



INTERNATIONAL
MICROWAVE POWER
INSTITUTE

IMPI FALL SEMINAR 2026

THE SCIENCE OF MICROWAVE PROCESSING FROM SIMULATION TO DEMONSTRATION

FALL SEMINAR DATE & LOCATION



September 15-17, 2026



104 Perimeter Road
Nashua, NH 03063

HOSTED BY MICROWAVE TECHNIQUES IN NASHUA, NEW HAMPSHIRE

Microwave
TECHNIQUES LLC

REGISTER TODAY! <https://impi.org/events/fall-seminar/>

INVITED SPEAKERS



Microwave & RF Process Solutions to Deliver Positive Food Choices for Consumers

Prof John Bows, R&D Fellow, PepsiCo

After graduating from the University of Exeter (Physics), John joined Campden BRI in 1988 to lead their new microwave product & packaging research facility. In 1990, John joined Unilever R&D (UK) to develop microwave and RF process and packaging technology innovations across food categories.

In 2005, John joined PepsiCo R&D (Leicester, UK), leading breakthrough microwave processes for healthier snacks. In 2016, John was made R&D Director and was also appointed a PepsiCo R&D Fellow for his Field Physics expertise and external leadership.

In 2002, John was elected Fellow of the Institute of Physics, and went on to found the Food Physics Special Interest Group in 2017. John later founded ProFSET in 2020, the first body for professional scientists working across the food sector.

John was a founding director of AMPERE in 1995, and in 2023 was awarded the AMPERE Medal. In 2024, John was awarded Honorary Professor at the University of Exeter for research partnerships which helped establish Exeter as the metamaterial research centre of excellence. John has authored over 30 peer reviewed papers and named inventor on over 35 patents.



Electromagnetic Modeling of Microwave Plasma Systems: A New Practical Approach

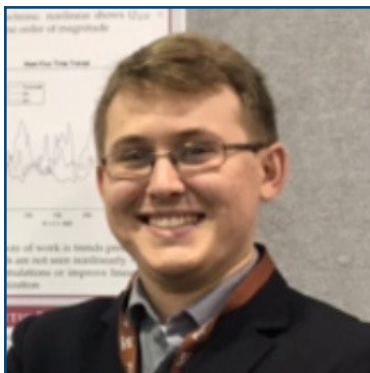
Vadim V. Yakovlev, Ph.D., Worcester Polytechnic Institute

Vadim Yakovlev received the Ph.D. in radio physics from the Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Moscow, Russia, in 1991. In 1993, he was a Visiting Researcher at EDF, France. In 1996, he joined the Department of Mathematical Sciences, Worcester Polytechnic Institute, as a NATO/NSF Fellow, and has been with this Department since then holding teaching and research professorships.

He is the Head of Industrial Microwave Modeling Group, which he established as a Division of WPI Center for Industrial Mathematics and Statistics. His research (funded by NSF, DoE, AFOSR, AFRL, and industry and reflected in nearly 200 papers) embraces electromagnetic and multiphysics modeling, sustainable technologies involving field-matter interactions, microwave plasma, machine-learning techniques for optimization and CAD.

He was the Founder and Chair of annual international seminars "Computer Modeling in Microwave Power Engineering" (2000–2016). In 2007, he was the Guest Editor of the Special Issue on Computer Modeling in Microwave Power Applications of JMPEE.

He chaired the TPC for the IMPI Microwave Power Symposia in 2013 and 2022. Dr. Yakovlev is a Fellow of IMPI and Senior Member of IEEE.



From 100kW to Megawatt-Class Operation: Scaling Electrodeless Plasma Torches for Industrial Applications

Ian McKinney, Ph.D., Chief Scientist, Radom Corporation

Ian McKinney, Ph.D., is Chief Scientist at Radom Corporation, where he leads technical development of high-power plasma systems for industrial and chemical applications. His work focuses on electrodeless plasma torch technology, high-throughput nitrogen fixation, and the scale-up of plasma-based processes from laboratory demonstrations to pilot and industrial systems.

Ian earned his Ph.D. in Nuclear Engineering and Engineering Physics from the University of Wisconsin–Madison, where his research centered on gyrokinetic simulations of plasma turbulence in quasi-symmetric stellarators and other fusion-relevant magnetic confinement configurations.

At Radom, he has helped guide the development of 100 kW-class plasma systems and ongoing efforts toward megawatt-scale continuous-wave plasma operation.

Ian's broader professional interests include plasma chemistry, high-power RF systems, process integration, controls, and the practical commercialization of advanced energy and chemical technologies.

INVITED SPEAKERS



Requirements for Efficient and Reliable Magnetron Combining *Henry Fries, Vice President of Engineering, Microwave Techniques*

Henry is the Vice President of Engineering for Microwave Techniques. He has a Master of Science in Engineering Management from Western New England College and a Bachelor of Electrical Engineering degree from State University of NY at Stony Brook.

He has over forty years of experience focused on high-power RF systems and components for broadcast, industrial, scientific and military applications.

Prior to his arrival at Microwave Techniques, Henry held technical and managerial positions at Dielectric Communications, Kwajalein Range Services and Comark Communications. In these roles he has worked with klystron, tetrode, triode, TWT, IOT, magnetron and solid-state systems with output powers exceeding hundreds of kilowatts of average power and several megawatts of peak power.



