Etienne Barthel

February 2018

Papers

Refereed journal papers

A 84) Stress in thin films and coatings: Current status, challenges, and prospects

Abadias, G.; Chason, E.; Keckes, J.; Sebastiani, M.; Thompson, G. B.; Barthel, E.; Doll, G. L.; Murray, C. E.; Stoessel, C. H. & Martinu, L.

Journal of Vacuum Science & Technology A: Vacuum, Surfaces, and Films **36** (2018) 020801.

A 83) Influence of water diffusion in deposited silicon oxides on direct bonding of hydrophilic surfaces

Desomberg, J.; Fournel, F.; Moriceau, H.; Roule, A.; Barthel, E. & Rieutord, F.

Microsystem Technologies **24** (2018) 801- 808.

A 82) Plastic response of amorphous silicates, from atomistic simulations to experiments - A general constitutive relation.

Molnar, G.; Kermouche, G. & Barthel, E.

Mechanics of Materials **114** (2017) 1-8

A 81) Large strain viscoelastic dissipation during interfacial rupture in laminated glass.

Elziere, Paul; Dalle-Ferrier, Cecile; Creton, Costantino; Barthel, Etienne; Ciccotti, Matteo

Soft Matter **13** (2017) 1624-1633

A 80) From telephone cords to branched buckles: A phase diagram

Jean-Yvon, Faou; Grachev, Sergey; Barthel, Etienne; Parry, Guillaume

Acta Materialia **125** (2017) 524-531

A 79) Perfectly plastic flow in silica glass

Kermouche, G.; Guillonneau, G.; Michler, J.; Teisseire, J.; Barthel, E.

Acta Materialia **114** (2016) 146-153

A 78) Densification dependent yield criteria for sodium silicate glasses - An atomistic simulation approach

Molnar, Gergely; Ganster, Patrick; Tanguy, Anne; Barthel, Etienne; Kermouche, Guillaume

Acta Materialia **111** (2016) 129-137

A 77) Impact of pressure on plastic yield in amorphous solids with open structure

MANTISI, B.; KERMOUCHE, G.; BARTHEL, E.; TANGUY, A.

Physical Review E **93** (2016) 033001

A 76) Wetting against the nap - how asperity inclination determines unidirectional spreading

CONTRAIRES, ELISE; TEISSEIRE, JEREMIE; SONDERGARD, ELIN; BARTHEL, ETIENNE

Soft Matter **12** (2016) 6067-6072

A75) Analysis of soda-lime glasses using non-negative matrix factor deconvolution of Raman spectra

WOELFFEL, WILLIAM; CLAIREAUX, CORINNE; TOPLIS, MICHAEL J.; BUROV, EKATERINA; BARTHEL, ETIENNE; SHUKLA, ABHAY; BISCARAS, JOHAN; CHOPINET, MARIE-HELENE; GOUILLART, EMMANUELLE

Journal of Non-Crystalline Solids **428** (2016) 121-131

A 74) Surface Fraction Dependence of Contact Angles Induced by Kinks in the Triple Line

RIVETTI, M.; TEISSEIRE, J. & BARTHEL, E.

Phys. Rev. Lett. **115** (2015) 016101

A 73) Morphology, Nanocrystallinity, and Elastic Properties of Single Domain ε-Co Supracrystals

GAUVIN, M.; YANG, N.; BARTHEL, E.; ARFAOUI, I.; YANG, J.; ALBOUY, P.-A. & PILENI, M.-P.

The Journal of Physical Chemistry C **119** (2015) 7483--7490.

A 72) Telephone cord buckles—A relation between wavelength and adhesion

FAOU, J.-Y., PARRY, G., GRACHEV, S. AND BARTHEL, E.

J. Mech. Phys. Solids **75** (2015) 93-103

A 71) Evolution of bone biomechanical properties at the micrometer scale around titanium implant as a function of healing time

VAYRON, R; MATSUKAWA, M.; TSUBOTA, R.; MATHIEU, V.; BARTHEL, E.; HAIAT, G.

Physics in Medicine and Biology **59** (2014) 1389-1406

A 70) Finite Size Effects on Textured Surfaces: Recovering Contact Angles from Vagarious Drop Edges

GAUTHIER, A.; RIVETTI, M.; TEISSEIRE, J.; BARTHEL, E.

Langmuir **30** (2014) 1544-1549

A 69) Superhydrophobic silica surfaces: fabrication and stability

DUBOV, A. L., PEREZ-TORALLA, K., LETAILLEUR, A., BARTHEL, E. AND

Teisseire, J.

J. Micromech. Microeng. **23** (2013) 12501

A 68) Contact Interaction of Double-Chained Surfactant Layers on Silica: Bilayer Rupture and Capillary Bridge Formation

Barthel, E., Roquigny, R., Serreau, L., Denoyel, R., Clerc-Imperor, M., & Drummond, C.

Langmuir 29 (2013) 14473-14481

A 67) Real-time monitoring of nanoparticle film growth at high deposition rate with optical spectroscopy of plasmon resonances

Grachev, Sergey, Marco De Grazia, Etienne Barthel, Elin Søndergård, and Rémi Lazzari.

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A 66) In situ Brillouin study of sodium alumino silicate glasses under pressure

Sonneville, C., D. De Ligny, A. Mermet, B. Champagnon, C. Martinet, G. H. Henderson, T. Deschamps, J. Margueritat, and E. Barthel.

The Journal of Chemical Physics 139 (2013): 074501.

A 65) Percolation transition in the porous structure of latex-templated silica monoliths

Guillemot, François, Aline Brunet-Bruneau, Elodie Bourgeat-Lami, Jean-Pierre Boilot, Etienne Barthel, and Thierry Gacoin.

