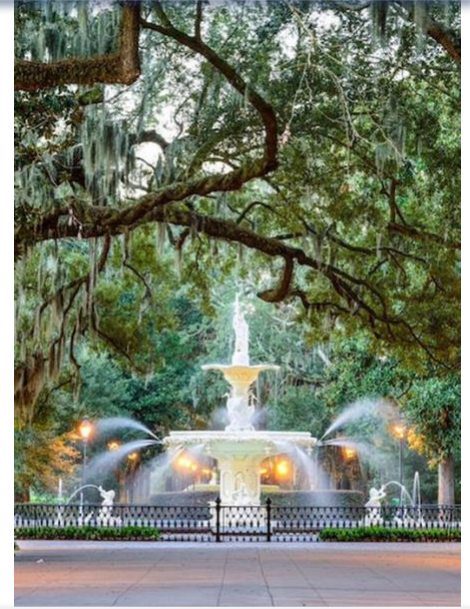


THE WAVE



The newsletter publication of the International Microwave Power Institute

May 2022



IMPI 56 Symposium Less than One Month Away

In less than four weeks, the **56th Annual Microwave Power Symposium (IMPI 56)** will kick off in historic Savannah, Georgia, USA. Over 105 international attendees will convene at the DeSoto Hotel from June 14-16, 2022, to learn from and network with, Mw/RF professionals from 17 countries. The Solid State RF Energy Section will hold their business meeting on the morning of June 17th at the same venue. There is still time to register!

Those who would like to add the Workshop on Computer Modeling, Solid State Luncheon & Presentation, Group Dinner and/or Spouse/Guest Program to their registration should contact Alicia.standridge@impi.org by June 1.

Muegge Gerling will serve as the Platinum Sponsor of IMPI 56, Microwave Techniques is a Silver Sponsor, Odyssey Technical Solutions is the Group Dinner Sponsor and Leanfa srL is the VIP Reception Sponsor. There are 16 Exhibitors for IMPI 56: 3DRFE Corp, Ampleon, Crescend Technologies, Leanfa, Microwave Techniques, MKS, Muegge Gerling, Odyssey Technical Solutions, pinkRF, QWED, RFHIC, Richardson Electronics, SAIREM, Solid State RF Energy Section, Symphony Microwave and Wave PIA.

Ten (10) students will take part in the Student Competition for Best Oral and Best Poster Paper. IMPI will also unveil the Bob Schiffmann Leadership Award & Memorial Scholarship; several members of Bob's family will join us in Savannah.

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Cover Photos: From left: The IMPI 56 Group Dinner venue, Cha Bella. The famous fountain at Forsyth Park, located one block from the DeSoto Hotel.

IMPI 56 Symposium *Continued*

Dr. Vadim Yakovlev of Worcester Polytechnic Institute, and Vice Chair, Dr. Candice Ellison, of NETL/Leidos, together with their Technical Program Committee, have put together a masterful program. IMPI wishes to extend an abundance of gratitude to the TPC Chairs for the countless hours they have put into the program, conference Proceedings and student competition.



The full program, registration pricing, attendee list, health & safety protocols as well as the latest developments on the [IMPI 56 Symposium](#) are always available [here](#).

Photos from left: Yakovlev & Ellison

We hope to see you in Savannah in a few weeks!

INTERIM PRESIDENT'S MESSAGE

As we gear up for our 56th Annual Microwave Power Symposium (aka IMPI 56) this coming June, registrations to date indicate we should expect to see over 100 of our peers and colleagues. It is not uncommon that some who very much would like to attend are unable due to schedule conflicts or budget constraints, while continued COVID-induced travel restrictions may further limit international presence at the event. But even more frustrating and disheartening is knowing that our friends and their families in Ukraine may be far more concerned about safety and survival than trekking to the US to share with us their work and accomplishments. As we enjoy ourselves at IMPI 56 exchanging long-overdue handshakes, smiles, stories and toasts, let's keep in mind our good fortune to have this opportunity and not take for granted the peace and security in our lives that make it possible.

