



📍 ENS Paris-Saclay – Bâtiment Nord –
MV54

EQUIPE STAN

Olivier ALLIX

PROFESSEUR DES UNIVERSITÉS ÉMÉRITE

Statut : Enseignant·e·chercheur·se

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- 🌐 Site internet (<https://scholar.google.com/citations?user=1tXD9vIAAAAJ&%3Bamp%3Bamp%3Bamp%3B=>)
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Research activities

- › Modeling and identification of composite material and structures– Interface and delamination
- › Multiscale approaches in non-linear structural mechanics
- › Modelling and simulation of failure in dynamics
- › Inverse problem in case of corrupted measurements
- › Non intrusive Computational Mechanics

Current research project

- › Non-Intrusive computation :

in the case of viscoelastic cycling loading (Partnership with Safran, G Desmeure, PhD Thesis of M Blanchard, coop. P Gosselet)

in the case of detail obtained by tomography on composite (Partnership with SafranTech, C Rey, O-A Ciobanu, PhD thesis of M Wangermez, coop. P-A Guidault)

in explicit and implicit dynamics (coop with O. Bettinotti and V Oncea, Abaqus Providence, U. Perego Politecnico de Milano)

- › Multi-scale modeling of the fatigue of mooring wire ropes for offshore floating wind turbines Partnership with IFPEN, M Guiton, PhD thesis of Federico Bussolati, coop. P-A Guidault)
- › IDIC based identification strategy for failure (coop F. Hild)
- › Wave based method in non linear mechanics and model reduction, Partnership DGA Ariane group (PhD thesis Philippe de Brabanber , coop P. Ladeveze)
- › Virtual testing of composite under impact (Coop ONERA -Altair PHD thesis of Maxime Pouliquen)
- › Reverse Engineering and Optimisation (Coop JJ Rodenas, E Nadal, UPV, F Chinesta ENSAM)

Teaching activities

2000-2016 Head of the ENS-Cachan option of the Master Option Research "Advanced Methods for Computational Structural Mechanics"

Along the year:

Research master course " Dynamic, vibrations, updating"

Research master course " Mechanics of composite"

Preparation at Agregation: "Strength of Materials and Structures"

Master course "Structural dynamics"

Master course "Modeling and computation"

Bachelor course: "Statistical Mechanics"

Master Course Wave and shocks in solids

Master course Wave phenomenon in fluids

Responsibilities

› LMT Responsibilities

2012 -2016: Co-responsible of the common laboratory CETIM-GEM (Ecole Centrale de Nantes)-LMT-Cachan "Comp-Innov"

2010-2016: Vice-head of LMT-Cachan

2009- : Co-responsible with Professor Peter Wriggers (Hannover University) of the International Research Training Group (IRTG) "Virtual Material and Structures and their Validation"

2006-09: Head of LMT-Cachan

2006-2016 : Head of the Structures & Systems division

2005-: Co-Responsible for the Common Research Group EADS-CCR/ LMT-Cachan "Advanced Mechanical Modelling" of Inno-Campus

1987-2012: Head of "Mechanics of composites Materials and Structures" Research Thematic Unit

› Editorial boards

Associate editor of Mecanique et industries {2000-08}

Member of the editorial board of Revue des composites et des matériaux avancés (2000-06)

Member of the editorial board of Strain: Int. Jour. for strain measurement (2004-07)

Member of the editorial board of Computational mechanics (since 2006)

Member of the editorial board of Computer Materials and Continua (since 2008)

Member of the editorial board of Computer Method in Materials Science (since 2009)

Member of the editorial board of ISRN Mechanical Engineering (2010-).

Member of the editorial board of CMAME, Computer Method in Applied Mathematics and Engineering (2010-)

Corresponding editor of CMES "Computer Method in Engineering Sciences" (2011-2015)

Member of the Editorial board of Computer Assisted Methods in Engineering and Science (2012-)

Member of the Editorial board of the International Journal on Engineering Applications (2012-)

Member of the Editorial Advisory board Advanced Modeling and Simulation in Engineering Sciences (2013-)

Member of the Editorial board of the International Journal of Damage Mechanics (2014-)

Member of the Editorial board of the International Journal for Multiscale Computational Engineering (2014-)

Member of the Editorial board of the Journal of Composites Science (2016)

> Main scientific committees

Member of the General Council of IACM " International Association on Computational Mechanics"

President of CSMA: French Association of Computational Structural Mechanics " (1999-2001, 2003-2007)

President of the Scientific Council of the French Association of Mechanics (2003-2005)

