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## Books

- 1 Hwang KC and Huang Y, *The Constitutive Relation of Solids*, Tsinghua University Press, Beijing, 1999.

## Book Chapters

- 1 Huang Y and Hutchinson JW, "A model study of the role of nonuniform defect distribution on plastic shear localization," in *Modelling of Material Behaviour and Design* (eds. Embury JD and Thompson AW), TMS, Warrendale, PA, pp 129-147, 1989.
- 2 Chandra A, Wang KP, Huang Y, and Subhash G, "Defect evolution during machining of brittle materials," in *Advanced Methods in Materials Processing Defects* (eds. Predeleanu M and Gilormini P), Elsevier Science, Amsterdam, pp 89-98, 1997.
- 3 Huang Y, "The mode III fracture in general strain-gradient plasticity," in *Advances in Solid Mechanics* (eds. Yu SW, Yang W, and Zheng QS), Tsinghua University Press, Beijing, pp 89-99, 1997.
- 4 Huang Y, Zhang L, Guo TF, and Hwang KC, "Fracture of materials with strain gradient effects," in *Advances in Fracture Research* (eds. Karihaloo BL, Mai Y-W, Ripley MI, and Ritchie RO), Pergamon Press, New York, pp 2275-2286, 1997.
- 5 Huang Y, Zhang L, Guo TF, and Hwang KC, "Near-tip fields for cracks in materials with strain gradient effects", in *IUTAM Symposium on Nonlinear Analysis of Fracture* (ed. Willis JR), Kluwer Academic Publisher, pp 231-243, 1997 (Symposium held in Cambridge University, September 3-7, 1995).
- 6 Huang Y, Hwang KC, and Guo TF, "Fracture of materials at the microscale," in *Mechanical Problems of Advanced Engineering Materials* (eds. Senoo M, XU BY, Tokuda M, and Bundara B), Mie University Press, Tsu, Japan, pp 3-12, 1998.
- 7 Huang Y, Gao H, and Hwang KC, "Strain-gradient plasticity at the micron scale," in *Progress in Mechanical Behavior of Materials* (eds. Ellyin F and Provan JW), Fleming Printing Ltd, pp 1051-1056, 1999.

- 8 Chen B, Huang Y, Wu PD, MacEwen SR, Xia ZC, and Tang SC, and “An anisotropic Gurson model for aluminum sheets,” in *Mathematical Modeling in Metal Processing and Manufacturing* (eds. Martin P, MacEwen SR, Verreman Y, Lui W, and Goldak J), Met Soc, Ottawa, Ontario, pp 17-30, 2000.
- 9 Chen B, Wu PD, Xia ZC, MacEwen SR, Tang SC, and Huang Y, “A dilatational plasticity theory for aluminum sheets,” in *Multiscale Deformation and Fracture in Materials and Structures, the James R. Rice 60<sup>th</sup> Anniversary Volume* (eds. Chuang T-J and Rudnicki JW), Kluwer Academic Publishers, Dordrecht, The Netherlands, pp 17-30, 2000.
- 10 Hwang KC, Jiang HQ, and Huang Y, “Fracture in mechanism-based strain gradient plasticity with consideration of material compressibility,” in *Mechanical Properties of Advanced Engineering Materials* (eds. Tokuda M and Xu BY), Mie University Press, Tsu, Japan, pp. 27-34, 2001.
- 11 Vainchtein A, Klein PA, Gao H, and Huang Y, “A strain-gradient Virtual-Internal-Bond model,” in *Modeling and Simulation-based Life Cycle Engineering* (eds. Chong KP, Saigal S, Thynell S, and Morgan HS), Spon Press, London, pp 31-46, 2002.
- 12 Huang Y and Wang ZL, “Mechanics of carbon nanotubes,” in *Comprehensive Structural Integrity Handbook* (eds. Karihaloo B, Ritchie R, and Milne I), Elsevier Science, v 8, *Interfacial and Nanoscale Fracture* (volume eds., Gerberwich W and Yang W), chap 8.16, pp 551-579, 2003.
- 13 Hwang KC, Wen J, and Huang Y, “Size effect in Gurson model for porous plastic solid,” in *Microstructures and Mechanical Properties of New Engineering Materials* (eds. Xu BY and Tokuda M), Tsinghua University Press and Springer-Verlag, pp 1-6, 2003.
- 14 Hwang KC, Wei YG, and Huang Y, “Mechanism-based strain gradient plasticity theory and size effects in solids,” in *Macro-micro-mechanics and strengthening and toughening design of materials* (eds. Hwang KC and Wang TC), Tsinghua University Press and Springer, Beijing, pp 26-72, 2003.
- 15 Rosakis AJ and Huang Y, “Interatomic debonding,” in *Comprehensive Structural Integrity Handbook* (eds. Karihaloo B, Ritchie R, and Milne I), Elsevier Science, v 8, *Interfacial and Nanoscale Fracture* (volume eds., Gerberwich W and Yang W), chap 8.4, pp 137-179, 2003.
- 16 Hwang KC, Huang Y, Jiang HQ, and Liu B, “Nano-mechanics: A continuum theory based on interatomic potential,” in *Fracture and damage of advanced materials* (eds. Guo YM), Machine Press, Hangzhou, China, pp 16-19, 2004.
- 17 Feng XQ, Shi D, Huang Y, and Hwang KC, “Multiscale mechanics of carbon nanotubes and their composites,” in *Multiscale mechanics of molecular and continuum mechanics: Interaction*

*of time and size from macro to nano* (ed. Sih GC), Springer, Netherlands, pp 103-139, 2006.

- 18 Jiang HQ, Huang Y, Zhang P, and Hwang KC, "Fracture nucleation in single-wall carbon nanotubes: the effect of nanotube charality," in *Nanomechanics of materials and structures* (eds. Chuang TJ, Anderson PM, Wu MK, and Hsieh S), Springer, Dordrecht, Netherlands, pp 79-88, 2006.
- 19 Liu B, Jiang HQ, Huang Y, Qu SX, Yu M-F, and Hwang KC, "Finite element method: from discrete atoms to continuum solids," in *Handbook of Theoretical and Computational Nanotechnology* (eds. Rieth M and Schommers W), American Scientific Publishers, Stevenson Ranch, California, v 2, chap 5, pp 201-219, 2006.
- 20 Qu SX, Huang Y, Liu C, and Hwang KC, "Interface fracture: a study based on the conventional theory of mechanism-based strain gradient plasticity," in *Size Effects on Material and Structural Behavior at Micron- and Nano-Scales* (eds. Sun QP and Tong P), Springer, pp 67-76, 2006.
- 21 Jiang HQ, Huang Y, and Hwang KC, "A comparison of different interatomic potentials: Radius effect of single wall carbon nanotubes," in *Mechanical Behavior and Micro-mechanics of Nanostructured Materials* (eds. Bai YL, Zheng QS, and Wei YG), Springer-Verlag, New York, pp 121-135, 2007.
- 22 Jiang HQ, Song JZ, Huang Y, and Rogers JA, "Mechanics of stretchable silicon films on elastomeric substrates," in *Unconventional Nanopatterning Techniques and Applications* (eds. Rogers JA and Lee HH), Wiley, Hoboken, New Jersey, Chapter 18, pp 483-514, 2008.
- 23 Xiao JL, Khang D-Y, Huang Y, and Rogers JA, "Buckling mechanics of carbon nanotubes on elastomeric substrates," in *Recent Developments in Modeling and Applications of Carbon* (ed. Wang Q, Yakobson BI, and Liew KM), Research Signpost/Transworld Research Network, Kerala, India, pp 49-70, 2009.
- 24 Xiao JL, Jiang HQ, Huang Y, and Rogers JA, "Mechanics of stiff thin films of controlled wavy geometry on compliant substrates for stretchable electronics," in *Semiconductor Nanomaterials for Flexible Technologies: from Photovoltaics and Electronics to Sensors and Energy Storage/Harvesting Devices* (eds Sun YG and Rogers JA), Chapter 10, pp 275-292, 2010.
- 25 Xiao JL, Zhou WX, Huang Y, Zuo JM, and Hwang KC, "Potentials for van der Waals interactions in nanoscale computation," in *Trends in Computational Nanomechanics – Transcending Length and Time Scales* (eds. Dumitrica D), Springer, New York, Chapter 12, 2010.

- 26 Feng X, Huang Y, and Hwang KC, "Size effects in nanoindentation," in *Micro and Nano Mechanical Testing of Materials and Devices* (eds. Yang F and Li JCM), Springer, New York (in press).

**Publications** (Refereed Journal Articles):

- 1 Yuan MW, Huang Y, and Lan D, "Elastic curved beams in space structures," *Engineering Mechanics*, v 2, pp 64-75, 1985.
- 2 Zhu GQ, Huang Y, Yu TX, and Wang R, "Estimation of the plastic structural response under impact," *International Journal of Impact Engineering*, v 4, pp 271-282, 1986.
- 3 Huang Y and Wu JK, "The mechanical analysis of a senseless feeler," *Mechanics and Practice*, v 9, pp 14-18, 1987.
- 4 Li QM and Huang Y, "Dynamic plastic response of circular plate under step loading," *Explosion and Shock Waves*, v 7, pp 134-139, 1987.
- 5 Wu JK and Huang Y, "On the stability of elastic curved bars," *Acta Mechanica Sinica*, v 3, pp 326-334, 1987.
- 6 Huang Y, "The convergent solution of clamped rectangular plate," *Acta Mechanica Solida Sinica*, v 9, pp 165-169, 1988.
- 7 Huang Y and Hu HC, "A model for constraint-dependent critical load," *Acta Scientiarum Naturalium, Universitatis Pekinensis*, v 24, pp 95-100, 1988.
- 8 Li QM and Huang Y, "Dynamic plastic response of thin circular plates with transverse shear and rotatory inertia subjected to rectangular pulse loading," *International Journal of Impact Engineering*, v 8, pp 219-228, 1989.
- 9 Li QM and Huang Y, "Dynamic plastic response of circular plates with transverse shear," *Journal of Applied Mechanics (ASME Transactions)*, v 57, pp 1077-1078, 1990.
- 10 Shum DKM and Huang Y, "Fundamental solutions for microcracking induced by residual stress," *Engineering Fracture Mechanics*, v 37, pp 107-117, 1990.
- 11 Huang Y, "Accurate dilatation rate for spherical voids in triaxial stress fields," *Journal of Applied Mechanics (ASME Transactions)*, v 58, pp 1084-1086, 1991.
- 12 Huang Y, Hutchinson JW, and Tvergaard V, "Cavitation instabilities in elastic-plastic solids," *Journal of the Mechanics and Physics of Solids*, v 39, pp 223-241, 1991.

- 13 Tvergaard V, Huang Y, and Hutchinson JW, "Cavitation instabilities in a power hardening elastic-plastic solid," *European Journal of Mechanics, A/Solids*, v 11, pp 215-231, 1992.
- 14 Wright SC, Huang Y, and Fleck NA, "Deep penetration of polycarbonate by a cylindrical indenter," *Mechanics of Materials*, v 13, pp 277-284, 1992.
- 15 Hu KX, Chandra A, and Huang Y, "Fundamental solutions for dilute distributions of inclusions embedded in microcracked solids," *Mechanics of Materials*, v 16, pp 281-294, 1993.
- 16 Hu KX, Chandra A, and Huang Y, "Multiple void-crack interaction," *International Journal of Solids and Structures*, v 30, pp 1473-1489, 1993.
- 17 Hu KX and Huang Y, "Estimation of the elastic properties of fractured rock masses," *International Journal of Rock Mechanics and Mining Science & Geomechanics Abstracts*, v 30, pp 381-394, 1993.
- 18 Hu KX and Huang Y, "A microcracked solid reinforced by rigid-line fibers," *Composites Science and Technology*, v 49, pp 145-151, 1993.
- 19 Huang Y, "The role of nonuniform particle distribution on plastic flow localization," *Mechanics of Materials*, v 16, pp 265-280, 1993.
- 20 Huang Y, Hu KX, and Chandra A, "The effective elastic moduli of microcracked composite materials," *International Journal of Solids and Structures*, v 30, pp 1907-1918, 1993.
- 21 Hu KX, Chandra A, and Huang Y, "On crack, rigid-line fiber, and interface interactions," *Mechanics of Materials*, v 19, pp 15-28, 1994.
- 22 Hu KX, Chandra A, and Huang Y, "On interacting bridged-cracks systems," *International Journal of Solids and Structures*, v 31, pp 599-611, 1994.
- 23 Huang Y and Hu KX, "Elastic moduli of microcracked composite material containing spherical inclusions with cubic anisotropy," *Composites Science and Technology*, v 50, pp 149-156, 1994.
- 24 Huang Y, Hu KX, and Chandra A, "A generalized self-consistent mechanics method for microcracked solids," *Journal of the Mechanics and Physics of Solids*, v 42, pp 1273-1291, 1994.
- 25 Huang Y, Hu KX, and Chandra A, "A self-consistent mechanics method for solids containing inclusions and a general distribution of cracks," *Acta Mechanica*, v 105, pp 69-84, 1994.

