

## BIOGRAPHICAL SKETCH

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NAME George Lykotrafitis		POSITION TITLE Assistant Professor	
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
National University of Athens, Athens, Greece	B.Sc.	05/86	Physics
National Technical Univ. of Athens, Greece	Ph.D.	06/01	Applied Mathematics and Physical Sciences
California Institute of Tech., Pasadena, CA	M.Sc.	06/03	Mechanical Engineering
California Institute of Tech., Pasadena, CA	Ph.D.	06/06	Mechanical Engineering

### A. Positions and Honors

#### Positions and Employment

1997 - 2001 **Research Assistant**, National Technical University of Athens, Athens, Greece  
2001 - 2006 **Graduate Research Assistant**, California Institute of Technology, Pasadena, CA  
2006 - 2008 **Post-Doctoral Fellow**, Massachusetts Institute of Technology, Cambridge, MA  
2009 - **Assistant Professor**, Mechanical Engineering, University of Connecticut, Storrs, CT

#### Honors, Awards

2001 Thomaidion Award and Prize, National Technical University of Athens  
2001 - 2002 Division of Engineering and Applied Science Fellowship, Caltech  
2004 Charles D. Babcock Award and Prize, Graduate Aeronautical Laboratories, Caltech  
**2006 M. Hetenyi Award, Society for Experimental Mechanics, Best paper published in Experimental Mechanics in 2006**  
**2012 American Heart Association, Scientist Development Grant Award**  
**2014 NSF, Faculty Early Career Development (CAREER) Award**  
**2014 AAUP UCONN Chapter, Excellence in Research & Creativity: Early Career Award**

#### Other Relevant Experience

2006 – 2008 Fellow of Global Enterprise for Micro-Mechanics and Molecular Medicine  
2006 Summer School on Cell and Molecular Mechanics on Biomedicine, MIT, Cambridge, MA  
2007 Summer School on Cell Mechanics/Cancer, National University of Singapore, Singapore

### B. Peer Reviewed Publications (\* = student in Lykotrafitis's lab)

1. J. Maciaszek\*, B. Andemariam, K. Abiraman\*, and G. Lykotrafitis, 'AKAP-dependent modulation of BCAM/Lu adhesion on normal and sickle cell disease RBCs revealed by force nanoscopy', *Biophysical Journal*, **104**, Issue 6, (2014). PMC: 3984978
2. J. Maciaszek\*, H. Soh, R.S. Walikonis, A.V. Tzingounis, and G. Lykotrafitis, 'Topography of native SK channels revealed by force nanoscopy in living neurons', *Journal of Neuroscience*, **32**, Issue 33, 11435-11440 (2012). PMID: 22895725