Looking at the affiliations of those giving talks at IMPI 56, I'm encouraged to see that over half are from academia. IMPI has long been viewed as an organization catering to industrial and consumer interests, no doubt due in large part to a major (and important!) role IMPI played in the growth of the consumer microwave (foods, packaging, ovens, etc.) industry. Not surprisingly, IMPI's Strategic Planning Committee has identified (among others) academia as a main focus area for development, with student involvement in IMPI activities being key to that effort. I'm confident they will bring benefits that all of IMPI membership will appreciate.

Also encouraging is that over 40% of papers to be presented at IMPI 56 are on topics relating to the use of solid state microwave technology. Amongst them, subtopics include a wide range of application areas including waste recycling, industrial drying, consumer foods, and plasma processing. It is hard to know yet whether any of these might someday become or perhaps already are commercially viable, but it seems clear that solid state technology is now much more than the pipe dream it was just a few years ago.

We will see you all soon in Savannah!

John F. Gerling
Interim President



Slate of Nominees for IMPI Voting Board of Governors Election Announced, Candidate Statements and Voting Instructions Released



May 14, 2022 - The International Microwave Power Institute (IMPI), a leading global scientific organization dedicated to non-communication microwave and RF energy applications, is pleased to announce the Slate of Nominees for the 2022 Board of Governors election. The nominees are: Dr. Eric Brown of Conagra Brands, Dr. Ulrich Erle of Nestlé R&D, and Dr. Klaus Werner of pinkRF. IMPI Voting Board Member, Marie Jirsa of Tyson Foods, chaired the Nominating Committee.

The election will take place during the Annual Business Meeting on Wednesday, June 15, 2022 at 5pm EST, at the DeSoto Hotel in Savannah, Georgia, USA. The Annual Business Meeting is being held in conjunction with the 56th Annual Microwave Power Symposium (IMPI 56) taking place June 14-16, 2022 at the same venue.

In accordance with the Institute's Bylaws, the term for the elected Voting Board Members shall be three years. IMPI Members who are unable to join the Annual Business Meeting in Savannah [are encouraged to vote electronically](#), through 5pm on June 15, 2022. All IMPI members in good standing may cast one ballot. The Candidate Statements are as follows:

Eric F. Brown, Principal Research Scientist, Conagra Brands, Inc.

"I have been involved with IMPI as part of Conagra's corporate membership for the past eight years, starting as the Technical Host for the webinars and serving on the Board of Governors since 2019. IMPI has provided fantastic opportunities to engage a variety of industry experts, and I have learned a lot from them. I would like to continue as a voting member on the Board of Governors as there are many exciting opportunities in microwave technology that should become available over the next few years."

Ulrich Erle, Expert Cooking Technology and Food Science, Nestlé R&D Solon/Ohio

"Being a part of IMPI, both representing a corporate member for twelve years and as a voting member of the Board of Governors for nine years, has enriched my life in many different ways. There is no other organization where microwave and RF professionals from so many different countries and diverse industrial as well as academic backgrounds meet on a regular basis. The result is a fruitful exchange of concepts, ideas and practical information. The networking opportunities IMPI events provide are invaluable, and the personal relationships from those interactions are lasting."

Since 1966, IMPI has always stayed true to its mission to serve the information needs of those involved in non-communication applications of microwaves and RF energy. I am grateful and proud to support this mission, including the promotion of new concepts, such as Solid State Technology. Given another term as a voting member of the Board of Governors, I will carry on with the mission."

Klaus Werner, CTO and Founder, pinkRF; Chairman, IMPI Solid State RF Energy Section

"It is my firm belief that the solid state RF Energy technology has unique potential to make possible and improve a large number of processes that require heating or plasma processing of "things". The technology will reduce our CO₂ footprint and contribute to quality of life. With its track record and amount of competence available through its membership, IMPI is the ideal organization and platform to further this vision. Serving the organization as voting member on the board will allow me to help the organization to grow its clout and relevance in the broad field of RF and microwave technologies."

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This press release was published on the [IMPI website](#) on May 14, 2022.

IMPI Holds Spring Webinar Series on Plasma

IMPI recently concluded their 2-part Spring 2022 Webinar Series on Plasma. In February, IMPI Fellow & Board Member, Prof. Raymond Boxman of Tel Aviv University & Clear Wave Ltd. (Israel), instructed a one-hour webinar on “*Why Mw/RF Plasma?*” In late April, Dr. Chinmoy Mallick, Institute for Plasma Research (IPR), Bellatrix Aerospace Pvt.

