

## Les publications LMR de 2013

### Articles dans des revues internationales ou nationales avec comité de lecture répertoriées dans les bases de données internationales (ACL)

- **A. Dalmau, V. Guiñón Pina, F. Devesa, V. Amigó, A. Igual-Muñoz**, "Influence of fabrication process on electrochemical and surface properties of Ti-6Al-4V alloy for medical applications", *Electrochimica Acta* 95, 102-111 (2013). <http://dx.doi.org/10.1016/j.electacta.2013.01.155>
- **L. Nechak, S. Berger, E. Aubry**, "Wiener-Askey and Wiener-Haar expansions for the analysis and prediction of limit cycle oscillations in uncertain nonlinear dynamic friction systems", *Journal of Computational and Nonlinear Dynamics*, 9(2), 12 pages (2013). <http://dx.doi.org/10.1115/1.4024851>
- **G. Le Quilliec, H.-P. Lieurade, M. Bousseau, M. Drissi-Habti, G. Inglebert, P. Macquet, L. Jubin**, "Mechanics and modelling of high frequency mechanical impact and its effect on fatigue", *Welding in the World*, 57(1), 97-111 (2013). <http://dx.doi.org/10.1007/s40194-012-0013-3>
- **G. Gautier, R. Serra and J.-M. Mencik**, "Vibratory diagnosis by finite element model updating and operational modal analysis", *Mechanics and Industry*, 14(2), 145-149 (2013). <http://dx.doi.org/10.1051/meca/2013055>
- **M. Domenjoud, M. Lematre, M. Gratton, M. Lethiecq, L.P. Tran-Huu-Hue**, "Theoretical and Experimental Study of the Electroacoustic Behavior of Lithium Niobate Under an Initial Mechanical Stress", *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 60(10), 2219-2224 (2013). <http://dx.doi.org/10.1109/TUFFC.2013.2814>
- **L. Nechak, S. Berger, E. Aubry**, "Non-Intrusive Generalized Polynomial Chaos for the Robust Stability Analysis of Uncertain Nonlinear Dynamic Friction", *Journal of Sound and Vibration*, 332(5), 1204-1215 (2013). <http://dx.doi.org/10.1016/j.jsv.2012.09.046>
- **E. Koensgen, S. Berger, C. Bouet, L. Jezequel, E. Aubry**, "Robust design strategy applied to a vehicle suspension system with high camber angle tyres", *International Journal of Vehicle Design*, 62(1), 42-71 (2013). <http://dx.doi.org/10.1504/IJVD.2013.051588>
- **J.-M. Mencik**, "A wave finite element based formulation for computing the forced response of structures involving rectangular flat shells", *International Journal for Numerical Methods in Engineering*, 95(2), 91-120 (2013). <http://dx.doi.org/10.1002/nme.4494>
- **P. Faverjon, J. Rech, R. Leroy**, "Influence of Minimum Quantity Lubrication on Friction Coefficient and Work-Material Adhesion During Machining of Cast Aluminum With Various Cutting Tool Substrates Made of Polycrystalline Diamond, High Speed Steel, and Carbides", *Journal of Tribology*, 135(4), 041602 (2013). <http://dx.doi.org/10.1115/1.4024546>
- **H. Chibane, A. Morandea, R. Serra, A. Bouchou, R. Leroy**, "Optimal milling conditions for carbon/epoxy composite material using damage and vibration analysis", *International Journal of Advanced Manufacturing Technology*, 68(5), 1111-1121 (2013). <http://dx.doi.org/10.1007/s00170-013-4903-3>
- **A. Morandea, H. Chibane, A. Bouchou, R. Serra, D. Bonhoure, R. Leroy**, "Machining carbon fibre reinforced plastics: lead angle effect", *International Journal of Machining and Machinability of Materials*, 13(2-3), 311-330 (2013). <http://dx.doi.org/10.1504/IJMMM.2013.053230>
- **S. Jelliti, C. Richard, D. Retraint, T. Roland, M. Chemkhi, C. Demangel** "Effect of surface nanocrystallization on the corrosion behavior of Ti-6Al-4V titanium alloy", *Surface & Coatings Technology*, 224, 82-87 (2013). <http://dx.doi.org/10.1016/j.surfcoat.2013.02.052>
- **A. Duchosal, R. Leroy, L. Vecellio, C. Louste, N. Ranganathan**, "An experimental investigation on oil mist characterization used in MQL milling process", *International Journal of Advanced Manufacturing Technology*, 66, 1003-1014 (2013). <http://dx.doi.org/10.1007/s00170-012-4384-9>

