



**Professor Lambert Ben Freund**

L.B. Freund and S. Suresh, *Thin Film Materials: Stress, Defect Formation and Surface Evolution*, Cambridge University Press, 2004

See:

<https://www.matse.illinois.edu/directory/profile/lbf>

<https://vivo.brown.edu/display/lfreund>

<https://www.nae.edu/28009.aspx>

<http://appliedmechanics.asmedigitalcollection.asme.org/article.aspx?articleid=1406630>

<http://amresearch.blogspot.com/2006/03/researcher-spotlight-professor-lambert.html>

Materials Science and Engineering  
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**Professional Highlights:**

After earning Bachelors and Masters degrees at the University of Illinois at Urbana-Champaign in 1964 and 1965, respectively, Freund earned his Ph.D. degree from Northwestern University in 1967 in the program on Theoretical and Applied Mechanics. Thereafter, he served on the Faculty of the Division of Engineering at Brown University until 2010, including a term as Chair of the Engineering Executive Committee. During this period, he has also held visiting appointments at Harvard University, twice at Stanford University, University of California at Berkeley, twice at the California Institute of Technology and the University of Illinois. He is currently the H. L. Goddard University Professor (emeritus) at Brown University. Dr. Freund is the author or co-author of approximately 230 published articles on stress waves in solids, fracture mechanics, seismology, dislocation theory, mechanics of thin films, microstructure evolution in films, bio-adhesion and engineering education, plus monographs on *Dynamic Fracture Mechanics* (Cambridge University Press, 1990; paperback, 1998) and, with S. Suresh, on *Thin Film Materials* (Cambridge University Press, 2003; paperback, 2009. A Chinese language translation has also appeared (Science Press, Beijing, 2006).

**Selected Publications:**

Freund, L. B.: Dynamic fracture mechanics. Cambridge: Cambridge University Press 1990.

Y.J. Lee and L.B. Freund (Division of Engineering, Brown University, Providence, Rhode Island, USA),  
“Dynamic buckling delamination of a bonded thin film under residual compression”, Acta Mechanica, Vol. 3,  
pp 147-160, 1992

Freund LB. The stress distribution and curvature of a general compositionally graded semiconductor layer. J  
Cryst Growth 1993;132(1-2):341-4.

Stringfellow, R.G. and Freund, L.B. (1993). The effect of interfacial friction on the buckled-driven spontaneous  
delamination of a compressed thin film. International Journal of Solids and Structures 30, 1379-1395.

Kukta, R.V., Freund, L.B., 1997. Minimum energy configuration of epitaxial material clusters on a lattice-  
mismatched substrate. J. Mech. Phys. Solids 45, 1835-1860.

Freund LB (2000). Substrate curvature due to thin film mismatch strain in the nonlinear deformation range. J  
Mech Phys Solids 48: 1159-1174

Freund LB and Suresh S (2003). Thin film materials, stress, defect formation and surface evolution. Univesity  
Press, Cambridge