

Professional contact information

CEA-Saclay, DRF, IRAMIS, SPEC
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Education

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|------|---|
| 2017 | Habilitation à Diriger des Recherches (HDR) Physique
Université Paris XI, Orsay, France |
| 2003 | Doctor of Philosophy concentration Physics
Louisiana State University, Baton Rouge, LA USA |
| 2003 | Master of Science concentration System Sciences
Louisiana State University, Baton Rouge, LA USA |
| 1998 | Bachelor of Science concentration Physics (minor Math)
Louisiana State University, Baton Rouge, LA USA |
| 1993 | High School Diploma
Lafayette High School, Lafayette, LA USA |

Present Research Themes

- Understanding how the microstructure of a material dictates its macroscopic mechanical response.
- Stress corrosion cracking in amorphous media with a concentration on complex glasses
- Nanomechanical mapping of surfaces with a concentration on fracture surfaces
- Resulting fracture surfaces after stress corrosion cracking
- Understanding and subsequently predicting and controlling the mechanisms driving the porosity, stiffness and optical transparency of colloidal films.
- Understanding how nano-mechanical Atomic Force Microscope techniques can benefit all different fields of sciences and subsequent implementation.

Professional Experience

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| Jan 2014–present | Permanent researcher at CEA-Saclay in SPHYNX in the Service de Physique de l'Etat Condensé (<i>DRF, IRAMIS, SPEC</i>) |
| 2011-present | Manager of high end nanomechanical Atomic Force Microscope (AFM) |
| 2007-2014 | Co-manager of service cluster |
| July 2006–Jan 2014 | Permanent research at CEA-Saclay in the Fracture Group in the <i>Service de Physique et Chimie des Surfaces et Interfaces (DSM, IRAMIS, SPCSI)</i> |

- July 2004–June 2006 Post-doctoral at CEA-Saclay in the Fracture Group in the *Service de Physique et Chimie des Surfaces et Interfaces (DSM, IRAMIS, SPCSI)*; funding NSF
- 1998 - 2003 Ph.D. candidate in the Physics Department at Louisiana State University
- 1999-2003: Research assistant
 - 1998-1999: Teaching assistant
- 2002 - 2003 M.S. candidate in the Computational Systems Department at Louisiana State University

Industrial Experience

- 2004 Diamond Research & Development, LLC
- Technical programming for oilfield related equipment
- 1997-1996 Prime Directional Systems, LLC
- Technical programming for oilfield related equipment
 - Quality control for machined parts
- 1991-1995 USTest:
- Measured ultrasonic speed of sound of hydrocarbons
 - Integrated circuit board and electronics assembly
 - Quality control
 - Inventory management

Mentorships

Advising of interns

- 2015 Internship Co-Advisor to A. Lesaine (4 months)
Project title: “Role of the drying rate on the nano-structure of films formed by the evaporation of colloidal suspensions”
- 2009-2010 Internship Advisor to T. Taurines (9 months)
Project title: “Physical Aspects of Nuclear Glass”
- 2009 Internship Advisor to B. Dague (6 months)
Project title: “Cracks in PMMA”
- 2007 Internship Advisor to C. Ottina (6 months)
Project title: “Aspect de la rupture en corrosion sous contrainte”

Advising of Doctoral Candidates

- 2019-2022 Thesis of M. Mama Toulou (co-advisor)
Project title: “Compréhension de l'évolution de la ténacité des zones de démixtion avec des simulations de dynamique moléculaire”
- 2018-2022 Thesis of W. Feng (advisor)
Project title: “ToughGlasses: Researching tomorrow's glasses today”
- 2015-2018 Thesis of A. Lesaine (co-advisor)

Project title: “Role of the drying rate on the nano-structure of films formed by the evaporation of colloidal suspensions”

2011-2014

Thesis of M. Barlet (advisor)

Project title: “Understanding the evolution of mechanical properties under irradiation in nuclear glasses via experiments”

2007-2010

Thesis of G. Pallares (co-advisor)

Project title: “Analyse multi-échelle des mécanismes de propagation de fissure dans les verres”

