

Les publications LMR de 2014

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

- **A. Dalmou, W. Rmili, D. Joly, C. Richard, A. Igual-Munoz**, "Tribological Behavior of New Martensitic Stainless Steels Using Scratch and Dry Wear Test", *Tribology Letters*, 56(3), 517-529 (2014). <http://dx.doi.org/10.1007/s11249-014-0429-6>
- **Z. Baccouch, R. Mnif, R. Elleuch, C. Richard**, "Analysis of friction, wear and oxidation behaviour of X40CrMoV5/ Fe360B steel couple in an open sliding contact", *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, 228(3), 276-287 (2014). <http://dx.doi.org/10.1177/1350650113504564>
- **R. Mnif, Z. Baccouch, R. Elleuch, C. Richard**, "Investigations of high temperature wear mechanisms for tool steel under open-sliding contact", *Journal of Materials Engineering and Performance*, 23(8), 2864-2870 (2014). <http://dx.doi.org/10.1007/s11665-014-1082-9>
- **Z. Ma, F. Chalon, R. Leroy, N. Ranganathan, B.D. Beake**, "Local and global properties of a lead-free solder", *Journal of Electronic Materials*, 43(3), 658-670 (2014), Guest Editor: N. Ranganathan. <http://dx.doi.org/10.1007/s11664-013-2666-0>
- **W. Rmili, M.P. Deffarges, F. Chalon, Z. Ma, R. Leroy**, "Dynamic mechanical properties and thermal effect of an epoxy resin composite, encapsulation's element of a new electronic component", *Journal of Electronic Materials*, 43(3), 702-707 (2014), Guest editor: N. Ranganathan. <http://dx.doi.org/10.1007/s11664-013-2876-5>
- **S. Belhenini, A. Tougui, A. Bouchou, N. Ranganathan, F. Dosseul**, "3D FEM Simulations of Drop Test Reliability on 3D-WLP: Effects of Solder Reflow Residual Stress and Molding Resin Parameters", *Journal of Electronic Materials*, 43(3), 708-716 (2014), Guest editor: N. Ranganathan. <http://dx.doi.org/10.1007/s11664-013-2964-6>
- **S. Belhenini, A. Tougui, A. Bouchou, F. Dosseul**, "3D Finite Element modeling of 3D C2W (chip to wafer) drop test reliability: optimization of internal architecture and materials", *Microelectronics Reliability*, 54(1), 13-21 (2014). <http://dx.doi.org/10.1016/j.microrel.2013.07.135>
- **A. Delattre, S. Lejeunes, S. Méo, F. Lacroix, C. Richard**, "On the multiaxial amplitude- and frequency-dependent behavior of rubber: experiments and constitutive modeling", *Rubber Chemistry and Technology*, 87(3), 557-578 (2014). <http://dx.doi.org/10.5254/rct.14.85995>
- **A. Cellier, F. Chalon, V. Grimal-Perrigouas, D. Bonhoure, R. Leroy**, "Effects of Cutting Angles in Ti-6al-4v Milling Process on Surface Integrity: Influence of Roughness and Residual Stresses on Fatigue Limit", *Machining Science and Technology*, 18(4), 565-584 (2014). <http://dx.doi.org/10.1080/10910344.2014.955369>
- **A. Duchosal, R. Serra, R. Leroy**, "Numerical study of the inner canalization geometry optimization in a milling tool used in micro quantity lubrication", *Mechanics & Industry*, 15(5), 435-442 (2014). <http://dx.doi.org/10.1051/meca/2014050>
- **A. Duchosal, R. Serra, R. Leroy**, "Static numerical simulation of oil mist particle size effects on a range of internal channel geometries of a cutting tool used in MQL strategy", *International Journal of Engineering, Science and Innovative Technology*, 3(1), 43-59 (2014).
- **J.-M. Mencik**, "New advances in the forced response computation of periodic structures using the wave finite element (WFE) method", *Computational Mechanics*, 54(3), 789-801 (2014). <http://dx.doi.org/10.1007/s00466-014-1033-1>
- **D. Picart, A. Benfellah, J.L. Brigolle, A. Fachon, M. Gratton, M. Caliez**, "Characterization and modeling of the anisotropic damage of a high-explosive composition", *Engineering Fracture Mechanics*, 131, 525-537 (2014). <http://dx.doi.org/10.1016/j.engfracmech.2014.09.009>
- **A. Benfellah, A. Frachon, M. Gratton, M. Caliez, D. Picart**, "Analytical and numerical comparison of discrete damage models with induced anisotropy", *Engineering Fracture Mechanics*, 121-122, 28-39 (2014). <http://dx.doi.org/10.1016/j.engfracmech.2014.03.022>
- **V. Keryvin, J.-X. Meng, S. Gicquel, J. -P. Guin, L. Charleux, J. -C. Sangleboeuf, P. Pilvin, T. Rouxel, G. Le Quilliec**, "Constitutive modeling of the densification process in silica glass under hydrostatic compression", *Acta Materialia*, 62, 250-257 (2014). <http://dx.doi.org/10.1016/j.actamat.2013.07.067>
- **B. Raghavan, G. Le Quilliec, P. Breikopf, A. Rassineux, J.-M. Roelandt, P. Villon**, "Numerical assessment of springback for the deep drawing process by level set interpolation using shape manifolds", *International Journal of Material Forming*, 7(4), 487-501 (2014). <http://dx.doi.org/10.1007/s12289-013-1145-8>
- **J. Lebon, G. Le Quilliec, P. Breikopf, R. Filomeno Coelho, P. Villon**, "A two-pronged approach for springback variability assessment using sparse Polynomial Chaos Expansion and multi-level simulations", *International Journal of Material Forming*, 7(3), 275-287 (2014). <http://dx.doi.org/10.1007/s12289-013-1126-y>
- **M. Hamdaoui, G. Le Quilliec, P. Breikopf, P. Villon**, "POD surrogates for real-time multi-parametric sheet metal forming problems - Application to quality assessment of cylindrical cup forming", *International Journal of Material Forming*, 7(3), 337-358 (2014). <http://dx.doi.org/10.1007/s12289-013-1132-0>
- **G. Le Quilliec, P. Breikopf, J.-M. Roelandt, P. Juillard**, "Semi-analytical approach to plane strain sheet metal forming using a bending-under-tension numerical model", *International Journal of Material Forming*, 7(2), 221-232 (2014). <http://dx.doi.org/10.1007/s12289-012-1122-7>