A Wholly Processed Semiconductor Wafer – A Technology Product Born From Our Collective Labor and Enabling Technology Solutions: Advanced Semiconductor Packaging, Evolving From Traditional Methods to a Highly Advanced and Technology-Driven Paradigm – Hoc Opus, Hic Labor Est *Mohammad Kamarehi, Senior Principal Engineer, MKS Inc.*

Mohammad Kamarehi has over 45 years of experience – the previous 32 years in the semiconductor equipment industry. He has been with MKS Inc. since 2012 as a Senior Principal Engineer specializing in all aspects of Microwave Technology & Engineering, as well as developing advanced microwave-based plasma sources to address the new and challenging on-wafer semiconductor applications.

Prior to MKS, Kamarehi worked at several companies including Lam Research, Axcelis Technologies, Matrix Integrated Systems, Fusion UV Curing, Fusion Lighting, Fusion Semiconductor Systems, and Federal DA; the Electromagnetic Branch...

Kamarehi's primary areas of specialization during his graduate studies included electromagnetics, electro-physics, microwaves, and electron accelerators at the University of Maryland.

He has over 40 issued patents, several pending applications, as well as several publications.



LIVE DEMONSTRATIONS, DISCUSSIONS & SIMULATIONS

The Fall Seminar will allow groups of attendees to traverse through a series of unique sessions over one-and-a-half days. These sessions will include live demonstrations, discussions, and simulations designed to provide a hands-on, applied technical experience. At the conclusion of the program on Thursday, attendees will also have the opportunity to sign up for private sessions or more in-depth discussions with the host.

LIVE DEMONSTRATIONS

- Microwave Generator Efficiency From Wall to Product
- Investigation of Field Intensity & Uniformity Using Visual Indicators
- 915MHz Live Operation Using Single Mode and Multi-Mode Applicators
- 2450MHz Live Operation Using Single Mode and Multi-Mode Applicators
- Compensated Circulators and EH Tuners in Operation



AGENDA

TUESDAY, SEPTEMBER 15, 2026

4:00 pm - 5:00pm	WELCOME, INTRODUCTIONS & TOUR OF MICROWAVE TECHNIQUES
5:00 pm - 6:00pm	WELCOME RECEPTION

WEDNESDAY, SEPTEMBER 16, 2026

8:30am - 9:00am	CONTINENTAL BREAKFAST
9:00am - 9:15am	WELCOME REMARKS
9:15am - 10:00am	KEYNOTE ADDRESS: <i>Prof John Bows, R&D Fellow, PepsiCo</i>
10:00am - 10:20am	COFFEE BREAK
10:20am - 11:15am	LIVE DEMO: <i>Microwave Generator Efficiency From Wall to Product</i>
11:15am - 12:00pm	SPEAKER: <i>Ian McKinney, Ph.D., Chief Scientist, Radom Corporation</i>
12:00pm - 1:00pm	NETWORKING LUNCHEON
1:00pm - 1:55pm	LIVE DEMO: <i>915MHz Live Operation Using Single Mode & Multi-Mode Applicators</i>
1:55pm - 2:40pm	SPEAKER: <i>Vadim V. Yakovlev, Ph.D., Worcester Polytechnic Institute</i>
2:40pm - 3:35pm	LIVE DEMO: <i>Investigation of Field Intensity & Uniformity Using Visual Indicators</i>
6:00pm - 8:00pm	GROUP DINNER (LOCAL RESTAURANT)

THURSDAY, SEPTEMBER 17, 2026

8:30am - 9:00am	CONTINENTAL BREAKFAST
9:00am - 9:45am	SPEAKER: <i>Mohammad Kamarehi, Senior Principal Engineer, MKS Inc.</i>
9:45am - 10:40am	LIVE DEMO: <i>Compensated Circulators and EH Tuners in Operation</i>
10:40am - 11:00am	COFFEE BREAK
11:00am - 11:45am	SPEAKER: <i>Henry Fries, Vice President of Engineering, Microwave Techniques</i>
11:45am - 12:40pm	LIVE DEMO: <i>2450MHz Live Operation Using Single Mode & Multi-Mode Applicators</i>
12:40pm - 1:00pm	WRAP-UP DISCUSSION & CLOSING REMARKS
1:00pm - 1:45pm	NETWORKING LUNCHEON
1:45pm - 4:30pm	INDIVIDUAL SESSIONS WITH HOST (BY APPOINTMENT)

REGISTRATION

FALL SEMINAR (Circle one)

	Early Bird Registration Through (7/31/2026)	Regular Registration After (8/1/2026)
IMPI Member	\$675	\$775
Non-Member	\$775	\$875
IMPI Student Members	\$400	\$500

Registration Fee Includes: Welcome Reception, all live demonstrations/lectures, 2 continental breakfasts and networking luncheons, 2 coffee breaks, PDF versions of presentations and unprecedented networking!

HOTEL ACCOMMODATIONS

Hampton Inn

407 Amherst St, Nashua, NH 03063

(2.3 miles from Microwave Techniques)

Rate: \$129 per night plus applicable taxes / 2 night minimum

Book your room here

Courtyard Marriott

2200 Southwood Dr, Nashua, NH 03063

(2.6 miles from Microwave Techniques)

Rate: \$179 per night plus applicable taxes

Book your room here

REGISTER TODAY



Scan the QR code
to register

Or Visit

impi.org/events/fall-seminar/

WWW.IMPI.ORG

Questions? Contact: molly.poisant@impi.org