Advising of Post-Doctors

2013 – 2014

Post-Doctoral of K. Piroird (co-advisor)

Project title: “Influence de la vitesse de séchage sur la nano-structure de films formés par évaporation de suspensions colloïdales”

2009

Post-Doctoral of F. Lechenault (co-advisor)

Project title: “AFM investigation of the nonlinear process zone at the crack tip in glasses”

Committees

Fall, 2020

GT *Economie Circulaire* CEA committee member

Fall, 2019-present

Labex PALM – Emergence committee member

Conference/Workshop Responsibilities

2016

Co-organizer of a workshop (“Réunion annuelle des utilisateurs de Microscopies à Force Atomique (AFM) et surfacique”) at CEA-Saclay

2009

Co-organizer of a symposium (“Statistical Physics in Fracture”) at the 2009 International Conference on Fracture

2008

Co-organizer of the theory meeting of IRAMIS on Structure Electronique et Modélisation Atomistique.

2003

Co-organizer of the 2003 Computational Science Workshop for Underrepresented Groups

2002

Co-organizer of the 2002 Mardi Gras Conference “Nanotechnology at the Interface of Information Technology”

2001

Assisted in the organization of The 2001 Mardi Gras Conference “Multiscale Simulation, Theoretical, and Experimental Approaches to Deformation, Friction, Fatigue, and Fracture”

2000

Assisted in the organization of The 2000 Mardi Gras Conference

2000

Assisted in the organization of The 2000 International Conference in Cyprus

Short Scientific Visits

Sept. 2005	KITP, University of California Santa Barbara
2003	Visiting Scholar, University of Southern California (8 months)
2002	Darmstadt University, Darmstadt, Germany (1 month)
2000	TU Delft, Delft, The Netherlands (4 months)

Scientific Visits for access to particle accelerators

- Several electron irradiation runs at Sirius
- Several α -irradiations runs at Jannus Saclay
- Several Au⁺-irradiations at Jannus Orsay
- Several neutron scattering runs at Laboratoire Léon BRILLOUIN
- Several neutron scattering runs at IPNS, Argonne National Laboratory
- Soleil - Crystal: access the static structure factor (S(q))

Scientific Presentations

Invited Scientific Presentations: International conferences and workshops

- 2019: *Fracture properties of SiO₂-B₂O₃-Na₂O Glasses: How the structure influences macroscale fracture properties*
C. L. Rountree, W. Feng, D. Bonamy
25th International Congress on Glass, Boston, Mass, USA June 8-14, 2019 (invited presentation)
- 2015: *Effect of composition on Stress corrosion fracture & fracture toughness in pristine & irradiated glasses*
C. L. Rountree, M. Barlet, D. Bonamy, J-M Delaye
CECAM workshop: Chemical and Structural Transformations in Materials under Mechanical Load, Lausanne, Switzerland, Sept 1 to 4, 2015 (Workshop-invited presentation)
- 2013: *Effect of composition on fracturing & fracture toughness in pristine & irradiated glasses,*
C. L. Rountree, M. Barlet, D. Bonamy, J-M Delaye
Summer School: SumGlass 2013 Pont-de-Gard, France, September 22 to 28, 2013 (Keynote presentation)
- 2013: *Irradiation-induced damage in oxide glasses: From micro to macroscale,*
C. L. Rountree, M. Barlet, D. Bonamy, J-M Delaye
Workshop on "Materials' Deformation" Les Houches, France, 20th February 18-22, 2013 (Workshop-invited presentation)
- 2009: 12th International Conference on Fracture, Ottawa, Ontario, Canada, July 12-17, 2009. (conference - invited presentation)
- 2009: 3rd International Conference on Complex Systems and Applications, Le Havre, France, June 29, 2009 - July 2, 2009 (conference - invited presentation)
- 2009: International Symposium on Plasticity 2009, St Thomas, Virgin Island, January 3-8, 2009. (conference - invited presentation)
- 2008 : International Conference on Solid Films and Surfaces, Trinity College, Dublin, Ireland, June 29- July 4, 2008. (conference - invited presentation)
- 2006: Plasticity 2006, Halifax, Canada, July 17-22, 2006. (conference - invited presentation)