- 26 Huang Y, Hu KX, and Chandra A, "Several variations of the generalized self-consistent method for hybrid composites," *Composites Science and Technology*, v 52, pp 19-27, 1994.
- 27 Huang Y, Hu KX, Wei X, and Chandra A, "A generalized self-consistent mechanics method for a composite with multi-phase inclusions," *Journal of the Mechanics and Physics of Solids*, v 42, pp 491-504, 1994.
- 28 Huang Y and Zhang HW, "Finite element study of an interface crack between an elastic-perfectly plastic solid and a rigid substrate," *International Journal of Fracture*, v 68, pp 35-44, 1994.
- 29 Huang Y, Zhang HW, and Wu F, "Multiple cracking in metal-ceramic laminates," *International Journal of Solids and Structures*, v 31, pp 2753-2768, 1994.
- 30 Zhang HW and Huang Y, "Asymptotic tensile crack-tip stress fields in elastic-perfectly plastic crystals," *International Journal of Fracture*, v 69, pp 133-142, 1994.
- 31 Chandra A, Hu KX, and Huang Y, "A hybrid BEM formulation for multiple cracks in orthotropic elastic components," *Computers and Structures*, v 56, pp 785-797, 1995.
- 32 Chandra A, Huang Y, Wei X, and Hu KX, "A hybrid micro-macro BEM formulation for micro-crack clusters in elastic components", *International Journal of Numerical Methods in Engineering*, v 38, pp 1215-1236, 1995.
- 33 Hu KX, Huang Y, and Chandra A, "Bridging toughening in fiber-reinforced composites: A three-dimensional discrete fiber model", *Acta Metallurgica et Materialia*, v 43, pp 2743-2751, 1995.
- 34 Huang Y, "Tensile crack tip stress fields in elastic-perfectly plastic crystals," *Journal of Applied Mechanics (ASME Transactions)*, v 62, pp 238-240, 1995.
- 35 Huang Y and Hu KX, "A generalized self-consistent mechanics method for solids containing elliptical inclusions," *Journal of Applied Mechanics (ASME Transactions)*, v 62, pp 566-572, 1995.
- 36 Huang Y, Hu KX, and Chandra A, "Stiffness evaluation for solids containing dilute inclusions and microcracks," *Journal of Applied Mechanics (ASME Transactions)*, v 62, pp 71-77, 1995.
- 37 Huang Y and Hwang KC, "A unified energy approach to a class of micromechanics models for microcracked solids," *Acta Mechanica Solida Sinica*, v 8, pp 110-120, 1995.

- 38 Huang Y, Hwang KC, Hu KX, and Chandra A, "A unified energy approach to a class of micromechanics models for composite materials," *Acta Mechanica Sinica*, v 11, pp 59-75, 1995.
- 39 Huang Y and Zhang HW, "The role of metal plasticity and interfacial strength in the cracking of metal/ceramic laminates," *Acta Metallurgica et Materialia*, v 43, pp 1523-1530, 1995.
- 40 Huang Y, Zhu XK, and Hwang KC, "On the possibility of strong discontinuity for dynamic crack propagating in compressible elastic-perfectly plastic material", *Acta Mechanica Solida Sinica*, v 8, pp 188-194, 1995.
- 41 Liu C, Huang Y, and Rosakis AJ, "Shear dominated transonic crack growth in a bimaterial - Part II: An analytical investigation of asymptotic fields and favorable velocity regimes," *Journal of the Mechanics and Physics of Solids*, v 43, pp 189- 206, 1995.
- 42 Hu KX, Huang Y, Yeh CP, Wyatt KW, "Stress analysis of printed circuit boards with highly populated solder joints and components: A micromechanics approach," *Journal of Electronic Packaging (ASME Transactions)*, v 118, pp 87-93, 1996.
- 43 Huang Y, Chandra A, Jiang ZQ, Wei X, and Hu KX, "The numerical calculation of two-dimensional effective moduli for microcracked solids," *International Journal of Solids and Structures*, v 33, pp 1575-1586, 1996.
- 44 Huang Y, Hu KX, Yeh CP, Li NY, and Hwang KC, "A model study of thermal stress-induced voiding in electronic packages," *Journal of Electronic Packaging (ASME Transactions)*, v 118, pp 229-234, 1996.
- 45 Huang Y, Li NY, Zhang HW, and Hwang KC, "Interactive growth of multiple fiber- bridged matrix cracks in unidirectional composites," *Journal of Engineering Materials and Technology (ASME Transactions)*, v 118, pp 295-301, 1996.
- 46 Huang Y, Liu C, and Rosakis AJ, "Transonic crack growth along a bimaterial interface: An analytical investigation of the asymptotic structure of near-tip stress fields," *International Journal of Solids and Structures*, v 33, pp 2625-2645, 1996.
- 47 Huang Y, Liu C, and Stout MG, "A Brazilian disk specimen for measuring the fracture toughness of orthotropic materials," *Acta Materialia*, v 44, pp 1223- 1232, 1996.
- 48 Jiang ZQ, Chandra A, and Huang Y, "A hybrid micro-macro BEM with microscale inclusion-crack interactions " *International Journal of Solids and Structures*, v 33, pp 2309-2329, 1996.
- 49 Zhang HW, Huang Y, Zhou CT, and Hwang KC, "A rate-independent constitutive law for nonproportional cyclic plasticity," *Acta Mechanica Sinica*, v 28, pp 171-180, 1996.

- 50 Chandra A, Huang Y, and Hu KX, "Crack size dependence of overall response of fiber-reinforced composites with matrix cracking," *International Journal of Solids and Structures*, v 34, pp 3837-3857, 1997.
- 51 Huang Y, Gong XY, Suo Z, and Jiang ZQ, "A model of evolving damage bands in materials," *International Journal of Solids and Structures*, v 34, pp 3941-3951, 1997.
- 52 Huang Y, Zhang L, Guo TF, and Hwang KC, "Mixed mode near-tip fields for cracks in materials with strain gradient effects," *Journal of the Mechanics and Physics of Solids*, v 45, pp 439-465, 1997.
- 53 Jiang ZQ, Huang Y, and Chandra A, "Thermal stresses in layered electronic assemblies," *Journal of Electronic Packaging (ASME Transactions)*, v 119, pp 127-132, 1997.
- 54 Liu C, Huang Y, Lovato ML, and Stout MG, "Measurement of the fracture toughness of a fiber-reinforced composite using the Brazilian disk geometry," *International Journal of Fracture*, v 87, pp 241-263, 1997.
- 55 Liu C, Huang Y, and Stout MG, "On the asymmetric yield surface of plastically orthotropic materials: A phenomenological study," *Acta Materialia*, v 45, pp 2397-2406, 1997.
- 56 Chen JY, Huang Y, and Hwang KC, "Mode I and mode II plane-stress near-tip fields for cracks in materials with strain gradient effects," *Key Engineering Materials*, v 145-149, pp 19-28, 1998.
- 57 Chen JY, Huang Y, and Ortiz M, "Fracture of cellular materials: A strain gradient model," *Journal of the Mechanics and Physics of Solids*, v 46, pp 789-828, 1998.
- 58 Huang Y, Chandra A, and Li NY, "Void-nucleation vs void-growth controlled plastic flow localization in materials with nonuniform particle distributions," *International Journal of Solids and Structures*, v 35, pp 2475-2486, 1998.
- 59 Huang Y, Liu C, Stout MG, and Hwang KC, "The effect of interfacial damage on the microbuckling of fiber-reinforced composites," *Key Engineering Materials*, v 145-149, pp 473-478, 1998.
- 60 Huang Y, Wang W, Liu C, and Rosakis AJ, "Intersonic crack growth in bimaterial interfaces: An investigation of crack face contact," *Journal of the Mechanics and Physics of Solids*, v 46, pp 2233-2259, 1998.
- 61 Hwang KC, Guo TF, Huang Y, and Chen JY, "Fracture in strain gradient elasticity," *Metals and Materials International*, v 4, pp 593-600, 1998.



- 62 Liu C, Huang Y, and Stout MG, "Enhanced mode-II fracture toughness of an epoxy resin due to shear banding," *Acta Materialia*, v 46, pp 5647-5661, 1998.
- 63 Wang W, Huang Y, Rosakis AJ, and Liu C, "Effect of elastic mismatch in intersonic crack propagation along a bimaterial interface," *Engineering Fracture Mechanics*, v 61, pp 471-485, 1998.
- 64 Zhang L, Huang Y, Chen JY, and Hwang KC, "The mode III full-field solution in elastic materials with strain gradient effects," *International Journal of Fracture*, v 92, pp 325-348, 1998.
- 65 Chen JY, Wei Y, Huang Y, Hutchinson JW, and Hwang KC, "The crack tip fields in strain gradient plasticity: The asymptotic and numerical analyses," *Engineering Fracture Mechanics*, v 64, pp 625-648, 1999.
- 66 Gao H, Huang Y, Gumbsch P, and Rosakis AJ, "On radiation-free transonic motion of cracks and dislocations," *Journal of the Mechanics and Physics of Solids*, v 47, pp 1941-1961, 1999.
- 67 Gao H, Huang Y, and Nix WD, "Modeling plasticity at the micrometer scale," *Naturwissenschaften*, v 86, pp 507-515, 1999 (**cover feature article**).
- 68 Gao H, Huang Y, Nix WD, and Hutchinson JW, "Mechanism-based strain gradient plasticity. I. – Theory," *Journal of the Mechanics and Physics of Solids*, v 47, pp 1239-1263, 1999.  
--- ***This paper is the most cited paper among all mechanics papers (more than 9700) published in 1999 in all 110 mechanics journals listed in Thomson ISI Web of Science.***  
--- ***It is also the most cited paper among all mechanical engineering papers (more than 8700) published in 1999 in all 104 mechanical engineering journals listed in Thomson ISI Web of Science.***
- 69 Huang Y, Chen JY, Guo TF, Zhang L, and Hwang KC, "Analytical and numerical studies on mode I and mode II fracture in elastic-plastic materials with strain gradient effects," *International Journal of Fracture*, v 100, pp 1-27, 1999.
- 70 Huang Y, Wang W, Liu C, and Rosakis AJ, "Analysis of intersonic crack growth in unidirectional fiber-reinforced composites," *Journal of the Mechanics and Physics of Solids*, v 47, pp 1893-1916, 1999.
- 71 Huo B, Zheng QS, and Huang Y, "A note on the effect of surface energy and void size to void growth," *European Journal of Mechanics, A/Solids*, v 18, pp 987-994, 1999.
- 72 Miller PD, Liu CP, Henstrom WL, Gibson JM, Huang Y, Zhang P, Kamins TI, Basile DP, and Williams RS, "Direct measurement of strain in a Ge island on Si (001)," *Applied Physics Letters*, v 75, pp 46-48, 1999.

- 73 Chandra A, Huang Y, Jiang ZQ, Hu KX, and Hu G, "A model of crack nucleation in layered electronic assemblies under thermal cycling," *Journal of Electronic Packaging (ASME Transactions)*, v 122, pp 220-226, 2000.
- 74 Chandra A, Wang KP, Huang Y, Subhash G, Miller MH, and Qu W, "Role of unloading in machining of brittle materials," *Journal of Manufacturing Science and Engineering (ASME Transactions)*, v 122, pp 452-462, 2000.
- 75 Chen JY, Huang Y, Hwang KC, and Xia ZC, "Plane-stress deformation in strain gradient plasticity," *Journal of Applied Mechanics (ASME Transactions)*, v 67, pp 105-111, 2000.
- 76 Huang Y, Gao H, Nix WD, and Hutchinson JW, "Mechanism-based strain gradient plasticity. II. – Analysis," *Journal of the Mechanics and Physics of Solids*, v 48, pp 99-128, 2000.  
--- ***This paper is the most cited paper among all mechanics papers (more than 9700) published in 2000 in all 110 mechanics journals listed in Thomson ISI Web of Science.***  
--- ***It is also the most cited paper among all mechanical engineering papers (more than 8700) published in 2000 in all 104 mechanical engineering journals listed in Thomson ISI Web of Science.***
- 77 Huang Y, Xue ZY, Gao H, Nix WD, and Xia ZC, "A study of micro-indentation hardness tests by mechanism-based strain gradient plasticity," *Journal of Materials Research*, v 15, pp 1786-1796, 2000.
- 78 Hwang KC and Huang Y, "Mechanism-based strain gradient (MSG) plasticity and the associated asymptotic crack-tip fields," *Key Engineering Materials*, v 183, pp 9-18, 2000.
- 79 Qu W, Wang KP, Miller MH, Huang Y, and Chandra A, "Using vibration-assisted grinding to reduce subsurface damage," *Precision Engineering – Journal of the International Societies for Precision Engineering and Nanotechnology*, v 24, pp 329-337, 2000.
- 80 Rosakis AJ, Coker D and Huang Y, "Subsonic and intersonic dynamic crack growth in unidirectional composites," *Transactions of the Society of Manufacturing Engineers*, Technical Paper SEM00-247, pp 1-10, 2000.
- 81 Shi MX, Huang Y, Gao H, and Hwang KC, "Non-existence of separable crack tip field in mechanism-based strain gradient plasticity," *International Journal of Solids and Structures*, v 37, pp 5995-6010, 2000.
- 82 Shi MX, Huang Y, and Hwang KC, "Fracture in a higher-order elastic continuum," *Journal of the Mechanics and Physics of Solids*, v 48, pp 2513-2538, 2000.

