

About the author

Eli Jerby received his Ph.D. degree in Electrical Engineering from Tel Aviv University (TAU) in 1989. As a Rothschild and Fulbright post doctoral fellow, he worked at MIT with the late Prof. George Bekefi. Since his return to TAU in 1991 as a faculty member, Prof. Jerby has studied novel schemes of free-electron and cyclotron-resonance masers (FEM's and CRM's, respectively), as well as localized

microwave heating effects and their applications, including the microwave-drill invention, additive-manufacturing (AM) of

metal powders, microwave-generated plasmas and fireballs, thermite reactions and metallic-fuel ignition by localized microwaves. Besides his scientific work, he has conducted several projects for the industry, government, and start up initiatives. Prof. Jerby served as a program-committee member of int'l conferences and workshops worldwide, in the fields of plasma, radiation sources, microwave heating, and microwave discharges. He also served as the Editor of JMPEE, the Journal of Microwave Power and Electromagnetic Energy (2006-2009) and of AMPERE Newsletter (2015-2017). More information and his publications are available at <http://www.eng.tau.ac.il/~jerby>

Microwave Industrial Solutions (MIS)

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To be Managing Director and one of the owners of SAIREM during the past 40 years was a great adventure, an amazing era. I spent a lot of time promoting SAIREM word-wide reaching 90% of the turnover in export sales.

I participated at many AMPERE or IMPI conferences where I met great people as well as promoting the MW technology like Ricky Metaxas, Georges Roussy, Andre Jean Berteaud and Serge Lefeuvre, as academic people or Bernie Krieger and Bob Schiffmann as industrialists. I can't write all the names of the fascinating people I met because the list will be too long.

I was on the Board of IMPI for many years and I am still on the Board of AMPERE.

Since my time in the MW laboratory at the University of Lyon, I have enjoyed and was very excited to work on MW technology because there are always so many new opportunities,

On February 2018 we decided to sell SAIREM in order to continue to increase the business in the future via a new owner. At that time the turn-over

was 10M€. David Vennin became the new President of SAIREM.

I created my consulting company MIS (MICROWAVE INDUSTRIAL SOLUTIONS) but agreed to remain with SAIREM for 5 years to transfer my knowledge, my expertise and the history of the company to the new owner. I enjoyed training the commercial and laboratory staff at SAIREM explaining how to calculate the size of industrial machines following some tests in the laboratory, to transfer my expertise on different subjects, etc. Further, I loved to introduce SAIREM staff to the people I have met during the MW conferences and travelling round the world. My contract with SAIREM ended in February 2023.

The future of MW technology (RF as well) will continue to grow. This is why in parallel of my work at SAIREM, via MIS, I started some consultancy work to assist labs and industrialists to improve their knowledge on MW and RF technologies. Further it was important to carry out some tests on industrial machines that companies have bought where they

have a number of problems, to organize staff training, and so on....

I will continue to promote MW and RF technologies during the next few years. There is still much to be done.

About the author

J P Bernard completed his degree in Electrical Engineering at the University of Lyon in 1976 -1977 and joined Prof Jean Pierre Pelissier' s group working towards his doctorate. SAIREM was created in 1978 and Jean Paul joined the company as a shareholder, became Managing Director in 1982 and stayed until 2018. He then established his new consultancy MIS while at the same time remaining with SAIREM for 5 years to assist in the transition.



Why Microwave Technologies Consulting?

Marilena Radoiu

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My educational background includes an MSc in Technological Organic Chemistry and a PhD in Radiochemistry & Nuclear Materials from the Polytechnic University of Bucharest. It was during my PhD that I discovered microwaves, their applications and the AMPERE organisation.

My PhD thesis, although directed by the Polytechnic University of Bucharest, involved a very challenging hands-on project of exhaust gas treatment by accelerated electron beams at the Institute of Atomic Physics (IAP) in Bucharest for which I was working as a newly appointed research scientist. One may think there is a long way between the ionizing radiation produced by a 10 MeV linear electron beam accelerator (LINAC) and the non-ionizing radiation coming from a simple 'kitchen' magnetron yet, I shortly discovered that our LINAC was accelerating the produced electrons through a number of monomode resonant cavities operated at 3 GHz. The idea of building a hybrid chamber that made possible to treat the exhaust gas by a combination between the LINAC's accelerated electron beams and the microwaves emitted by a 2.45 GHz magnetron was the novelty of my thesis [1] and was made possible

by Dr. Diana Martin with whom I collaborated at the IAP and who made me resonate at 2.45 GHz. Diana trusted my chemistry skills and we were microwaving everything – from waste wine distillation to polymers for wastewater treatment, to hybrid electron beam-microwave plasmas for exhaust gas treatment and so many other applications 'just for curiosity'. Needless to say that my first equipment was a kitchen oven 'adapted' by Dr. Martin – it had shielded chimneys to introduce glassware and it had a tabletop variac for adjusting the microwave power! This was the equipment that sent me to my first AMPERE conference in Fermo, Italy where I presented work related to microwave assisted catalysis en liquid phase. The paper earned me a student award and the great privilege of meeting Dr. Milan Hajek who invited me to join his catalysis group at the end of my PhD. A year after, a second PhD at Kingston University, Ontario, Canada within the group of Prof. J. Wang gave me the possibility to work in a microwave-assisted plasmas research project funded by an industrial group, which gave me the microwave plasma expertise and the invitation to join the R&D team