



IDCOM Lunchtime Seminar

Friday 12 June 2015, 11.00 a.m.
AGB Seminar Room

Dr. Pol Grasland-Mongrain

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Medical applications of Lorentz force tomography

Abstract: The displacement of a conductive material in a magnetic field induces an electrical current. Conversely, the application of an electrical current to a material placed in a magnetic field induces a displacement. These two phenomena can be described using the Lorentz force. The Lorentz force can have different applications in the medical imaging field and three will be presented: a Lorentz force hydrophone to measure acoustic pressure; an ultrasound-based imaging technique called Lorentz force electrical impedance tomography; and an alternative way to induce shear wave using Lorentz force for shear wave elastography.

Biography: After having studied physics at Ecole Normale Supérieure de Cachan, France, Pol Grasland-Mongrain pursued a PhD at Université de Lyon, France, focusing on applications of the Lorentz force for acoustic imaging, including hydrophones, ultrasound imaging and elastography. Since March 2014, Pol has been a post-doctoral student at Université de Montréal, Canada, where he is working on shear wave elastography methods. His work has been published in several international journals, including Applied Physics Letters, Physics in Medicine and Biology and Physical Review Letters.

Pizza from 12:00 - AGB 2nd floor foyer