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

- **J.L. Poisson, F. Lacroix, S. Méo, G. Berton, N. Ranganathan**, "An overview of the fatigue of polychloroprene rubber », *Advanced Materials Research*, 891-892, 518-523 (2014). <http://dx.doi.org/10.4028/www.scientific.net/AMR.891-892.518>
- **N. Ranganathan**, "The Energy based approach to Fatigue", *Advanced Materials Research*, 891-892, 821-826 (2014). <http://dx.doi.org/10.4028/www.scientific.net/AMR.891-892.821>
- **C. Cruanes, G. Berton, F. Lacroix, S. Méo, N. Ranganathan**, "Study of the fatigue behaviour of the chloroprene rubber for uniaxial tests with infrared methods", *Elastomery*, 2, 3-9 (2014).
- **M. Caliez, M. Gratton, A. Frachon, A. Benfellah, D. Picart**, "Viscoelastic plastic model and experimental validation for a granular energetic material", *International Journal of Energetic Materials and Chemical Propulsion*, 13(4), 339-371 (2014). <http://dx.doi.org/10.1615/IntJEnergeticMaterialsChemProp.2014007933>
- **H. Laurent, G. Rio, A. Vandenbroucke, N. Aït Hocine**, "Experimental and numerical study on the temperature-dependent behavior of a fluoro-elastomer", *Mechanics of Time-Dependent Materials*, 18(4), 721-742 (2014). <http://dx.doi.org/10.1007/s11043-014-9247-3>

