



University of Pavia

Ph.D. School in Electronics, Computer Science and Electrical Engineering
Ph.D. School in Bioengineering, Bioinformatics and Health Technologies

SEMINAR

Microwave Thermal Ablation: mechanism of action, challenges and clinical applications

Dr. Laura Farina

Endowave Ltd, Galway, Ireland

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Online: <https://us02web.zoom.us/j/6272078782>

Abstract: Microwave thermal ablation is a minimally invasive alternative therapeutic solution for non-surgical cancer patients. Well established in the treatment of hepatic and renal cancers, it is currently investigated to support the treatment of more critical and challenging targets. Microwave thermal ablation exploits the interaction between the electromagnetic field and the target biological tissue to induce a cytotoxic temperature increase and remove the malignancies. The accurate characterization of the electromagnetic, thermal and physical properties of the biological tissue targeted by microwave ablation, and their changes as a function of the temperature increase, is a key element for the procedure planning optimisation and treatment success.

Bio: Dr Laura Farina is Research Scientist at Endowave Ltd, developing a transbronchial microwave ablation technology for lung cancer treatment. She obtained her PhD in information and communication technology – applied electromagnetism in 2017, from Sapienza University of Rome. From 2018 to 2020, she was Marie Skłodowska-Curie MedTrain Fellow with CÚRAM in the Translational Medical Device Lab at the National University of Ireland, Galway. Dr. Farina is the recipient of Latmiral Prize in 2018, PIERS and IEEE COMCAS Young Scientist Awards in 2019 and 2021, Royal Irish Academy Charlemont Grant in 2021. She is a member of the ASME Thermal Medicine Committee, leading the Thermal Properties subgroup.

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