

THE WAVE



The newsletter publication of the International Microwave Power Institute

November/December 2014



*Fall Short Course Group Dinner
Participants outside the Blue Point
Grille, Cleveland, Ohio (October 2014)*

Letter from the President

by Bob Schiffmann

September and October were busy and successful months for the Institute. In September our third webinar of the year, *Virtual Microwave Test Kitchen for Food Design*, was presented by Professor Jeyam Subbiah of the University of Nebraska, who discussed the mechanics and potential of virtual product development technology. As usual, the webinar was free to all IMPI members, as will the three new webinars discussing various aspects of microwave oven technology that are planned for the Spring of 2015. The webinar series is sponsored by ConAgra Foods.

Also last month we had a very successful Fall Short Course in Cleveland under the sponsorship of Nestlé, Washington State University, the USDA and PSC, Inc. You can read more about the Fall Short Course in this newsletter. The attendance was the highest we've had since we began these Fall Short Courses several years ago.

Another outstanding addition to the Institute is the addition of the following Corporate Members during this period: Campbell's Soup Company, Graphic Packaging International and PSC, Inc. This brings our total number of Corporate Members to nine which is an excellent indication of not only IMPI's growth, but also its importance and stature. We welcome these new Corporate Members and look forward to their participation in upcoming IMPI events.

Recently I had occasion to look back at some early issues of the Journal of Microwave Power (there was no "and Electromagnetic Engineering" yet) and it is interesting to see how this field has progressed. In the earliest days of IMPI we were primarily concerned with industrial microwave heating not microwave ovens.

Journal of Microwave Power and Electromagnetic Energy

Volume 48, Issue 3 of JMPEE was published on September 30th, under the leadership of Editor-In-Chief, Dr. Juan Aguilar-Garib.

Did you know that your IMPI membership entitles you to complimentary access to full JMPEE articles in both the current Volume 48 and the JMPEE Archive? If you have not registered for access on our new website, visit www.jmpee.org and click the **Register** button in the top right of the screen. Enter invitation code: **JMPEE1ZEI1ATDOYELKSB7**

Issue 4 of the Journal will be published online by December 31st. If you are interested in purchasing a hard copy of Volume 48 for the special member price of \$100 (including shipping) please email molly.poisant@impi.org by December 15th. *Cont. Page 3*

President's Message Continued

In fact, it was in 1968 that Joel Elman (president of the Atherton Division of Litton Industries) gave a talk at IMPI's 3rd Symposium held in Boston, "Commercial Microwave Ovens, The Market Today and Tomorrow" during which he predicted a rosy future for domestic microwave ovens and pointed to "the introduction of a compact, economical, 110-V microwave oven of exceptional reliability" (JMP volume3 #2). I was one of those in the audience who sat in disbelief that an appliance that would only heat foods but not brown or crisp them had any possibility of ever becoming a success. At that time we all predicted a rosy future for the adoption of microwaves for industrial processing not only of foods, but pharmaceuticals, chemicals than many other materials. How wrong we all were. With microwave ovens in 93% to 95% of American homes, and an annual sales of 9 to 10 million ovens over the past several years, and an estimate of 130 to 150 million ovens in American homes, Elman was certainly correct, although I doubt even he expected the kind of growth that has been going on for the past 40 years.

Meanwhile, the market for industrial microwave processing has fallen far short of what we all envisioned it would become. While there are many installations utilizing microwaves for the tempering of meat, fish, vegetables, etc.; the vulcanization of rubber for automotive weather-stripping and similar purposes; the precooking of bacon for fast food outlets such as McDonald's; as well as many dedicated application systems, cumulatively the sales fall far short of those of domestic microwave ovens. The reasons for this are varied and have been discussed numerous times over the years, most recently by Bernie Krieger of Cober Electronics at IMPI 48.

What is important to realize is that IMPI's member's interests cover all of these subjects plus many more and that's what makes the Institute such an interesting organization. If you haven't done so I urge you to take some time and go through the archives of the Journal of Microwave Power and Electromagnetic Engineering, available to all members on the IMPI website. It makes for fascinating reading to watch the science and technology developing over the almost 50 years since IMPI's founding.

We're about to begin the 2014 holiday season but I won't be writing another one of these messages until next year, so let me now wish you all a very Happy Thanksgiving and a Wonderful Holiday Season.