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

- G. Le Quilliec, G. Mauvoisin, G. Inglebert, M. Drissi-Habti, H.-P. Lieurade, P. Macquet, L. Jubin, "A Reverse Method Based Approach for Evaluating the Local Stress-Strain Curves of Metallic Materials from Instrumented Indentation", CAMTEC III, Cambridge University, UK, April 2014.
- N. Ranganathan, "The energy based approach to fatigue", Indian Institute of technology, Madras, India, January 2014.
- N. Ranganathan, 15 conferences: "Fatigue -Introduction" , "Fatigue of Materials", "Material Fatigue - Notch effects" , "Cumulative damage in fatigue", "Multiaxial Fatigue", "Creep of Engineering Materials", "Fracture Mechanics - I", "Fracture Mechanics - II", "Fatigue Crack Propagation", "Variable Amplitude fatigue", "Fatigue of Natural Rubber", "Damage Detection In Rubber", "Failure Analysis", "Fatigue of Polymers and Composites", "Miscellaneous topics in fatigue", SRM University, mechanical Engineering Department, Tamil Nadu, India, January 2014.
- N. Ranganathan, "Salient aspects of the Energy based approach to Fatigue", Vellore Institute of technology, Vellore, India, January 2014.

Communications avec actes dans un congrès international (ACTI)

- S. Dos Santos, D. Remache, D. Tokar, M. Gratton, J.C. Pittet, Z. Prevorvky, M. Caliez, "Viscoelastic and/or hysteretic properties of the skin: acousto-mechanical evaluation using nonlinear time reversal imaging in symbiosis with uniaxial loading", Proceedings of the 28th congress of the International Federation of Societies of Cosmetic Chemists (IFSCC), pp. 1561-1570, Paris, France, October 27-30 2014.
- R. Serra, J.P. Piatti, G. Gautier, S. Dos Santos, "New damage detection and localization strategy from numerical library", 11th European Conference on Non - Destructive Testing ECNDT 2014, Prague, Czech Republic, October 2014.
- C. Cruanes, F. Lacroix, G. Berton, S. Méo, N. Ranganathan, "Evolution of the Hysteresis Area During Fatigue Tests of a Synthetic Rubber", 186th technical Meeting of the Rubber Division of the American Chemical Society, Nashville, Tennessee, October 13-16 2014.
- P.B. Silva, J.-M. Mencik, J.R.F. Arruda, "On the forced harmonic response of coupled systems via a WFE-based super-element approach", 26th International Conference on Noise and Vibration engineering (ISMA2014), Leuven, Belgium, September 15-17 2014.
- A. Duchosal, R. Serra, R. Leroy, "Numerical study of the influence of the oil mist particle sizes used in MQL by internal canalizations on a surfacing operation", 11th World Congress on Computational Mechanics (WCCM XI), 5th European Conference on Computational Mechanics (ECCM V), 6th European Conference on Computational Fluid Dynamics (ECFD VI), Barcelona, Spain, July 2014.
- A. Dalmau, C. Richard, A. Igual-Muñoz, "Corrosion behavior of new martensitic stainless steels using electrochemical techniques", XXXV Reunion del Grupo de Electroquímica de la Real Sociedad Española de Química, Burgos, Spain, July 14-16 2014.
- A. Duchosal, R. Serra, R. Leroy, "Influence of Minimum Quantity Lubrication design parameters on milling finishing process", Proceedings of Joint Conference on Mechanical, Design Engineering & Advanced Manufacturing, Toulouse, France, June 2014.
- P. Breitkopf, G. Le Quilliec, B. Raghavan, "Numerical assessment of Springback for the Deep Drawing Process by Level Set Interpolation Using Shape Manifolds", 8th International Conference on Scientific Computations and Applications, ICSCA, Xi'an, China, June 11-16 2014.
- H. Zaidi, C. Richard, J. Frêne, "La triboélectricité dans les contacts dynamiques", 26èmes Journées Internationales Francophones de Tribologie 2014 (JIFT '14), Mulhouse, France, May 26-28 2014, in « Matériaux et Tribologie » aux Presses des Mines, Collection Sciences de la Matière, Ed. Sci. M.-A. Bueno (en cours d'édition).
- A. Delattre, S. Lejeunes, S. Méo, F. Lacroix, "Constitutive modeling of the dynamical properties of a filled rubber and simulation of laminated devices with a specific FEM tool", RubberCon 2014: Advanced Engineering & Materials Developments, Manchester UK, May 2014.
- S. Belhenini, A. Tougui, F. Dosseul, "Design for thermo-mechanical reliability of a 3D microelectronic component using 3D FEM", 15th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems (EuroSimE 2014), Ghent, Belgium, April 7-9 2014. <http://10.1109/EuroSimE.2014.6813881>
- J.-L. Poisson, F. Lacroix, S. Méo, G. Berton, N. Ranganathan, "An overview of the fatigue of polychloroprene rubber", Fatigue 2014, 11th International Fatigue Congress, Melbourne, Australia, March 2-7 2014.
- N. Ranganathan, "The Energy based approach to Fatigue", Fatigue 2014, 11th International Fatigue Congress, Melbourne, Australia, March 2-7 2014.
- N. Ranganathan, "An overview of the fatigue of polychloroprene rubber", Fatigue 2014, 11th International Fatigue Congress, Melbourne, Australia, March 2-7 2014.
- N. Ranganathan, F. Chalon, Z. Ma and R. Leroy, "Dynamic behavior of a lead free solder", Fatigue 2014, 11th International Fatigue Congress, Melbourne, Australia, March 2-7 2014.
- G. Le Quilliec, B. Raghavan, P. Breitkopf, A. Rassineux, P. Villon, J.-M. Roelandt, "Springback Assessment Based on Level Set Interpolation and Shape Manifolds in Deep Drawing", NUMISHEET 2014, Melbourne, Australia, January 2014.
- S. Khatir, I. Belaidi, R. Serra, A. Khatir, B. Benaissa, T. Khatir, "Comparative study of longitudinal and transverse cracks on an airplane wing", International Conference on Engineering of Industrial Safety and Environment (ICISE14), Oran, Algeria, January 2014.