- 2003: 2003 Mardi Gras Conference on “Grid Computing at the Nano-Bio Interface.” Baton Rouge, LA, USA. February 27- March 1, 2003 (conference - invited presentation)

Contributed Scientific Presentations: International conferences and workshops

- 2019: *Understanding how microscale changes alter macroscale fracture properties in SiO₂-B₂O₃-Na₂O Glasses*,
C. L. Rountree, Marina Barlet, Daniel Bonamy, Jean-Marc Delaye, Weiyang Feng
Joint Meeting of DGG – USTV, Nürnberg, Germany, 13 – 15 May 2019 (contributed presentation)
- 2018: *SiO₂-B₂O₃-Na₂O Glasses: Understanding how microscale changes alter macroscale fracture properties*,
C. L. Rountree
International Conference on the Physics of Non-Crystalline Solids, Saint Malo, France, July 8 to 13, 2018 (contributed presentation)
- 2016: *Stress corrosion Cracking in electron irradiated SiO₂-B₂O₃-Na₂O*
C. L. Rountree, M. Barlet, D. Bonamy, J-M Delaye
JMC15, Bordeaux, France, August 22 to 26, 2016 (contributed presentation)
- 2014: *Understanding the Failure of Sodium Borosilicate Glasses: From the Microscale to the Macroscale*,
C. L. Rountree, M. Barlet, D. Bonamy, J-M Delaye
2014 TMS conference, San Diego, USA, Feb 16 to 20, 2014 (contributed presentation)
- 2013: *Effect of composition on fracturing & fracture toughness in pristine & irradiated glasses*,
C. L. Rountree, M. Barlet, D. Bonamy, J-M Delaye
2013 EMIR User days: EMIR 2013 Orsay, France, October 03 to 04, 2013 (contributed presentation)
- 2011: APS March 2011 Meeting, Dallas, Texas, USA, March 21-25, 2011 (conference - contributed presentation)
- 2011: Journées de Physique Statistique, Paris, France, January 28-29, 2011 (conference - contributed presentation).
- 2009: Workshop on Topology, Structure and Dynamics in Non-Crystalline Solids, Paris, France, September 20-24, 2009. (conference - contributed presentation)
- 2008: Journées de la Matière Condensée - Strasbourg, France, August 25-29, 2008. (conference - contributed presentation)
- 2007: 11th International Symposium on Continuum Models and Discrete Systems, Paris, France, July 30, - August 3, 2007. (conference - contributed presentation)
- 2005: 12th International Symposium on Metastable and Nano Materials, Paris, France. July 2005. (conference - contributed presentation)
- 2005: Journées Simulation Numérique. Paris, France. May 2005. (conference - contributed presentation)

Scientific Presentations: Seminars and local workshops

- 2020: *Depolymerization of the glasses network and its relation to Stress Corrosion Cracking*
Cindy L. Rountree, M. Barlet, D. Bonamy, W. Feng, M. Mama Toulou, J.M. Delaye
Réunion "GDR MePhy - Mesures des propriétés Mécaniques aux Echelles Ultimes", CEA-Saclay, PMMH, October 08, 2019 (contributed presentation)