Microporous and Mesoporous Materials 172 (2013) 146-150

A64) Finite size effects on crack front pinning at heterogeneous planar interfaces: Experimental, finite elements and perturbation approaches

Patinet, S. and Alzate, L. and Barthel, E. and Dalmas, D. and Vandembroucq, D. and Lazarus, V.

J. Mech. Phys. Solids 61 (2013) 311-324

A63) Role of Kinks in the Dynamics of Contact Lines Receding on Superhydrophobic Surfaces

Gauthier A., Rivetti M., Teisseire J. and Barthel E.

Phys. Rev. Lett. 110 (2013) 046101

A62) Stress tuning in sputter-deposited MoOx films

Faou, J. -Y., Barthel, E. and Grachev, S. Y.

Thin Solid Films 527 (2013) 222-226

A61) Slip dynamics at a patterned rubber/glass interface during stick-slip motions

M. C. Audry, C. Fretigny, A. Chateauminois, J. Teisseire and E. Barthel

Eur. Phys. J. E (2012) 35:83

A60) Atomistic response of a model silica glass under shear and pressure

B. Mantisi, A. Tanguy, G. Kermouche and E. Barthel

Eur. Phys. J. B (2012) 85:304

A59) Influence of Structure and Organic-Inorganic Phase Interactions on Coating Mechanical Properties in the Ternary Goethite:Poly(HEMA):Silica System

CHEMIN, N; ROZES, L; CHANEAC, C ; CASSAIGNON, S; LE BOURHIS, E; JOLIVET, JP; BARTHEL, E; SANCHEZ, C.

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A58) Positron annihilation in latex-templated macroporous silica films: pore size and ortho-positronium escape

LISZKAY, L, GUILLEMOT, F, CORBEL, C, BOILOT, JP, GACOIN, T, BARTHEL, E, PEREZ, P, BARTHE, MF, DESGARDIN, P, CRIVELLI, P, GENDOTTI, U, RUBBIA, A

New J. Phys. 14 (2012) 065009 *special edition* Antimatter physics for chemistry.

A57) Plastic deformation and residual stresses in amorphous silica pillars under uniaxial loading

R. LACROIX, G. KERMOUCHE, J. TEISSEIRE AND E. BARTHEL

Acta Materialia 60 (2012) 5555–5566

A56) Micropillar Testing of Amorphous Silica

R. LACROIX, V. CHOMIENNE, G. KERMOUCHE, J. TEISSEIRE, E. BARTHEL AND S. QUESTE

Int. J. Appl. Glass Sci. 3 36–43 (2012)

A55) Mode III cleavage of a coin-shaped titanium implant in bone: Effect of friction and crack propagation

MATHIEU V., VAYRON R., BARTHEL E., ET AL.

J. Mech. Behavior Biomed. Mat. 8 (2011) 194-203

A54) How Does Adhesion Induce the Formation of Telephone Cord Buckles ?

FAOU J.-Y., PARRY G., GRACHEV S. AND BARTHEL E.

Phys. Rev. Lett. 108 (2012) 116102

A53) Nanoindentation Measurements of Biomechanical Properties in Mature and Newly Formed Bone Tissue Surrounding an Implant

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J. Biomech. Eng. 134(2012) 021007

A52) Elastic instability and contact angles on hydrophobic surfaces with periodic textures

DUBOV A. L.; TEISSEIRE J.; BARTHEL E.

Eur. Phys. Lett. 97 (2012) 26003

A51) Mechanical stability under sliding contact of thin silver film embedded in brittle multilayer

X. GENG, Z. ZHANG, E. BARTHEL AND D. DALMAS

Wear 276–277 (2012) 111–120.

A50) All-silica nanofluidic devices for DNA-analysis fabricated by imprint of sol-gel silica with silicon stamp

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Lab on a Chip 12 (2012) 262-267

A49) Adhesive Contact: A Few Comments on Cohesive Zone Models and Self-Consistency

E. BARTHEL

J. Adh. 88 (2012) 55-69

A48) Glass strengthening by polymeric coatings: combined effect of mechanical properties and confinement

TEISSEIRE, J, DALMAS, D, LOHOU, S, DA SILVA, C, BARTHEL, E,

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A47) Sol-Gel Derived Hybrid Thin Films: The Chemistry behind Processing

LETAILLEUR, AA, RIBOT, F, BOISSIERE, C, TEISSEIRE, J, BARTHEL, E, DESMAZIERES, B, CHEMIN, N, SANCHEZ, C,

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A46) Nanoindentation and the micromechanics of Van Gogh oil paints

SALVANT JOHANNA, BARTHEL ETIENNE AND ***MENU MICHEL***

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A45) Surface Pressure and Shear Stress Fields within a Frictional Contact on Rubber

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Journal of Adhesion 87 (2011) 235-250

A44) High efficiency white luminescence of alumina doped ZnO

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A43) High order symmetry interference lithography based nanoimprint

A. A. LETAILLEUR, K. NOMENYO, S. MC MURTRY, E. BARTHEL, E. SØNDERGA˚RD AND G. LÉRONDEL

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A42) Confinement and flow dynamics in thin polymer films for nanoimprint lithography

JÉRÉMIE TEISSEIRE, AMÉLIE REVAUX, MAUD FORESTI, AND ETIENNE BARTHEL

Applied Physics Letters 98, 013106 (2011)

A41) On the plastic deformation of soda-lime glass–A Cr3+ luminescence study of densification

