

Lionel Flandin

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Citizenship French

◇ Experience ◇

09/08 *Professor (Chambéry, France)*

now LMOPS UMR CNSR 5041 Université de Savoie

Laboratoire Matériaux Organiques à Propriétés spécifiques

Multi-scale approach of the physical properties in heterogeneous systems

09/00 *Associate Professor (Chambéry, France)*

09/08 LMOPS UMR CNSR 5041 Université de Savoie

Laboratoire Matériaux Organiques à Propriétés spécifiques

Multi-scale approach of the physical properties in heterogeneous systems

03/06 *Visiting Professor Cleveland (OHIO, USA)*

09/06 Dielectric Spectroscopy of multi layered polymeric composites'

Numerical modeling of the percolation transition : from 2D to 3D behavior'

Invited by Professors A. Hiltner and E. Baer

09/99 *Research Engineer (Paris, France)*

09/00 Rhodia Research Center

SBR filled with precipitated silica for tires applications'

Weathering and ageing of rare earth pigments for automotive applications'

02/98 *Research Associate Cleveland (OHIO, USA)*

08/99 Dept. of Macromolecular Science, Case Western Reserve University

Professors E. Baer and A. Hiltner. Financial support ARO and NSF.

Electrical and mechanical properties of insulator/conductor composites under large strain'

'Processing and properties of microlayered composites of biodegradable polymers'

10/94 *Ph.D. Grenoble (France)*

01/98 Center for Research on Vegetal Macromolecules (CERMAV-CNRS)

Supervisors : Professors J-Y Cavaillé, Y Bréchet and G. Canova

In situ characterization by electrical properties of the damage in new nanocomposite materials'

Sponsor : B. Ernst (ELF ATOCHEM, Serquiny France)

09/92 *Masters Degree Grenoble (France)*

09/93 Supervisors : Professors Y. Bréchet and G. Canova

Laboratoire de Thermodynamique et Physico-Chimie Métallurgique, (LTPCM)

Texture evolution during thermomechanical treatments of pure Aluminum'

Sponsor : B. Chenal (PÉCHINEY, France)

03/92 *Bachelor Degree Karlsruhe (Germany)*

08/92 Supervisors : Professor B. Ploss and T. Lessle

Institut für Angewandte Physik, (Applied Physics Institute)

Dielectric spectroscopy on PVDF-PTFE blends and copolymers',

◇ Editorial Boards / Reviewer ◇

- **Since 2002** : Member of the Editorial board of the *Journal of Applied Polymer Science* (Editor : Stefano Tonzani)
- **May 2006** : Main Technical Committee for INSUCON 2006 (May 2006, Birmingham, England)
- **Reviewer** : Acta. Mater. | Adv. Mater. | Appl. Phys. A | Biomacromolecules | Compos. Sci. Technol. | Composites Part A | EPJ Applied physics | Express Polymer Letter | IEEE Trans. Dielectr. Electr. Insul. | Iraqi Journal of Applied Physics | J. Appl. Phys. | J. Appl. Polym. Sci. | J. Compos. Mater. | J. Mater. Sci. | J. Phys. Chem. | Korean J. Chem. Eng. | Macromol. Symp. | Modell. Simul. Mater. Sci. Eng. | Polym. Chem. | Polym. Compos. | Polymer

◇ Advisor for Graduated Students ◇

Ph.D. Students

- **F. Dubelley (2013-2016)** *Optimisation of polymeric envelops for vacuum insulating panels applications* with C. Bas and E Planès.
- **M. Badar (2012-2015)** *Characterizing the dispersion of MWCNT in various matrices : experiments and applications.*
- **F. Gloaguen (2010-2013)** *New polymer based Bipolar Plates with optimized properties for fuel cell* with N. Albérola and E Planès.
- **A. El Kaddouri (2010-2013)** *In service degradation of the organic phase in the active layers in PEM-FC* with C. Bas.
- **A. Combessis (2008-2011)** *Carbone nanotube for electrical applications in cables composites*
- **E. Moukheiber (2007-2010)** *Understanding Fuel Cell membrane pollution by cations* with C. Bas.
- **A. Nouridine (2007-2010)** *Synthesis and characterization of extrudable organic photovoltaics active layers* with N. Albérola and L. Perrin.
- **M. Mackey (2007-2011)** *Microlayered Polymer Films for High Energy Density Capacitors* with E. Baer and A. Hiltner.
- **T. Fatallah (2005-2008)** *Coupled mechanical and electrical characterization of composite materials : influence of the temperature, frequency and amplitude of dynamic sollicitations* with P. Mélé.
- **G. Garnier (2005-2008)** *Conception and characterization of new thermal insulation materials for Houses* with Y. Bréchet.
- **A.S. Danérol (2005-2008)** *Ageing of MAE for fuel cells* with C. Bas and N.D. Albérola
- **N. Barreaud (2001-2005)** *Modelling the dielectric breakdown of insulator-insulator composites* with N.D. Albérola
- **L. Vouyovitch Van Schoors (2000-2004)** *Micro-macro and meso-macro approach of the dielectric breakdown in heterogeneous systems : Experiments and numerical simulation* with N.D. Albérola