- 2019: *Depolymerization of the glasses network and its relation to Stress Corrosion Cracking*
Cindy L. Rountree, M. Barlet, D. Bonamy, W. Feng, M. Mama Toulou, J.M. Delaye
Réunion "GDR MePhy - Mesures des propriétés Mécaniques aux Echelles Ultimes", CEA-Saclay, PMMH, October 08, 2019 (contributed presentation)
- 2015: *Effect of composition on Stress corrosion fracture & fracture toughness in pristine & irradiated glasses*
C. L. Rountree, M. Barlet, D. Bonamy, J-M Delaye
Réunion "Spectroscopies Vibrationnelles", CEA-Saclay, SRMA, March 17, 2015 (invited presentation)
- 2014: *Stress Corrosion Cracking in Pristine & Irradiated Glasses*,
C. L. Rountree, M. Barlet, D. Bonamy, J-M Delaye
CEA-Saclay, Sphynx, May 23, 2014 (seminar)
- 2014: *Stress Corrosion Cracking in Pristine & Irradiated Glasses*,
C. L. Rountree, M. Barlet, D. Bonamy, J-M Delaye
University of Rennes, May 22, 2014 (seminar)
- 2012: *Irradiation-induced damage in oxide glasses: From micro to macroscale*,
C. L. Rountree, M. Barlet, D. Bonamy, J-M Delaye
Materials in extreme Conditions at Aalto U Finland, November 20, 2012 (meeting-invited presentation)
- 2011: Journée scientifique thématique interne : "Irradiation : neutrons, ions, électrons et photons" Nov 2011. (meeting-invited presentation)
- 2008: 1er FORUM APSC, CEA-Saclay, France, October 30, 2008. (meeting - invited presentation)
- 2008 : University Montpellier, June 9-10, 2008. (seminar)
- 2007 : 2007 Computational Science Workshop for Underrepresented Groups, Los Angeles, California, USA, January 2007 (conference – invited presentation).
- 2006: CEA-Marcoule, October 20, 2006. (seminar)
- 2005: KITP – From the Atomic to the Tectonic: Friction, Fracture, and Earthquake Physics, Santa Barbara, California, USA, August 8- December 16, 2005. (seminar)
- 2005: Spring Meeting of the CEA Fracture Group. Paris, France. February 2005. (seminar)
- 2002: Darmstadt University. Darmstadt, Germany. June 2002 (seminar)
- 2000: TU Delft. Delft, the Netherlands. December 2000. (seminar)

Scientific Papers

34 articles published in international journals with peer-review (including: 4 PRL, 4 invited review articles), 1 patent, and 2 articles in proceedings published as books.

Indice H : 15 (ISIWeb) / 17 (Google Scholar)

i10-index: 23 (Google Scholar)

Scientific Publications: Articles published in international refereed journals

- [“Atomistic Aspects of Crack Propagation in Brittle Materials: Multimillion Atom Molecular Dynamics Simulations.”](#)
C. L. Rountree, R. K. Kalia, E. Lidorikis, A. Nakano, L. Van Brutzel, and P. Vashishta
Annual Review of Materials Research. **32** pp. 377-400 (2002).
DOI: 10.1146/annurev.matsci.32.111201.142017