Communications avec actes dans un congrès national (ACTN)

- G. Gautier, R. Serra, J.-M. Mencik, "Subspace-based damage identification of roller bearing", 4ème Colloque National Analyse Vibratoire Expérimentale (AVE2014), Blois, France, 18-20 novembre 2014.
- M.A. Sahali, I. Belaidi, R. Serra, "Bi-objective robust optimization of machined surface quality and productivity under vibrations limitation", 4ème Colloque National Analyse Vibratoire Expérimentale (AVE2014), Blois, France, 18-20 novembre 2014.
- G. Huchet, S. De Vito, E. Estrade, T. Le Bihan, W. Rmili, F. Chalon, N. Ranganathan, "Loi de traction et tenue en fatigue d'un revêtement aluminium projeté plasma", Conférence Matériaux, Montpellier, France, novembre 2014.
- S. Werda, A. Duchosal, G. Le Quilliec, R. Leroy, "Optimisation et validation numérique du procédé de micro lubrification (MQL) par canalisations internes d'un outil de fraisage", Machine et Usinage à Grande Vitesse (MUGV) 2014, Clermont-Ferrand, France, 15-16 octobre 2014.
- A. Martinez, C. Letot, R. Serra, P. Dehombreux, "Maîtrise de l'estimation de l'usure des plaquettes de coupe en usinage", Machine et Usinage à Grande Vitesse (MUGV) 2014, Clermont-Ferrand, France, 15-16 octobre 2014.
- S. Werda, A. Duchosal, G. Le Quilliec, R. Leroy, "Optimisation et validation numérique du procédé de microlubrification (MQL) par canalisations internes d'un outil de fraisage", Manufacturing 21, Laboratoire Génie de Production, Tarbes, France, avril 2014.