PERRIOT, A., BARTHEL, E., KERMOUCHE, G., QUÉREL, G., VANDEMBROUCQ, D.,

Phil. Mag. 91 (2010) 1245-1255

A40) X-ray diffraction analysis of thermally-induced stress relaxation in ZnO films deposited by magnetron sputtering on (100) Si substrates

F. Conchon, P.-O. Renault, P. Goudeau, E. Le Bourhis, E. Sondergard, E. Barthel, S. Grachev, E. Gouardes, V. Rondeau, R. Gy, R. Lazzari, J. Jupille, N. Brun

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A39) High-throughput optimization of adhesion in multilayers by superlayer gradients

S. Y. Grachev, A. Mehlich, J.-D. Kamminga, E. Barthel and E. Sondergard

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A38) Chemorheology of Sol−Gel Silica for the Patterning of High Aspect Ratio Structures by Nanoimprint

A. Letailleur, J. Teisseire, N. Chemin, E. Barthel and E. Søndergard

Chem. Mater., 22 (2010) 3143-3151 doi: 10.1021/cm100285b

A37) Latex-Templated Silica Films: Tailoring Porosity to Get a Stable Low-Refractive Index

F. Guillemot, A. Brunet-Bruneau, E. Bourgeat-Lami, T. Gacoin, E. Barthel and J.-P. Boilot

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A36) Mechanical behavior of stiff coating on glass under sliding contact

X. Geng, Z. Zhang, E. Barthel and D. Dalmas

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A35) Film Formation Mechanism in Glass Lubrication by Polymer Latex Dispersions

M. Beauvais, B. Piezel, F. Hamidi, M. Villalobos, C. Da Silva, E. Martin, D. Dalmas, E. Barthel

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A34) Self-sustained etch masking: a general concept to initiate the formation of nanopatterns during ion erosion

S. Le Roy, E. Barthel, N. Brun, A. Lelarge, and E. Søndergård

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A33) Adhesive contact of elastomers: effective adhesion energy and creep function

Etienne Barthel and Christian Frétigny

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A32) UV-irradiation suppresses adhesion on TiO_2

R. Jribi, E. Barthel, H. Bluhm, M. Grunze, P. Koelsch, D. Verreault, E. Søndergård

J. Phys. Chem. C 113 (2009) 8273-8277

A31) How do silanes affect the lubricating properties of cationic double chain surfactant on silica surfaces ?

MURIEL BEAUVAIS, LAURENCE SERREAU, CAROLINE HEITZ, AND ETIENNE BARTHEL,

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L. SERREAU, M. BEAUVAIS, C. HEITZ AND E. BARTHEL

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A29) Crack front pinning by design in heterogeneous interfaces

D. DALMAS, E. BARTHEL AND D. VANDEMBROUCQ

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E. SONDERGARD, S. LE ROY, A. LETAILLEUR, E. BARTHEL ET C. MAGNE

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B 11) “Asymmetry in Multilayer Adhesion: the Zinc Oxide / Silver Interface”

E. BARTHEL, P. NAEL, O. KERJAN AND N. NADAUD

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B 10) "Deformation Processes During Indentation of Mesoporous silica Thin Films"

M. KLOTZ, A. PERRIOT AND E. BARTHEL

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B 9) "How can Nanoparticles change the Mechanical Resistance of Ordered Mesoporous Thin Films ?"

E. CRAVEN, S. BESSON, M. KLOTZ, T. GACOIN, J.-P. BOILOT AND E. BARTHEL

Studies in Surface Science and Catalysis 146 (2003) 534-539.

B 8) "Forces de surface et contact : les derniers nanomètres"

E. BARTHEL, R. ROQUIGNY ET S. SOUNILHAC

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B 7) "The Electrostatic Contribution to the Long Range Interaction between Tungsten and Oxide Surfaces under Ultra High Vacuum"

S. SOUNILHAC, E. BARTHEL AND F. CREUZET

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B 6) "Modelling the Adhesion of Spheres: when the Form of the Interaction is Complex"

E. BARTHEL

Colloids and Surfaces, A 149 (1999) 99-105

B 5) "Surface Deformations, Spring Stiffness and the Measurement of Solvation Forces"

E. BARTHEL

Thin Solid Films, 330 (1998) 27-33

B 4) “C13 NMR investigation of the linear and nonlinear dynamics of the spin-density-wave of (TMTSF)2PF6”

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B 3)"2D-NMR of spin-density wave systems"

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Synthetic Metals, 56, 2803 (1993).

B 2) "NMR spectroscopy in K3C60 as a function of temperature and pressure"

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B 1) "Dynamic properties of commensurate and incommensurate spin-density waves as probed by 13C NMR"

BARTHEL E.,QUIRION G., WZIETEK P., JEROME D., CHRISTENSEN J.B., JORGENSEN M., BECHGAARD K.,

Synthetic Metals, 56, 2581 (1993).

Papers for a more general public

G 3) Particules, interactions et surfaces – Les mécanismes élémentaires de l’adhésion de particules,

E. BARTHEL

Salles Propres, Décembre 2008.

G 2) "Surface du verre et Interfaces"

E. BARTHEL

Verre 13-3, juin 2007, p. 9

(présentation du laboratoire SVI dans le dossier spécial «La Recherche Verrière en France»).

G 1) The mechanics of glass and functionalised glass surfaces

E. BARTHEL, M. BEAUVAIS, R. BRIARD, N. CHEMIN, D. DALMAS, C. HEITZ, M. KLOTZ, P. NAEL, A. PERRIOT, A. PINQUIER, S. ROUX, L. SERREAU, E. SONDERGARD, D. VANDEMBROUCQ,

Verre 11-4 (2005) 15-24.