- [“Multiresolution Atomistic Simulations of Dynamic Fracture in Nanostructured Ceramics and Glasses.”](#)
R. K. Kalia, A. Nakano, P. Vashishta, **C. L. Rountree**, L. Van Brutzel, and S. Ogata
International Journal of Fracture, **121**(1-2) pp. 71-79. (2003).
DOI: 10.1023/A:1026216101073
- [“Dynamics of wing cracks and nanoscale damage in glass.”](#)
Z. Lu, K. Nomura, A. Sharma, W. Wang, C. Zhang, A. Nakano, R. Kalia, P. Vashishta, E. Bouchaud and **C.L. Rountree**
Physical Review Letters. **95**(13) article #: 135501 (2005).
DOI: 10.1103/PhysRevLett.95.135501
- [“Experimental Investigation of Damage and Fracture in Glassy Materials at the Nanometer Scale.”](#)
D. Bonamy, S. Prades, L. Ponson, **C. Rountree**, D. Dalmas, E. Bouchaud, and C. Guillot.
International Journal of Materials and Product Technology. **26**(3-4) pp. 339-353 (2006).
DOI: 10.1504/IJMPT.2006.009474
- [“Nanoscale damage during fracture in silica glass.”](#)
D. Bonamy, S. Prades, **C.L. Rountree**, L. Ponson, D. Dalmas, E. Bouchaud, K. Ravi-Chandar, C. Guillot
International Journal of Fracture, **140**(1-4) pp.3-14 (2006).
DOI: 10.1007/s10704-006-6579-2
- [“Plasticity-Induced Structural Anisotropy of Silica Glass.”](#)
C. L. Rountree, D. Vandembroucq, M. Talamali, E. Bouchaud, S. Roux
Physical Review Letters **102**(19) article #: 195501 (2009).
DOI: 10.1103/PhysRevLett.102.195501.
- [“Effects of Finite Probe Size on Self-Affine Roughness Measurements.”](#)
F. Lechenault, G. Pallares, M. George, **C. Rountree**, E. Bouchaud, and M. Ciccotti
Physical Review Letters. 104, article # 025502 (2010).
DOI: 10.1103/PhysRevLett.104.025502
- [“Fracture in glass via molecular dynamics simulations and atomic force microscopy experiments.”](#)
C. L. Rountree, D. Bonamy, D. Dalmas, S. Prades, R.K. Kalia, C. Guillot, and E. Bouchaud.
Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part B. **51**(2). pp. 127-132 (2010).
- [“Evidence of Deep Water Penetration in Silica during Stress Corrosion Fracture.”](#)
F. Lechenault, **C. L. Rountree**, F. Cousin, J.-P. Bouchaud, L. Ponson, and E. Bouchaud.
Physical Review Letters. **106**(16), article # 165504 (2011).
DOI:10.1103/PhysRevLett.106.165504
- [“Fractoluminescence characterization of the energy dissipated during fast fracture of glass.”](#)
G. Pallares, **C. Rountree**, L. Douillard, F. Charra, and E. Bouchaud
European Physics letters **99**, 28003, (2012).
DOI: 10.1209/0295-5075/99/28003
- [“SiO₂-Na₂O-B₂O₃ density: A comparison of experiments, simulations, and theory.”](#)
M. Barlet, A. Kerrache, J-M Delaye, and **C. L. Rountree**. *Journal of Non-Crystalline Solids*. **382**, 32, (2013)
DOI: 10.1016/j.jnoncrysol.2013.09.022

- [“Nominally brittle cracks in inhomogeneous solids: From microstructural disorder to continuum-level scale.”](#)
J. Barés, M. Barlet, **C. L. Rountree**, L. Barbier, D. Bonamy
Frontiers in Physics. **2**(70) (2014)
DOI: 10.3389/fphy.2014.00070
- [“Antiferromagnetic long-range spin ordering in Fe- and NiFe₂-doped BaTiO₃ multiferroic layers.”](#)
A. Barbier, T. Aghavnian, V. Badjeck, C. Mocuta, D. Stanescu, H. Magnan, **C. L. Rountree**, R. Belkhou, P. Ohresser and N. Jedrecy
Physical Review B. 91:035417 (Jan, 2015)
DOI: 10.1103/PhysRevB.91.035417
- [“Hardness and Toughness of Sodium Borosilicate Glasses via Vicker's indentations.”](#)
M. Barlet, J-M. Delaye, T. Charpentier, M. Gennisson, D. Bonamy, T. Rouxel, **C.L. Rountree**
Journal of Non-Crystalline Solids. 417–418:66-69 (June 2015).
DOI:10.1016/j.jnoncrysol.2015.02.005
- [“Role of evaporation rate on the particle organization and crack patterns obtained by drying a colloidal layer.”](#)
K. Piroird, V. Lazarus, G. Gauthier, A. Lesaine, D. Bonamy and **C. L. Rountree**
Europhysics Letters, 113:38002 (February 2016).
DOI: 10.1209/0295-5075/113/38002
- [“Low energy electron imaging of domains and domain walls in magnesium-doped lithium niobate.”](#)
G. F. Nataf, P. Grysan, M. Guennou, J. Kreisel, D. Martinotti, **C. L. Rountree**, C. Mathieu, N. Barrett.
Scientific reports. 6:33098 (09 September 2016).
DOI: 10.1038/srep33098
- [“From network depolymerization to stress corrosion cracking in sodium-borosilicate glasses: Effect of the chemical composition.”](#)
M. Barlet, J.-M. Delaye, B. Boizot, D. Bonamy, R. Caraballo, S. Peugeot and **C. L. Rountree**
Journal of Non-Crystalline Solids. 450 :174-184 (15 October 2016).
DOI: 10.1016/j.jnoncrysol.2016.07.017.
- [“Recent progress to understand stress corrosion cracking in sodium borosilicate glasses: linking the chemical composition to structural, physical and fracture properties.”](#)
C. L. Rountree
Journal of Physics D: Applied Physics. **50**:343002 (02 August 2017).
DOI: doi.org/10.1088/1361-6463/aa7a8b.
- [“Adsorbate Screening of Surface Charge of Microscopic Ferroelectric Domains in Sol–Gel PbZr_{0.2}Ti_{0.8}O₃ Thin Films.”](#)
O. Copie, N. Chevalier, G. Le Rhun, **C. L. Rountree**, D. Martinotti, S. Gonzalez, C. Mathieu, O. Renault, N. Barrett
ACS Applied Materials & Interfaces. **9**(34): 29311–29317 (04 August 2017).
DOI: 10.1021/acsami.7b08925.
- [“Roughness of oxide glass sub-critical fracture surfaces.”](#)
G. Pallares, F. Lechenault, M. George, E. Bouchaud, C. Ottina, **C. L. Rountree**, M. Ciccotti
Journal of the American Chemical Society. **101**(3):1279–1288 (March, 2018).
DOI: doi.org/10.1111/jace.15262

