

Curriculum Vitae

CRETON Costantino

Current Position:

- *Directeur de Recherche at the CNRS*
- *Head of the group "Soft Polymer Networks" in the Soft Matter Science and Engineering Laboratory of the ESPCI Paristech*
- *Head of international relations of the ESPCI Paristech*
- *Scientific Chairman Performance Polymers; Dutch Polymer Institute*

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Area of expertise

General scientific area: *Polymer Science and Engineering*

Special field of research: *Chemistry and mechanical properties of soft polymers, adhesion phenomena, adhesive properties and adhesive chemistry. Fracture of soft polymer networks.*

Keywords: *interface, surface, thin films, adhesion, fracture, block copolymer, random copolymer, micromechanics, nanomaterials, mechanical properties, rheology of polymers.*

Education and Diplomas

1985	Materials Science & Engineering degree, Ecole Polytechnique Fédérale de Lausanne, Switzerland
1988	Master of Science, Department of Materials Science & Engineering, Cornell University, USA
1991	Ph. D. Department of Materials Science & Engineering, Cornell University, USA
1999	Habilitation in Physics, Université Pierre et Marie Curie, Paris, France

Professional Experience

Jan 1992-Feb 1993	IBM Almaden Research Center, San Jose, USA, Post-Doctoral Fellow
Mar 1993-Oct 1994	E.S.P.C.I., Paris, France, Swiss National Research Fund senior fellow
Oct 1994- Oct 2001	C.N.R.S., Laboratory of Physical Chemistry of Polymers, ESPCI, Paris

	Chargé de Recherche 1 ^{ère} classe (tenured position equivalent to an assistant professor)
Oct 2001-Oct 2010	C.N.R.S., Laboratory of Physical Chemistry of Polymers, ESPCI, Paris Directeur de Recherche 2 ^{ème} classe (tenured position equivalent to an associate Professor)
Oct 2010-Oct present	C.N.R.S., Laboratory of Soft Matter Science and Engineering, ESPCI, Paris Directeur de Recherche 1 ^{ère} classe (tenured position equivalent to a full Professor)

Extended stays in foreign countries

Sept-Nov 1996 Invited Professor at the l'Ecole Polytechnique Fédérale de Lausanne, (Professor, H.H. Kausch)

Juil-Aout 1999 Visiting Scientist at University of California Santa Barbara, (Professor E.J. Kramer)

Jul-Aug 2012 Visiting Scientist at University of California Berkeley, (Professor N.P. Balsara)

Fellowships, Awards and Honours:

1986	Swiss National Research Fund Junior Fellowship (1 year)
1988	IBM Almaden Reserach Center research Fellowship (1 year)
1993	Swiss National Research Fund Junior Fellowship (2 years)
2000	Adhesion Society meeting (USA), best paper award
2002	Prix Polymères of the French Polymer Group (France)
2007	Prix Dédale of the French Adhesion Society
2008	Polymer Physics Prize of the Journal of Polymer Science: Polymer Physics
2011	Wake Medal of the UK Society of Adhesion and Adhesives
2013	Prize for Excellence in Adhesion Science, The Adhesion Society (USA)

Summary of publication and communication record

122 publications in refereed journals (h-index of 34)

13 book chapters

70+ invited and plenary lectures in international conferences

Community Services

Since 2008: Head of International relations for ESPCI ParisTech

Since 2011; Scientific Chairman (equivalent to Program Director) for the Technology Area Performance Polymers at the Dutch Polymer Institute.

- Editor of a special issue of the MRS Bulletin of the Materials Research Society on adhesives June 2003.
- Organisation of a symposium on Gels for the Materials Research Society, San Francisco, April 2005.
- Editor of a special issue of the MRS Bulletin of the Materials Research Society on biomimetic adhesion in June 2007.
- Program chair of the conference « Deformation, Yield and Fracture of Polymers », April 2009
- Guest editor of a special issue of J. Polym. Sci. Polym. Phys.
- Organizer of 2nd sino-french workshop on Macromolecules and Soft Matter, Paris Oct 2010.
- Scientific and Organization committee of WCARP 4 in Arcachon, France, Sept 2010.
- Organizer of the Workshop on Multi-Scale Dynamics of Structured Polymeric Materials, Paris, Dec 2010.
- Reviewer for proposals from French ANR, European Union's ERC, German DFG, Dutch TNO.
- Reviewers for scientific journals (about 30 papers/year)

Selected Recent Publications

1. Sudre, G., et al., *Reversible adhesion between a hydrogel and a polymer brush*. *Soft Matter*, 2012. **8**(31): p. 8184 - 8193.
2. Mzabi, S., et al., *A critical local energy release rate criterion for fatigue fracture of elastomers*. *Journal of Polymer Science: Polymer Physics*, 2011. **49**: p. 1518-1524.
3. Lin, W.C., et al., *Large Strain and Fracture Properties of Poly (dimethyl acrylamide)/silica Hybrid Hydrogels*. *Macromolecules*, 2010. **43**: p. 2554-2563.
4. Deplace, F., et al., *Mechanical and Adhesive Properties of a soft-soft nanocomposite designed from colloidal particles*. *Soft Matter*, 2009. **5**: p. 1440-1447.
5. Creton, C., et al., *Large-Strain Mechanical Behavior of Model Block Copolymer Adhesives*. *Macromolecules*, 2009. **42**: p. 7605-7615.
6. Nase, J., A. Lindner, and C. Creton, *Pattern formation during deformation of a confined viscoelastic layer: From a viscous liquid to a soft elastic solid*. *Physical Review Letters*, 2008. **101**(7): p. 074503.
7. Webber, R.E., et al., *Large Strain Hysteresis and Mullins effect of tough Double-Network Hydrogels*. *Macromolecules*, 2007. **40**(8): p. 2919-2927.

8. Shull, K.R. and C. Creton, *Deformation Behavior of thin Compliant Layers under Tensile Loading Conditions*. Journal of Polymer Science: Part B: Polymer Physics, 2004. **42**: p. 4023-4043.