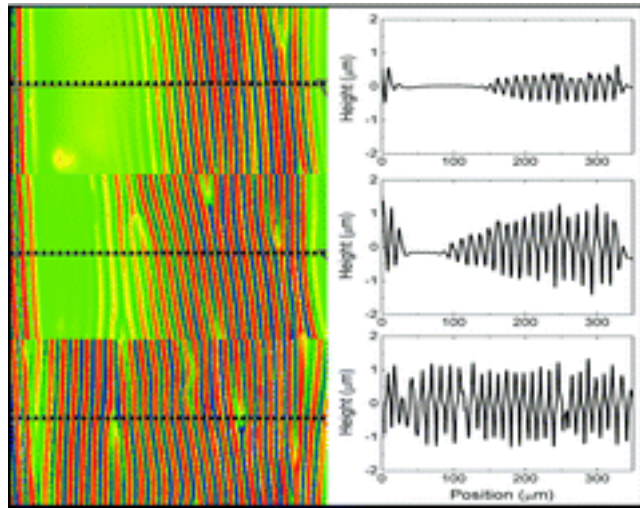




**Professor Alfred J. Crosby**



From: Yu-Cheng Chen and Alfred J. Crosby, “Wrinkling of inhomogeneously strained thin polymer films”, *Soft Matter*, Vol. 9, pp 43-47, 2013

<https://www.pse.umass.edu/faculty/researchgroup/crosby>

<https://www.pse.umass.edu/faculty/researchgroup/crosby/crosby-bio-0>

<https://www.umass.edu/newsoffice/article/alfred-crosby-co-inventor-geckskin-named>

<https://scholar.google.com/citations?user=8cRI9gYAAAAJ&hl=en>

[https://www.researchgate.net/scientific-contributions/13229042\\_Alfred\\_J\\_Crosby](https://www.researchgate.net/scientific-contributions/13229042_Alfred_J_Crosby)

Head, Crosby Research Group  
Polymer Science & Engineering Department  
University of Massachusetts Amherst

**Education:**

B.S. Civil Engineering, University of Virginia, 1996

Ph.D. Materials Science and Engineering, Northwestern University, 2000

**Statement:**

Guided by fundamental science, my research group takes inspiration from examples in nature, as well as ubiquitous yet complex materials such as fabric, to develop and exploit simple, creative, and novel design paradigms that will change the way scientists, engineers, and the general public use and understand materials.

**Biography:**

Alfred J. Crosby is a Professor in the Polymer Science & Engineering Department at the University of Massachusetts Amherst. He has contributed significantly to the science and technology of soft materials, especially in the context of adhesion, bio-inspired materials, elastic instabilities, nanoparticle-polymer assemblies, nanocomposites, structure-property relationships, and the deformation and fracture of thin films. Prof. Crosby has received numerous awards and recognition for his research, including the National Science Foundation CAREER Award, the Army Research Office Young Investigator Award, the Adhesion Society

Outstanding Young Scientist Award, the Rohm & Haas New Faculty Award, the American Chemical Society Rubber Division's Sparks-Thomas Award, and the College of Natural Sciences Outstanding Research Award. His research has been covered extensively in the popular media, including Discovery Channel, Popular Science, CNET, NPR, Bloomberg Businessweek and CNN Money/Fortune Magazine, which named the Geckskin™ project one of the Top 5 Science Breakthroughs of 2012.

Crosby received his B.S. degree in Civil Engineering and Applied Mechanics at the University of Virginia in 1996 and his Ph.D. in Materials Science and Engineering at Northwestern University in 2000, with his doctoral dissertation research entitled: Deformation and Failure of Thin Viscoelastic Adhesives. He was awarded a National Research Council Research Fellowship in 2000 to conduct his postdoctoral research on Combinatorial Characterization of Polymer Thin Film Mechanics and Adhesion in the Polymers Division at the National Institute of Standards and Technology. Since joining the U Mass faculty in 2002, Prof. Crosby has been recognized with the ESPCI-Michelin Visiting Professor Fellowship (2011 and 2013) and the ESPCI-Saint-Gobain Chair Lectureship (2012). He was selected to participate in three National Academy of Engineering Frontiers of Engineering Symposia (2008, 2010, and 2011), and was invited to co-organize a National Academy of Engineering US-Japan Frontiers of Engineering Symposium on Bio inspired Materials (2011).

Prof. Crosby has published over 90 peer-reviewed scientific publications, 4 book chapters, and 13 patents or patent applications. Several of his publications are in high impact journals, such as *Advanced Materials* and *Physical Review Letters*, and his publications have been cited over 1800 times. He has an H-index of 23. He has graduated 13 Ph.D. students and 7 postdoctoral researchers, all of whom hold distinguished positions in academia, industry, and government laboratories around the world. He has delivered well over 100 invited lectures at national and international conferences, workshops, and university symposia, including 4 Gordon Research Conferences and one Telluride Workshop on Polymer Physics. He was the Chair for the 2013 Gordon Research Conference on Macromolecular Materials, and the Chair for the 2012 Adhesion Society Annual Meeting. He serves and has served on several advisory boards, including the Pressure Sensitive Tape Council, the editorial advisory board for the *Journal of Polymer Science: Part B: Polymer Physics*, *Macromolecules*, and *Macromolecular Chemistry and Physics*, and the Bausch and Lomb Scientific Advisory Board. He has consulted for numerous Fortune 500 companies, including as an expert witness on several soft materials-related corporate dispute cases.

### **Selected Publications:**

Chan, E.P. & Crosby, A.J. Fabricating Microlens Arrays by Surface Wrinkling. *Advanced Materials* 18, 3238-3242 (2006).

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D.P. Holmes, M. Ursiny, and A.J. Crosby, "Crumpled Surface Structures", *Soft Matter*, 4, 82, 2008

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Yuri Ebata and Alfred J. Crosby, “Wrinkling membranes with compliant boundaries”, *Soft Matter*, Vol. 10, No. 12, pp 1963-1968, 2014

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Chen, Y.C., Crosby, A.J., 2014. High aspect ratio wrinkles via substrate prestretch. *Adv. Mater* 26, 5626–5631.

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