- [“Highly porous layers of silica nano-spheres sintered by drying: Scaling up of the elastic properties from the beads to the macroscopic mechanical properties.”](#)
A. Lesaine, D. Bonamy, G. Gauthier, **C. L. Rountree** and V. Lazarus, *Soft Matter*. **14**: 3987-3997 (13 Apr 2018).
DOI: 10.1039/C7SM02443F
- [“Conductivity via Thermally Induced Gap States in a Polyoxometalate Thin Layer”](#)
Q. Zhu, B. Paci, A. Generosi, S. Renaudineau, P. Gouzerh, X. Liang, C. Mathieu, **C. L. Rountree**, G. Izzet, A. Proust, N. Barrett, and L. Tortech, *The Journal of Physical Chemistry C*. **123**(3): 1922–1930 (January 3, 2019) DOI: [10.1021/acs.jpcc.8b08510](https://doi.org/10.1021/acs.jpcc.8b08510)
- [“Electrostriction, Electroresistance, and Electromigration in Epitaxial BaTiO₃-Based Heterostructures: Role of Interfaces and Electric Poling”](#)
D. Stanescu, H. Magnan, B. Sarpi, M. Rioult, T. Aghavonian, J.-B. Moussy, **C. L. Rountree**, and A. Barbier, *ACS Applied Nano Materials*. **2**(6): 3556–3569 (May 10, 2019) DOI: 10.1021/acsanm.9b00517
- [“SILICA and its process zone”](#)
C. L. Rountree and W. Feng, *International Journal of Applied Glass Science*. Special Issue: Women in Glass. **2**(6):385-395 (July 2020) DOI: 10.1111/ijag.15113
- [“Role of particle aggregation on the structure of dried colloidal silica layers”](#)
Lesaine, D. Bonamy, **C. L. Rountree**, G. Gauthier, M. Impéror-Clercc, V. Lazarus, *Soft Mater*. **17**(6):1589-1600 (February 2021) DOI: 10.1039/D0SM00723D
- [“Stress Corrosion Cracking in Amorphous Phase Separated Oxide Glasses: A Holistic Review of Their Structures, Physical, Mechanical and Fracture Properties”](#)
W. Feng, D. Bonamy, F. Célarié, P. C. M. Fossati, S. Gossé, P. Houizot, **C. L. Rountree**. *MDPI – Corrosion and Materials Degradation*. **2**(3):412-446 (July 2021) DOI: 10.3390/cmd2030022