- 83 Shi MX, Huang Y, and Hwang KC, "Plastic flow localization in mechanism-based strain gradient plasticity," *International Journal of Mechanical Science*, v 42, pp 2115-2131, 2000.
- 84 Wang KP, Huang Y, Chandra A, and Hu KX, "Interfacial shear stress, peeling stress, and die cracking stress in trilayer electronic assemblies," *IEEE Transactions on Component and Packaging Technology*, v 23, pp 309-316, 2000.
- 85 Gao H and Huang Y, "Taylor-based nonlocal theory of plasticity," *International Journal of Solids and Structures*, v 38, pp 2615-2637, 2001.
- 86 Gao H, Huang Y, and Abraham FA, "Continuum and atomistic studies of intersonic crack propagation," *Journal of the Mechanics and Physics of Solids*, v 49, pp 2113-2132, 2001.
- 87 Guo YJ, Huang Y, Gao H, Zhuang Z, and Hwang KC, "Taylor-based nonlocal theory of plasticity: numerical studies of micro-indentation experiments and crack tip fields," *International Journal of Solids and Structures*, v 38, pp 7447-7460, 2001.
- 88 Huang Y and Gao H, "Intersonic crack propagation. Part I: The fundamental solution," *Journal of Applied Mechanics (ASME Transactions)*, v 68, pp 169-175, 2001.
- 89 Jiang HQ, Huang Y, Zhuang Z, and Hwang KC, "Fracture in mechanism-based strain gradient plasticity," *Journal of the Mechanics and Physics of Solids*, v 49, pp 979-993, 2001.
- 90 Qiu XM, Huang Y, Nix WD, Hwang KC, and Gao H, "Effect of intrinsic lattice resistance in strain gradient plasticity," *Acta Materialia*, v 49, pp 3949-3958, 2001.
- 91 Saha R, Xue ZY, Huang Y, and Nix WD, "Indentation of a soft metal film on a hard substrate: strain gradient hardening effects," *Journal of the Mechanics and Physics of Solids*, v 49, pp 1997-2014, 2001.
- 92 Shi MX, Huang Y, Jiang HQ, Hwang KC, and Li M, "The boundary layer effect on the crack tip field in mechanism-based strain gradient plasticity," *International Journal of Fracture*, v 112, pp 23-41, 2001.
- 93 Huang Y and Gao H, "Intersonic crack propagation. Part II: suddenly stopping crack," *Journal of Applied Mechanics (ASME Transactions)*, v 69, pp 76-80, 2002.
- 94 Hwang KC, Jiang HQ, Huang Y, Gao H, and Hu N, "A finite deformation theory of strain gradient plasticity," *Journal of the Mechanics and Physics of Solids*, v 50, pp 81-99, 2002.

- 95 Jiang HQ, Huang Y, Guo TF, and Hwang KC, "An alternative decomposition of the strain gradient tensor," *Journal of Applied Mechanics (ASME Transactions)*, v 69, pp 139-141, 2002.
- 96 Kubair DV, Geubelle PH, and Huang Y, "Intersonic crack propagation in homogeneous media under shear-dominated loading: Theoretical analysis," *Journal of the Mechanics and Physics of Solids*, v 50, pp 1547-1564, 2002.
- 97 Samudrala O, Huang Y, and Rosakis AJ, "Subsonic and intersonic mode II crack propagation with a rate dependent cohesive zone," *Journal of the Mechanics and Physics of Solids*, v 50, pp 1231-1268, 2002.
- 98 Samudrala O, Huang Y, and Rosakis AJ, "Subsonic and intersonic shear rupture of weak planes with a velocity weakening cohesive zone," *Journal of Geophysical Research-Solid Earth*, v 107 (B8), article number 2170, 2002.
- 99 Xue ZY, Huang Y, Hwang KC, and Li M, "The influence of indenter tip radius on the micro-indentation hardness," *Journal of Engineering Materials and Technology (ASME Transactions)*, v 124, pp 371-379, 2002.
- 100 Xue ZY, Huang Y, and Li M, "Particle size effect in metallic materials: a study by the theory of mechanism-based strain gradient plasticity," *Acta Materialia*, v 50, pp 149-160, 2002.
- 101 Xue ZY, Saif MTA, and Huang Y, "The strain gradient effect in micro-electro-mechanical systems (MEMS)," *Journal of Microelectromechanical Systems*, v 11, pp 27-35, 2002.
- 102 Zhang P, Huang Y, Gao H, and Hwang KC, "Fracture nucleation in single-wall carbon nanotubes under tension: A continuum analysis incorporating interatomic potentials," *Journal of Applied Mechanics (ASME Transactions)*, v 69, pp 454-458, 2002.  
--- ***This paper has been awarded the ASME Melville Medal (the highest ASME honor for the best original paper which has been published in the ASME Transactions during the two calendar years immediately preceding the year of award).***
- 103 Zhang P, Huang Y, Geubelle PH, and Hwang KC, "On the continuum modeling of carbon nanotubes," *Acta Mechanica Sinica*, v 18, pp 528-536, 2002.
- 104 Zhang P, Huang Y, Geubelle PH, Klein PA, and Hwang KC, "The elastic modulus of single-wall carbon nanotubes: A continuum analysis incorporating interatomic potentials," *International Journal of Solids and Structures*, v 39, pp 3893-3906, 2002.  
--- ***This paper is the most cited paper among all mechanics papers (more than 9700) published in 2002 in all 110 mechanics journals listed in Thomson ISI Web of Science.***  
--- ***It is also the most cited paper among all mechanical engineering papers (more than 8700) published in 2002 in all 104 mechanical engineering journals listed in Thomson ISI Web of Science.***

- 105 Zhang P, Klein PA, Huang Y, Gao H, and Wu PD, "Numerical simulation of cohesive fracture by the virtual-internal-bond model," *Computer Modeling in Engineering and Science*, v 3, pp 263-278, 2002.
- 106 Buehler MJ, Gao H, and Huang Y, "Atomistic and continuum studies of a suddenly stopping supersonic crack," *Computational Materials Science*, v 27, pp 385-408, 2003.
- 107 Chen B, Gao M, Zuo JM, Qu SX, Liu B, and Huang Y, "Binding energy of parallel carbon nanotubes," *Applied Physics Letters*, v 83, pp 3570-3571, 2003.
- 108 Gao H and Huang Y, "Geometrically necessary dislocation and size-dependent plasticity," *Scripta Materialia*, v 48, pp 113-118, 2003.
- 109 Guo GF, Yang W, and Huang Y, "Intersonic crack growth under time-dependent loading," *International Journal of Solids and Structures*, v 40, pp 2757-2765, 2003.
- 110 Guo GF, Yang W, and Huang Y, "Supersonic crack growth in a solid of upturn stress-strain relation under anti-plane shear," *Journal of the Mechanics and Physics of Solids*, v 51, pp 1971-1985, 2003.
- 111 Guo GF, Yang W, Huang Y, and Rosakis AJ, "Sudden deceleration or acceleration of an intersonic shear crack," *Journal of the Mechanics and Physics of Solids*, v 51, pp 311-331, 2003.
- 112 Hwang KC, Jiang HQ, Huang Y, and Gao H, "Finite deformation analysis of mechanism-based strain gradient plasticity: torsion and crack tip field," *International Journal of Plasticity*, v 19, pp 235-251, 2003.
- 113 Hwang KC, Liu B, Qiu XM, and Huang Y, "The void size effect in metallic materials," *Key Engineering Materials*, v 243-244, pp 405-410, 2003.
- 114 Jiang HQ, Zhang P, Liu B, Huang Y, Geubelle PH, Gao H, and Hwang KC, "The effect of nanotube radius on the constitutive model for carbon nanotubes," *Computational Materials Science*, v 28, pp 429-442, 2003.
- 115 Kubair DV, Geubelle PH, and Huang Y, "Analysis of a rate-dependent cohesive model for dynamic crack propagation," *Engineering Fracture Mechanics*, v 50, pp 685-704, 2003.
- 116 Liu B, Qiu XM, Huang Y, Hwang KC, Li M, and Liu C, "The size effect on void growth in ductile materials," *Journal of the Mechanics and Physics of Solids*, v 51, pp 1171-1187, 2003.
- 117 Qiu XM, Huang Y, Wei YG, Gao H, and Hwang KC, "The flow theory of mechanism-based strain gradient plasticity," *Mechanics of Materials*, v 35, pp 245-258, 2003.

- 118 Wang W, Huang Y, Hsia KJ, Hu KX, and Chandra A, "A study of microbend test by strain gradient plasticity," *International Journal of Plasticity*, v 19, pp 365-382, 2003.
- 119 Xu LR, Huang Y, and Rosakis AJ, "Dynamic crack deflection and penetration at interfaces in homogeneous materials: Experimental studies and model predictions," *Journal of the Mechanics and Physics of Solids*, v 51, pp 461-486, 2003.
- 120 Buehler MJ, Gao H, and Huang Y, "Atomistic and continuum studies of stress and strain fields near a rapidly propagating crack in a harmonic lattice," *Theoretical and Applied Fracture Mechanics*, v 41, pp 21-42, 2004.
- 121 Chen B, Huang Y, Gao H, and Wu PD, "Shear crack propagation along weak planes in solids: A finite deformation analysis incorporating the linear harmonic potential," *International Journal of Solids and Structures*, v 41, pp 1-14, 2004.
- 122 Chen B, Huang Y, Gao H, and Yang W, "On the finite opening of intersonic shear cracks," *International Journal of Solids and Structures*, v 41, pp 2293-2306, 2004.
- 123 Chen B, Huang Y, Liu C, Wu PD, and MacEwen SR, "A dilatational plasticity theory for viscoplastic materials," *Mechanics of Materials*, v 8, pp 679-689, 2004.
- 124 Feng XQ and Huang Y, "Mechanics of Smart-Cut Technology," *International Journal of Solids and Structures*, v 41, pp 4299-4320, 2004.
- 125 Huang Y, Qu SX, Hwang KC, Li M, and Gao H, "A conventional theory of mechanism-based strain gradient plasticity," *International Journal of Plasticity*, v 20, pp 753-782, 2004.
- ***This paper is the most cited paper among all mechanics papers (more than 9700) published in 2004 in all 110 mechanics journals listed in Thomson ISI Web of Science.***
- ***It is also the most cited paper among all mechanical engineering papers (more than 8700) published in 2004 in all 104 mechanical engineering journals listed in Thomson ISI Web of Science.***
- 126 Hwang KC, Guo YJ, Jiang HQ, Huang Y, and Zhuang Z, "The finite deformation theory of Taylor-based nonlocal plasticity," *International Journal of Plasticity*, v 20, pp 831-839, 2004.
- 127 Jiang HQ, Feng XQ, Huang Y, Hwang KC, and Wu PD, "Defect nucleation in carbon nanotubes under tension and torsion: Stone-Wales transformation," *Computer Methods in Applied Mechanics and Engineering*, v 193, pp 3419-3429, 2004.
- 128 Jiang HQ, Huang Y, and Liu C, "Fracture analysis of facesheets in sandwich composites," *Composites – Part B: Engineering*, v 35, pp 551-556, 2004.

- 129 Jiang HQ, Liu B, Huang Y, and Hwang KC, "Thermal expansion of single wall carbon nanotubes," *Journal of Engineering Materials and Technology (ASME Transactions)*, v 126, pp 265-270, 2004.
- 130 Jiang HQ, Yu M-F, Liu B, and Huang Y, "Intrinsic energy loss mechanisms in a cantilevered carbon nanotube beam oscillator," *Physical Review Letters*, v 93, n 18, article 185501, 2004.
- 131 Johnson HT, Liu B, and Huang Y, "Electron transport in deformed carbon nanotubes," *Journal of Engineering Materials and Technology (ASME Transactions)*, v 126, pp 222-229, 2004.
- 132 Liu B, Huang Y, Jiang HQ, Qu SX, and Hwang KC, "The atomic-scale finite element method," *Computer Methods in Applied Mechanics and Engineering*, v 193, pp 1849-1864, 2004.
- 133 Liu B, Jiang H, Johnson HT, and Huang Y, "The influence of mechanical deformation on the electrical properties of single wall-carbon nanotubes," *Journal of the Mechanics and Physics of Solids*, v 52, pp 1-26, 2004.
- 134 Liu B, Yu M-F, and Huang Y, "Role of lattice registry in the full collapse and twist formation of carbon nanotubes," *Physical Review B*, v 70, n 16, article 161402, 2004.
- 135 Qu SX, Huang Y, Jiang HQ, Liu C, Wu PD, and Hwang KC, "Fracture analysis in the conventional theory of mechanism-based strain gradient plasticity," *International Journal of Fracture*, v 129, pp 199-220, 2004.
- 136 Qu SX, Huang Y, Nix WD, Jiang HQ, Zhang F and Hwang KC, "The indenter tip radius effect on the Nix-Gao relation in micro- and nanoindentation hardness experiments," *Journal of Materials Research*, v 19, pp 3423-3434, 2004.
- 137 Shi DL, Feng XQ, Huang Y, and Hwang KC, "Critical evaluation of the stiffening effect of carbon nanotubes in composites," *Key Engineering Materials*, v 261, pp 1487-1492, 2004.
- 138 Shi DL, Feng XQ, Huang Y, Hwang KC, and Gao H, "The effect of nanotube waviness and agglomeration on the elastic property of carbon nanotube-reinforced composites," *Journal of Engineering Materials and Technology (ASME Transactions)*, v 126, pp 250-257, 2004.
- 139 Shi MX, Huang Y, Li M, and Hwang KC, "On source-limited dislocations in nanoindentation," *Journal of Applied Mechanics (ASME Transactions)*, v 71, pp 433-435, 2004.

