."

IMPI's goal of increasing continuing education for our member community sparked the decision to offer these webinars. The next webinar(s) will be offered in the Fall of 2014 with additional Webinars being planned for early 2015.

Letter from The President *cont.*

Any product, food and nonfood, should undergo rigorous testing in many microwave ovens of all types: old and new, with and without turntables, with a broad range of output power from at least 600 W to 1200 W, and more. I have about 50 of these in my laboratory, a few from the late 1970s – (some consumers still have them in their kitchens) and use them when testing products. Product testing also requires sophisticated temperature measurement techniques, sometimes while microwaving, or immediately after, and may require simultaneous measurements at numerous locations within the product. A common problem with many of these products is that the highest temperature is often hidden in the center of a product. Examples include the gel-based heating pads that I'll be speaking more about in June at IMPI 48. In two cases involving these sorts of products I was able to demonstrate that while the surfaces of the products seemed to be comfortably warm when removed from the microwave oven, after 30 to 60 seconds the surface reached well over 160°F, the temperature at which a third-degree burn can occur in one second. (Remember the air in the microwave oven is cold, so the surface is rarely the hottest place.)

Over the years, IMPI has published several papers on proper testing techniques, and also had similar presentations at various symposia and short courses. Yet, these problem-products still pop up in the marketplace and are still causing injuries or worse. We in the IMPI Executive and Board are actively working at finding ways of getting the word out to manufacturers of various products, as well as the general public. It's not an easy task because, with nearly everyone having a microwave oven in his or her kitchen and seeing how quickly they are able to heat things, they make the mental leap to thinking "Gee maybe I can do that with my product", never understanding how microwave ovens work and how much they vary. Effects that can be devastating are usually discoverable with proper testing, which companies rarely if ever do on nonfood products. We need to do a better job in getting the word out and I would welcome any suggestions you may have to accomplish this.

Let me close by noting how nice the weather has become here in the Northeast and as I'm writing this I'm looking out my window at the Maple tree in my backyard and note how its leaves have been filling the branches for the past few days. Also, that means that my trout fishing, although delayed this year, will be starting soon, so next time I see many of you @ IMPI 48, or certainly by the time of the next newsletter I will have caught and released at least one trout. I hope.

Best wishes,

Bob





IMPI 48 Continued

The Group Dinner in the French Quarter will take place on Thursday, June 19th at Vacherie Restaurant. The cost is \$50 per person and this includes a full Louisiana Sampler Buffet, homemade dessert selection, ice tea/coffee, all tax and gratuity. Over 30 people have signed up for the Group Dinner and there are only 15 spaces left!

The special \$139 group rate at the Doubletree Hotel expires this Friday, May 16th, if you have not booked your room yet, do so today as space is very limited. Call 1-800-222-8723 and ask for the Microwave Power Institute rate or [click here](#) to make your reservation online.

The Spouse/Guest Program offers 4 options: Welcome Reception, Group Dinner in the French Quarter, Creole Cooking Demonstration and a Garden/Cemetery tour. Space is limited so please register for these excursions by May 30th.

Special thanks to our sponsors: Washington State University and the USDA who are sponsoring the Food Science & Technology Program and Liverpool John Moores University and BEST Research Institute for sponsoring the printing of the Proceedings. See you in New Orleans!

Welcome to Our New Members!

IMPI has seen a steady increase in our membership over the past year. In addition to our five Corporate Members: ConAgra Foods, Hillshire Brands, HJ Heinz, General Mills and Nestle, IMPI has professional, student and Fellow members from across the globe. IMPI membership carries with it a host of benefits including: a subscription to our bi-monthly newsletter, *The Wave*; complimentary full online access to our scientific Journal of Microwave Power & Electromagnetic Energy; discounted member pricing for our Symposia, Short Courses and Webinars; a new "Member Only" section of the www.impi.org website which includes archived newsletters, a membership roster and job postings section; discounted pricing on all IMPI publications including our Consumer Survey; and much more. Please welcome our newest members of the IMPI community:

Glenn Blaker, PSC Inc.
Corey Crooks, Graphic Packaging International
Jennifer Cuccia, Kraft Foods
Clayton DeCamillis, Lamda Technologies Inc.
Robert Eisenhart, Eisenhart & Associates
Sunshin Jung, KERI
Francesco Gambato, University of Padova
Tom Grossi, Hitachi High Technologies America

Olivia Keller, MKS Instruments
Fanbin Kong, University of Georgia
Erno Lakatos
Divine Bup NDE, University of Cameroon
Peter Pesheck, Consultant
Phil Prucey, PSC Inc.
Yoselin Sanchez Perez, UDLAP
Avi Telyas, Foodinie

Calendar of Events

48th Annual Microwave Power Symposium (IMPI 48), June 18-20, 2014 at the Doubletree Hotel, Downtown New Orleans, Louisiana, USA.
www.impi.org

IFT 14, Annual Food Meeting and Expo, June 21-24, 2014 at the New Orleans Morial Convention Center, New Orleans, Louisiana, USA
www.ift.org

Workshop: Current Challenges for [Wireless Power Transfer](#), September 2, 2014, Washington, DC, USA

7th International Colloquium on Modeling for Electromagnetic Processing, September 16 - 19, 2014 Hannover, Germany
<http://www.mep2014.uni-hannover.de/151.html>

IMPI Fall Short Course, October 2014, *More details in the next edition*

Do you have an upcoming event for us to list here? Email molly.poisant@impi.org for inclusion.

NEW IMPI.ORG AND JMPEE.ORG WEBSITE Q&A

The March/April edition of *The Wave* highlighted our new IMPI.org and JMPEE.org websites and contained detailed instructions on how to register with the new sites. Registering takes only 2 minutes and will allow you full access to the content. If you have not done so already please go to each of the sites, click the Register button in the top right corner of the page; the IMPI Office will confirm your membership status and activate your site access within 24 hours.

What will I be able to see if I register for the sites?

Registering for the JMPEE.org site will gain you access to the full articles (without it you will only be able to view the recent Abstracts) Registering for the IMPI.org site will gain you access to the Member Only section with Archived Newsletters, Membership Roster and Job Posting Section.

How do I renew my membership or register for an event on the new IMPI.org site?

The backend of our website has not changed so you will still conduct all monetary transactions through the Online Store tab at www.impi.org If you have forgotten your password, please contact molly.poisant@impi.org to reset it.

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

New Radio-Wave Technique [Kills Salmonella in Raw Eggs](#)

Japan has a Plan to Start Using [Space-based Solar Power](#) by the 2030's

[Global Scientific Output](#) Doubles Every Nine Years

Safety warning after wheat bag [explodes in microwave](#)

Webinar *Continued*

Potential Webinar topics include:

- Microwave Oven Engineering
- Microwave Oven Technology
- Measuring Dielectric Properties
- Designing the Microwave Oven
- Testing Microwavable Products

Let us know what you think? What would you like to learn more about? Would you like to recommend an Instructor? Send your feedback and potential topics to molly.poisant@impi.org for consideration.

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