◇ Main Lectures ◇

- **Nano and micro filled polymeric materials : process, characterizations and expected properties ;** Master Degree
- **Percolation theory : Introduction and main applications,** Master Degree
- **Physico chemical characterization of polymers and composites** senior undergraduate students
- **Basic English for scientific presentations** senior undergraduate students (with D. Brown and H Eyre)
- **Brittle materials : glasses and ceramics** junior undergraduate students
- **Data acquisition and treatment** junior undergraduate students
- **Viscoelasticity in Polymers** junior undergraduate students (with N.D. Albérola)
- **Maths** junior undergraduate students (with J.L. Martin)

11. Bernard Duperray, Tarek Fathallah, Patrice Mele, and Lionel Flandin. Method and system for electrical/mechanical coupled measurements for characterizing materials under dynamic conditions., 2009. Wo2006008422
10. B. Duperray, T. Fathallah, L. Flandin, and P. Mele. Developpement d'un nouvel outil d'analyse et de caracterisation des polymeres charges, 2007. Fr0760204
9. N.D. Albérola, C. Bas, E. Claude, A.-S. Danérol, and L. Flandin. Procédé de diagnostic d'une pile combustible., 2008. Fr0760399
8. Jean-Luc Bessede, Abderrahmane Beroual, Nicole Alberola, Lionel Flandin, Nadege Barreaud, and Laetitia Vouyovitch. Method of producing an insulator for high voltage use., 2007. EP1769511
7. Nicole Dominique Albérola, A. Beroual, J-L. Bessède, and Lionel Flandin. Process and device for characterization of the dielectric properties of a heterogeneous material, 2006. Fr2880163A1
6. Jean Luc Bessède, Abderrahmane Bérroual, Nicole Albérola, Lionel Flandin, Nadège Barreaud, and Laetitia Vouyovitch. Method of producing an insulator for high voltage use, 2006. WO2006008422
5. Torsten Prasse, Lionel Flandin, and H. Kunzig. Herstellungsverfahren fr einen Elektrostatisch leitfhigen Belag sowie danach hergestellter Belag, 1998. EU99118710
4. Torsten Prasse, Lionel Flandin, and F. Knopf. Werkstoff und Verfahren zum herstellen desselben, 1998. EU99118734
3. Jean Yves Nicolas Cavaille and Lionel Jean Clovis Flandin. Conductive cellulose microfibrils and composites incorporating same., 1997. FR2743371
2. JY Cavaille and L Flandin. Microfibrilles de cellulose conductrices et composites les incorporant, 1997. Ep19970400022
1. Lionel Flandin and Jean Yves Cavaille. Electrically conductive cellulosic microfibrils and matrices reinforced therewith, 1996. Fr96600133