All the best,

Bob



Call for Papers: 49th Annual Microwave Power Symposium (IMPI 49)

The [Call for Papers for IMPI's 49th Annual Microwave Power Symposium](#) was released in October. Abstracts are due by February 2, 2015!

IMPI 49 will take place at the beautiful Kona Kai Resort & Marina, June 16-18, 2015 in San Diego, California, USA. Professor Ray Boxman of Tel Aviv University and Dr. Ulrich Erle of Nestle are chairing the Technical Program Committee. Dr. Jeyam Subbiah of the University of Nebraska, Lincoln is chairing the Food Science & Technology Program Committee.

Registration will open in January 2015 but you can [reserve your hotel room](#) now at the special \$149 group rate (includes complimentary internet and no resort fee). There are a limited number of rooms at this rate so please book early!

Sponsorship and exhibit opportunities are expected to sell out early this year! Contact molly.poisant@impi.org if you are interested in reviewing the packages.

JMPEE Continued

Once you have registered with the JMPEE.org site, you will be able to view the full articles. Here is a look at the papers published in the most recent edition of **JMPEE, Volume 48, Issue 3**:

Dielectric Properties of Sewage Biosolids: Measurement and Modeling

Graham Brodie, Ryan Destefani, Philip A. Schneider,

Lyn Airey, and Mohan V. Jacob

Wide Band Permittivity Measurements of Palm (Phoenix Canariensis) and Rhynchophorus ferrugineus (Coleoptera Curculionidae) for RF Pest Control

Rita Massa, Marco Donald Migliore, Gaetano Panariello,

Daniele Pinchera, Fulvio Schettino, Emilio Caprio, and Raffaele Griffo

Development and Evaluation of a Wireless Sensor Network Monitoring System in Various Agricultural Environments

Bingqin Zhu, Wenting Han, Yi Wang, Ning Wang,

Yang Chen, and Congcong Guo

Free-Space Moisture Measurement Setup Using Flat Artificial Lens Antennas

Yangjun Zhang, Ryosuke Aoki, and Syoichi Morita

Microwave-Absorbing of Carbothermic Reduced Products of Ilmenite and Oxidized Ilmenite

Xinying Wang, Wei Li, Biao Yang, Shenghui Guo, Libo Zhang,

Guo Chen, Jinhui Peng, and Huilong Luo

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](#).

We Want You!!

IMPI is only as strong as our membership! While the past several years have brought an increase in membership, we have seen an overall decrease in volunteers. Please consider serving the Institute in one of the following ways:

- Contributing Writers for our Newsletter
- Contributing Writers for our Blog
- Social Media Liason
- Volunteer to Serve on one of our Planning Committees (Symposium, Fall Short Course, Webinar)

Please contact molly.poisant@impi.org for more details!

Paul Brodeur claims he was misquoted in *American Hustle*

Paul Brodeur, a science journalist who was a staff writer for *The New Yorker* for nearly 40 years, has filed a lawsuit against the makers of the movie *American Hustle*, alleging that the scene in which Jennifer Lawrence's character tells her husband that microwaves take the nutrition out of food and then goes on to state "I read it in an article, look, by Paul Brodeur."

Brodeur told the Huffington Post in January that the film had incorrectly attributed faulty science to him. His resulting lawsuit names the producers and distributors, Columbia Pictures, Atlas Entertainment and Annapurna Pictures as defendants. Brodeur is alleging libel, defamation, slander and false light, and claims to have suffered \$1 million in damages.

Longtime IMPI members will recall Paul Brodeur as the author of "The Zapping of America" a book about the dangers of microwave radiation exposure, something that many of the members found controversial and with which they disagreed.

[Read More.....Science Writer Sues American Hustle Over that Microwave Scene](#)



(Photos from left to right: Jessie McGuire, Elmwood; Signage; Darren Seifer, The NPD Group, and Jack Li, Datassential)

Fall Short Course Brings Together Over 60 Attendees for Three Day Event

IMPI's Fall Short Course was held at the Hyatt Regency in Cleveland, Ohio, October 21st-23rd. Sixty-one attendees from all over the US and Europe participated in the event. This was the largest attendance the Short Course has had over the past 5 years. Attendees heard from 12 dynamic speakers:

What to Expect from Today's Microwave User, Darren Seifer, The NPD Group

FSMA: The New Era of Food Safety – Are You Prepared? Kristen Spatz, Grocery Manufacturers Association

FSIS Policy Initiatives, Meryl Silverman, Senior Food Technologist, Office of Policy and Program Development, Food Safety Inspection Service

Making the Most of Nutrition with Microwave Cooking, Amy Jamieson-Petonic, President, Nutrition Today with Amy J

Innovating with the Menu Adoption Cycle, Jack Li, Datassential

Emerging Opportunities in Food Service, Bill Kuecker, Mead Westvaco

New Product Innovation and Personal Best Practices, Ricky Singh, PhD, R&D Vice President (formerly with Diageo PLC and ConAgra Foods)

The Power of Packaging to Change Perception, Ben Harris and Jessie McGuire, Elmwood

Packaging Matters, Bill Kuecker, Mead Westvaco

RF and Industrial Mw Applications, Bob Schiffmann, R.F. Schiffmann Associates Inc. and Glenn Blaker, PSC Inc.

Continued on Page 6

Meet the New Corporate Member: Graphic Packaging International

Graphic Packaging International, Inc. (GPI), a subsidiary of Graphic Packaging Holding Company (NYSE: GPK), headquartered in Atlanta, Georgia, is a leading provider of packaging solutions for a wide variety of products to food, beverage and other consumer products companies. The Company is one of the largest producers of folding cartons and holds a leading market position in coated-unbleached kraft and coated-recycled board. The Company's customers include some of the most widely recognized companies in the world.

GPI provides world-class cooking solutions that facilitate brand excellence in the microwave arena. We strive to create solutions that allow a variety of products to thrive in the microwave-cooking sector while enhancing the consumer experience.

Our solutions deliver direct return on investment dollars. We currently partner worldwide with the majority of consumer packaged goods brands in the frozen food aisle and numerous brands in non-grocery channels.

At our state-of-the-art Research and Development facility in Golden, Colorado we have an elite team of professionals with over 557 years of cumulative experience. With nearly 100 patents and published applications, our R&D team is at the forefront of microwave innovation.

We encourage and welcome collaboration. From concept definition and development, to testing and validation through commercialization, we can provide a platform from which to develop and launch your next innovation.

Visit www.graphicpkg.com for more information.



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

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).

Fall Short Course Continued

Attendees had the option to attend a Microwave 101 pre-short course; in addition to the general sessions, attendees participated in various networking opportunities including a Welcome Reception, Networking luncheons and a Group Dinner at a local restaurant.

The Fall Short Course, which was sponsored by Nestle, Washington State University, the USDA and PSC, Inc., received rave reviews from the attendees. Nestlé's Sumeet Dhawan had this to share, "We received very positive feedback from various participants as the information presented was relevant to their day to day work. Also, the Q and A sessions after each presentation was definitely thought provoking and there were plenty of opportunities to learn from participants of the program."

The 2015 Fall Short Course will be sponsored by Heinz and held in Pittsburgh, Pennsylvania in late October 2015. If you are interested in serving on the program committee, or would like information on sponsorship, please email molly.poisant@impi.org

INTERACTIVE IMPI Direct links to Microwave News on the Web

EU: Microwave Ovens Report – Analyst and Forecast to 2020

Transparency Market Research has published "**Household Cooking Appliance Market, A Global Industry Analysis, Market Size, Share, Growth, Trends and Forecast: 2012 2018**". This report contains interesting information about the microwave oven market. For more information and a sample copy, including the table of contents, contact Rajat Rastogi (Executive– Business Development) at: phone: +1–518–618–1030; e-mail: rajat@transparencymarketresearch.com Web: www.transparencymarketresearch.com

Bob Schiffmann was interviewed live on the 'Simon Mayo' drive time radio programme on Radio 2 (UK). His segment starts at the 5:25 mark

Calendar of Events

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

49th Annual Microwave Power Symposium, June 16-18, 2015, Kona Kai Resort, San Diego, California, USA 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

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



Follow us **on FACEBOOK!**



Follow us **on TWITTER!**



Visit **IMPI's Blog!**

**INTERNATIONAL
MICROWAVE
POWER INSTITUTE**
PO BOX 1140
MECHANICSVILLE,
VA 23111
USA
Ph: + 1 804-559-6667
Email: info@impi.org
www.impi.org