- 140 Shi MX, Huang Y, and Gao H, "The J-integral and geometrically necessary dislocations in nonuniform plastic deformation," *International Journal of Plasticity*, v 20, pp 1739-1762, 2004.
- 141 Thiagarajan G, Hsia KJ, and Huang Y, "Finite element implementation of Virtual Internal Bond model for crack behavior simulation," *Engineering Fracture Mechanics*, v 71, pp 401-423, 2004.
- 142 Thiagarajan G, Huang Y, and Hsia KJ, "Fracture simulation using an elasto-viscoplastic Virtual Internal Bond model with finite elements," *Journal of Applied Mechanics (ASME Transactions)*, v 71, pp 796-804, 2004.
- 143 Wen J, Huang Y, and Hwang KC, "The void-size effect on plastic flow localization in the Gurson model," *Acta Mechanica Sinica*, v 20, pp 393-399, 2004.
- 144 Yun G, Qin J, Huang Y, and Hwang KC, "A study of lower-order strain gradient plasticity theories by the method of characteristics," *European Journal of Mechanics, A/Solids*, v 23, pp 387-394, 2004.
- 145 Zhang P, Jiang HQ, Huang Y, Geubelle PH, and Hwang KC, "An atomistic-based continuum theory for carbon nanotubes: Analysis of fracture nucleation," *Journal of the Mechanics and Physics of Solids*, v 52, pp 977-998, 2004.
- 146 Dong XN, Zhang X, Huang Y, and Guo XE, "A generalized self-consistent estimate for the effective elastic moduli of fiber-reinforced composite materials with multiple transversely isotropic inclusions," *International Journal of Mechanical Science*, v 47, pp 922-940, 2005.
- 147 Han CS, Gao H, Huang Y, and Nix WD, "Mechanism-based strain gradient crystal plasticity - I. Theory," *Journal of the Mechanics and Physics of Solids*, v 53, pp 1188-1203, 2005.
- 148 Han CS, Gao H, Huang Y, and Nix WD, "Mechanism-based strain gradient crystal plasticity - II. Analysis," *Journal of the Mechanics and Physics of Solids*, v 53, pp 1204-1222, 2005.
- 149 Hsia KJ, Huang Y, Menard E, Park J-U, Zhou WX, Rogers JA, and Fulton JM, "Collapse of stamps for soft lithography due to interfacial adhesion," *Applied Physics Letters*, v 86, article 154106, 2005.
- 150 Huang Y, Ngo D, and Rosakis AJ, "Non-uniform, axisymmetric misfit strain in thin films bonded on plate substrates/substrate systems: The relation between non-uniform film stresses and system curvatures," *Acta Mechanica Sinica*, v 21, pp 362-370, 2005.



- 151 Huang Y and Rosakis AJ, "Extension of Stoney's formula to non-uniform temperature distributions in thin film/substrate systems. The case of radial symmetry," *Journal of the Mechanics and Physics of Solids*, v 53, pp 2483-2500, 2005.
- 152 Huang Y, Zhou WX, Hsia KJ, Menard E, Park J-U, Rogers JA, and Alleyne AG, "Stamp collapse in soft lithography," *Langmuir*, v 21, pp 8058-8068, 2005.
- 153 Hwang KC, Wu J, and Huang Y, "Rising of nanomechanics," *Journal of Mechanical Strength*, v 27, pp 403-407, 2005 (review article).
- 154 Jiang HQ, Huang Y, and Hwang KC, "A finite-temperature continuum theory based on the interatomic potential," *Journal of Engineering Materials and Technology (ASME Transactions)*, v 127, pp 408-416, 2005.
- 155 Liu B, Huang Y, Li M, Hwang KC, and Liu C, "A study of the void size effect based on the Taylor dislocation model," *International Journal of Plasticity*, v 21, pp 2107-2122, 2005.
- 156 Liu B, Jiang HQ, Huang Y, Qu SX, Yu M-F, and Hwang KC, "Atomic-scale finite element method in multiscale computation with applications to carbon nanotubes," *Physical Review B*, v 72, article 035435, 2005.
- 157 Liu C, Lu HB, and Huang Y, "Dynamic steady-state stress field in a web during slitting," *Journal of Applied Mechanics (ASME Transactions)*, v 72, pp 157-164, 2005.
- 158 Qu SX, Siegmund T, Huang Y, Wu PD, Zhang F, and Hwang KC, "A study of particle size effect and interface fracture in aluminum alloy composite via an extended conventional theory of mechanism-based strain gradient plasticity," *Composites Science and Technology*, v 65, pp 1244-1253, 2005.
- 159 Shi DL, Feng XQ, Jiang HQ, Huang Y, and Hwang KC, "Multiscale analysis of fracture of carbon nanotubes embedded in composites," *International Journal of Fracture*, v 134, pp 369-386, 2005.
- 160 Tan HL, Huang Y, Liu C, and Geubelle PH, "The Mori-Tanaka method for composite materials with interface debonding," *International Journal of Plasticity*, v 21, pp 1890-1918, 2005.
- 161 Tan HL, Liu C, Huang Y, and Geubelle PH, "The cohesive law for the particle/matrix interfaces in high explosives," *Journal of the Mechanics and Physics of Solids*, v 53, pp 1892-1917, 2005.
- 162 Wen J, Huang Y, Hwang KC, Liu C, and Li M, "The modified Gurson model accounting for the void size effect," *International Journal of Plasticity*, v 21, pp 381-395, 2005.

- 163 Wen J, Hwang KC, and Huang Y, "Extension of the Gurson model accounting for the void size effect," *Acta Mechanica Sinica*, v 21, pp 142-150, 2005.
- 164 Yang W, Wang HT, and Huang Y, "Abnormal tribology behavior of multiwalled nanotube rafts, Part I: aligned rafts," *Journal of Engineering Materials and Technology (ASME Transactions)*, v 217, pp 383-392, 2005.
- 165 Yang W, Wang HT, and Huang Y, "Abnormal tribology behavior of multiwalled nanotube rafts, Part II: inclined rafts," *Journal of Engineering Materials and Technology (ASME Transactions)*, v 127, pp 393-399, 2005.
- 166 Yun G, Hwang KC, Huang Y, and Wu PD, "A reformulation of mechanism-based strain gradient plasticity," *Philosophical Magazine*, v 85, pp 4011-4029, 2005.
- 167 Zhou WX, Huang Y, Menard E, Aluru NR, Rogers JA, and Alleyne AG, "Mechanism for stamp collapse in soft lithography," *Applied Physics Letters*, v 87, article 251925, 2005.
- 168 Brinckmann S, Siegmund T, and Huang Y, "A dislocation density based strain gradient model," *International Journal of Plasticity*, v 22, pp 1784-1797, 2006.
- 169 Brown MA, Park T-S, Rosakis AJ, Ustundag E, Huang Y, Tamura N, and Valek B, "A comparison of X-ray microdiffraction and coherent gradient sensing in measuring discontinuous curvatures in thin film-substrate systems," *Journal of Applied Mechanics (ASME Transactions)*, v 73, pp 723-729, 2006.
- 170 Buehler M, Kong Y, Gao H, and Huang Y, "Self-folding and unfolding of carbon nanotubes," *Journal of Engineering Materials and Technology (ASME Transactions)*, v 128, pp 3-10, 2006.
- 171 Feng X, Huang Y, Jiang HQ, Ngo D, and Rosakis AJ, "The effect of thin film/substrate radii on the Stoney formula for thin film/substrate subjected to non-uniform axisymmetric misfit strain and temperature," *Journal of the Mechanics of Materials and Structures*, v 1, pp 1041-1054, 2006.
- 172 Han CS, Hartmaier A, Gao H, and Huang Y, "Discrete dislocation dynamics simulations of surface induced size effects in plasticity," *Materials Science and Engineering A*, v 415, pp 225-233, 2006.
- 173 Huang Y, Wu J, and Hwang KC, "Thickness of graphene and single-wall carbon nanotubes," *Physical Review B*, v 74, article 245413, 2006.
- 174 Huang Y, Zhang F, Hwang KC, Nix WD, Pharr GM, and Feng G, "A model of size effects in nano-indentation," *Journal of the Mechanics and Physics of Solids*, v 54, pp 1668-1686, 2006.

- 175 Ji BH and Huang Y, "Modulation of the self-assembled structure of biomolecules: coarse grained molecular dynamics simulations," *Molecular and Cellular Biomechanics*, v 3, pp 109-119, 2006.
- 176 Jiang LY, Huang Y, Jiang H, Ravichandran G, Gao H, Hwang KC, and Liu B, "A cohesive law for carbon nanotube/polymer interfaces based on the van der Waals force," *Journal of the Mechanics and Physics of Solids*, v 54, pp 2436-2452, 2006.
- 177 Khang D-Y, Jiang H, Huang Y, and Rogers JA, "A stretchable form of single crystal silicon for high performance electronics on rubber substrates," *Science*, v 311, pp 208-212, 2006.
- *This paper is one of 4 feature articles reported by the Science website on 12/15/2005 [Published online December 15, 2005; 10.1126/science.1121401 (Science Express Reports)].*
- *It is selected for one of the "10 technologies that will change the world" by MIT's Technology Review Magazine, 2006.*
- *It has been reported by the media: The A to Z of Materials, Bioon.com (China), BrightSurf, Chemical & Engineering News, Chicago Sun-Times, Creax, DongA.com (Korea), Dvorak, EurekAlert! by AAAS, Golem (Germany), Hindustan Times (Pakistan), Hong Kong Economic Times, Innovations Report (Germany), The Inquirer (England), Instrumentation and Control News, KurzweilAI.net, LenuxElectronics, M&C Science and Nature, Ming Pao (Hong Kong), Monsters and Cristics, MRS Matters, MyPress (Japan), Nanotechnology, National Geographic News, New Kerala (India), Next Magazine (Taiwan), Ohmfree, Oriental Daily (Hong Kong), PC Magazine, Pcgo (Germany), PhysOrg, The Post Chronicle, Primidi, The Radiolocman-News, Royal Society of Chemistry, Science Daily, Science News, Slashdot (Japan), Solid State Technology, St. Louis Post, Technology Research News, Tomorrow's Trend, United Press International, Ustinet, VWN News, WebIndia123 (India), What is Next in Science and Technology, WhatIsTheWord.com, Yahoo! India News: Technology, ZDNet, ...*
- *It was on display at "The Tech Museum of Innovation", San Jose, California, 2006.*
- 178 Leung AYT, Guo X, He XQ, Jiang HQ, and Huang Y, "Post-buckling of carbon nanotubes by atomic-scale finite element," *Journal of Applied Physics*, v 99, article 124308, 2006.
- 179 Meitl MA, Zhu Z, Kumar V, Lee KJ, Feng X, Huang Y, Adesida I, Nuzzo RG, and Rogers JA, "Transfer printing by kinetic control of adhesion to an elastomeric stamp," *Nature Materials*, v 5, pp 33-38, 2006 (**cover feature article**).
- 180 Ngo D, Huang Y, Rosakis AJ and Feng X, "Spatially non-uniform, isotropic misfit strain in thin films bonded on plate substrates: the relation between non-uniform stresses and system curvatures," *Thin Solid Films*, v 515, pp 2220-2229, 2006.