President of the Scientific Council of TechnoCampus EMC2 (Pays de la Loire Region)

President of the European Association on Computational Solid Mechanics

President of the IUTAM Working Party on "Mechanics of Materials"

Member of the Advisory Board of EUROMECH (2013-)

Member of the PHD award committee of ECCOMAS (2013)

Member of the Euromech Solid Mechanics Prize and fellow committee (2013-)

Member of the PHD award committee of ECCOMAS (2013)

Membre of the ECCM-ECFD 2018 Nomination & Selection committee of ECCOMAS (2016)

Member of the Executive Council of IACM (2016-)

Vice president Europe- Middle East and Africa of IACM

Member of the Scientific Committee of CETIM Foundation for Research

Member of the Scientific Council of ENS de Cachan (2001-06)

President of the local Administrative Council of ENS de cachan (2007-11)

Membre of the Scientific Council of CNRS department "Ingenierie" (2006-10)

Member of the Evaluation Committee of the Nuclear Research Activities of DGA (2006-10)

Elected Member of the Academic Senat of the Paris Saclay Campus (2013-)

Member of the scientific council of the Jules Verne Technological Research Institut of the "Pays de la Loire" region (2014-)

Expert for the Haut de France region (2013-)

Membre of the evaluation committee of the Military Application Division of CEA (2017-2018)

> Main conference organization

1999 : President of the 12th National Conference on Composite Materials JNC12

2001 : Co-Chairman of the 1st Italian-French conference on Computational Mechanics Cefalu, Italy

En 2003 : Co-Chairman of the International Workshop Recent Advances in the Statics and Dynamics of Delamination

2005 : Co-Chairman of the Euromech Mecamat Conference EMMC8, Material and structural identification from full-field measurement

2006 : Co-Chairman of the Workshop Challenges in Computational Mechanics Cachan May 2006

2007 - : Every two-years Co Chairman with N Moes, M Jirazek & X. Oliver of the serie of Eccomas thematic conferences "Computational Fracture" Nantes (2007), Barcelona (2011), Praha (2013)

2009 : Co-Chairman of the Workshop "Virtual Material ad structures and their identification" Porquerolles France

2006-10: Co-Chairman with P. Wriggers of ECCM IV "European Conference on Computational Mechanics" Paris 2010

2011: Co Chairman with C. Carstensen, J. Schroder & P. Wriggers of the Oberwolfach workshop on Advanced computational Engineering

2012 : Co-Chairman of the Workshop "Virtual Material ad structures and their identification" Wangerrooge Germany

2014: Chair of the Computational Solids and Structural Mechanics Committee of the joint 11th. World Congress on Computational Mechanics (WCCM XI), the 5th. European Conference on Computational Methods (ECCM V) and the 6th. European Conference on Computational Fluid Dynamics (ECFD VI)

2018: Co-Chair Oberwolfach workshop Computational Engineering

2020: Co- Chair of the of the joint 11th. World Congress on Computational Mechanics (WCCM XIII), the European Conference on Computational Methods (ECCOMAS 5) Paris 2020

Awards

1990 : AMAC Prize (French Association for Composite, Materials).

1993 : MANDEL Prize of the French Mechanics Association (AFM)

2005: Medal of the French Mechanics Association (AFM)

2006: Euromech Fellow

2006: IACM Fellow

2013: Membre de l'Institut Universitaire de France (2013-18)

2017: Knight of the National Order of Merit

2019: Gay-Lussac Alexander Von-Humbolt prize

Publications

2024

Journal articles

[Empowering PGD-based parametric analysis with Optimal Transport](#)

D. Muñoz, S. Torregrosa, Olivier Allix, Francisco Chinesta

Finite Elements in Analysis and Design, 2024, 228, pp.104049. ([10.1016/j.finel.2023.104049](#))



2023

Journal articles

[Manifold learning for coherent design interpolation based on geometrical and topological descriptors](#)

D. Muñoz, O. Allix, Francisco Chinesta, J.J. Ródenas, E. Nadal

Computer Methods in Applied Mechanics and Engineering, 2023, 405, pp.115859. ([10.1016/j.cma.2022.115859](#))



Conference papers

[A new beam-to-beam contact formulation for fatigue analysis of wire ropes in the energy sector](#)

Pierre-Alain Guidault, Federico Bussolati, Olivier Allix, Martin Guiton, Pierre-Alain Boucard, Karim AÏT AMMAR, Julien Said, Fikri Hafid
Semaine du GDR CNRS 2139 FIBMAT, Nov 2023, Lyon, France