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

- C. Valantin, F. Lacroix, M.P. Deffarges, J. Morcel, Denis Tricoch, N. Ait Hocine, "Evolution en fatigue des propriétés mécanique à l'interface textile-caoutchouc", Indentation 2014, Strasbourg, France, 10-12 décembre 2014.
- G. Le Quilliec, "Topology optimization procedure TOPOPTIM and other various developments made with Cast3M", Cast3M Club 2014, Paris, France, novembre 2014.
- F. Lacroix, C. Cruanes, G. Berton, S. Méo, N. Ranganathan, "Etude de l'évolution de l'aire de l'hystérésis lors d'essais en fatigue sur des éprouvettes en polychloroprene", 3ème Journée Thématique sur la Caractérisation Mécanique des Elastomères (JTCME 3), Nantes, France, 25 septembre 2014.

- A. Delattre, S. Lejeunes, F. Mazerolle, S. Méo, F. Lacroix, "Validation d'un modèle de comportement à partir d'essais multi-axiaux sur palier lamifié : corrélations globales et locales", 3ème Journée Thématique sur la Caractérisation Mécanique des Elastomères (JTCME 3), Nantes, France, 25 Septembre 2014.
- Y. Batonneau, E. Dion, C. Koïta, C. Kappenstein, L. Pirault-Roy, G. Abadias, M. Gauer, D. Telitschkin, U. Gotzig, E. Vargas, P. Rangsten, "MEMS-based microcatalysts for hydrazine decomposition for micropropulsion, European project PRECISE", 11th International Symposium-PREPA11, Leuven, Belgium, July 2014.
- R.Serra, C. Delprete, R. Sesana, "Effects of low cycle fatigue isothermal damage on aluminium's dynamic characteristics", Conference Vibrations Shocks and Noise (Vishno) 2014, Aix-en-provence, France, June 16-19 2014.
- J.-P. Piatti, R. Serra, G. Gautier, "Study on the detection and localization of damage in an Euler-Bernoulli beam", Conference Vibrations, Shocks and Noise (Vishno) 2014, Aix-en-provence, France, June 16-19 2014.
- M.-H. Trinh, S. Berger, E. Aubry, "Non-intrusive Multi-element Generalized Polynomial Chaos Approach takes uncertain parameters into account in the dynamic behaviour of a clutch system", Conference Vibrations, Shocks and Noise (Vishno) 2014, Aix-en-provence, France, June 16-19 2014.
- W. Rmili, G. Huchet, F. Chalon, S. De Vito, T. Le Bihan, N. Ranganathan, "Identification du comportement en fatigue de matériaux élaborés par projection plasma", Journée SF2M Section Ouest, Tours, France, 17 avril 2014.
- C. Valantin, M.P. Deffarges, F. Lacroix, J. Morcel, N. Ait Hocine, "Study of the RFL/rubber interface in a cord-rubber composite", Journée SF2M Section Ouest, Tours, 17 avril 2014.
- C. Cruanes, G. Berton, F. Lacroix, S. Méo, N. Ranganathan, "Etude de l'aire d'hystérésis dans le cadre d'essais en fatigue sur un élastomère synthétique", Journée SF2M Section Ouest, Tours, 17 avril 2014.
- S. Seghar, M. Venin, A. Chauvin, N. Ait Hocine, S. Azem, "Comportement mécanique des caoutchoucs élaborés par frittage de poudre de pneus usagés à hautes température et pression", Journée SF2M Section Ouest, Tours, 17 avril 2014.
- S. Belhenini, A. Tougui, "Présentation des techniques d'estimation de la fiabilité mécanique des composants électroniques", séminaire au Laboratoire de Mécanique Rationnelle de l'université de Mons, Belgique, avril 2014.