### Articles dans des revues avec comité de lecture non répertoriées dans des bases de données internationales

- **M. Hamdaoui, G. Le Quilliec, P. Bretkopf, P. Villon**, "Surrogate POD Models for Parametrized Sheet Metal Forming Applications", *Key engineering materials*, 554-557, 919-927 (2013). <http://dx.doi.org/10.4028/www.scientific.net/KEM.554-557.919>
- **T.D. Do, R. Leroy, D. Joly**, "Computational contour of mixed mode crack-tip plastic zone for aluminium alloy 2024T351", *International Journal of Computational Materials Science and Engineering*, 2(1), 1350003 (2013). <http://dx.doi.org/10.1142/S2047684113500036>
- **H. Chibane, A. Morandea, R. Serra, A. Bouchou, R. Leroy** "Détermination des conditions d'usinage sans délaminage d'un matériau composite par analyse vibratoire", *Revue des composites et des matériaux avancés*, 23(3), 405-423 (2013). <http://dx.doi.org/10.3166/rma.23.405-423>
- **M. Mazari, M. Zemri, B. Bouchouicha, M. Benguediab, N. Ranganathan** "Fatigue behavior of aluminum alloys modified by a simple overload: environment influence", *International Journal of Mining, Metallurgy & Mechanical Engineering (online)*, 1(2), 103-305 (2013).
- **M. Benguediab, M. Mohamed, N. Ranganathan**, "Analysis of fatigue fracture surfaces in aluminum alloy 2024 T351" *International Journal of Mining, Metallurgy & Mechanical Engineering (online)*, 1(2), 106-110 (2013).

### Conférences données à l'invitation du Comité d'organisation dans un congrès national ou international (INV)

- **J.M. Mencik**, "The Wave Finite Element Method: some recent advances about the forced response computation of structures", USP, São Paulo, Brazil, September 20 2013, UNESP, São Paulo, Brazil, August 23 2013, UNICAMP, Campinas, São Paulo, Brazil, August 8 2013.
- **J.M. Mencik**, "The Wave Finite Element Method : some recent advances about the forced response computation of structures", ENSAM Paris, France.
- **N. Ranganathan**, 4 conferences: "Fatigue of Natural Rubber", "Multiaxial fatigue of chloroprene rubber", "Modern methods of rubber damage detection", "Fractography and Failure analysis", *International Workshop On Rubber Product Design & Failure Analysis*, MIT Chrompet, India, August 2013.
- **A. Cellier, R. Leroy**, "Study on milling titanium alloy-TA6V", conférence invitée à l'ETS de Montréal, Canada, 7 juillet 2013.
- **C. Richard**, "Fonctionnalisation par traitement de surface", Conférence donnée aux journées technologiques du titane « Le titane et ses alliages : Ecoconception et cycle de vie », 15-16 mai 2013.
- **N. Ranganathan**, 8 conférences: "Spécificité du comportement mécanique et dynamique des polymères/élastomères", "La viscoélasticité", "Mesures DMA et applications", "La mécanique du caoutchouc", "Études de fatigue des caoutchoucs synthétiques", "Les nouvelles techniques

d'observation", "Fissuration par fatigue des caoutchoucs", "Analyse des ruptures (fractographie)", Symposium annuel, Comité sectoriel de main d'oeuvre de l'Industrie du Caoutchouc du Québec, Orford, Québec, mars 2013. Communications avec actes dans un congrès international