- 181 Qu SX, Huang Y, Pharr GM, and Hwang KC, "The indentation size effect in the spherical indentation of iridium: A study via the conventional theory of mechanism-based strain gradient plasticity," *International Journal of Plasticity*, v 22, pp 1265-1286, 2006.
- 182 Song JZ, Huang Y, Jiang HQ, Hwang KC, and Yu MF, "Deformation and bifurcation analysis of boron-nitride nanotubes," *International Journal of Mechanical Science*, v 48, pp 1197-1207, 2006.
- 183 Song JZ, Jiang HQ, Shi DL, Feng XQ, Huang Y, Yu MF, and Hwang KC, "Stone-Wales transformation: precursor of fracture in carbon nanotubes," *International Journal of Mechanical Science*, v 48, pp 1464-1470, 2006.
- 184 Sun YG, Choi W-M, Jiang HQ, Huang Y, and Rogers JA, "Controlled buckling of semiconductor nanoribbons for stretchable electronics," *Nature Nanotechnology*, v 1, pp 201-207, 2006.
- *This article is featured in Nature Nanotechnology in its "News & Views" on Electronic Materials ("Buckling down for flexible electronics" by X. Lu and Y. Xia, Nature Nanotechnology, v 1, pp 163-164, 2006).*
- 185 Tan HL, Liu C, Huang Y, and Geubelle PH, "Effect of nonlinear interface debonding on the constitutive model of composite materials," *International Journal for Multiscale Computational Engineering*, v 4, pp 147-167, 2006.
- 186 Wu PD, Huang Y, and Lloyd DJ, "Studying grain fragmentation in ECAE by simulating simple shear," *Scripta Materialia*, v 54, pp 2107-2112, 2006.
- 187 Wu PD, Lloyd DJ, and Huang Y, "Correlation of ridging and texture in ferritic stainless steel sheet," *Materials Science and Engineering A*, v 427, pp 241-245, 2006.
- 188 Xiao JL, Liu B, Huang Y, Hwang KC, and Yu MF, "Stability and chirality effect on twist formation of collapsed double wall carbon nanotubes," *Transactions of Nonferrous Metals Society of China*, v 16, pp S776-S779, 2006.
- 189 Yun G, Hwang KC, Huang Y, Wu PD, and Liu C, "Size effect in tension of thin films on substrates: A study based on the reformulation of mechanism-based strain gradient plasticity," *Philosophical Magazine*, v 86, pp 5553-5566, 2006.
- 190 Zhang F, Huang Y, and Hwang KC, "The indenter tip radius effect in micro- and nanoindentation experiments," *Acta Mechanica Sinica*, v 22, pp 1-8, 2006.
- 191 Zhang F, Hwang KC, Huang Y, and Qin J, "Friction effect on indentation," *Engineering Mechanics*, v 23, pp 1-6, 2006.
- 192 Brown MA, Rosakis AJ, Feng X, Huang Y, and Ustundag E, "Thin film/substrate systems featuring arbitrary film thickness and misfit strain distributions: Part II. Experimental

validation of the non-local stress-curvature relations,” *International Journal of Solids and Structures*, v 44, pp 1755-1767, 2007.

193 Choi W-M, Song JZ, Khang D-Y, Jiang HQ, Huang Y, and Rogers JA, “Biaxially stretchable ‘wavy’ silicon nanomembranes,” *Nano Letters*, v 7, pp 1655-1663, 2007.

--- ***This article is featured in MIT’s Technology Review (“Sheets of stretchable silicon” by K. Greene, May 15, 2007).***

194 Feng G, Qu SX, Huang Y, and Nix WD, “An analytical expression for the stress field around an elastoplastic indentation/contact,” *Acta Materialia*, v 55, pp 2929-2938, 2007.

195 Feng X, Huang Y, and Rosakis AJ, “On the Stoney formula for a thin film/substrate system with non-uniform substrate thickness,” *Journal of Applied Mechanics (ASME Transactions)*, v 74, pp 1276-1281, 2007.

196 Feng X, Meitl MA, Bowen AM, Huang Y, Nuzzo RG, and Rogers JA, “Competing fracture in kinetically controlled transfer printing,” *Langmuir*, v 23, pp 12555-12560, 2007.

197 Guo X, Leung AYT, Jiang HQ, He XQ, and Huang Y, “Critical strain of carbon nanotubes: an atomic-scale finite element study,” *Journal of Applied Mechanics (ASME Transactions)*, v 74, pp 347-351, 2007.

198 Huang Y, Feng X, Pharr GM, and Hwang KC, “A nano-indentation model for spherical indenters,” *Modeling and Simulation in Materials Science and Engineering*, v 15, pp 255-262, 2007.

199 Huang Y, Hwang KC, Song JZ, and Gao H, “Indentation size effect: a study via the mechanism-based strain gradient plasticity theory,” *International Journal of Surface Science and Engineering*, v 1, pp 156-179, 2007 (review article).

200 Huang Y and Rosakis AJ, “Extension of Stoney’s formula to arbitrary temperature distributions in thin film/substrate systems,” *Journal of Applied Mechanics (ASME Transactions)*, v 74, pp 1225-1233, 2007.

201 Inglis HM, Geubelle PH, Matous K, Tan HL, and Huang Y, “Cohesive modeling of dewetting in particulate composites: Micromechanics vs. multiscale finite element analysis,” *Mechanics of Materials*, v 39, pp 580-595, 2007.

202 Jiang HQ, Hwang KC, and Huang Y, “Mechanics of carbon nanotubes: A continuum theory based on interatomic potentials,” *Key Engineering Materials*, v 340-341, pp 11-20, 2007 (review article).

203 Jiang HQ, Khang D-Y, Song JZ, Sun YG, Huang Y, and Rogers JA, “Finite deformation mechanics in buckled thin films on compliant supports,” *Proceedings of the National Academy of Science of the United States of America*, v 104, pp 15607-15612, 2007.

- 204 Jiang HQ, Sun YG, Rogers JA, and Huang Y, "Mechanics of precisely controlled thin film buckling on elastomeric substrate," *Applied Physics Letters*, v 90, article 133119, 2007.
- 205 Jiang HQ, Yu MF, Lu JQ, Huang Y, Johnson HT, Zhang XG, and Ferreira P, "Carbon nanotube electronic displacement encoder with sub-nanometer resolution," *Journal of Computational and Theoretical Nanoscience*, v 4, pp 574-577, 2007.
- 206 Jiang LY, Tan HL, Wu J, Huang Y, and Hwang KC, "Continuum modeling of interfaces in polymer matrix composites reinforced by carbon nanotubes," *Nano*, v 2, pp 139-148, 2007 (review article).
- 207 Koh CT, Liu ZJ, Khang D-Y, Song JZ, Lu C, Huang Y, Rogers JA, and Koh CG, "Edge effects in buckled thin films on elastomeric substrates," *Applied Physics Letters*, v 91, article 133113, 2007.
- 208 Li DC, Ji BH, Huang Y, and Hwang KC, "Study of collapse of biomolecules," *Journal of Medical Biomechanics*, v 22, pp 40-49, 2007.
- 209 Lu WB, Wu J, Jiang LY, Huang Y, Hwang KC, and Liu B, "A cohesive law for multi-wall carbon nanotubes," *Philosophical Magazine*, v 87, pp 2221-2232, 2007.
- 210 Meitl MA, Feng X, Dong J, Menard E, Ferreira P, Huang Y, and Rogers JA, "Stress focusing for controlled fracture in MEMS structures," *Applied Physics Letters*, v 90, article 083110, 2007.
- 211 Ngo D, Feng X, Huang Y, Rosakis AJ, and Brown MA, "Thin film/substrate systems featuring arbitrary film thickness and misfit strain distributions: Part I. Analysis for obtaining film stress from nonlocal curvature information," *International Journal of Solids and Structures*, v 44, pp 1745-1754, 2007.
- 212 Qin J, Huang Y, Hwang KC, Song JZ, and Pharr GM, "The effect of indenter angle on the microindentation hardness," *Acta Materialia*, v 55, pp 6127-6132, 2007.
- 213 Siddiq A, Schmauder S, and Huang Y, "Fracture of bicrystal metal/ceramic interfaces: A study via the mechanism-based strain gradient crystal plasticity theory," *International Journal of Plasticity*, v 23, pp 665-689, 2007.
- 214 Song JZ, Jiang HQ, Wu J, Huang Y, and Hwang KC, "Stone-Wales transformation in boron nitride nanotubes," *Scripta Materialia*, v 57, pp 571-574, 2007.
- 215 Su YW, Ji BH, Huang Y, and Hwang KC, "Effect of contact shape on biological wet adhesion," *Journal of Materials Science*, v 42, pp 8885-8893, 2007.

- 216 Tan HL, Huang Y, Liu C, Ravichandran G, Inglis HM, and Geubelle PH, "The uniaxial tension of particulate composite materials with nonlinear interface debonding," *International Journal of Solids and Structures*, v 44, pp 1809-1822, 2007.
- 217 Tan HL, Huang Y, Liu C, Ravichandran G, and Paulino GH, "Constitutive behaviors of composites with interface debonding: The extended Mori-Tanaka method for uniaxial tension," *International Journal of Fracture*, v 146, pp 139-148, 2007.
- 218 Tan HL, Jiang LY, Huang Y, Liu B, and Hwang KC, "The effect of van der Waals-based interface cohesive law on carbon nanotube-reinforced composite materials," *Composites Science and Technology*, v 67, pp 2941-2946, 2007.
- 219 Wang HM, Hwang KC, Huang Y, Wu PD, Liu B, Ravichandran G, Han C-S, and Gao H, "A conventional theory of strain-gradient crystal plasticity based on the Taylor dislocation model," *International Journal of Plasticity*, v 23, pp 1540-1554, 2007.
- 220 Wu PD, Lloyd DJ, Jain M, Neale KW, and Huang Y, "Effects of spatial grain orientation distribution and initial surface topography on sheet metal necking," *International Journal of Plasticity*, v 23, pp 1084-1104, 2007.
- 221 Xiao JL, Liu B, Huang Y, Zuo JM, Hwang KC, and Yu MF, "Collapse and stability of single and multi-wall carbon nanotubes," *Nanotechnology*, v 18, article 395703, 2007.
- 222 Zhang F, Huang Y, Hwang KC, Qu SX, and Liu C, "A three-dimensional strain gradient plasticity analysis of particle size effect in composite materials," *Materials and Manufacturing Processes*, v 22, pp 140-148, 2007.
- 223 Zhang F, Saha R, Huang Y, Nix WD, Hwang KC, Qu SX, and Li M, "Indentation of a hard film on a soft substrate: strain gradient effects," *International Journal of Plasticity*, v 23, pp 25-43, 2007.
- 224 Zhou WX, Huang Y, Liu B, Hwang KC, Zuo JM, Buehler MJ, and Gao H, "Self folding of single- and multi-wall carbon nanotubes," *Applied Physics Letters*, v 90, article 073107, 2007.
- 225 Zhou WX, Huang Y, Liu B, Wu J, Hwang KC, and Wei BQ, "Adhesion between carbon nanotubes and substrate: mimicking the gecko foothair," *Nano*, v 2, pp 175-179, 2007.
- 226 Ahn J-H, Zhu Z, Park S-I, Xiao JL, Huang Y, and Rogers JA, "Defect tolerance in transistors that use semiconductor nanomaterials and ultrathin dielectrics," *Advanced Functional Materials*, v 18, pp 2535-2540, 2008 (**cover feature article**).
- 227 Baca AJ, Ahn J-H, Sun YG, Meitl MA, Menard E, Kim H-S, Choi WM, Kim D-H, Huang Y, and Rogers JA, "Semiconductor wires and ribbons for high-performance flexible

electronics,” *Angewandte Chemie – International Edition*, v 47, pp 5524-5542, 2008 (review article).

- 228 Chen B, Wu PD, and Huang Y, “Detaching speed of a fibrillar interface,” *Applied Physics Letters*, v 93, article 103901, 2008.
- 229 Chen X and Huang Y, “Nanomechanics modeling and simulation of carbon nanotubes,” *Journal of Engineering Mechanics*, v 134, pp 211-216, 2008.
- 230 Chen YL, Liu B, Wu J, Huang Y, Jiang HQ, and Hwang KC, “Mechanics of hydrogen storage in carbon nanotubes,” *Journal of the Mechanics and Physics of Solids*, v 56, pp 3224-3241, 2008.
- 231 Chen YL, Liu B, Yin YJ, Huang Y, and Hwang KC, “Nonlinear deformation processes and damage modes of super carbon nanotubes with armchair-armchair topology,” *Chinese Physics Letters*, v 25, pp 2577-2580, 2008.
- 232 Feng X, Huang Y, and Rosakis AJ, “Multi-layer thin film/substrate system subjected to non-uniform misfit strains,” *International Journal of Solids and Structures*, v 45, pp 3688-3698, 2008.
- 233 Feng X, Huang Y, and Rosakis AJ, “Stresses in a multi-layer thin film/substrate system subjected to non-uniform temperature,” *Journal of Applied Mechanics (ASME Transactions)*, v 75, article 021022, 2008.
- 234 Feng X, Jiang HQ, Huang Y, Liu B, and Chen JS, “Modeling fracture in carbon nanotubes using a meshless atomic-scale finite element method,” *JOM*, v 60, pp 50-55, 2008.
- 235 Guo X, Leung AYT, He XQ, Jiang HQ, and Huang Y, “Bending buckling of single-walled carbon nanotubes by atomic-scale finite element,” *Composites – Part B: Engineering*, v 39, pp 202-208, 2008.
- 236 Huang Y, Ngo D, Feng X, and Rosakis AJ, “Anisotropic, non-uniform misfit strain in a thin film bonded on a plate substrate,” *Interaction and Multiscale Mechanics: An International Journal*, v 1, pp 123-142, 2008.
- 237 Jiang HQ, Khang D-Y, Fei H, Kim H, Huang Y, Xiao JL, and Rogers JA, “Finite width effect of thin films buckling on compliant substrate: Experimental and theoretical studies,” *Journal of the Mechanics and Physics of Solids*, v 56, pp 2585-2598, 2008.
- 238 Jiang HQ, Lu JQ, Yu MF, and Huang Y, “Carbon nanotube transmission between linear and rotation motions,” *Computer Modeling in Engineering and Science*, v 24, pp 95-102, 2008.