Other communications

Oral communications

C. 133) “Surface design and wetting - from statics to dynamics” Journées Surfaces et Interfaces Strasbourg 24/01/2018 (invité)

C 132) “Engineered interfaces and wetting” JA SF2M Lyon 23/10/2017 (invité)

C 131) “How triple line pinning affects wetting on textured surfaces” (séminaire) IPR Rennes 15/09/2017

C 130) “Flow stress and the micromechanics of silicate glass, 50 years after Marsh” FFAG Aalborg Denmark 02/07/2017

C 129) “Telephone Cords, parrot ladders, hexagons and the like - the unexpected morphologies of thin film buckles” (seminar) Lehigh Univ. Bethlehem (PA – USA) 03/03/2017

C 129) “Coupled dissipation mechanisms in the dynamic rupture of laminated glass Adhesion” Society Meeting St Petersburg (Fl – USA) 26/02/2017

C 128) “How triple line pinning affects wetting on textured surfaces” Adhesion Society Meeting St Petersburg (Fl – USA) 26/02/2017

C 127) « Déformations irréversibles des verres silicatés et endommagement ». Journées Revelor Traitements de surface du verre et décor (invité, avec J.-P. Guin) – 26/01/2017

C 126) « Cloquage et instabilités » (séminaire) UPEC Créteil 16/01/2017

C 125) « Démouillage sur surfaces hétérogènes - comme relier approche locale et réponse macroscopique ? » Journée thématique de la Société Française de Thermique Paris 13/10/2016

C 124) “Adhesion and Buckling of Multilayers - Beyond the Telephone Cords” Stress Evolution in Thin Films and Coatings, 2-5/10/2016, Chicago (USA) (invited)

C 123) “Perfectly plastic flow in silica glass” GOMD Madison (WI – USA) 23-26/05/2016

C 122) « Instabilités de plaques et formation de cloques oscillantes – le rôle de l'adhésion » (séminaire) ESPCI/PMMH Paris 4/11/2016

C 121) “Plastic deformation in amorphous silicates” (seminar) WW1 FAU Erlangen Germany

C 120) “On the origin of the surface fraction scaling of receding contact angles on textured superhydrophobic surfaces” DFD-APS Boston (USA) 23/11/2015

C 119) « Deux instabilités : de la ligne triple piégée sur réseau à la plasticité des silicates amorphes » (séminaire) IJLRDA Paris 12/11/2015

C 118) “Hétérogénéités, adhésion et mouillage - un point de vue élastique...” JAdh 29/09-2/10/2015 (invité)

C 117) “Interfacial response and rupture of laminated functional glasses” Euromech 20-23/10/2015, Houffalize, Belgique

C 116) “Fracture And Adhesion – An Introduction – With Comments On Size Effects” ECI Nanomechanics, 4-9/10/2015, Albufeira, Portugal (invited)

C 115) “Surface functionalization for innovative glazings - a materials science perspective” Mapping the future of material science (in honour of Mike Ashby) (invited) Paris 7-9/09/2015

C 114) “Assessing the plastic response of amorphous silica - a multiscale approach” CFM 2015 Lyon 24-28/08/2015

C 113) “Assessing the plastic response of amorphous silica - a multiscale approach” (seminar) U Darmstadt 21/07/2015

C 112) « couches minces macroporeuses et nanoindentation : comment dejouer la conspiration ? » Indentation 2014, Strasbourg, 11/12/2014

C 111) “Uniaxial compression of silica pillars: the plastic regime” FFAG 8/10/2014, Weimar (Germany)

C 110) “Textures interfaciales et mouvements de lignes” Workshop Structuration de surface : procédés de mise en œuvre, applications et enjeux, IJL, Nancy 1er Juillet 2014 (invited)

C 109) “Thin Film Adhesion can be Measured From The Morphology of Telephone Cord Buckles” ICMCTF April 28th 2014 San Diego (USA) (invited)

C 108) “Uniaxial Compression of Silica Pillars: the Plastic Regime” CAMTEC III Symposium - Mat. Sci. Dept., Cambridge – 7th-8th April 2014 (invited)

C 107) “Fonctionnalisation de surface et mécanique” séminaire, laboratoire MATEIS, 18 mars 2014, Lyon.

C 106) “Can we engineer fracture and wetting properties through interface textures ? An experimental viewpoint on elastic line pinning” Michelin ESPCI international workshop 9-10 Dec 2013 (Paris) (invited)

C 105) “From telephone cords to buckles – The relation between adhesion, residual stresses and morphology in thin film instabilities” Nanomechanics ECI conf. 7-11 Oct 2013 (Olhao Portugal)

C 104) “Thin film buckling: behind and beyond the telephone cord” Euromat 9-12 Sept 2013 (Sevilla, Spain) (invited)

C 103) “Uniaxial compression of silica pillars: the plastic regime” Euromat Sevilla 9-12 Sept 2013 (Sevilla, Spain)

C 102) « Fonctionnalisation des surfaces de verre : de l'autonettoyant au superhydrophobe » séminaire, Inst. Pprime, 18 juin 2013 Poitiers.

C 101) « Fonctionnalisation des surfaces de verre : de l'autonettoyant au superhydrophobe » séminaire, Lab. PPMD, 17 mai 2013 Paris.

C100) “Buckling instability of adhesive thin films” APS March 2013 (Baltimore, USA)

C 99) Thin film buckling: can we find a relation between adhesion and morphology? Material Deformation 17-22 Feb. 2013 Les Houches (invited).