#### Communications avec actes dans un congrès international (ACTI)

- **G. Gautier, R. Serra, J.-M. Mencik**, "Industrial application of Subspace Fitting for damage detection", International Conference Surveillance Series (Surveillance 7), Chartres, France, October 29-30 2013.
- **S. Seghar, F. Lacroix, S. Azem, N. Aït Hocine**, "Devulcanization of ground tire rubber using microwave energy combined with ionic liquid effects", XVth International Science and Technology Conference, ELASTOMERY 2013, Warsaw, Poland, 23-25 October (2013).
- **C. Valantin, F. Lacroix, M.P. Deffarges, R. Benoit, E. Gomez, N. Aït Hocine**, "SEM-EDX, TOF-SIMS and XPS investigations of textile to rubber adhesion", 15th European conference on Applications of surface and Interface Analysis (ECASIA), Cagliari, Italy, October 13-18 2013.
- **H. Hassan, N. Aït Hocine, P. Médéric, M.P. Deffarges**, "Solid-state linear viscoelastic properties of a nanocomposite C30B/PA12 and their relations with nanostructure", 19<sup>th</sup> International vacuum congress IVC, Paris, France, September 19 2013.
- **V. Guiñón Pina, A. Dalmau, F. Devesa, V. Amigó, A. Igual-Muñoz**, "Influence of Sn in the tribocorrosion and electrochemical behavior of titanium biomedical alloys obtained by powder metallurgy", 5th World Tribology Congress (WTC 2013), Turin, Italy, September 8-13 2013.
- **D. Joly, C. Richard, R. Leroy**, "Effects of Annealing on AlTiN Coatings before Machining under Severe Cutting Conditions", 5th World Tribology Congress (WTC 2013), Turin, Italy, September 8-13 2013.
- **C. Richard, G. Manivasagam, J. Landoulsi**, "Study of innovative surface modifications for Ti-13Nb-13Zr alloy: assessment of wear and corrosion behavior", 5th World Tribology Congress (WTC 2013), Turin, Italy, September 8-13 2013.
- **A. Dalmau, V. Guiñón Pina, F. Devesa, V. Amigó, A. Igual-Muñoz**, "Electrochemical and tribocorrosion behavior of Ti-Nb-Sn biomedical alloys", EUROMAT, Sevilla, Spain, September 2013.
- **H. Chibane, R. Serra, A. Morandean, R. Leroy**, "Process optimisation for milling carbon/epoxy composite material using response surface methodology and vibration analysis", ICCM19, Montréal, Canada, July 28 - August 2 2013.
- **G. Gautier, R. Serra, J.-M. Mencik**, "A substructure based approach for detecting and locating damages in mechanical Systems", Proceedings of International Congress on Sound and Vibration (ICSV20), Bangkok, Thailand, July 7-11 2013.
- **G. Le Quilliec, P. Bretkopf, J.-M. Roelandt**, "Plane strain sheet metal forming semi-analytical model", NUMIFORM 2013, Shenyang, China, July 2013.
- **J. Lebon, G. Le Quilliec, P. Bretkopf, R. Filomeno Coelho, P. Villon**, "Multi-level modeling for sensitivity assessment of springback in sheet metal forming", NUMIFORM 2013, Shenyang, China, July 2013.
- **M. Hamdaoui, G. Le Quilliec, P. Bretkopf, P. Villon**, "Surrogate POD models for building forming limit diagrams of parameterized sheet metal forming application", NUMIFORM 2013, Shenyang, China, July 2013.
- **A. Dalmau, V. Guiñón Pina, F. Devesa, V. Amigó, A. Igual-Muñoz**, "Electrochemical and tribocorrosion behavior of titanium biomedical alloys", XXXIV Reunion del Grupo de Electroquímica de la Real Sociedad Española de Química, Valencia, Spain, July 2013.
- **G. Gautier, R. Serra, J.-M. Mencik**, "A Substructure Based Approach for Detecting and Locating Damages in Mechanical Systems", Proceedings of the International Conference on Structural Engineering Dynamics (ICEDyn2013), Sesimbra, Portugal, June 17-19 2013.