- 239 Jiang HQ, Sun YG, Rogers JA, and Huang Y, "Post-buckling analysis for the precisely controlled buckling of thin film encapsulated by elastomeric substrates," *International Journal of Solids and Structures*, v 45, pp 2014-2023, 2008.
- 240 Jiang YY, Zhou WX, Kim T, Huang Y, and Zuo JM, "Measurement of radial deformation of single-wall carbon nanotubes induced by intertube van der Waals forces," *Physical Review B*, v 77, article 153405, 2008.
- 241 Khang D-Y, Xiao JL, Kocabas C, Maclaren S, Banks A, Jiang HQ, Huang Y, and Rogers JA, "Molecular scale buckling mechanics in individual, aligned single-wall carbon nanotubes on elastomeric substrates," *Nano Letters*, v 8, pp 124-130, 2008.
- 242 Kim D-H, Ahn J-H, Choi W-M, Kim H-S, Kim T-H, Song JZ, Huang Y, Liu ZJ, Lu C, and Rogers JA, "Stretchable and foldable silicon integrated circuits," *Science*, v 320, pp 507-511, 2008.
- *This paper is one of 4 feature articles reported by the Science website on 3/27/2008 [Published online March 27, 2008; 10.1126/science.1154367 (Science Express Reports)].*
- *It has been reported by the media: The A to Z of Nanotechnology, ACM TechNews, BBC News, Bio-medicine.org, California Science & Technology News, CBC News (Canada), Chemical & Engineering News, Chemistry World, Cybernetics News, The Daily Telegraph (UK), DailyIllini, EDN, EE Times Europe, EFY News Network, The Engineering Online, Engineering & Technology Careers & News, Financial Times, Generef.com, Globalspec.com, Godlike Productions, The Hindu News Update, HorizonAustralia, ICM Commercial and Business News, IEEE Spectrum Online, Impact Lab, Inch ka chka, Innovations Report, Inquirer, Inside Illinois, ITnews Australia, ITPro Portal, MagPortal.com, Medical News Today, MIT Technology Review, Nano Research, Nano Times, Nanomaterials News, Nanotechnology Now, Nanotechwire.com, NewsScientistTech, Newsweek, NSF, PCB007, Photonics Online, Photonics.com, Physics Today, PhysOrg.com, Popular Mechanics, The Press Association, Printed Circuit Design & Fab, Programmable Logic Design Line, Red Orbit, Science Centric, ScienceDaily, Science Tribune, ScientificBlogging.com, SoftPedia, Sympatico/MSN, Thaindian News (Thailand), This Week Highlight (Science), Topix, Unwir3d, VOA News, VNU net, Yahoo!India News:Technology, Young Inventors International ...*
- 243 Kim D-H, Choi WM, Ahn J-H, Kim H-S, Song JZ, Huang Y, Liu ZJ, Lu C, Koh CG, and Rogers JA, "Complementary metal oxide silicon integrated circuits incorporating monolithically integrated stretchable wavy interconnects," *Applied Physics Letters*, v 94, article 044102, 2008.
- 244 Kim D-H, Song JZ, Choi W-M, Kim H-S, Kim R-H, Liu ZJ, Huang Y, Hwang KC, Zhang YW, and Rogers JA, "Materials and non-coplanar mesh designs for integrated circuits with linear elastic responses to extreme mechanical deformations," *Proceedings of the*

National Academy of Sciences of the United States of America, v 105, pp 18675-18680, 2008 (cover feature article).

--- *This paper is on the cover of December 2, 2008 issue of PNAS, and is also highlighted by the PNAS "IN THIS ISSUE" (<http://www.pnas.org/content/105/48/18645.full>).*

--- *It has been reported by the media: The A to Z of Materials, The A to Z of Nanotechnology, AOL India News, BigNewsNetwork.com, The Black Hole's Ledge, Cellular News (England), Congo.com, Discover, e! Science News, EE Times, EE Times Asia, The Energy Roadmap, The Epoch Times, EurekaAlert, EurekaMagazine.co.uk, Examiner.com, Faves.com, FirstScience, Flash Science, FutureBlogger, Future of Gadgets, Geek.com, The Hindu (India), Iconocast, IDTechEx, Igovernment, Innovations-Report (Germany), Inside Engineer, InTech, IT Hot News Serve for U Every Day, LabSpaces, Machine Like Us, MedGadget, Medical News Today (England), Miami New Times, Nanotechwire.com, Nanotechnology Now, Nanowerk, Net World Directory, New Electronics, NewsNow, News24online.com, Newsvine.com, NewKerala.com, Northwestern University, NSF, Okforme2, Physics News, PhysOrg.com, Plime.com, Popular Science, Printed Electronics World, Product Design & Development, R&D Daily, RedOrbit, The Register, Science Centric, Scientific American, Science Daily, Sci Tech News from India, SiliconIndia, Silobreaker, Sindh Today (Pakistan), SmartTechie, Softpedia, The Solar Report, Sulekha.com, Thaindian News (Thailand), Times of India, Topix, TopNews.in (India), TwoCircles.new, University of Illinois, WebIndia123.com, Wotnew.com.au, Yahoo! India News, Zee News India, Zimbio...*

245Ko HC, Stoykovich MP, Song JZ, Malyarchuk V, Choi WM, Yu C-J, Geddes JB III, Xiao JL, Wang SD, Huang Y, and Rogers JA, "A hemispherical electronic eye camera based on compressible silicon optoelectronics," *Nature*, v 454, pp 748-753, 2008 (cover feature article).

--- *This paper is a feature article reported by the Nature website on 8/6/2008 [Published online <http://www.nature.com/news/2008/080806/full/news.2008.1004.html> (Nature News)], and is on the cover of August 7, 2008 issue of Nature.*

--- *The National Science Foundation of the United States had a press release on this work ([http://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=112012&org=NSF&from=news](http://www.nsf.gov/news/news_summ.jsp?cntn_id=112012&org=NSF&from=news)).*

--- *It has been reported by the media: The A to Z of Nanotechnology, The A to Z of Optics, ABC Science, Adorama, AFP (France), The Age (Australia), ArabNews, AsiaOne (Singapore), Assembly Magazine, Audioholics Online A/V Magazine, Baselinemag.org, BBC News, Best DigitalCameraBlog.com, Boingboing.net, Bondenews (Brazil), Canada.com, Canwest News Service, CBCNews (Canada), Cellular News (England), Channel Web, Chicago Tribune, China.com.cn (China), CIO Today, CNET NEWS, Contra Costa Times, CourierMail (Australia), CRN, Daily Mail (UK), Daily Telegraph (UK), DigitalJournal.com, Discovery, Domain-B, E Canada News, EbioTrade.com (China), EE Times, EE Times Asia, eFluxMedia, EFYTimes.com, The Engineering Online, Esciencenew.com, EurekaAlert, First Bell ASEE, The Future of Things, Gear Live, Geek.com, I4u.com, Ibio (Israel), Iconocast, The Independent, Indopia (India), Innovations-Report (Germany), Inside Engineer,*

*Inside Illinois, Inside Tech, Institute of Nanotechnology (UK), InTheNews.co.uk, La Recherche, Last.fm (Spain), The Liberty Times (Taiwan), LifeScience.com, LifeStyleExtra.com, LinuxInsider, Mag.udn.com (Taiwan), Malaysia Sun (Malaysia), The Manila Times (Philippines), Materialsgate.de (Germany), Medgadget.com, Medical Device and Diagnostic Industry, Merit Times (Taiwan), Microsystem (Korea), MIT Technology Review, MSNBC, Nano Magazine, Nanotechnology Now, Nano.org.uk, Nanowerk.com, Nature News & Views, New Scientist, New York Times, News Gazette, News.com.au, Newsfactor Network, NewsFeed Researcher, News-Medical.net, NewsTrack India, Northwestern.edu, NSF Press Release, OneIndia, Optics.org, OpticsJournal.net (China), PC Pro (UK), PC World, Photonics Online, Photonics.com, Physics Today, PhysOrg.com, PressZoom (Netherlands), Printed Circuit Board News and Information, RedOrbit, Research.gov, Reuters, Russian Federal TV Channel "Petersburg 5", SaukValley.com, Science Centric, Science Daily, Science Morning Post (Hong Kong), ScienceNet.cn (China), Science-tech Today, Scientific American, ScientificBlogging.com, ScientificComputing, Sing Tao Daily (Canada), Small Times, South China Morning Post (Hong Kong), The Tech Herald, TechNewsWorld, Technovelgy.com, TechRadar.com, Tehran Time, Telegraph (UK), Thaindian.com (Thailand), United Press International, U.S. News and World Report, The West Australian, Why Files, Wired, Xinhua (China), Yahoo!News, Zee News ...*  
--- *It has been on permanent display at "Museum of Science & Industry", Chicago, Illinois, since 2010.*

246 Liu B and Huang Y, "The stable finite element method for minimization problems," *Journal of Computational and Theoretical Nanoscience*, v 5, pp 1251-1254, 2008.

247 Lu WB, Wu J, Song JZ, Hwang KC, Jiang LY, and Huang Y, "A cohesive law for interfaces between multi-wall carbon nanotubes and polymers due to the van der Waals interactions," *Computer Methods in Applied Mechanics and Engineering*, v 197, pp 3261-3267, 2008.

248 Ngo D, Feng X, Huang Y and Rosakis AJ, "Multi-layer thin films/substrate system with variable film thickness subjected to non-uniform misfit Strains," *Acta Materialia*, v 56, pp 5322-5328, 2008.

249 Park S-I, Ahn J-H, Feng X, Wang SD, Huang Y, and Rogers JA, "Theoretical and experimental studies of bending of inorganic electronic materials on plastic substrates," *Advanced Functional Materials*, v 18, pp 2673-2684, 2008.

250 Peng J, Wu J, Hwang KC, Song JZ, and Huang Y, "Can a single-wall carbon nanotube be modeled as a thin shell?" *Journal of the Mechanics and Physics of Solids*, v 56, pp 2213-2224, 2008.

251 Shi ZF, Huang B, Tan HL, Huang Y, Zhang TY, Wu PD, Hwang KC, and Gao H, "Determination of the microscale stress-strain curve and strain gradient effect from the

- micro-bend of ultra-thin beams,” *International Journal of Plasticity*, v 24, pp 1606-1624, 2008.
- 252 Song JZ, Jiang HQ, Choi W-M, Khang D-Y, Huang Y, and Rogers JA, “An analytical study of two-dimensional buckling of thin films on compliant substrates,” *Journal of Applied Physics*, v 103, article 014303, 2008.
- 253 Song JZ, Jiang HQ, Liu ZJ, Khang D-Y, Huang Y, Rogers JA, Lu C, Koh CG, “Buckling of a stiff thin film on a compliant substrate in large deformation,” *International Journal of Solids and Structures*, v 45, pp 3107-3121, 2008.
- 254 Song JZ, Wu J, Huang Y, and Hwang KC, “Continuum modeling of boron nitride nanotubes,” *Nanotechnology*, v 18, article 445705, 2008.
- 255 Song JZ, Wu J, Huang Y, Hwang KC, and Jiang HQ, “Stiffness and thickness of boron nitride nanotubes,” *Journal of Nanoscience and Nanotechnology*, v 8, pp 3774-3780, 2008.
- 256 Srinivasan K, Huang Y, Kolednik O, and Siegmund T, “The size dependence of micro-toughness in ductile fracture,” *Journal of the Mechanics and Physics of Solids*, v 56, pp 2707-2726, 2008.
- 257 Tan HL, Huang Y, and Liu C, “The viscoelastic composite with interface debonding,” *Composites Science and Technology*, v 68, pp 3145-3149, 2008.
- 258 Wang SD, Song JZ, Kim D-Y, Huang Y, and Rogers JA, “Local versus global buckling of thin films on elastomeric substrates,” *Applied Physics Letters*, v 93, article 023126, 2008.
- 259 Wu J, Hwang KC, and Huang Y, “An atomistic-based finite-deformation shell theory for single-wall carbon nanotubes,” *Journal of the Mechanics and Physics of Solids*, v 56, pp 279-292, 2008.
- 260 Wu J, Hwang KC, Huang Y, and Song JZ, “A finite-deformation shell theory for carbon nanotubes based on the interatomic potential. Part I: Basic theory,” *Journal of Applied Mechanics (ASME Transactions)*, v 75, article 061006, 2008.
- 261 Wu J, Hwang KC, Song JZ, and Huang Y, “A finite-deformation shell theory for carbon nanotubes based on the interatomic potential. Part II: Instability analysis,” *Journal of Applied Mechanics (ASME Transactions)*, v 75, article 061007, 2008.
- 262 Wu J, Hwang KC, Song JZ, and Huang Y, “Material and structural instabilities of single-wall carbon nanotubes,” *Acta Mechanica Sinica*, v 24, pp 285-288, 2008.