◇ Publications ◇

53. J.M. Carr, M. MacKey, L. Flandin, A. Hiltner, and E. Baer. Structure and transport properties of polyethylene terephthalate and poly(vinylidene fluoride-co-tetrafluoroethylene) multilayer films. *Polymer*, 54(6):1679–1690, 2013. cited By (since 1996) 0
52. J.M Carr, M MacKey, L Flandin, D Schuele, L Zhu, and E Baer. Effect of biaxial orientation on dielectric and breakdown properties of poly(ethylene terephthalate)/poly(vinylidene fluoride-co-tetrafluoroethylene) multilayer films. *J. Polym. Sci., Part B: Polym. Phys.*, 51(11):882–896, 2013
51. Anthony Combessis, Lorrene Bayon, and Lionel Flandin. Effect of filler auto-assembly on percolation transition in carbon nanotube/polymer composites. *Appl Phys Lett*, 102(1):011907, 2013
50. A Combessis, C Mazel, M Maugin, and L. Flandin. Optical density as a probe of carbon nanotubes dispersion in polymers. *J. Appl. Polym. Sci.*, 2013
49. E. Moukheiber, C. Bas, N.D. Alberola, and L. Flandin. Infrared and thermal behaviour of proton exchange membrane (pem) after cationic contamination. *J. Membr. Sci.*, 431:105–112, 2013
48. E. Moukheiber, C. Bas, and L. Flandin. Understanding the formation of pinholes in pfsa membranes with the essential work of fracture (ewf). *Int J Hydrogen Energy*, XXX(0):XXX, 2013
47. L Perrin, A Nourdine, E Planes, C Carrot, N Alberola, and L Flandin. Fullerene-based processable polymers as plausible acceptors in photovoltaic applications. *J. Polym. Sci., Part B: Polym. Phys.*, 51(4):293–302, 2013
46. G De Moor, C Bas, N Charvin, E Moukheiber, F Niepceron, N Breilly, J Andre, E. Rossinot, E Claude, N Alberola, and L Flandin. Understanding membrane failure in pemfc: Comparison of diagnostic tools at different observation scales. *Fuel Cells*, 12(3):356–364, 2012
45. M Mackey, D Schuele, L Zhu, L Flandin, M.A Wolak, J.S Shirk, A Hiltner, and E Baer. Reduction of dielectric hysteresis in multilayered films via nanoconfinement. *Macromolecules*, 45(4):1954–1962, 2012

44. E. Moukheiber, G. De Moor, L. Flandin, and C. Bas. Investigation of ionomer structure through its dependence on ion exchange capacity (iec). *J. Membr. Sci.*, 389:294–304, 2012
43. Z Zhou, M MacKey, J Carr, L Zhu, L Flandin, and E Baer. Multilayered polycarbonate/poly(vinylidene fluoride-co-hexafluoropropylene) for high energy density capacitors with enhanced lifetime. *J. Polym. Sci., Part B: Polym. Phys.*, 50(14):993–1003, 2012
42. M. MacKey, L. Flandin, A. Hiltner, and E. Baer. Confined crystallization of pvdf and a pvdf-tfe copolymer in nanolayered films. *J. Polym. Sci., Part B: Polym. Phys.*, 49(24):1750–1761, 2011
41. A Nourdine, L Perrin, R Bettignies, S Guillerez, L Flandin, and N Alberola. Synthesis and characterization of fullerene based systems for photovoltaic applications: Evidence for percolation threshold. *Polymer*, 52(26):6066–6073, 2011
40. E. Planes, S. Marouani, and L. Flandin. Optimizing the heat sealing parameters of multilayers polymeric films. *J. Mater. Sci.*, 46(18):5948–5958, 2011
39. A.S Danerol, C Bas, L Flandin, E Claude, and N.D Alberola. Influence of ageing in fuel cell on membrane-electrodes interfaces. *J Power Sources*, 196(7):3479–3484, 2011
38. G De Moor, C Bas, F Lesage, A.S Danerol, E Claude, E Rossinot, M Paris, L Flandin, and N.D Alberola. Understanding the degradation of mea in pemfc: Definition of structural markers and comparison between laboratory and on-site ageing. *J Appl Polym Sci*, 120(6):3501–3510, 2011
37. Géraldine Garnier, Sofiane Marouani, Bernard Yrieix, Claude Pompeo, Michel Chauvois, Lionel Flandin, and Yves Brechet. Interest and durability of multilayers: from model films to complex films. *Polym Adv Technol*, 22(6):847–856, 2011
36. C. Bas, L. Flandin, A.-S. Danerol, E. Claude, E. Rossinot, and N. D. Alberola. Changes in the chemical structure and properties of a perfluorosulfonated acid membrane induced by fuel-cell operation. *J. Appl. Polym. Sci.*, 117(4):2121–2132, 2010
35. C. Bas, N.D. Alberola, and L. Flandin. Effects of contaminant on thermal properties in perfluorinated sulfonic acid membranes. *J. Membr. Sci.*, 363(1-2):67–71, 2010
34. G Garnier, B Yrieix, Y Brechet, and L. Flandin. Influence of structural feature of aluminum coatings on mechanical and water barrier properties of metallized pet films. *J. Appl. Polym. Sci.*, 115(5):3110–3119, 2010
33. Matt Mackey, Anne Hiltner, Eric Baer, Lionel Flandin Mason Atom Wolak, and James S Shirk. Dielectric properties of micro and nanolayered pc-pvdf films. In *ACS 41st Central Regional Meeting Cleveland OH*, May 20-23 2009
32. L. Flandin, A. S. Danerol, C. Bas, E. Claude, G. De-Moor, and N. Alberola. Characterization of the degradation in membrane electrode assemblies through passive electrical measurements. *J. Electrochem. Soc.*, 156(10):B1117–B1123, 2009
31. Geraldine Garnier, Bechir Chehab, Bernard Yrieix, Yves Brechet, and Lionel Flandin. On the essential work of fracture in polymer-metal multilayers. *J. Mater. Sci.*, 44(20):5537–5543, October 2009
30. Geraldine Garnier, Yves Brechet, and Lionel Flandin. Development of an experimental technique to assess the permeability of metal coated polymer films. *J. Mater. Sci.*, 44(17):4692–4699, September 2009
29. C Bas, L Reymond, AS Danérol ND Albérola, E Rossinot, and L Flandin. Key counter ion parameters governing polluted nafion membrane properties. *J. Polym. Sci., Part B: Polym. Phys.*, 47(14):1381–1392, 2009
28. Mason A. Wolak, Ming-Jen Pan, Alan Wan, James S. Shirk, Matt Mackey, Anne Hiltner, Eric Baer, and Lionel Flandin. Dielectric response of structured multilayered polymer films fabricated by forced assembly. *Appl. Phys. Lett.*, 92(11):113301, 2008
27. Lionel Flandin. Some degradation mechanisms in membrane-electrode assembly aged in pemfc. In *235th ACS National Meeting, New Orleans, LA, April 6-10, 2008*, 2008
26. Lionel Flandin. Some degradation mechanisms in membrane-electrode assembly aged in pemfc. In *235th ACS National Meeting, New Orleans, LA, April 6-10, 2008*, 2008
25. JC Honoré, P Mélé, and L Flandin. Influence of fibre clustering on the transverse mechanical behaviour of polypropylene-glass fibre composites: experimental approach and modelling. *J. Phys. D: Appl. Phys.*, 40:6768–6777, 2007