- **C. Cruanes, G. Berton, F. Lacroix, J.-L. Poisson, S. Méo, N. Ranganathan**, "Study of the fatigue behavior of rubber like materials with infrared thermography methods", 8th European Conference on Constitutive Models for Rubbers (ECCMR VIII), San Sebastian, Spain, June 2013.
- **J.-L. Poisson, S. Méo, F. Lacroix, G. Berton, N. Ranganathan**, "Finite element modelisation of multiaxial mechanical and fatigue behavior of a polychloroprene rubber", 8th European Conference on Constitutive Models for Rubbers (ECCMR VIII) San Sebastian, Spain, June 2013.
- **A. Delattre, S. Lejeunes, S. Méo, F. Lacroix, C. Richard**, "Experimental and constitutive modeling of a filled rubber with emphasis on the dynamical properties", 8th European Conference on Constitutive Models for Rubbers (ECCMR VIII) San Sebastian, Spain, June 2013.
- **A. Dalmau, V. Guiñón Pina, F. Devesa, V. Amigó, A. Igual-Muñoz**, "Influence of processing powder metallurgy parameters on the electrochemical and tribocorrosion behavior of Ti-Nb-Sn biomedical alloys", 25<sup>èmes</sup> Journées Internationales Francophones de Tribologie (JIFT'13), Lyon, France, May 29-31 2013.
- **C. Richard, G. Manivasagam, J. Landoulsi, D. Reira**, "Traitement de surface innovants pour alliage de titane pour applications biomédicales : évaluation in vitro du comportement en corrosion et usure", 25<sup>èmes</sup> Journées Internationales Francophones de Tribologie (JIFT'13), Lyon, France, May 29-31 2013, Ed. Sc. Ph. Kapsa, in "La tribologie : Fondamentaux et Applications Complexes", Presses des Mines, Collection Sciences de la Matière, 2014, pp. 69-76.
- **G. Pares, C. Karoui, A. Zaid, F. Dosseul, M. Feron, A. Attard, G. Klug, H. Luesebrink, K. Martinschitz, N. Launay, S. Belhenini, G. Simon**, "Full integration of a 3D demonstrator with TSV first interposer, ultra-thin die stacking and wafer level packaging", Electronic IEEE 63rd Components and Technology Conference (ECTC), Las Vegas, Nevada, USA, May 28-31 2013. [10.1109/ECTC.2013.6575588](https://doi.org/10.1109/ECTC.2013.6575588)
- **N. Ranganathan, F. Chalon, R. Leroy, P. Feraud**, "A method for quantitative fatigue fracture surface analysis", Journées Internationales de Printemps JIP 2013, 13th International Spring Meeting, Paris, France, May 22-23 2013.
- **N. Ranganathan, Z. Ma, F. Chalon, R. Leroy, W. Rmili**, "Experimental approach to predict the reliability of electronic components", Journées Internationales de Printemps JIP 2013, 13th International Spring Meeting, Paris, France, May 22-23 2013.
- **J. Lebon, G. Le Quilliec, P. Bretkopf, R. Filomeno Coelho, P. Villon**, "A two-pronged approach for the assessment of springback variability for sheet metal forming applications", ESAFORM 2013, Aveiro, Portugal, April 2013.
- **M. Hamdaoui, G. Le Quilliec, P. Bretkopf, P. Villon**, "Surrogate POD models for parametrized sheet metal forming applications", ESAFORM 2013, Aveiro, Portugal, April 2013.
- **A. Benelfellah, A. Frachon, M. Gratton, M. Caliez, D. Picart**, "Anisotropic damage model with unilateral effect and sliding friction for brittle materials", Proceedings of the 5th International Congress on Design and Modelling of Mechanical Systems, Djerba, Tunisia, March 25-27 2013. In Design and Modeling of Mechanical Systems, Lecture Notes in Mechanical Engineering, 431-438, 2013. [10.1007/978-3-642-37143-1\\_51](https://doi.org/10.1007/978-3-642-37143-1_51)