Ouvrages scientifiques - ou chapitres de ces ouvrages (OS)

- J. Kleczewska, D. M. Bielinski, N. Ranganathan, J. Sokolowski, "Characterization of Light-Cured Dental Composites", in "Materials Characterization: Modern Methods and Applications", Sci. Ed. M. Ranganathan, Pan Stanford Publishing Pte Ltd, Singapore, Chapter 3 (2014).
- Z. Ma, F. Chalon, R. Leroy, D. Bertheau, N. Ranganathan, "Properties of a lead free solder", in "Materials Characterization: Modern Methods and Applications", Sci. Ed. M. Ranganathan, Pan Stanford Publishing Pte Ltd, Singapore, Chapter 4 (2014).
- T.D. Do, F. Chalon, R. Leroy, D. Joly, N. Ranganathan, "Determination of Plastic Zones at the Crack Tip", in "Materials Characterization: Modern Methods and Applications", Sci. Ed. M. Ranganathan, Pan Stanford Publishing Pte Ltd, Singapore, Chapter 5 (2014).
- J.L. Poisson, S. Méo, F. Lacroix, G. Berton, N. Ranganathan, "Multiple aspects of Polychloroprene's Fatigue Behavior", in "Materials Characterization: Modern Methods and Applications", Sci. Ed. M. Ranganathan, Pan Stanford Publishing Pte Ltd, Singapore, Chapter 6 (2014).
- C. Richard, G. Manivasagam, Y-M. Chen, "Measurement of wear and friction resistance of bulk and coated materials", in "Materials Characterization: Modern Methods and Applications", Sci. Ed. M. Ranganathan, Pan Stanford Publishing Pte Ltd, Chapter 8 (2014).
- N. Ranganathan, R. Leroy, "Certain aspects of Notch Fatigue, Recent trends in Fatigue Design", R. Branco ed., Ed: Nova Science (2014).

Ouvrages de vulgarisation (ou chapitres de ces ouvrages)

- S. Boucaud Gauchet, "Les polymères au quotidien", Covalences N°93 (automne 2014).

Autres publications (AP)

- Leborgne, A. Tougui, Rapport d'activité du projet ConnectiC (octobre 2014).
- E. Dion, Y. Batonneau, C. Kappenstein, "Micro Catalyst Test Results", Déliverable D4.417, FP7-PRECISE (2014).
- F. Lacroix, M.P. Deffarges, Rapports d'avancement collaboration Hutchinson, 4 rapports (2012-2014).
- F. Lacroix, A. Chauvin, M. Venin, Rapports d'essais Société GTT (2012-2014).
- M.P. Deffarges, F. Lacroix, Rapports d'essais Société Zodiac Aerazur, 4 rapports (2012-2014).
- A. Delattre, S. Méo, F. Lacroix, S. Lejeunes, Rapports d'avancement collaboration Eurocopter : Caractérisation statique & dynamique, influence de la température, étude physico-chimique, avancée sur la modélisation (2011-2014).

Thèses de doctorat soutenues

- Chloé Valantin, "Compréhension des mécanismes d'endommagement de l'interface textile-caoutchouc", Encadrement F.Lacroix, N. Ait Hocine (18 décembre 2014).
- Hanaya Hassan, "Propriétés rhéologiques à l'état fondu et à l'état solide de nanocomposites PA/Argile", Encadrement M.P. Deffarges, N. Ait Hocine, P. Mederic (20 novembre 2014).
- Alexis Delattre, "Caractérisation et modélisation du comportement hyper-viscoélastique d'un élastomère chargé pour la simulation de pièces lamifiées élastomère-métal et étude en fatigue", Encadrement S. Lejeunes, S. Méo, C. Richard (19 septembre 2014).

Brevets et enveloppes Soleau

- M. Arderiu, M. Jardry, C. Richard, Enveloppe Soleau #508675 230514 (12 juin 2014).
- C. Richard, enveloppe Soleau #508675 230514 (12 juin 2014).