24. Alan Wan, Mason Atom Wolak, Matt Mackey, Lionel Flandin, Eric Baer, and James S Shirk. Analysis of dielectric breakdown in multilayered polymer composites via focused ion beam (fib)-scanning electron microscopy (sem). In *MRS: Materials Research for Electrical Energy Storage (San Fransico, CA - USA)*, 2008
23. LAeTitia Vouyovitch, Lionel Flandin, Jean Luc Bessède, and Nicole Dominique Albérola. Evolutions of microstructure and dielectric behaviour of epoxy based insulator-insulator composites over long periods of time. *J. Appl. Polym. Sci.*, 100:3454–3464, 2006
22. LAeTitia Vouyovitch, N. Dominique Albérola, Abderrahmane Bérroual, Jean Luc Bessède, and Lionel Flandin. Dielectric breakdown of epoxy-based composites: relative influence of physical and chemical aging. *IEEE Trans. Diel. Electr. Insul.*, 13(2):282–292, 2006
21. Lionel Flandin, LAeTitia Vouyovitch, Abderrahmane Bérroual, Jean Luc Bessède, and N. Dominique Albérola. Influences of degree of curing and presence of inorganic fillers on the ultimate electrical properties of epoxy-based composites: experiment and simulation. *J. Phys. D: Appl. Phys.*, 38(1):144–155, 2005
20. K. Yuse, Florent Dalmas, Lionel Flandin, and Jean Yves Cavaillé. Coupled mechanical and conductivity measurements: damage detection. *Int. J. Appl. Electromagnet Mech*, 21(3-4):183–192, 2005
19. LAeTitia Vouyovitch, Lionel Flandin, Gérard Merle, Jean Luc Bessède, and Nicole Dominique Albérola. Influence of the processing on the completion of curing in epoxy-based composites. *J. Appl. Polym. Sci.*, 96(4):1368–1376, 2005
18. Laurence Ladouce-Stelandre, Yves Bomal, Dominique Labarre, and Lionel Flandin. Dynamic mechanical properties of precipitated silica filled rubber: influence of morphology and coupling agent. *Rubber Chem. Technol.*, 76(1):145–159, 2003
17. Lionel Flandin, Laetitia Vouyovitch, N. Barreaud, J.L. Bessède, Abderrahmane Bérroual, and N. Dominique Albérola. Modeling the dielectric breakdown in epoxy-based heterogeneous systems. *High Voltage Engineering (ISH) J Smith Editor*, 1:123–125, 2003
16. Lionel Flandin, L. Vouyovitch, N. Barreaud, J.L. Bessède, A. Bérroual, and Nicole Dominique Albérola. Modelling the electrical breakdown of epoxy-based heterogeneous systems. *XIII International Electrical Insulation Conference (Delft, Netherland, Octobre 2003)*, 1:236–240, 2003
15. Lionel Flandin, Yves Bréchet, and Jean Yves Cavaillé. Electrically conductive polymer nanocomposites as deformation sensors. *Compos. Sci. Technol.*, 61(6):895–901, 2001
14. Lionel Flandin, Yves Bréchet, and Jean Yves Cavaillé. Future trends in health monitoring of materials. *Mater. Tech.*, 89:31–33, 2001
13. Yves Bréchet, Jean Yves Cavaillé, Chabert E., Laurent Chazeau, Remy Dendievel, Lionel Flandin, and C. Gauthier. Polymer based nanocomposites: effect of filler-filler and filler-matrix interactions. *Adv. Eng. Mater.*, 3(8):571–577, 2001
12. Lionel Flandin, Anne Hiltner, and Eric Baer. Interrelationships between electrical and mechanical properties of a carbon black-filled ethylene-octene elastomer. *Polymer*, 42(2):827–838, 2001
11. Lionel Flandin, Gérard Bidan, Yves Bréchet, and Jean Yves Cavaillé. New nanocomposite materials made of an insulating matrix and conducting fillers: processing and properties. *Polym. Compos.*, 21(2):165–174, 2000
10. Lionel Flandin, Torsten Prasse, Wolfgang Bauhofer, Karl Schulte, and Jean Yves Cavaillé. Carbon black filled thermoset with controlled microstructure for electrical applications. *Mater. Tech.*, 88(7-8):51–54, 2000
9. Lionel Flandin, Andy Chang, Serguei Nazarenko, Anne Hiltner, and Eric Baer. Effect of strain on the properties of an ethylene-octene elastomer with conductive carbon fillers. *J. Appl. Polym. Sci.*, 76(6):894–905, 2000
8. Lionel Flandin, Yves Bréchet, Gilles Canova, and Jean Yves Cavaillé. ac electrical properties as a sensor of the microstructural evolution in nanocomposite materials: experiment and simulation. *Modell. Simul. Mater. Sci. Eng.*, 7(5):865–874, 1999
7. Lionel Flandin, Marc Verdier, Bernard Bouterin, Yves Bréchet, and Jean Yves Cavaillé. A 3D numerical simulation of ac electrical properties of short fiber composites. *J. Polym. Sci., Part B: Polym. Phys.*, 37(8):805–814, 1999

