



Professor Pierre Ladevèze

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http://www.lmt.ens-cachan.fr/site/php_perso/perso_page.php?nom=LADEVEZE

<http://65.54.113.26/Author/12795322/pierre-ladeveze>

<http://orlabs.oclc.org/identities/lccn-n85-91843>

<http://www.barnesandnoble.com/c/pierre-ladeveze>

<http://www.amazon.com/Pierre-Ladev%C3%A8ze/e/B001HPWH3A>

<http://www.begellhouse.com/authors/5a47c9624957b810.html>

<http://www.informatik.uni-trier.de/~ley/db/indices/a-tree/l/Ladev=egrave=ze:Pierre.html>

<http://journalogy.com/RankList?entitytype=2&topDomainID=8&subDomainID=10&last=0&start=1501&end=1600>

Structures & Systems Division

LMT-Cachan: Ecole Normale Supérieure de Cachan

(ENS Cachan/CNRS/UPMC/PRES UniverSud Paris)

Current Research Interests:

P. Ladevèze is working in the two domains: computational mechanics and the material modeling of composites. He is the initiator of the LATIN method and of the Proper Generalized Decomposition technique, which have paved the way for new high-performance computational strategies. His name is also associated with an advanced damage material model for laminated composites. He has co-authored 205 papers published in international scientific journals. He is also a member of the advisory editorial boards of 13 international scientific journals. His scientific research activities revolve around four main topics:

1. Model verification, validation and updating: error estimators and adaptive improvements for linear as well as time-dependent nonlinear finite element analysis; modeling error and identification; lack-of-knowledge theory
2. Modeling and analysis of composite materials and structures
3. Mechanics-based computational strategies for nonlinear problems (the LATIN-PGD method): multiscale strategies and parallel computing
4. Simplified computational methods: exact beam and plate theories; variational theory of complex rays for medium-frequency vibrations.

These problems belong primarily in the mechanical domain, but also expand into the fields of applied mathematics and materials science. Even though this work devotes much attention to the fundamental research aspects, a considerable amount of this research work, including the development of prototype software programs, is conducted in close collaboration with industry, especially the space and aeronautics industries. The practical problems treated are related to the design and the sizing process, and the reliability of the product being designed or built, and can even involve the manufacturing process used for its construction.

AWARDS:

- (1987) Poncelet Prize of the French Académie des Sciences for his work on structural instability under large deformations
- (1985, 2002) Palmes Académiques (chevalier, officier)
- (1991) Professor “de Classe Exceptionnelle” (of exceptional status)
- (2000) Doctor Honoris Causa of the Université Libre de Bruxelles, Belgium, for his work on model verification and validation
- (2002) Fellow of the International Association of Computational Mechanics (IACM)
- (2004) IACM Computational Mechanics Award
- (2004) International Congress of Theoretical and Applied Mechanics (ICTAM) Sectional Lecturer
- (2008) World Congress on Computational Mechanics (WCCM) Plenary Lecturer

EDITORIAL BOARDS:

- (Since 1987) International Journal of Composite Science and Technology
- (Since 1991) International Journal for Engineering Computations
- (Since 1991) European Journal of Computational Mechanics
- (1991-2000) SMAI Springer’s collection of publications on “Mathematics and Applications”
- (Since 1993) Co-Director (with P. Germain) of the collection Études en Mécanique des Matériaux et des Structures (Studies in the Mechanics of Materials and Structures), Hermès
- (1995-1999) International Journal on Inverse Problems in Engineering
- (1996-2008) International Journal of Oil and Gas Science and Technology.
- (Since 1998) International Journal on Computer Methods in Applied Mechanics and Engineering
- (Since 1998) Material Sciences Foundation
- (Since 1999) International Journal Computer and Structures
- (Since 1999) International Journal of Multiscale Computational Engineering
- (Since 2000) Mechanics & Industry
- (Since 2001) Mechanics of Advanced Materials and Structures
- (Since 2006) International Journal of Damage Mechanics
- (Since 2009) Lecture Notes in Numerical Methods in Engineering and Sciences
- (Since 2009) Archives of Computational Methods in Engineering
- (Since 2010) ISRN Mechanical Engineering

MAIN RECENT SCIENTIFIC COMMITTEES:

Scientific Committee, Centre National de la Recherche Scientifique (CNRS) (2006-2010)
IACM Executive Committee
IUTAM Congress Committee
IUTAM/IACM Working Party “Computational Fluid and Solid Mechanics” (President)
Managing Committee, European Community on Computational Methods in Applied Sciences (ECCOMAS)
National Scientific Committee, the French Aeronautics and Space Foundation (2006-2010)
General Council, IACM
Scientific Committee, ONERA (1998-2005)
Expert on behalf of the Scientific Committee of Institut Français du Pétrole (1998-2005)

MISCELLANEOUS ITEMS:

(1986-1991) Founder and Head of the Centre d'Excellence (French National Center of Excellence) on “Computational Structural Mechanics and Artificial Intelligence” grouping 21 research university teams and 30 industrial teams, which has become the Association CSMA, part of the IACM
(1980-1984 and 1996-2005) Director of LMT-Cachan, a body of approximately 120 researchers (including 70 doctoral candidates) and 26 visiting researchers
(1980-2005) Founder and Head of the Structures and Systems Division of LMT-Cachan (currently about 55 researchers, including PhDs)
(1991-1999) Member of the Haut Comité Mécanique (the French national committee for the promotion of mechanical engineering).
(2006-2011) EADS Foundation Chair “Advanced Computational Structural Mechanics”

CHAIRMAN OF INTERNATIONAL CONFERENCES SINCE 2002, INCLUDING:

Workshop “Multiscale Modelling and Computational Strategies in Structural Mechanics” (with J. Fish, USA). Cachan. September 18-20, 2002.
Symposium “Damage Mechanics and Multiscale Modelling” (with S. Hallett, UK) in International Conference on Composite Materials (ICCM17). Edinburg. July 27-31, 2009.
Workshop “Reduced Basis, POD and PGD Model Reduction Techniques: a Breakthrough in Computational Engineering?” (with F. Chinesta) – Cachan (France), November 16-18, 2011.

BOOKS AND BOOK CHAPTERS, INCLUDING:

P. Ladevèze. Non linear Computational Structural Mechanics – New Approaches and Non-Incremental Methods of Calculation, Springer-Verlag, New York 1999 (english translation by J.G. Simmonds of “Mécanique non linéaire des structures – Nouvelle approche et méthodes de calcul non incrémentales”, Hermès, 300p, 1996).
P. Ladevèze, J.-P. Pelle, Mastering calculations in linear and non linear mechanics, Springer Verlag, New York, 200 (english translation by T. Strouboulis of “La maîtrise du calcul en mécanique linéaire et non linéaire”, Hermès, 408p, 2001).
P. Ladevèze, D. Néron, J.-C. Passieux. On multiscale computational mechanics with time-space homogenization. Bridging the scales in Science and Engineering, Chapter Space-Time Scale Bridging methods, pp247–282. Ed. J. Fish, Oxford University Press, 2009.
P. Ladevèze, D. Néron. Chapter “Multiscale methods” in Vol. 3 of Encyclopedia of Aerospace Engineering, Ed. R. Blockley et W. Shyy, Wiley, 2010.

MAIN PLENARY AND SEMI-PLENARY LECTURES SINCE 2002 (total: 29):

A bridge between the micro and mesomechanics of laminates: fantasy or reality. 21st Int. Congress of Theoretical and Applied Mechanics (ICTAM 2004) – Warsaw, August 15-21, 2004. Sectional lecture.

Model verification through strict upper error bounds. 9th US National Congress on Computational Mechanics (USNCCM9) – San Francisco (USA), July 22-26, 2007. Plenary lecture.

The LATIN Method: a paradigm for multiscale and multiphysics computational methods. 8th World Congress on Computational Mechanics (WCCM8), 5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008) – Venise (Italie), June 30 - July 5, 2008. Plenary lecture.

A multiscale Damage Model for the Analysis of Laminated Composite Structures on the Microscale. 17th Int. Conf. on Composite Materials (ICCM 17) – Edinburgh (UK), July 27-31, 2009. Semi plenary lecture.

Emerging approaches for Virtual Testing of Laminated Composite Structures. International Seminar on Composites for Aerospace Applications – Hindustan University – Chennai (India), March 24-26, 2009. Plenary lecture.

On a computational “wave” approach for transient dynamics and acoustics. Symposium on Computational Structural Engineering (CSE 09) – Shanghai (China), June 22-24, 2009. Plenary lecture.

Model Verification in Dynamics through strict error bounds. First African Conference on Computational Mechanics (AFRICOM 09) – Sun City (South Africa), January 7-11, 2009. Plenary lecture.

Virtual Structural Testing for Composites: Today and Tomorrow. IV European Conference on Computational Mechanics – Solids, Structures and Coupled Problems ECCM 10 (ECCOMAS) – Paris (France), May 16-21, 2010. Plenary lecture.

PGD approximations for time-dependent and nonlinear problems: basic features and validation. Int. Conf. on Computational Plasticity (COMPLAS XI) – Barcelona (Spain), September 7-9, 2011. Plenary lecture.

Model verification through guaranteed upper error bounds: state of the art and challenges. Int. Conf. on Adaptive Modeling and Simulation (ADMOS 2011) – Paris (France), June 6-8, 2011. Plenary lecture

PAPERS PUBLISHED:

See the website, http://www.lmt.ens-cachan.fr/site/php_perso/perso_page.php?nom=LADEVEZE