C 98) “Multiscale approach to plastic deformation of silicate glasses at the micron scale“ MRS Fall 26-30/11/2012 (Boston, USA)

C 97) “Multiscale approach to plastic deformation of silicate glasses at the micron scale“ Indentation 2012, 29-31 Octobre 2012 (Lyon)

C 96) “Multiscale approach to plastic deformation of silicate glasses at the micron scale“ Beijing-Paris Workshop on Micromechanics and Nanomechanics September 6-7, 2012 Marne-la-Vallée, France (invited)

C 95) «Mouillage, adhésion, rupture et surfaces fonctionnelles », séminaire LiPhy (Grenoble) 12 décembre 2012.

C 94) «Mouillage, adhésion, rupture et surfaces fonctionnelles » séminaire Strasbourg, 19 Juin.

C 93) “Plastic deformation and residual stresses in amorphous silica pillars under uniaxial loading” 13èmes Journées de la Matière Condensée (JMC13) 27-31 août 2012 Montpellier (colloque micromécanique)

C 92) “Multiscale approach to plastic deformation of silicate glasses at the micron scale“13èmes Journées de la Matière Condensée (JMC13) 27-31 août 2012 Montpellier (colloque verres)

C 91) “Multiscale approach to the plastic deformation of amorphous silicates” séminaire MSME/UPEC 4 Mai 2012

C 90) «Mouillage, adhésion, rupture et surfaces fonctionnelles » FAST, 2 mai 2012

C 89) «Buckling instability of adhesive thin films» APS meeting 27/02-2/03 (Boston, USA)

C 88) «Elasticité de la ligne triple, angles d'avancée et de reculée sur les surfaces hydrophobes texturées », réunion du GdR Mephy, 9-10/02 2012 (ESPCI, Paris)

C 87) “Multiscale Approach to Plastic Deformation of Silicate Glasses at the Micron Scale” B. Mantisi, A. Tanguy, G. Kermouche, Rémi Lacroix, J. Teisseire and E. Barthel, Nanomechanical Testing in Materials Research and Development, Oct. 9 – 14, 2011, Lanzarote (Spain)

C 86) “Surface and interface textures - How? What for?” Science of Adhesion, July 24-29, 2011, Bates College, Lewiston (USA) (invited)

C 85) “Multiscale approach to the plastic deformation of silicate glasses”, B. Mantisi, A. Tanguy, G. Kermouche, Rémi Lacroix, J. Teisseire and E. Barthel, CECAM workshop on MultiScale Modelling of Amorphous Materials, July 4-6, 2011, Dublin (Ireland) (invited)

C 84) “On micro-pillar compression and plastic flow – The case of amorphous silica” A. Perriot, J. Teisseire, E. Barthel, D. Vandembroucq, T. Deschamps, V. Martinez, B.

Champagnon, V. Chomienne, G. Kermouche, P. Dubujet, B. Mantisi, A. Tanguy, Flow and Fracture of Advanced Glasses, March 20-25 2011, Saint-Malo (France)

C 83) "Photo-induced hydrophilicity and self-cleaning properties of TiO2 thin films", R. Jribi, M. Beauvais, E. Sondergard, E. Barthel, H. Bluhm, P. Koelsch, M. Grünze, Adhesion Society Meeting, 13-16 February 2011, Savannah (USA)

C 82) "Thin film stability – experimental approaches", X. Geng, J. Y. Faou, L. Alzate, D. Dalmas, E. Sondergard and E. Barthel, Adhesion Society Meeting, 13-16 February 2011, Savannah (USA)

C 81) "Tuning adhesion by interface textures", Adhesion Society Meeting, 13-16 February 2011, Savannah (USA) (invited)

C 80) « Surfaces and Textures », Journées Verre de l'USTV, 25 - 26 novembre 2010, Nancy (invité)

C 79) "Quantication of the micro-plastic response of amorphous silicates through micro-Raman mapping of residual indentation strain", JMC 12, 23 au 27 août 2010, Université de Technologie de Troyes (invité)

C 78) "Surface and interface textures: how? What for?" CEFIPRA workshop on Soft Interfaces and Self-organization, 7 – 10 July 2010, Paris (invited)

C 77) "Contact, adhesion and scale issues", Summer School on Fracture - June 7-18, 2010, Cargèse (invited - lecture)

C 76) "Adhesive Contact: scale issues" (invited – lecture), E. Barthel, School on Tribology, March 2010, Cargese (France)

C 75) "Rupture aux petites échelles", E. Barthel, Mécanique des Nano-Objets, Ecole du GDR Mécano, Mars 2010, Autrans, (invité – cours)

C 74) "Quantification of the micro-plastic response of amorphous silicates through micro-Raman mapping of residual indentation strain",

T. Deschamp, J. Teisseire, D. Dalmas, E. Barthel, C. Martinet, B. Champagnon, G. Kermouche, P. Dubujet and D. Vandembroucq,

Nanomechanical Testing in Materials Research & Development, Oct 11-16 2009, Barga (Italy)

C 73) "Designing interface toughness: the respective roles of dynamics and heterogeneity"

Journées de l'Adhésion, Giens, Sept 30-Oct 02 2009 (invité)

C 72) "Recent advances in adhesive contact models - thin films and time dependent materials"

World Tribology Congress, Sept 06-11 2009, Kyoto (Japan) (keynote, invited)

C 71) "Propriétés tribologiques des revêtements fonctionnels sur verres silicatés -- Interfaces et architectures des revêtements"

Congrès Français de Mécanique, Aug 24-28 2009, Marseille (invité)

C 70) « Plastic deformation of amorphous silicates – a Raman study»

(invited)

E. Barthel

EFONGA workshop on the strength and corrosion of silicate glasses, Montpellier, 22 Février 2009

C 69) Nano Imprint Lithography on Silica Sol-gels: a Simple Route to

Sequential Patterning.