- 263 Wu J, Peng J, Hwang KC, Song JZ, and Huang Y, "The intrinsic stiffness of single-wall carbon nanotubes," *Mechanics Research Communications*, v 35, pp 2-9, 2008.
- 264 Xiao JL, Carlson A, Liu ZJ, Huang Y, Jiang HQ, and Rogers JA, "Stretchable and compressible thin films of stiff materials on compliant wavy substrates," *Applied Physics Letters*, v 93, article 013109, 2008.
- 265 Xiao JL, Jiang HQ, Khang D-Y, Wu J, Huang Y, and Rogers JA, "Mechanics of buckled carbon nanotubes on elastomeric substrate," *Journal of Applied Physics*, v 104, article 033543, 2008.
- 266 Yoon J, Baca AJ, Park S-I, Paulius E, Geddes JB III, Li L, Kim RH, Xiao JL, Wang SD, Kim TH, Motala MJ, Ahn BY, Duoss E, Lewis JA, Nuzzo RG, Ferreira PM, Huang Y, Rockett A, and Rogers JA, "Ultrathin silicon solar microcells for semitransparent, mechanically flexible and microconcentrator module designs," *Nature Materials*, v 7, pp 907-915, 2008 (**cover feature article**).
- *This paper is a feature article reported by the Nature website on 10/9/2008 [Published online <http://www.nature.com/nature/journal/v455/n7214/full/455744a.html> (Nature News)], and is on the cover of November, 2008 issue of Nature Materials.*
- *The Department of Energy of the United States had a press release on this work ([http://www.er.doe.gov/News\\_Information/speeches/2008/Oct%209.html](http://www.er.doe.gov/News_Information/speeches/2008/Oct%209.html)).*
- *It has been reported by the media: ABC, BusinessGreen, China Daily, CleanTechnica.com, Comcast, Current.com, Daily Mail (UK), DoE, EcoGeek, Energy Efficiency News, First Bell ASEE, Freedom Phoenix, Globe and Mail, The Huffington Post, The Independence Online (South Africa), India Times, iTNews (Australia), McCormick Northwestern, Medill Reports, MIT Technology Review, MSNBC, Nature News & Views, New Energy and Fuel, New York Times, NewsDaily, People's Daily (China), Physicsworld.com, Planet Ark, RedOrbit, Reuters, Science and Technology Daily (China), Science & Vie (France), Scientific American, Sina (China), The Strait Times (Singapore), Taiwan News, Tehran Time, TVNZ (New Zealand), Xinhua (China), Yahoo, ...*
- 267 Zhang ZQ, Liu B, Chen YL, Jiang HQ, Hwang KC, and Huang Y, "Mechanical properties of functionalized carbon nanotubes," *Nanotechnology*, v 19, article 395702, 2008.
- 268 Backes B, Huang Y, Goeken M, and Durst K, "The correlation between the internal material length scale and microstructure in nanoindentation experiments and simulations using the conventional mechanism-based strain gradient plasticity theory," *Journal of Materials Research*, v 24, pp 1197-1207, 2009.
- 269 Chen YL, Liu B, and Huang Y, "Fractal mechanics of hydrogen storage in the bundle of carbon nanotubes," *Engineering Mechanics*, v 26, pp 14-22, 2009.

- 270 Chen YL, Yin YJ, Huang Y, and Hwang KC, "Atomistic simulations of the nonlinear deformation and damage modes of super carbon nanotubes," *Journal of Computational and Theoretical Nanoscience*, v 6, pp 41-45, 2009.
- 271 Chen Z-K, Yang G, Yang J-P, Fu S-Y, Ye L, and Huang Y, "Simultaneously increasing cryogenic strength, ductility, and impact resistance of epoxy resins modified by n-butyl glycidyl ether polymer," *Polymer*, v 50, pp 1316-1323, 2009.
- 272 Chen Z-K, Yang J-P, Ni Q-Q, Fu S-Y, and Huang Y, "Reinforcement of epoxy resins with multi-walled carbon nanotubes for enhancing cryogenic mechanical properties," *Polymer*, v 50, pp 4753-4759, 2009.
- 273 Feng G, Qu SX, Huang Y, and Nix WD, "A quantitative analysis for the stress field around an elastoplastic indentation/contact," *Journal of Materials Research*, v 24, pp 704-718, 2009.
- 274 Kim D-H, Kim Y-S, Wu J, Liu ZJ, Song JZ, Kim H-S, Huang Y, Hwang K-C, and Rogers JA, "Ultrathin silicon circuits with strain isolation layers and mesh layouts for high performance electronics on fabric, vinyl, leather and paper," *Advanced Materials*, v 21, pp 1-5, 2009 (**cover feature article**).
- 275 Kim D-H, Liu ZJ, Kim Y-S, Wu J, Song JZ, Kim H-S, Huang Y, Hwang KC, Zhang YW, and Rogers JA, "Optimized structural designs for stretchable silicon integrated circuits," *Small*, v 5, pp 2841-2847, 2009.
- 276 Kim T-H, Carlson A, Ahn J-H, Won SM, Wang SD, Huang Y, and Rogers JA, "Kinetically controlled, adhesiveless transfer printing using micro-structure stamps," *Applied Physics Letters*, v 94, article 113502, 2009. [Erratum: *Applied Physics Letters*, v 94, article 189902, 2009.]
- 277 Ko HC, Shin G, Wang SD, Stoykovich MP, Lee JW, Kim D-H, Ha JS, Huang Y, Hwang K-C, and Rogers JA, "Curvilinear electronics formed using silicon nanomembrane circuits and elastomeric transfer elements," *Small*, v 5, pp 2703-2709, 2009 (**cover feature article**).
- 278 Li DC, Ji BH, Hwang KC, and Huang Y, "Coarse grained modeling of biopolymers and proteins: Methods and applications," *International Journal of Applied Mechanics*, v 1, pp 113-136, 2009.
- 279 Li DC, Liu M, Ji BH, Hwang KC, and Huang Y, "Coarse-grained molecular dynamics of ligands binding into protein: The case of HIV-1 protease inhibitors," *Journal of Chemical Physics*, v 130, article 215102, 2009.

280 Liu ZJ, Zhang YM, Song JZ, Kim D-Y, Huang Y, and Rogers JA, "Numerical simulation of stretchable and foldable silicon integrated circuits," *Advanced Materials Research*, v 74, pp 197-200, 2009.

281 Lu WB, Liu B, Wu J, Xiao JL, Hwang KC, Fu SY, and Huang Y, "Continuum modeling of van der Waals interactions between carbon nanotube walls," *Applied Physics Letters*, v 94, article 101917, 2009.

282 Park S-I, Xiong Y, Kim R-H, Elvikis P, Meitl M, Kim D-H, Wu J, Yoon J, Yu C-J, Liu ZJ, Huang Y, Hwang K-C, Ferreira P, Li X, Choquette K, and Rogers JA, "Printed assemblies of inorganic light-emitting diodes for deformable and semitransparent displays," *Science*, v 325, pp 977-981, 2009.

--- *It has been reported by the media: 4engr.com, The A to Z of Materials, The A to Z of Nanotechnology, The A to Z of Optics, ABC, Asian News International, AVS Forum, BBC, Bester News, Boston Globe, Buenos Aires Herald (Argentina), Channel Insider, Channel News (Australia), ChemEurope.com, Cio, Ciol, Clung.org.uk, CNET, Coated (Coolest Gadget Reviews), Comcast, Cpccci.com, Daily India, DailyTech, Davidkirkpatrick.com, Deccan Chronicle, Devicelink.com, Digitalmediaonlineinc.com, Discover Magazine, Discovery Channel, DriverHeaven.net, e! Science News, Earth-stream.com, ECNmag.com, ECOSeed.org, EE Times Asia, EE Times India, Electronista (Gadgets for Geeks), Element-14.com, Energy Daily, The Engineer Online (UK), The Epoch Times, eSchool News, EurekAlert!, Facebook, Grademyeducation.com, Green Design+Manufacturing, Guardian Technology (UK), Herald de Paris (France), HDTV World, Health News for All, Hitechsquad.com, Hypography.com, IEEE Spectrum, IGN.com, Illinois.edu, Ind@MSCD, India Times, Innovations Reports, Inside Tech, International Business Times, InteGeeks.com, Isa.org, ITPro, LED Displays, LED Inside, Leddisplaytech.com, Led-professional.com, Led-lcs.com, Lifescience.com, Macedonian International News Agency, MaximumPC, McCormick.northwestern.edu, Micro-nanonews.com, Mike's Blog, MIT Technology Review, Mnn.com, MSNBC, Musthave.org, Mydigitallife.co.za, Nanowerk, Newsfactor.com, New York Times, Newsguide.us, Newsonfeeds.com, Newstin.com, Northwestern.edu, Nvnews.net, PCMag.com, PCR-online.biz, Photonics.com, Photonics Online, Physics World, Physorg.com, R&D Magazine, Rare Metal Blog, Reuters, Saudi Gazette, Science Centric, Science Daily, Science Magazine, ScienceBlog, Semiconductor International, Sina.com, Slyck.com, Softpedia.com, SPIE, Stuff.co.nz, Talk2myshirt.com, Taragana.com, Taranfx.com, Tehran Times, TG Daily, Thaindian News, Times of Malta, Tiscali.co.uk, Top Tech News, US News & World Report, Wikio.co.uk, WKAR Public Broadcasting, Wordpress.com, XKCD.com, Yahoo! 7 News, Yahoo! News India, Yourledlight.com, ZinePress (stoth.com), ...*

283 Peng J, Wu PD, Huang Y, Chen XX, Lloyd DJ, Embury JD, and Neale KW, "Effects of superimposed hydrostatic pressure on fracture in round bars under tension," *International Journal of Solids and Structures*, v 46, pp 3741-3749, 2009.

- 284 Qin J, Huang Y, Xiao JL, and Hwang KC, "The equivalence of axisymmetric indentation model for three-dimensional indentation hardness," *Journal of Materials Research*, v 24, pp 776-783, 2009.
- 285 Qin J, Hwang KC, and Huang Y, "A study on the conventional theory of mechanism-based strain gradient plasticity for mixed hardening by the method of characteristics," *Engineering Mechanics*, v 26, pp 176-185, 2009.
- 286 Qin J, Qu SX, Feng X, Huang Y, Xiao JL, and Hwang KC, "A numerical study of indentation of small spherical indenters," *Acta Mechanica Solida Sinica*, v 22, pp 18-26, 2009.
- 287 Rogers JA and Huang Y, "A curvy, stretchy future for electronics," *Proceedings of the National Academy of Sciences of the United States of America*, v 106, pp 10875-10876, 2009. [Erratum: *Proceedings of the National Academy of Sciences of the United States of America*, v 106, pp 16889-16889, 2009.]
- 288 Ryu SY, Xiao JL, Park WI, Son KS, Huang Y, Paik U, and Rogers JA, "Lateral buckling mechanics in silicon nanowire on elastomeric substrates," *Nano Letters*, v 9, pp 3214-3219, 2009.
- 289 Shi MX, Li QM, and Huang Y, "A nonlocal shell model for mode transformation in single-walled carbon nanotubes," *Journal of Physics: Condensed Matter*, v 21, article 455301, 2009.
- 290 Shi MX, Li QM, and Huang Y, "Internal resonance of vibrational modes in single-walled carbon nanotubes," *Proceedings of the Royal Society A – Mathematical, Physical & Engineering Sciences*, v 465, pp 3069-3082, 2009.
- 291 Shi MX, Li QM, Liu B, Feng XQ, and Huang Y, "Atomic-scale finitel element analysis of vibration mode transformation in carbon nanorings and single-walled carbon nanotubes," *International Journal of Solids and Structures*, v 46, pp 4342-4369, 2009.
- 292 Shi ZF, Huang Y, and Hwang KC, "Size effect in plastically deformed passivated thin films," *Science in China Series G: Physics, Mechanics and Astronomy*, v 52, pp 1375-1381, 2009.
- 293 Shi ZF, Huang Y, Song JZ, Hwang KC, and Li M, "A study of plastic shear localization via the flow theory of mechanism-based strain gradient plasticity," *Journal of Engineering Mechanics*, v 135, pp 132-138, 2009.
- 294 Song JZ, Huang Y, Xiao JL, Wang SD, Hwang KC, Ko HC, Kim DH, Stoykovich MP, and Rogers JA, "Mechanics of non-coplanar mesh design for stretchable electronic circuits," *Journal of Applied Physics*, 105, article 123516, 2009.