6. Lionel Flandin, Torsten Prasse, Ruediger Schueler, Karl Schulte, Wolfgang Bauhofer, and Jean Yves Cavaillé. Anomalous percolation transition in carbon-black-epoxy composite materials. *Phys. Rev. B: Condens. Mater.*, 59(22):14349–14355, 1999
5. Lionel Flandin, Yves Bréchet, Rémy Dendievel, and Jean Yves Cavaillé. Characterization of the damage in nanocomposite materials by a.c. electrical properties: experiment and simulation. *J. Mater. Sci.*, 34(8):1753–1759, 1999
4. Torsten Prasse, Lionel Flandin, Karl Schulte, and Wolfgang Bauhofer. in situ observation of electric field induced agglomeration of carbon black in epoxy resin. *Appl. Phys. Lett.*, 72(22):2903–2905, 1998
3. H. R. Wenk, Gilles Canova, Yves Bréchet, and Lionel Flandin. A deformation-based model for recrystallization of anisotropic materials. *Acta Mater.*, 45(8):3283–3296, 1997
2. Marc Verdier, Istvan Groma, Lionel Flandin, János Lendvai, Yves Bréchet, and Pierre Guyot. Dislocation densities and stored energy after cold rolling of Al-Mg alloys: investigations by resistivity and differential scanning calorimetry. *Scripta Mater.*, 37(4):449–454, 1997