Christophe Peroz, Vanessa Chauveau, Etienne Barthel and Elin Søndergård

MRS, Boston, December 3rd 2008

C 68) Direct Crack Path Monitoring for Local Investigation of Interfacial Toughness in Transparent Systems

D. Dalmas, D. Vandembroucq and E. Barthel

MRS, Boston, December 3rd 2008

C 67) Rheology of Thin Polymeric Coatings: In Situ Assessment of Rheology for Process Design.

A. Revaux, E. Barthel, J. Teisseire, I. Simonsen, M. Foresti and E. Sondergard

MRS, Boston, December 1st 2008

C 66) van der Waals interactions and the adhesion of soft elastomers

Mecamat, groupe de travail Couplages multiphysiques

Ecole normale supérieure de Cachan, 7 novembre 2008

C 65) ”Surface du Verre et Interfaces” – fonctionalisation de surface

1ère Rencontre X – ESPCI – Saint Gobain

Ecole Polytechnique, 22 Octobre 2008

C 64)"Amorphous silicates: from surface mechanics to optical functionalization" (séminaire)

CRPP, Bordeaux, 2 Octobre 2008

C 63) „Adhésion de particules et contamination” (séminaire)

CESTA/LMJ, Bordeaux, 1 Octobre 2008

C 62) ”Fibres de verre: le massif et la surface”

JAUM/AFM ”Matériaux fibreux” 29 Août 2008, Mulhouse (invité)

C 61) “Small scale plastic flow in amorphous silica: can we model densification?,” A. Perriot, D. Vandembroucq, E. Barthel, V. Martinez, C. Martinet, B. Champagnon,

G. Kermouche, P. Dubujet

JMC 11, Strasbourg, 26-29 Août 2008

C 60) ”Surface patterning by imprint lithography of silica sol-gels”

E. Barthel, C. Perroz, E. Sondergard

DTU, Copenhagen, 9 Juillet 2008

C 59) ”Functional glass surfaces: from self-cleaning thin films to optical micro-structures” (seminar)

E. Barthel, D. Dalmas, X. Geng, S. Grachev, R. Jribi, C. Peroz and E Sondergard.

Naval Research Laboatory, Washington (USA), 18 juin 2008

C 58) ”Glass surfaces: from functionality to reliability” (seminar)

E. Barthel

NIST, Gaithesburg (USA), 16 juin 2008

C 57) ”Plasticité des silicates amorphes” (séminaire)

E. Barthel

CEMES, Toulouse, 10 Avril 2008

C 56) "Functional glass surfaces: from thin films to complex structures” (invited)

E. Barthel, D. Dalmas, X. Geng, S. Grachev, R. Jribi, C. Peroz and E Sondergard

FM&NT-2008 Riga, April 1-4, 2008

C 55) “Contact to rough viscoelastic surfaces”

E. Barthel and G. Haiat

Adhesion Society Meeting, Austin (TX), 17-20 Fev 2008

C 54) “Continuum mechanics for adhesive contacts models” (séminaire)

E. Barthel

Applied Mechanics, UPenn, Philadelphia (USA), 5 Dec. 2007.

C 53) “Are simple continuum mechanics models useful to understand nano-scale contacts?” (invited)

A. Perriot, G. Haiat and E. Barthel

MRS Meeting, Boston (USA), 25-30 Nov 2007.

C 52) “Surface mechanics of silicate glasses – from stiff to soft ?” (invited)

E. Barthel

Franco-Israeli Trends, Biarritz (France), 7-10 Octobre 2007

C 51) “Inorganic films for glass funtionalization – mechanical issues” (séminaire)

E. Barthel

IMAP, Louvain, 17 Juillet 2007.

C 50) “Functional glass surfaces: from thin films to patterned surfaces”

C. Peroz, E. Barthel, M. Foresti and E. Sondergard,

International Glass Conference, Strasbourg (France) 5 Juillet 2007.

C 49) “A quantitative model for the plastic deformation of amorphous silica” (invited)

A. Perriot, D. Vandembroucq, E. Barthel, V. Martinez, C. Martinet, B. Champagnon, G. Kermouche, P. Dubujet,

International Glass Conference, Strasbourg (France) 2 Juillet 2007.

C 48) “UV induced hydrophilicity and particle adhesion”

R. Jribi, E. Sondergard, E. Barthel and B. Nghiem

Adhesion Society Meeting, Tampa (Floride), 20 février 2007.

C 47) “The elastic contact to coated substrates: application to instrumented indentation”

A. Perriot and E. Barthel

Adhesion Society Meeting, Tampa (Floride), 19 février 2007.

C 46) “Small scale plastic flow in amorphous silica: can we model densification?”

A. Perriot, D. Vandembroucq, E. Barthel, V. Martinez, C. Martinet, B. Champagnon,

G. Kermouche, P. Dubujet, E. Lilleoden

MRS, Boston, 1 Dec 2006.

C 45) "Water on TiO_2: UV light induced hydrophilicity and water/surface interactions"

E. Barthel

Angewandte Physikalische Chemie (M. Grunze), Heidelberg, 31 Octobre 2006.

C 44) “Historical perspectives on the adhesive contact” (invited)

E. Barthel

Gordon Conference on the Science of Adhesion, 11 Août 2006.

C 43) “Forces de surface et adhésion” (séminaire)

E. Barthel

LPMCN, Lyon, 23 Juin 2006.

C 42) “The mechanics of coated glass surfaces” (invited)

E. Barthel

ICMCTF, San Diego (USA), 1 Mai 2006.

C 41) “UV induced hydrophilicity and particle adhesion”

E. Barthel

Adhesion Society Meeting, Jacksonville (USA), 20 Février 2006.

