

Title of the presentation:**Brillouin scattering from fundamentals to applications**

In 1922, Léon Brillouin published an article in the "Comptes Rendus de Physique" on the scattering of light by acoustic waves originates from thermal fluctuations. He theoretically demonstrates, for the first time, that these acoustic waves induce a frequency shift of the scattered light. The invention of lasers and optical fiber made this scattering very efficient and open many technological and industrial developments in materials spectroscopy, medical microscopy, lasers, and distributed fiber optic sensors. The fundamentals of physical interaction and the key applications will be discussed in the context of the past century.

Short Biography

Jean-Charles Beugnot is currently full-time CNRS researcher in Optics department at FEMTO-ST Institute (France). In 2007, he received a PhD from the University of Franche-Comté, France with a thesis on Brillouin scattering in photonic crystal fiber. He developed at this moment his field of expertise, i.e. nonlinear effect in optical fibers. At the beginning of 2008, he has joined for two and half years the Group for fiber optics in Swiss Federal Institute of Technology of Lausanne (EPFL) where he focused on Nonlinear Optics and fiber optic metrology. Since June 2010, he has been working in FEMTO-ST institute, Besançon and has got a permanent position as a CNRS researcher in 2011. He researches interests include nonlinear effect in optical fiber and photon/phonon interaction like Brillouin scattering for sensing and laser application.

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