◇ **Conference papers** ◇

8. Matt Mackey, Anne Hiltner, Eric Baer, Lionel Flandin, Mason A Wolak, and James S Shirk. Enhanced breakdown strength of multilayered films fabricated by forced assembly microlayer coextrusion. *J. Phys. D: Appl. Phys.*, 42(17):175304, 2009
7. G. Garnier, D. Quenard, B.Yrieix, M. Chauvois, L. Flandin, and Y. Brechet. Optimization, design, and durability of vacuum insulation panels. In *8th International Vacuum Insulation Symposium 2007*, 2007
6. © Lionel Flandin. A finite element simulation of the dielectric breakdown of epoxy based composites. *MSD Modelling, Simulation and Design of Dielectrics, Homerton College, (Cambridge, 6 - 8 April 2005)*, 1:221–223, 2005
5. Nadège Barraud, Laetitia Vouyovitch, Lionel Flandin, Jean Luc Bessède, Abderrahmane Bérroual, and Nicole Dominique Albérola. A meso-macro approach of the dielectric breakdown in heterogeneous systems: experimental results and comparison to numerical simulation. *Proceedings of the 2004 IEEE International Conference on Solid Dielectrics ICSD 2004*, Vol:1:33–36, 2004
4. Lionel Flandin, L. Vouyovitch, N. Barraud, J.L. Bessède, A. Bérroual, and Nicole Dominique Albérola. Modelling the electrical breakdown of epoxy-based heterogeneous systems. *XIII International Electrical Insulation Conference (Delft, Netherland, Octobre 2003)*, 1:236–240, 2003
3. Lionel Flandin, Laetitia Vouyovitch, N. Barraud, J.L. Bessède, Abderrahmane Bérroual, and N. Dominique Albérola. Modeling the dielectric breakdown in epoxy-based heterogeneous systems. *High Voltage Engineering (ISH) J Smith Editor*, 1:123–125, 2003
2. Lionel Flandin, Torsten Prasse, Jean Yves Cavaillé, and Karl Schulte. Carbon black filled thermosets with controlled microstructure for electrical applications. *Optimisation and Durability of Structural Materials (Villars de Lans 16 et 17 Décembre 2000)*, 1:41–52, 2000
1. Lionel Flandin, Yves Bréchet, Gilles Canova, and Jean Yves Cavaillé. Characterization by electrical properties of the damage in new nanocomposite materials. *Deform Fract Compos*, 1:285–295, 1996

◇ **Conferences** ◇

48. © ⇔ Lionel Flandin. Some degradation mechanisms in membrane-electrode assembly aged in pemfc. In *235th ACS National Meeting, New Orleans, LA, April 6-10, 2008*, 2008
47. © ⇔ Lionel Flandin. Epoxy-based composites for high voltage application: initial characteristics and on-site aging. In *The Raymond Boyer lectures series, Department of macromolecular science and engineering (Cleveland, OH, sept 1, 2006)*. CWRU, September 2006