C 40) « Structure et déformation de matériaux silicatés : vers quelles applications? »

E. Barthel

GDR Verre, Bourg-la-Reine, 21 Octobre 2005.

C 39) “Elastic Contact to Coated Substrates: An Efficient Algorithm with

Applications to Instrumented Indentation”

E. Barthel and A. Perriot

Instrumented Indentation Conference (ECI), Fodele, Crète, 9-14 octobre 2005.

C 38) « Le verre : l'innovation par la maîtrise des surfaces » (invité)

E. Barthel et S. Vanpoulle

Journées de l’Adhésion, Bolwiller, 28-30 septembre 2005.

C 37) “Optical Multilayers in Glass Industry: Mechanical Response and Adhesion Issues”

E. Barthel, D. Dalmas, M. Klotz, E. Sondergard, and A. Dinescu

E-MRS, Strasbourg, 31 mai – 3 juin 2005.

C 36) « Fonctionnalisation et Mouillage » (séminaire)

Madirel, Marseille, 28 avril 2005.

C 35) “Complex Contacts”

E. Barthel and A. Perriot

Adhesion Society Meeting, Mobile, 13-16 February 2005.

C 34) « Matériaux fonctionnels dans l’industrie verrière» (séminaire)

E. Barthel

Laboratoire de Physique des Solides, Orsay, 7 décembre 2004.

C 33) « Modélisation du contact sur couche »

A. Perriot et E. Barthel, Colloque Mécanique-Physique des Surfaces de Polymères, Obernai, 5 avril 2005.

C 32) Recent Models for the Contact to Coated Substrates, E. Barthel and A. Perriot, 16th International Vacuum Conference, Venice, 28 juin – 2 juillet 2004.

C 31) Asymmetry in the Adhesion of Optical Multilayers, E. Barthel, O Kerjan, P. Nael and N. Nadaud, 16th International Vacuum Conference, Venice, 28 juin – 2 juillet 2004.

C 30) Mécanique de surface et fonctionnalisation,

E. Barthel

GDR « Matériaux Vitreux », Saint-Ouen 2 juin 2004.

C 29) Réponse mécanique de couches minces et innovation dans le domaine verrier,

E. Barthel

LMP Poitiers, 11 mars 2004.

C 28) Experimental Investigation of Time-dependent Phenomena in the Adhesive Contact of Viscoelastic Polymers,

E. Barthel and G. Haiat

Adhesion Society Meeting, Wilmington 15-18 February 2004.

C 27) Elastic Contact to Layered Substrates: The Adhesive Case,

E. Barthel and A. Perriot, Adhesion Society Meeting, Wilmington 15-18 February 2004.

C 26) Fracture Toughness vs. Plastic Deformation in Nanoparticle Filled Silica Thin Films,

E. Barthel, M. Klotz, S. Besson and Thierry Gacoin, MRS meeting, Boston 1-5 décembre 2003.

C 25) Asymmetry in the adhesion of Silver to Zinc Oxide in Multilayers sputtered on glass,

E. Barthel, O Kerjan, P. Nael and E. Sondergard, MRS meeting, Boston 1-5 décembre 2003

C 24) “Adhesion Energy of Optical Multilayer to Glass probed by DCB”,

E. Barthel, O Kerjan and P. Nael, Euromat 2003, 1-5 spetembre 2003, Lausanne, Suisse.

C 23) « Le Contact ViscoElastique Adhésif »

E. Barthel

CENG Grenoble, Laboratoire de Biochimie et Biophysique des Systèmes Intégrés, mai 2003

C 22) Adhésion d'aspérités: au delà du modèle JKR,

E. Barthel

Laboratoire PCSM, ESPCI, avril 2003.

C 21) "Adhesive contact of viscoelastic spheres: a hand-waving approach"

E. Barthel et G. Haiat,

American Adhesion Society Meeting, 25 28 Fevrier 2003, Myrtle Beach, SC, USA.

C 20) "Adhérence d'Aspérités Viscoélastiques: un Modèle Minimal"

G. Haiat, M. C. Phan Huy et E. Barthel

Congrès Matériaux,Tours (France), 2002.

C 19) "Coupling the microscopic interaction processes and the macroscopic continuum mechanics deformations: the case of the adhesive (visco)elastic contact of spheres"

E. Barthel

CECAM-SIMU Workshop on Solid Friction, Lyon, août 2001

C 18) "The adhesive contact of viscoelastic spheres"

G. Haiat and E. Barthel,

Adhesion Society Meeting, Williamsburg (USA), 2001

C 17) "Adhesion energy of solar control multilayers to glass probed by DCB"

E. Dupontavice, E. Barthel and N. Nadaud Adhesion Society Meeting, Williamsburg (USA), 2001

C 16) "Forces de Surface et Contact: les Derniers Nanomètres"

E. Barthel

LAIN, Montpellier, (mai 2001)

C 15) "Forces de Surface et Contact: les Derniers Nanomètres"

E. Barthel

Centre des Matériaux, Ecole des Mines (juin 2001)

C 14) "SFA study of the mechanical properties of confined bi-chain surfactants"

R. Roquigny, E. Barthel, J.M. Cormier, R. Denoyel and M. Clerc-Imperor, Chains@Interfaces, Evora (Portugal), 2001

C 13) "Adsorption and contact properties of a double-chain cationic surfactant on silica surfaces"

R. Roquigny, E. Barthel, J.M. Cormier, R. Denoyel and M. Clerc-Imperor, International Conference on Surface and Colloid Science, Bristol (UK), 2000

C 12) « Le contact ponctuel: mécanique, interactions et adhésion »

E. Barthel

GDR Interfaces Métal/Oxydes (mai 2000)

C 11) "Le contact ponctuel adhésif et les surfaces d'oxydes" (invité)

E. Barthel, S. Sounilhac et R. Roquigny,

Colloque Mecamat, Aussois, 2000

C 10) "Contact Properties of Oxide Surfaces: Long Range Forces and Adhesion" (invited)

E. Barthel, A.S. Huguet, R. Roquigny and S. Sounilhac

American Vacuum Society Meeting, Seattle, 1999

C 9) “Forces de Surface et Contact”,

E. Barthel

DPM, UCB, Lyon (1998)

C 8) "Experimental approaches to the adhesive contact"

E. Barthel

a) McGill University, Montreal (Canada),

b) Université de Sherbrooke, Sherbrooke (Canada),

c) Urbana University, Urbana (USA).