- 295 Song JZ, Jiang HQ, Huang Y, and Rogers JA, "Mechanics of stretchable inorganic electronic materials," *Journal of Vacuum Science and Technology*, v A27, pp 1107-1125, 2009 (review article).
- 296 Wang SD, Xiao JL, Jung I, Song JZ, Ko HC, Stoykovich MP, Huang Y, Hwang KC, and Rogers JA, "Mechanics of hemispherical electronics," *Applied Physics Letters*, v 95, article 181912, 2009.
- 297 Wu J, Hwang KC, and Huang Y, "A shell theory for carbon nanotubes based on the interatomic potential and atomic structure," *Advances in Applied Mechanics* (eds. Aref H and van der Giessen E), Academic Press, Burlington, v 43, pp 1-68, 2009 (review article).
- 298 Wu J, Zhang ZQ, Liu B, Hwang KC, and Huang Y, "Numerical analyses for the atomistic-based shell theory of carbon nanotubes," *International Journal of Plasticity*, v 25, pp 1879-1887, 2009.
- 299 Wu PD, Embury JD, Lloyd DJ, Huang Y, and Neale KW, "Effects of superimposed hydrostatic pressure on sheet metal formability," *International Journal of Plasticity*, v 25, pp 1711-1725, 2009.
- 300 Xiao JL, Dunham S, Liu P, Zhang YW, Cokabas C, Huang Y, Hwang K-C, Lu C, Huang W, and Rogers JA, "Alignment controlled growth of single walled carbon nanotubes on quartz substrates," *Nano Letters*, v 9, pp 4311-4319, 2009.
- 301 Zheng X-P, Cao Y-P, Li B, Feng X-Q, Jiang H, and Huang Y, "Determining the elastic modulus of thin films using a buckling-based method: Computational study," *Journal of Physics D: Applied Physics*, v 42, article 175506, 2009.
- 302 Baca AJ, Yu KJ, Xiao JL, Wang SD, Yoon J, Ryu JH, Stevenson D, Nuzzo RG, Rockett AA, Huang Y, and Rogers JA, "Compact monocrystalline silicon solar modules with high voltage outputs and mechanically flexible designs," *Energy & Environmental Science*, v 3, pp 208-211, 2010 (**cover feature article**).
- 303 Chen XX, Wu PD, Embury JD, and Huang Y, "Enhanced ductility in round tensile bars produced by cladding a ductile ring," *Modeling and Simulations in Materials Science and Engineering*, v 18, article 025005, 2010.
- 304 Chen XX, Wu PD, Lloyd DJ, Embury JD, and Huang Y, "Enhanced ductility in sheet metals produced by cladding a ductile layer," *Journal of Applied Mechanics (ASME Transactions)*, v 77, article 041015, 2010.
- 305 Chen YL, Liu B, He XQ, Huang Y, and Hwang K-C, "Failure analysis and the optimal toughness design of carbon nanotube-reinforced composites," *Composites Science and Technology*, v 70, pp 1360-1367, 2010.

- 306 Kim D-H, Viventi J, Amsden JJ, Xiao JL, Vigeland L, Kim Y-S, Blanco JA, Contreras D, Kaplan DL, Omenetto FG, Huang Y, Hwang KC, Zakin MR, Litt B, and Rogers JA, "Dissolvable films of silk fibroin for ultrathin, conformal bio-integrated electronics," *Nature Materials*, v 9, pp 511-517, 2010 (cover feature article).
- *It is selected for one of the "10 emerging technologies" by MIT's Technology Review Magazine, 2010.*
- *It has been reported by the media: Aarogya.com, ABC, Champaign News-Gazette, China Daily, CNET News, Daily Tech, ECN Magazine, The Economist, Engadget, First Science, Fox News, GizMag, International Business Times (HK), Kopalnia Wiedzy (Poland), Live Science, Machines Like Us, MacNewsWorld, Materials World Magazine, Medical News Today, Memristor.org, MIT Technology Review, MSNBC, Mumbai Mirror (India), Nano Werk, National Institute of Health, Nature, NETPark Net, NewKerela, OfficialWire, PhysOrg, Popular Science, R&D Magazine, RedOrbit, Reuters, Science Daily, TechNewsDaily, TechNewsWorld, TGdaily.com, The Times of India, TopNews (India), United Press International, Vamban News, Wired Magazine, Yahoo, ...*
- 307 Kim D-H, Xiao JL, Song JZ, Huang Y, and Rogers JA, "Stretchable, curvilinear electronics based on inorganic materials," *Advanced Materials*, v 22, pp 2108-2124, 2010 (review article).
- 308 Li DC, Ji BH, Hwang KC, and Huang Y, "The crucial roles of the sub-nanosecond local dynamics of the flap tips in the global conformational changes of HIV-1 protease," *Journal of Physical Chemistry*, v 114, pp 3060-3069, 2010.
- 309 Lu WB, Wu J, Feng X, Hwang KC, and Huang Y, "Buckling analyses of double-wall carbon nanotubes: A shell theory based on the interatomic potential," *Journal of Applied Mechanics (ASME Transactions)*, v 77, article 061016, 2010.
- 310 Ngo D, Park K, Paulino GH, and Huang Y, "On the constitutive relation of materials with microstructure using a potential-based cohesive model for interface interaction," *Engineering Fracture Mechanics*, v 77, pp 1153-1174, 2010.
- 311 Park S-I, Lee A-P, Wu J, Huang Y, Li X, and Rogers JA, "Light emission characteristics and mechanics of foldable inorganic light-emitting diodes," *Advanced Materials*, v 22, pp 3062-3066, 2010.
- 312 Rogers JA, Someya T, and Huang Y, "Materials and mechanics for stretchable electronics," *Science*, v 327, pp 1603-1607, 2010. (review article)
- 313 Shi ZF, Feng X, Huang Y, Xiao JL, and Hwang KZ, "The equivalent axisymmetric model for Berkovich indenters in power-law hardening materials," *International Journal of Plasticity*, v 26, pp 141-148, 2010.

- 314 Shin G, Jung I, Malyarchuk V, Song J, Wang S, Ko HC, Huang Y, Ha JS, and Rogers JA, "Micromechanics and advanced designs for curved photodetector arrays in hemispherical electronic eye cameras," *Small*, v 6, pp 851-856, 2010.
- 315 Song T, Xiao JL, Lee J-H, Lee DH, Kwon M-S, Choi J-M, Wu J, Doo SK, Chang H, Park WI, Zang DS, Kim H, Huang Y, Rogers JA, and Paik U, "Arrays of sealed silicon nanotubes as anodes for lithium ion batteries," *Nano Letters*, v 10, pp 1710-1716, 2010.
- 316 Su YW, Ji BH, Zhang K, Gao H, Huang Y, and Hwang KC, "Nano to micro structural hierarchy is crucial for stable superhydrophobic and water-repellent surfaces," *Langmuir*, v 26, pp 4984-4989, 2010.
- 317 Viventi J, Kim D-H, Moss JD, Kim Y-S, Annetta N, Callans DJ, Xiao JL, Huang Y, Rogers JA, and Litt B, "A conformal, bio-interfaced class of silicon electronics for mapping cardiac electrophysiology," *Science Translational Medicine*, v 2, article 24ra22, 2010 (cover feature article).
- *It has been reported by the media: Aarogya, AllBusiness, Allina, Anxiety Tribe, Apria, ArcaMax, ArticleAnt, Ascribe, ASM international, AzoNano, BioKnow.cn, Biology News, Breitbart, BTechGutu, BusinessWeek, CNET, CyberNeticsNews, DailyIndia, ECNmag, Ecoworld, e-healthsource, The Engineer, Engineers Edge, eScience News, EurekaAlert, FirstScience, GenEngNews, Health Jockey, HealthDay, Healthfinder, HealthScout, Health on The Net, IndiaVision, Innovations-report, inSciences, Investors, iStockanalyst, Labspaces, LifeSciencesWorld, Machineslikeus, MedCompare, Media-Newswise, Medical Device Guru, Medical news, Medical News Today, Medical Products Asia, MedicineNet, MIT Technology Review, The Money Times, MSN, Mumbai Mirror, My Optum Health, MyUSTINET, Nano Patents and Innovations, Nano werk, [Nano.Org.UK](http://Nano.Org.UK), [Nanomagazine.co.uk](http://Nanomagazine.co.uk), Nanotechnology Now, NanoTechWire, [Newelectronics.co.uk](http://Newelectronics.co.uk), newKerela, News Wise, Newsguide, OfficialWire, One News page, PhysOrg, Popular Science, R&D Magazine, RedOrbit, Science Blog, Science Centric, Science Codex, Science Daily, Sindh Today, Softpedia, SouthAsiaNews, St Louis Globe-Democrat, Techno bahn, UnderstandingNano, United Press International, WCBD, Women's Health, World Book and News, WSFA, Yahoo, Zimbio, ...*
- 318 Wang HM, Wu PD, Tome CN, and Huang Y, "A finite strain elastic-viscoplastic self-consistent model for polycrystalline materials," *Journal of the Mechanics and Physics of Solids*, v 58, pp 594-612, 2010.
- 319 Xiao JL, Carlson A, Liu ZJ, Huang Y, and Rogers JA, "Analytical and experimental studies of the mechanics of deformation in a solid with a wavy surface profile," *Journal of Applied Mechanis (ASME Transactions)*, v 77, article 011003, 2010.
- 320 Xiao JL, Ryu SY, Huang Y, Hwang KC, Paik U, and Rogers JA, "Mechanics of nanowire/nanotube in-surface buckling on elastomeric substrates," *Nanotechnology*, v 21, article 085708, 2010.

321 Zhang J, Xiao JL, Meng XL, Monroe C, Huang Y, and Zuo J-M, “Free folding of suspended graphene sheets by random mechanical stimulation,” *Physical Review Letters*, v 104, article 166805, 2010.

322 Zhang ZQ, Liu B, Huang Y, Hwang KC, and Gao H, “Mechanical properties of unidirectional nanocomposites with non-uniformly or randomly staggered platelet distribution,” *Journal of the Mechanics and Physics of Solids*, v 58, pp 1646-1660, 2010.

Chen YL, Liu B, Huang Y, and Hwang K-C, “A theoretical evaluation of load transfer in multi-walled carbon nanotubes,” *Carbon* (in press).

Chen YL, Liu B, Huang Y, and Hwang K-C, “Fracture toughness of carbon nanotube reinforced metal- and ceramic-matrix composites,” *Journal of Nanomaterials* (in press).

Kim R-H, Kim D-H, Xiao JL, Kim BH, Park S-I, Panilaitis B, Ghaffari R, Yao JM, Li M, Liu ZJ, Malyarchuk V, Kim DG, Le A-P, Nuzzo RG, Kaplan DL, Omenetto FG, Huang Y, and Rogers JA, “Waterproof AlInGaP optoelectronics on stretchable substrates, with applications in biomedicine and robotics,” *Nature Materials* (in press).

Kim S, Wu J, Carson A, Jin SH, Kovalsky A, Glass P, Liu ZJ, Ahmed N, Elgan SL, Chen WQ, Ferreira PM, Sitti M, Huang Y, and Rogers JA, “Microstructured elastomeric surfaces with reversible adhesion and examples of their use in deterministic assembly by transfer printing,” *Proceedings of the National Academy of Sciences of the United States of America* (in press).

**--- It has been reported by the media: *The A to Z of Nanotechnology, AndhraNews, Before It's News, BigNews Network, Biomimicry News, Bogor Agricultural University (Indonesia), California Science & Technology News, CBS Radio News, DailyIndia, Desafiando a Nomenclatura Cientifica, EMT Worldwide, EurekaAlert, Evanston Now, Gizmag.com, Hamara Photos, India Talkies, Materialsgate, McCormick, Nano Patents and Innovations, Nano werk, [Nano.Org.UK](http://Nano.Org.UK), Nanotech.sujanani.com, NanoTechWire, NextBigFuture.com, Northwestern University, OneIndia, PhysOrg, Product Design & Development, R&D Magazine, Radar.NDSL.kr (Korea), RedOrbit, RobAid.com, SciAnswers.com, Science Codex, Science Daily, Science News, Sify News, SouthAsiaNews, Technology Daily, Thaindian News, Thiagodefraitas.com, ...***

Su YW, Ji BH, Huang Y, and Hwang KC, “Concave biological surfaces for strong wet adhesion,” *Acta Mechanica Solida Sinica* (in press).

Wang SD, Xiao JL, Song JZ, Ko HC, Hwang KC, Huang Y, and Rogers JA, “Mechanics of curvilinear electronics,” *Soft Matter* (in press).

Wu J, Kim S, Carlson A, Lu CF, Hwang K-C, Huang Y, and Rogers JA, “Contact radius of stamps in reversible adhesion,” *Theoretical and Applied Mechanics Letters* (in press).

Wu J, Li M, Chen WQ, Kim D-H, Kim Y-S, Huang Y, Hwang K-C, Kang Z, and Rogers JA, "A strain-isolation design for stretchable electronics," *Acta Mechanica Sinica* (in press).

Wu J, Song JZ, Xiao JL, Huang Y, Hwang K-C, and Rogers JA, "Mechanics of encapsulated stretchable electronics," *Acta Mechanica Solida Sinica* (in press).

**Technical Report:**

Huang Y, "A User-Material Subroutine Incorporating Single Crystal Plasticity in the ABAQUS Finite Element Program," Harvard University Report Mech-178, 1991.