46. Florent Dalmas, Lionel Flandin, K. Yuse, and Jean Yves Cavaillé. Coupled mechanical and conductivity measurements: Damage detection. In *1st INABIO, (Tohoku University, Sendai, Japan February 17, 2004)*, 2004
45. ⇐ Lionel Flandin, Leatitia Vouyovitch, Jean Luc Bessède, Aabderramane Bérroual, and Nicole Dominique Albérola. A meso-macro approach of the dielectric breakdown in heterogeneous systems: experimental results and comparison to numerical simulation. In *ICSD 2004 - 8th International Conference on Solid Dielectrics (Toulouse, 4-6 July 2004)*, 2004
44. Lionel Flandin, L. Vouyovitch, J.L. Bessède, A. Bérroual, and Nicole Dominique Albérola. Influences of the degree of curing and inorganic fillers on the ultimate electrical properties of epoxy-based composites: experiment and simulation. In *International Symposium on Electrical Insulation 2004 (ISEI 2004), (Indianapolis, Indiana September 2004)*, 2004
43. ⇐ Lionel Flandin, L. Vouyovitch, N. Barraud, J.L. Bessède, A. Bérroual, and Nicole Dominique Albérola. Innovative numerical tool for modeling the dielectric breakdown of insulator-insulator composites. In *JTP 2002 (Turin, September 2002)*, 2002
42. Lionel Flandin, J.L. Bessède, L. Vouyovitch, A. Bérroual, and Nicole Dominique Albérola. Toward realistic modelling of dielectric breakdown in heterogeneous systems. In *the 9th INSUCON International Electrical Insulation Conference (Berlin, Germany 18-20 June 2002)*, 2002
41. S Nazarenko, L Flandin, and S Shenogin. Filled polymeric structures with anisotropic conductive properties. In *ICCI-VIII 2000: International Conference on Composite Interfaces*, page 12, Cleveland, OH; USA, October 2000
40. Y. Bomal, Lionel Flandin, D. Labarre, and L. Ladouce. Dynamic mechanical properties of precipitated silica filled rubber: influence of morphology and coupling agent. In *ACS rubber division meeting 157th technical meeting (Dallas, TX -April 4-6, 2000)*, 2000
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37. ⇐ Lionel Flandin, Yves Bréchet, and Jean Yves Cavaillé. Nanocomposite used as new sensor for materials health monitoring. In *Workshop on Polymer Matrix Nanotube Composites (Hamburg 5 November 1998)*, 1998
36. Lionel Flandin, Yves Bréchet, and Jean Yves Cavaillé. Future trends in health monitoring of materials. In *Second Japan - France Seminar on Intelligent Materials and Structures (Strasbourg, 1-3 July 1998)*, 1998
35. Torsten Prasse, Lionel Flandin, Jean Yves Cavaillé, Bernard Boutherein, Karl Schulte, and Wolfgang Bauhofer. in situ Beobachtung der Agglomeration von Russ in Epoxidharz unter dem Einfluss eines Elektrischen Feldes. In *Fruehjahrstagung der Deutschen Physikalischen Gesellschaft (Regensburg 1998)*, 1998
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33. ⇐ Lionel Flandin, Yves Bréchet, Gilles Canova, and Jean Yves Cavaillé. ac electrical properties as a sensor of the microstructural evolution in nanocomposite materials: experiment and simulation. In *Multiscale Modelling of Mechanical Properties of Materials (Autrans, France, 13-15 Juin 1998)*, 1998
32. ⇐ Lionel Flandin and Jean Yves Cavaillé. Anomalous percolation transition in CB-epoxy composites. In *Electrical Properties of Composites (Hamburg 10-13 December 1997)*, 1997
31. Lionel Flandin, Yves Bréchet, Gilles Canova, and Jean Yves Cavaillé. Damage of new nanocomposite materials monitored in situ by their electrical properties. In *SLAP 96, 5th Latin American Polymer Symposium (Mar Del Plata, Argentine 2-5 December 1996)*, 1996
30. © ⇐ Lionel Flandin. Influence of epoxy composite structure on breakdown voltage properties. In *Nexans Research Centre (NRC), Lyon, February 2007* ○

29. © ⇌ Lionel Flandin. Approche mesoscopique de l'endommagement électrique de matériaux composites. In *Seminaire LTPCM - Grenoble*, January 2007
28. ⇌ A.S. Danérol, C. Bas, L. Flandin, E. Claude, E. Rossinot, and N. D. Alberola. Etude du vieillissement des assemblages membrane - électrodes dans les piles pemfc. In *JEPO - 35mes journées d'études des polymres*, 2007
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26. G. Garnier, L. Flandin, Y. Brechet, D. Quenard, B. Yrieix, and M. Chauvois. Mechanical properties and durability of polymer metal multilayer for vip applications. In *SF2M - Saint etienne (France)*, 2007
25. © ⇌ Lionel Flandin. Improving the energy storage in capacitor through microlayering. In *Center for Applied Polymer Research (CAPRI, Cleveland, OH, May 19, 2006)*, 2006
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◇ Hobbies ◇

- **Skiing** : 11 years of competition
- **Horse back ridding** : Instructor degree (06 June 92), still competing in *3-day eventing*.
- **Sports** : Football, Horse-Ball, softball, Hiking
- **Intellectual** : History of Physics Science
- **February 89 and 90** : Ski instructor for the French Ski School
- **Summers 86 to 96** : Horse back ridding instructor (Le Fer à Cheval)