Feb 1998

C 7) "Models for the Adhesive Contact of Elastic Spheres: Beyond JKR, DMT and Maugis"

E. Barthel

Adhesion Society Meeting, Savannah (USA), Feb 1998

C 6) "Using SFA for measuring Adherence: Experiments and Models"

E. Barthel

CECAM workshop on the Rheological Behaviour and Structure of Confined Films, Lyon (France), 1997

C 5) "Measurement of the Adhesion Energy of Surfaces Covered with a Thin Layer of Adsorbed Liquid"

E. Barthel and J.L. Loubet,

International Conference on Surface and Colloid Science, Sofia (Bulgaria), 1997.

C 4) "La mesure de forces de surfaces et son potentiel pour l'étude des surfaces d'oxydes" (invité)

E. Barthel,

SFP 5èmes journées de la Matière Condensée, Orléans, 1996.

C 3) "Can we measure the domain of validity of the DMT and JKR theories for adhesion?"

E. Barthel,

11th International Conference on Surface Forces, Moscow (Russia), 1996.

C 2) « Courbes de force à l'échelle locale, vers les propriétés nanomécaniques?»

E. Barthel,

Journées du Cercle Français de Microscopie à Champ Proche, Gujan Mestras, 2-4 Octobre 1995 (invité).

C 1) "Phason Dynamics in Spin Density Waves"

Barthel E.,Quirion G., Wzietek P., Jerome D., Christensen J.B., Jorgensen M.,

Bechgaard K.,

International workshop on Electronic Crystals, Carry-le-Rouet, France, June 2-4, 1993.

Organisation of meetings

8) co organisateur avec Pierre Jop, Sébastien Manneville et Christophe Martin de la session “Plasticité et écoulements des milieux denses désordonnés.” Mini-colloque Physique-Mécanique au Congrès Français de Mécanique, Lyon, 24-28 août 2015.

7) co-organiser with J. P. Guin and E. Bitzek of the session “Inorganic glasses: from structure to plasticity and damage” at Condensed Matter Division (CMD25) / 14èmes Journées de la Matière Condensée (JMC14) 24-29 août 2014 Paris.

6) co-organiser of the sessions ” Adhesion, rupture, wetting and other surface instabilities” at 13èmes Journées de la Matière Condensée (JMC13) 27-31 août 2012 Montpellier.

5) co-organiser of the sessions ”Matériaux et effets de taille : une convergence de la physique et de l'ingénierie” at the Societé Française de Physique congress, July 6-10 2009, Palaiseau.

4) co-organiser of the sessions «Mécanique de surfaces et du contact» at JMC 11, Strasbourg, Août 2008.

3) Adhesion Society Meeting, Austin (Texas) 17-20 Février 2008 – Particle Adhesion Division (3 sessions).

2) Adhesion Society Meeting, Tampa (Florida) 18-21 Février 2007 – Particle Adhesion Division (5 sessions).

1) (Autumn School) Sliding dynamics: the physical and mechanical viewpoints on Friction, Valpré 19-24 Nov. 2006

General public conferences – further education

13) Bar des sciences « la Maison du Futur », MJC de Palaiseau, 7 avril 2009.

12) « Les nanotechnologies dans l’industrie verrière », Master 2 « Nanooptique », UTT Troyes, 16 Décembre 2008.

11) Bar des sciences « Ma maison en 2025 », Bibliothèque Beaugrenelle, 29 mars 2008.

10) «Verres innovants: la fonctionnalisation par la surface», Journée de l’Ecole Doctorale Materiaux de Lyon, Lyon, 22 Nov 2007.

9) Interview à La Recherche n° 408, 05/2007

8) Propriétés mécaniques des revêtements Solgel inorganiques (intervention sur invitation) Club ECRIN Sol-Gel, Paris, 24 mai 2007.

7) « Particules, interactions et surfaces – les mécanismes élémentaires de l’adhésion de particules » Contaminexpert (forum ASPEC), Paris 15 mars 2007.

6) Interview à « ULP sciences » n° 23, 04/2006.

5) Café des Sciences « Maison du futur », Technocentre Renault, 12 Octobre 2006.

4) Organisation de la participation du laboratoire au pavillon CNRS (Maison du Futur) au Salon de la Recherche et de l'Innovation 2006.

3) Interview pour la plaquette «Les métiers de la physique, un univers à découvrir » éditée par le Groupe d'action Pour la Physique (G2P) (http://physique.univ-lille1.fr/index.php?id=134), 2005.

2) Organisation de l'intervention du laboratoire pour la Journée de la Physique 2005 - Saint-Gobain Recherche.

1) Matériaux avancés pour le vitrage automobile (intervention sur invitation), Euroforum, Paris, 1-3 Dec. 2004.

Course

«Adhesion»

Ecole «Surface du Verre» GDR Matériaux vitreux Dourdan 9-11 Sept 2008