

# **From Inhomogeneous Media to Metamaterials and Metamorphism in Engineering Electrodynamics: The Inspiration and Mentoring by Professor P.L.E. Uslenghi**

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## **Abstract**



“Know Yourself” – Temple of Apollo at Delphi

I have identified through time the moments and individuals who contributed significantly to shaping who I am. Professor Piergiorgio Luigi Enrico Uslenghi is the prime mentor who has shaped my academic career. I will describe my years as an undergraduate and graduate student at the Radiation Laboratory at the University of Michigan and my journey through antenna design, pulse scattering studies to inhomogeneous media. I will highlight the critical moment in this journey where I believe Professor Uslenghi saved my PhD studies and helped me launch my academic career. Through his thorough guidance on the mathematics (a) for high frequency scattering from inhomogeneous lenses and later on (b) scattering from convex impedance shapes I was able to launch a successful career at UCLA. The discretization of the surface impedance concept at a consulting activity (I was hired at the advice of Professor Uslenghi) at Damaskos Inc. led to the first concepts on Metamaterials and later on to electromagnetically Metamorphic structures. I will describe in this presentation recent and future work based on these concepts.