

## General information

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Associate Professor

Université Libre de Bruxelles - Building Architecture & Town Planning (BATir)

50 av F.D. Roosevelt, CP 194/2, B-1050 Brussels, Belgium

Email : [aderaema@ulb.ac.be](mailto:aderaema@ulb.ac.be)

## Academic degrees

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- November 2008: Thèse d'habilitation à diriger des recherches, "Contributions à la conception de structures intelligentes en dynamique des structures", ENS Cachan, France  
(*in English* : Habilitation to supervise research : Contributions to the design of smart structures in structural dynamics)
- December 2001: PhD thesis : Sur la maîtrise des modèles en dynamique des structures à partir de résultats d'essais, ENS Cachan, France (supervisor : P. Ladevèze)  
(*in English* : Model quality estimation in structural dynamics )
- July 1998: Masters in civil engineering from Université Libre de Bruxelles (ULB)

## Scientific career

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2014-present: Associate Professor, BATir, ULB

2009-2014: FNRS Research associate, BATir, ULB

2008-2009: FNRS research associate, Active Structures Laboratory, ULB

2003-2008: postdoctoral researcher, Active Structures Laboratory, ULB

2001-2003: Teaching assistant and researcher at ENS Cachan, France

1998-2001: PhD student at ENS Cachan, Lab. de Mécanique et de Technologie (LMT), France

## Research Activities

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**Main topics of interest :** finite element error estimation, model updating and validation, uncertainties and inverse problems, vibration damping, modelling of piezoelectric structures, model reduction in structural dynamics, structural health monitoring, damage detection, wave propagation in concrete structures, experimental dynamics, embedded piezoelectric transducers for concrete applications.

**Participation to research projects :** 3 European FP6 projects, 1 European FP7 ITN project, 3 European networks, 1 ESF Eurocores project (coordinator), 3 ESA projects, 3 FNRS projects, 1 FNR-Luxembourg Project, 2 industrial projects, 1 LAUNCH Innoviris project, 1 EOS project

**Publications :** 1 book (as editor), 6 chapters of a book, 46 journal papers (international), 98 conference proceedings, 10 invited seminars

**Statistics :** h-index: 23, i10-index: 40, total number of citations: 2501, highest citation for a paper: 382, average number of citations per year since 2013: ~300 (from google scholar)

## Reviewer for international journals :

Acta Acustica, Acta Mechanica Solida Sinica, AIAA Journal of Guidance, Control and Dynamics, ASME Journal of Vibration and Acoustics, Computers and Structures, Engineering Structures, Experimental

mechanics, Experimental Techniques, Journal of Sound and Vibration, Journal of Vibration and Control, Mechanical Systems and Signal Processing, Mechanics of Advanced Materials and Structures, Smart Structures and Systems, Smart materials and Structures, Strain, Structural Control and Health Monitoring, Structural Health Monitoring, Shock and Vibration, Strain

**PhD and Post-Doc supervision** : 3 PhD thesis, 5 Post-Doctoral researchers

## **Collaborations**

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### **Current academic collaborations outside ULB:**

- Prof K. Worden (Univ. Sheffield, UK)
- Dr. Ch. Farrar (Los Alamos Nat Lab, USA)
- Prof J. Kullaa (Helsinki University of Technology, Finland)
- Prof E. Balmès (ENSAM Paris, France)
- Prof F. Calderon (CeReDeTec, Argentina)
- Prof P. Soltani, (Coventry University, UK)

### **Past collaborations with industry:**

- Jean-Yves Sener, MS3, Belgium
- Thierry Saive, SDT International, Belgium

### **Past scientific collaborations:**

- Prof W. Desmet (KUL, PMA Dpt)
- Dr. H. Van der Auweraer and Dr. B. Peeters (LMS Int / Siemens)
- SISTHEM team (M. Basseville, L. Mevel, INRIA / IRISA, France)
- Prof A. Benjeddou (Supmeca, France)
- Prof G. De Roeck (KULeuven, Civil Engineering Dpt)

## **Dissemination activities**

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### **Member of the editorial board:**

2007-2013: Advances in Acoustics and Vibration (Hindawi open access journal)  
2017-present: Mechanical Systems and Signal Processing (Elsevier)

### **Expertise:**

- expert for the evaluation of research proposals in France (ANR, INSA Lyon, ENS Cachan), for FP7 (cleansky and SME programs), for FNRS (SEN-3 commission), for Luxembourg (University of Luxembourg)
- member of price juries : Mc Kinsey Price (2012), Karlson Price (2013)

## **Prices and Awards**

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- Prix Vandenheuvel (1998)
- Solvay Award (1999)
- Prix A.Ir.Br (1999)
- Member of the "Collège des Alumni" of the Belgian Royal Academy of Sciences (2008)
- Honorary FNRS Research Associate (2014)

## **Current Teaching Activities**

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Master 1 Bruface program : Dynamics of Structures / Vibrations and Acoustics