#### Communications avec actes dans un congrès national (ACTN)

- **H. Chibane, R. Serra, A. Morandean, R. Leroy**, "Selection of optimal milling conditions for T800S/M21 composite material with PCD insert using vibration analysis", 4<sup>ème</sup> Congrès Algérien de Mécanique (CAM 2013), Mascara, Algérie, novembre 2013.
- **M. A. Sahali, I. Belaidi, R. Serra**, "Effets des paramètres de coupe sur l'état vibratoire et la déflexion de l'outil pour différentes densités de matériau- apport des éléments finis", 4<sup>ème</sup> Congrès Algérien de Mécanique (CAM2013), Mascara, Algérie, novembre 2013.
- **S. Khatir, R. Serra, I. Belaidi**, "Détection et localisation de défauts dans des structures poutres par analyse vibratoire", 4<sup>ème</sup> Congrès Algérien de Mécanique (CAM2013), Mascara, Algérie, novembre 2013.
- **M.-H. Trinh, S. Berger, E. Aubry**, "Non-intrusive generalized polynomial chaos takes uncertain parameters into account in the stability analysis of a clutch system", XXI<sup>ème</sup> Congrès Français de Mécanique (CFM 2013), Bordeaux, France, 26-30 août 2013.
- **F. Dos Santos Rocha, R. Serra, J. Olivier**, "Optimisation des paramètres de coupe en usinage : approche par réseau de neurones inverse", XXI<sup>ème</sup> Congrès Français de Mécanique (CFM 2013), Bordeaux, France, 26-30 août 2013.

- **G. Gautier, R. Serra, J.-M. Mencik**, "Localisation de défaut par procédure de Subspace Fitting en utilisant une technique de sous-structuration dynamique", XXIème Congrès Français de Mécanique (CFM 2013), Bordeaux, France, 26-30 août 2013.
- **M. Domenjoud, M. Gratton, L. Blanc, L.P. Tran-Huu-Hue**, "Modélisation et étude expérimentale des déformations longitudinale et transversale de piézocéramiques soumises à une contrainte mécanique", XXIème Congrès Français de Mécanique, (CFM 2013), Bordeaux, France, 26-30 août 2013.
- **J. Lebon, G. Le Quilliec, P. Breitkopf, R. Filomeno Coelho, P. Villon**, "A two-pronged approach for the assessment of springback variability for sheet metal forming applications", 11ème colloque national en calcul des structures (CSMA 2013), Giens, France, mai 2013.
- **A. Delattre, S. Lejeunes, S. Méo, F. Lacroix, C. Richard**, "Caractérisation et modélisation d'un élastomère dissipatif : application au pré-dimensionnement de pièces lamifiées élastomère-métal", 11ème colloque national en calcul des structures (CSMA 2013), Giens, France, mai 2013.

#### Communications orales sans acte dans un congrès international ou national (COM)

- **A. Bhuddi, M.-L. Gobert, J.-M. Mencik**, "A wave finite element strategy to describe the acoustic radiation of bounded fluid filled axisymmetric pipes in a surrounding medium", 11th International Conference on Vibration Problems (ICOVP 2013), Lisbon, Portugal, September 9-12 2013.
- **E. Dion, C. Koïta, Y. Batonneau, C. Kappenstein, L. Pirault-Roy**, "Micro Catalyst Prototype", PRECISE 3rd Progress Meeting, Poitiers, France, August 2013.
- **C. Richard**, "Recherche & Sensoriel : métrologie et outils", Sensory Day, 1ère édition, Tours, France, 4 juillet 2013.
- **H. Hassan, N. Aït Hocine, P. Médéric, F. Lacroix**, "Etude des propriétés viscoélastiques linéaires à l'état solide d'un nanocomposite PA12/C30B et leurs relations avec la nanostructure", 3ème Journée GFP-IdF, 14 mai 2013.
- **G. Gautier, R. Serra, J.-M. Mencik**, "Détection et localisation d'endommagements par Subspace Fitting", Journées Jeunes Chercheurs en Vibrations (JJCV 2013), Paris, France, 11-12 avril 2013.
- **G. Gautier, R. Serra, S. Popineau, J.-M. Mencik**, "Vibratory diagnosis by finite element model applied to an internal mixer", International Rubber Conference (IRC2013), Paris, France, March 20-22 2013.
- **G. Berton, C. Cruanes, F. Lacroix, S. Méo, N. Ranganathan**, "About the fatigue characterization of elastomers by thermographic methods", International Rubber Conference (IRC2013), Paris, France, March 20-22 2013.
- **F. Zivic, C. Richard, G. Manivasagam, J. Landoulsi**, "Development of Absorbable Metal Stents, made of Magnesium-based alloy", 20th International Local Drug Delivery meeting and cardiovascular course on Revascularization & molecular strategies, Geneva, Switzerland, February 7-9, 2013.
- **E. Dion, Y. Batonneau, C. Kappenstein, L. Pirault-Roy**, "Catalytic chamber configurations", PRECISE 2nd Progress Meeting, Twente, Netherlands, February 2013.