3. J. Maciaszek\*, B. Andemariam, G. Huber, and G. Lykotrafitis, 'Epinephrine modulates BCAM/Lu and ICAM-4 expression on the sickle cell trait red blood cell', *Biophysical Journal*, **102**, Issue 5, 1137-1143 (2012). PMID: 22404936
4. H. Li\* and G. Lykotrafitis, 'Two-Component Coarse-Grain Molecular Dynamics Model for the Human Erythrocyte Membrane', *Biophysical Journal*, **102**, Issue 1, 75-84 (2012). PMID: 22225800
5. H. Li\* and G. Lykotrafitis, 'Modeling sickle hemoglobin fibers as one chain of coarse-grained particles', *Journal of Biomechanics*, **45**, Issue 11, 1947-1951 (2012).
6. J. Maciaszek\*, B. Andemariam (MD), and G. Lykotrafitis, 'Microelasticity of red blood cells in sickle cell disease', *Journal of Strain Analysis for Engineering Design*, **49**, 874-879 (2011).
7. J. Maciaszek\* and G. Lykotrafitis, 'Sickle cell trait human erythrocytes are significantly stiffer than normal', *Journal of Biomechanics*, **44**, Issue 4, 657-661 (2011). PMID: 21111421
8. H. Li\* and G. Lykotrafitis, 'A coarse-grain molecular dynamics model for sickle hemoglobin fibers', *Journal of Mechanical Behavior of Biomedical Materials*, **4**, Issue 2, 162-173 (2011). PMID: 21262494
9. M. Budyansky\*, C. Madormo\*, J. Maciaszek\*, and G. Lykotrafitis, 'Coherent Gradient Sensing (micro-CGS): a microscale curvature detection technique,' *Optics and Lasers in Engineering*, **49**, 874-879 (2011).
10. H.Y. Yuan, C.J. Huang, J. Li, G. Lykotrafitis, and S.L. Zhang, 'One-particle-thick, solvent-free, coarse-grained model for biological and biomimetic fluid membranes'. *Phys. Rev. E*, **82**, 011905, 1-8, (2010). PMID: 20866646
11. S. Zhang, J. Li, G. Lykotrafitis, G. Bao and S. Suresh, 'Size-dependent endocytosis of nanoparticles', *Advanced Materials*, **20**, 1-6 (2008). PMC2709876
12. Y. Park, M. Diez-Silva, G. Popescu, G. Lykotrafitis, W. Choi, M. Feld and S. Suresh, 'Refractive index maps and membrane dynamics of human Red Blood Cells parasitized by plasmodium falciparum', *PNAS*, **105**, 13730-13735 (2008). PMC2529332
13. J. Li, G. Lykotrafitis, M. Dao and S. Suresh, 'Cytoskeletal dynamics of human erythrocyte', *PNAS*, **104**, 4937-4942 (2007). PMC1829243
14. G. Lykotrafitis, A.J. Rosakis and G. Ravichandran, 'Self-healing pulse-like shear ruptures in the laboratory', *Science*, **313**, 1765-1768 (2006). PMID: 16990544
15. G. Lykotrafitis, A.J. Rosakis and G. Ravichandran, 'Particle velocimetry and photoelasticity applied to the study of dynamic sliding along frictionally-held bimaterial interfaces: Techniques and feasibility', *SEM Experimental Mechanics*, **46**, 205-216 (2006). (Hetenyi award for the best research paper published in *Experimental Mechanics* in 2006).
16. G. Lykotrafitis and A.J. Rosakis, 'Dynamic sliding of frictionally held bimaterial interfaces subjected to impact shear loading', *Proceedings of the Royal Society A*, **462**, 2997-3026 (2006).
17. G. Lykotrafitis and A.J. Rosakis, 'Photoelastic study of sliding along frictionally held incoherent interfaces of homogeneous systems subjected to dynamic shear loading', *International Journal of Fracture*, **140**, 213-233 (2006).
18. D. Coker, G. Lykotrafitis, A. Needleman and A.J. Rosakis, 'Frictional sliding modes along an interface between identical plates subject to shear impact loading', *Journal of the Mechanics and Physics of Solids*, **53**, 884-922 (2005).
19. H.G. Georgiadis and G. Lykotrafitis, 'Asymptotic solution for three-dimensional transient thermoelastic Rayleigh waves due to a thermal source', *ASME Journal of Applied Mechanics*, **72**, 129-138 (2005).
20. G. Lykotrafitis and H.G. Georgiadis, 'The three-dimensional steady-state thermo-elastodynamic problem of moving sources over a half space', *International Journal of Solids and Structures*, **40**, 899-940 (2003).
21. H.G. Georgiadis and G. Lykotrafitis, 'A method based on the Radon transform for three-dimensional elastodynamic problems of moving loads', *Journal of Elasticity*, **65**, 87-129 (2001).
22. G. Lykotrafitis, H.G. Georgiadis and L.M. Brock, 'Three-dimensional thermoelastic wave motions in a half-space under the action of a buried source', *International Journal of Solids and Structures*, **38**, 4857-4878 (2001).
23. H.G. Georgiadis, I. Vardoulakis and G. Lykotrafitis, 'Torsional surface waves in a gradient-elastic half-space', *Wave Motion*, **31**, 333-348 (2000).