Scientific Publications: Articles published in refereed conference proceedings

- [“Dynamic Fracture Mechanisms in Nanostructured and Amorphous Silica Glasses: Million-Atom Molecular Dynamics Simulations.”](#)
L. Van Brutzel, **C. L. Rountree**, R. K. Kalia, A. Nakano, and P. Vashishta *Materials Research Society Symposium Proceedings*. **703** pp. 117-122. (2002).
DOI: 10.1557/PROC-703-V3.9
- “Atomistic Simulations of Nanoceramics.”
C. L. Rountree, L. Van Brutzel, E. Lidorikis, A. Nakano, R. K. Kalia, and P. Vashishta in *Proceedings of CINTEC 2002, 10th International Ceramic Congress and 3rd Forum on New Materials*, edited by P. Vincenzini (Florence, Italy, July 14-18, 2002).
- [“High-end classical-quantum atomistic simulations of fracture.”](#)
R. K. Kalia, A. Nakano, P. Vashishta, and **C. L. Rountree** *2003 Users Group Conference, Proceedings* published by IEEE computer society pp. 36-39 (2003).
DOI: 10.1109/DODUGC.2003.1253371.
- [“A unified study of crack propagation in amorphous silica: Using experiments and simulations.”](#)
C. L. Rountree, S. Prades, D. Bonamy, E. Bouchaud, R. Kalia, C. Guillot *Journal of Alloys and Compounds* 434 pp. 60-63 (2007).
DOI: 10.1016/j.jallcom.2006.08.336.

- [“Damage of silicate glasses during stress corrosion.”](#)
F. Lechenault, **C. L. Rountree**, F. Cousin, J.-P. Bouchaud, L. Ponson, and E. Bouchaud.
Journal of Physics: Conference Series. **319**:012005. (2011).
- [“Roughness of Silica Glass Sub-Critical Fracture Surfaces”](#)
G Pallares, F Lechenault, M George, E Bouchaud, **C. L. Rountree**, and M. Ciccotti
Fractography of Glasses and Ceramics VI. The American Ceramic Society. Ceramic
Transactions. Wiley publishing. Vol 230. p77 (2012).
- [“Understanding the evolution of mechanical properties under irradiation in nuclear glasses via experiments.”](#)
M. Barlet, J-M Delaye, D. Bonamy, and **C. L. Rountree** 13th International Conference on
Fracture, June 16–21, 2013, Beijing, China (Published proceeding)
- [“Influence of electronic irradiation on failure and hardness properties of pure silica glasses.”](#)
M. Barlet, J-M Delaye, M. Gennisson, R. Caraballo, D. Bonamy, **C. L. Rountree**.
Procedia Material Science. **7(0)**:286 - 293 (2014).
DOI: 10.1016/j.mspro.2014.10.037
- [“Local electronic structure and photoelectrochemical activity of partial chemically etched Ti-doped hematite”](#)
M. Rioult, R. Belkhou, H. Magnan, D. Stanesco, S. Stanesco, F. Maccherozzi, **C. Rountree** and A. Barbier
Surface Science. 641:310–313 (November, 2015).
DOI: 10.1016/j.susc.2015.01.002
- "Crack growth in glasses due to environmental effects"
C. L. Rountree, M. Barlet, J.M. Delaye and D. Bonamy
Glass Atmospheric Alteration: Cultural Heritage, Industrial and Nuclear Glasses.
Proceedings of the International Symposium on Glass Degradation, in Atmospheric
Conditions, Hermann Editions, 2019.

Scientific Publications: Non-refereed

- “Nanoscale Damage and Dynamic Fracture in Glasses.”
C. L. Rountree, R. K. Kalia, A. Nakano, P. Vashishta
NAVO MSRC Navigator. pp. 10-11 (Fall 2002).

Scientific Publications: Articles in preparation for international refereed journals

- “Impact of the roughness profile of a surface on the Bragg peak position in glancing incidence diffraction.”
D. Simeone, L. Luneville, G. Baldinozzi, **C. L. Rountree**, D. Gosset and J.-F. Berar.
Journal of Applied Crystallography. In preparation.
- “Stress corrosion cracking in irradiated sodium-borosilicate glasses: Effect of the chemical composition”
M. Barlet, J.-M. Delaye, B. Boizot, D. Bonamy, R. Caraballo, S. Peugeot and **C. L. Rountree**
Journal of Non-Crystalline Solids. In preparation.

