

Mourad Bentahar, Ph.D.

**Research** - Laboratoire d'Acoustique de l'Université du Maine – France

**Lectures** - National Engineering School of Le Mans (ENSIM)

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### Education

- Ph.D., Materials Science, National Institute of Applied Sciences at Lyon (France), MATEIS (Non Destructive Evaluation, Multifunctional Materials), Advisors: J-C. Baboux & R . El Guerjouma, 2005
  - Nonlinear Acoustics Applied to the Ultrasonic Characterization of Damage in Heterogeneous Materials and Determination of their Remaining Lifetime.
- M.S., Condensed Matter Physics, USTHB (Algeria), Evaluation of 2<sup>nd</sup> and 3<sup>rd</sup> order Elastic Constants with Ultrasound, 2001
- B.S., Solid State Physics, 1997

### Expertise

Dr. Bentahar is interested in the acoustic characterization of materials. In particular his work focuses on developing non-destructive evaluation methods to increase the sensitivity to micro events that happen within heterogeneous materials. Dr. Bentahar was a post-doctoral fellow in Catholic University of Leuven (Belgium) before working for the National Scientific Research Center (France) in the medical ultrasound field. Since 2008, Dr. Bentahar is a permanent researcher in the Laboratory of Acoustics of Le Mans. He is developing nonlinear acoustic techniques to detect and characterize damage in polymer and metal composites as well as concrete. In particular, his current work is focusing on the quantification of the nonlinear acoustic indicators (classical and hysteretic) in terms of the released elastic energy during the damaging of materials in order to understand the micro-mechanisms that are responsible of the macroscopic observations. Dr. Bentahar has led several research projects in collaboration with different companies such as Airbus, Mecachrome, DAHER-SOCATA, etc.

Dr Bentahar is also interested in acoustic emission, imaging techniques (air-coupled, phased array, EMATs, etc.), Signal Processing and Guided waves.