

Extended CV and short biodata, updated November 2018.

Steve Mahaut

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50 years

Work experience at CEA (French Atomic Energy Commission) since 1997:

- From 1997 to 2002 : Project manager in the Ultrasonic method laboratory, in charge of projects dedicated to nuclear and other industrial fields, specialist in phased-array techniques for defect characterization, and adaptation to complex geometry and materials.
- From 2003 to 2005 : Head of the Validation and Test laboratory, in charge of support, validation and training of CIVA.
- From 2006 to 2011 : Head of the Simulation and Modeling laboratory, in charge of developments of ultrasonic and electromagnetic simulation codes in CIVA.
- Since January 2012 : Head of the NDE laboratory for aeronautics applications : joint laboratory with EADS Innovation Works. Main activities include R&D dedicated to composite and metallic inspections, advanced imaging, statistic tools, instrumentation.
- Since January 2014 : European Affairs manager and senior expert in NDE at CEA
- Since October 2016 : Head of NDE Methods laboratory at CEA, in charge of developments of industrial projects.

Education :

1997 : PhD in Physics from Paris VII University « Contribution of dynamic focusing to ultrasonic characterization of defects ». PhD funded by IPSN (Now IRSN : « Institut de Radioprotection et Sûreté Nucléaire»). Objectives : developments of phased-array beam modeling and experimental assessment of self-focusing techniques for improved defect characterization.

1993 : Postgraduate degree in Physical Acoustics.

Professional skills and activities :

- High level skills in NDT using ultrasonic and electromagnetic methods.
- Management of research and applied laboratories (up to 25 people).
- Development and application of modeling, imaging and signal-processing techniques.
- Project management for industrial and academic applications: bilateral projects (with EDF, IRSN, AREVA, EADS, DASSAULT...), institutional projects, FP7 (current scientific and technical manager of FP7-ICT Fof 2011 project « SIMPOSIUM »).
- Teaching and training : contribution to Master degrees in NDT (Bordeaux) and Acoustical physics (Paris), from 1999 to 2005 : training officer for CIVA (national + international courses).

Languages :

English (fluent), Spanish (moderate)

Awards & External activities:

- 1997 : « Yves Rocard » prize from French Society of Acoustics (Best young researcher in acoustical physics »
- 2003 : Innovation prize from COFREND (French Confederation for NDE) for the development of smart and flexible phased arrays.
- Member of the French Society of Acoustics since 1991.
- Reviewer for several NDE journals (Ultrasonics, NDT&E, Journal of NDE).

Short list of publications related to JRP :

- **S. Mahaut**, O. Roy, C. Beroni, B. Rotter, « Development of phased array techniques to improve characterization of defect located in a component of complex geometry”, *Ultrasonics*, Vol. 40, N° 1-8, 2002.
- **S. Mahaut**, JL Godefroit, O. Roy, G. Cattiaux, “Application of phased array techniques to coarse grain components inspection”, *Ultrasonics*, Vol. 42, N°1-9, 2004.
- S. Chatillon, **S. Mahaut**, Ph. Dubois, “Simulation of advanced UT phased array techniques with matrix probes and dynamic settings for complex components inspection”, *Review of Progress in Quantitative Nondestructive Evaluation*, Vol. 27 (AIP), pp. 864-871, 2009.
- **S. Mahaut**, S. Chatillon, M. Darmon, N. Leymarie, R. Raillon, P. Calmon, "An overview of ultrasonic beam propagation and flaw scattering models in the Civa software”, *Review of Progress in QNDE*, Vol. 29 (AIP), pp. 2133-2140, 2010.
- **Mahaut S.**, Leymarie N., Poidevin C., Fouquet T., Dupond O., “Study of complex ultrasonic NDT cases using hybrid simulation method and experimental validations », *Insight*, Vol. 53 (12), Dec. 2011.
- Darmon M. Leymarie N. Chatillon S. **Mahaut S.**, “Modelling of scattering of ultrasounds by flaws for NDT”, *Ultrasonic Wave Propagation in Non Homogeneous Media*, Springer Proceedings in Physics, Vol. 128, Springer Berlin, pp.61-71, 2009.
- F.Jenson, **S. Mahaut**, P. Calmon, C. Poidevin, “Simulation based POD evaluation of NDI techniques”, *Proc. Of the Int. Conf on NDE in relation to Structural Integrity for Nucl. And Press. Components*, Berlin, Oct 2010.

References :

- References available upon request
- On-line interview : <http://www.extende.com/news/interviews/dr-steve-mahaut>

Biodata Steve Mahaut

Steve Mahaut, PhD in Physical Acoustics, Senior Expert at CEA (*French Atomic Energy and Alternative Energies Commission*), has been involved in Non Destructive Evaluation (NDE) for more than 25 years, starting from Ultrasonic Techniques (UT) phased arrays (during his PhD, funded by IRSN - *the public body of research and expertise in the French nuclear safety and radiation protection system* -) to wider fields of research and other NDE techniques. He has been in charge of R&D projects for various industrial sectors (Energy, Oil&Gas, transports...) prior to head different laboratories within the NDE Department at CEA: Validation&Test Lab, Modeling&Simulation lab, both related to the world leading multiple NDE techniques – UT/ET/RT – software CIVA, and the &eronautic applications lab. He is currently in charge of the NDE methods laboratory, which mainly addresses industrial projects for challenging applications.