#### Ouvrages scientifiques - ou chapitres de ces ouvrages (OS)

- **N. Aït Hocine, S. Seghar, H. Hassan, S. Azem**, Thermoset Nanocomposites - Chapter 5: Mechanical Performance of Thermoset Clay Nanocomposites. Editor: V. Mittal, Wiley-VCH, 1st edition, pp. 109-128 (2013).
- **C. Richard**, "Débris d'usure : indices connexes en tribologie", Techniques de l'Ingénieur, TRI 1450 (Février 2013).

#### Autres parutions (AP)

- **E. Dion, Y. Batonneau, C. Kappenstein**, "Flow of liquid hydrazine in micro thrusters", Déliverable D4.411, FP7-PRECISE(2013).
- **E. Dion, C. Koïta, Y. Batonneau, C. Kappenstein**, "Micro Catalyst Prototype", Déliverable D4.415, FP7-PRECISE (2013).
- **F. Lacroix, A. Chauvin, M.P. Deffarges**, Rapports d'essais Société Subsea 7, 2 rapports (2013).
- **M. Caliez, M. Gratton, A. Frachon**, "Implémentation d'un comportement viscoélastique viscoplastique endommageable. Identification en temperature", Rapport ENIVL/CEA du contrat CEA/LR/4600259100 (décembre 2013).
- **A. Tougui, N. Ranganathan, R. Leroy, F. Chalou, A. Bouchou, C. Lecoq, W. Rimli, Z. Ma, S. Belhenini**, Rapport Final d'activités 3DICE (2012-2013) : "Synthèse : caractérisation & modélisation", 35 pages(décembre 2013).

#### Thèses de doctorat soutenues

- **Ze Ma**, "Etude sur la fiabilité et le comportement thermomécanique de composant microélectronique de type flip-chip", Encadrement N.Ranganathan, R.Leroy, F. Chalou (5 novembre 2013).
- **Adrien Cellier**, "Etude du fraisage de l'alliage de titane Ti-6Al-4V : Influence des angles de coupe et des rayons de bec sur l'intégrité de surface et la limite d'endurance des pièces", Encadrement R. Leroy, F. Chalou (23 octobre 2013).
- **Tien Dung Do**, "Etude de la zone plastique en pointe de fissure pour l'alliage d'aluminium 2024T351", Encadrement N.Ranganathan, R.Leroy, F.chalou (17 octobre 2013).
- **Abdelkibir Benfellah**, "Modélisation de l'endommagement anisotrope induit d'un matériau agrégataire", Encadrement M.Gratton, A.Frachon, D.Picart (30 septembre 2013).
- **Hicham Chibane**, "Contribution à l'optimisation multi-objectif des paramètres de coupe en usinage et apport de l'analyse vibratoire : Application aux matériaux métalliques et composites", Encadrement R. Leroy, R. Serra (5 avril 2013).

#### HDR

- **Jean François Bassereau**, "Design sensoriel, une recherche interdisciplinaire en Action/Recherche", Université François Rabelais de Tours (18 juin 2013).