Internal CEA Publications

- “Methodologie d’analyse des surfaces de fracture et evolution sous irradiation aux electrons et aux ions legers de la silice et d’un verre nucleaire simplifie”

T. Taurines, **C. Rountree**, D. Bonamy, F. Bruguier, R. Caraballo, J-M Delaye, S. Peugeot, B. Boizot,

CEA note technique : DEN/MAR/DTCD/SECM/2011/16. (2011)

- “Evolution des propriétés mécaniques des verres nucléaires sous irradiation”

M. Barlet, **C. L. Rountree**, D. Bonamy, F. Bruguier, R. Caraballo, J-M Delaye, S. Peugeot, B. Boizot,

CEA note technique : DEN/MAR/DTCD/SECM/2013-02. (2013)

- “Evolution des propriétés mécaniques des verres nucléaires sous irradiation : rapport d’avancement 2014”

M. Barlet, **C. L. Rountree**, J.-M. Delaye

CEA note technique : DEN/MAR/DTCD/SECM/2014-04 . (2014)

Patent

- “Procédé de mesure de la tenacité d'un matériau”
Rountree, D. Bonamy; publication number: WO2014023729 A1

CEA Highlights

- 2011 : Jusqu'où l'eau pénètre-t-elle dans la silice sous contrainte ? (SPEC, SPCSI, & LLB)

Presentations for Outreach projects and Popularization of Science

- 2018: La fête de la Science. (worked at a booth)
- 2014: Girl Scouts of American Paris neighborhood. “Science, Technology, Engineering, and Mathematics in Paris” Jan 2014. (invited presentation)
- 2009: La fête de la Science. (worked at a booth)

Grants

- ANR2020 – MultiNano – Functional nano-circuits at artificial laminar MULTIferroic by NANOLithography - project role: participant
- CEA PTC Matériaux & Procédés LightToughMetaMat, Vers des metamatériaux aléatoires ultralégers et résistants dans une approche « bone » - inspirée - project role: participant
- IDF- DIM-MAP – AFM4aStory (2018-2019) – project role: PI
- Palm – CoEuRs (2018-2019) - project role: participant
- ANR2017 – ToughGlasses (Oct, 2017-Mar, 2022) – project role: PI
- Palm – DryOrder (2015-2018) - project role: PI
- VESTALE – A CEA program (2008-2014)
- Palm - Turb&Crack (2013-2016) - project role: participant
- RTRA Inter-Labex - NanoDried (2011-2014) - project role: participant
- RTRA – FracHet (2009-2011) - project role: participant
- RTRA – CODERUP (2008 - 2010) - project role: participant
- ANR - CORCOSIL (2007-2010) - project role: participant
- IDF- 2011 IMAFMP (grant for a high end nano-mechanical AFM) - project role: PI
- RTRA – 2011-2 IMAFMP (grant for a high end nano-mechanical AFM) - project role: PI
- EMIR-2010-2013: bourses pour accéder aux irradiateurs - project role: PI et participant
- NSF MPS Distinguished International Postdoctoral Research Fellowships (MPS-DRF)
Award Number: DMR-0401467 (July 1, 2004- June 30, 2006) - project role: PI

Awards/Distinctions

- 2020: Recognized as a Woman in Glass Science
 - Published invited article in the *International Journal of Applied Glass Science. Special Issue: Women in Glass.*
 - [Interviewed](#) as a Woman in Glass Science
- 2019: CEA Senior Expert
- 2012: CEA Expert
- 2000: DOE Scholarship to attend The 50th Annual Meeting of the Nobel Laureates in Lindau, Germany

Cindy Lynn Rountree

Curriculum vitae

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- 2000: NSF Scholarship to attend a NATO sponsored meeting
- 1998: Louisiana State University Tuition Scholarship for graduate school
- 1993: Bayou Girl Scout Gold Award College Scholarship

Teaching Experience

- 1997-1998 Physics, Math, and Economics Tutor in the Athletic Department at Louisiana State University
- 1998-1999 Undergraduate Laboratories at Louisiana State University
 - a. Modern Physics Laboratory
 - b. Physics for Engineers Laboratory