(India) conducted a Webinar on “*Interplay among cavity modes in a microwave ion source influencing the plasma dynamics and the extracted ion beam.*” Both webinars were recorded and are available in the IMPI Member Only section of the IMPI website



Please contact Dr. Sean McKeown of Graphic Packaging International, who leads IMPI’s Webinars efforts, if you would like to propose a topic or speaker for a future webinar.

Photo Credit: Getty Images/ISTockPhoto

PARTNER EVENTS

The Second Call for Papers for the 4th Annual Global Congress on Microwave Energy Applications (4GCMEA) has been extended until May 30, 2022.

At the time of publication, only a handful of IMPI members have submitted a paper. Please consider doing so. 4GCMEA will be held August 17-20, 2022 in Chengdu, Sichuan, China; it is hosted by Sichuan University and the China Association of Microwave Power Applications (CAMPA).



The Microwave Technologies Association of the United Kingdom (MTA-UK) recently published their Spring 2022 newsletter and asked to share it with the IMPI membership.

The AMPERE 2023 conference will be held in Cardiff, United Kingdom in September of 2023. Exact date TBD. More details, and Call for Papers, coming soon here: www.ampere2023.com

Welcome to IMPI’s New Corporate Member!



www.werlatone.com

JMPEE Volume 56, Issue 2 Released

Editor's message: Sufficient details in a manuscript, originality, and similarity score

Juan Aguilar

The comparative effect of different heating methods and sealing condition on the nutritive values of Lucerne hay

M.S.R. Shishir; K. Plessis-Fraissard; L. Cheng; G.I. Brodie; B.R. Cullen

The Next-Generation Consumer Microwave Oven - A Review

Eric F Brown

Comparison of the Effect of Changing the Spatial Distance with Exposure Time to Mobile Phones radiation on the Structure and Function of the Testis in NMRI Mice

Homa Soleimani; Mahbobeh Gafari Ghadarijani; Fatemeh Rafiei; Parvin-Dokht Bayat

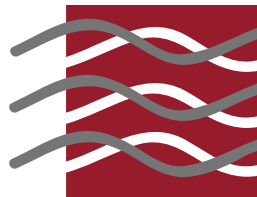
Modeling the effect of immersion fluids on the radiofrequency heating performance of cornflour

Qianyi Chen; Damla Dag; Fanbin Kong; Ran Yang; Jiajia Chen

Mineralogical properties of ludwigite and the effects of microwave radiation on its particle characteristics and mineral liberation properties

Weijun Huang; Yajing Liu; Tao Jiang; Tonglai Guo

IMPI members wishing to access JMPEE should [contact Alicia Standridge](#) for log in details.



IMPI SOLID STATE RF ENERGY SECTION

What's Next? The Solid State RF Energy Section continues to focus on the Microwave Markup Language (MML) promotion as an enabler to "push button get food" equipped solid state ovens. Look for a number of talks, presentations, workshops and press releases during the year.

In conjunction with IMPI 56, the Section will host a "lunch workshop" from 12:00pm-1:30pm on Tuesday, June 14th, which will include a talk "[MML, Solid State Oven Interoperability and The Meta Verse](#)" led by John F. Gerling, Steven Drucker and Klaus Werner. The Solid State Luncheon and presentation is \$50USD to attend. Additionally, there will be a session dedicated to Solid State, and a Solid State RF Energy Panel moderated by Dr. Klaus Werner, on Wednesday, June 15th. The Section will also meet the morning of Friday, June 17th, from 9am-11am at the DeSoto Hotel. [The Agenda is available here.](#) There is no charge to attend by RSVPs to Alicia are requested, by June 1st.

Membership: is open to all IMPI members; there is no additional fee to join. Those interested in more details should contact alicia.standridge@impi.org

CALENDAR OF EVENTS

Stay up to date with IMPI Events by visiting our [Calendar of Events page](#). If you have an event you would like to add to the Calendar, please contact molly.poisant@impi.org

NEWS FROM AROUND THE WEB

[Microwave Over Consumption Market Size 2022](#): Key Players – Galanz, Midea, Electrolux, Whirlpool, Panasonic

[Microwave Ablation](#) vs. Surgery for Papillary Thyroid Carcinoma

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