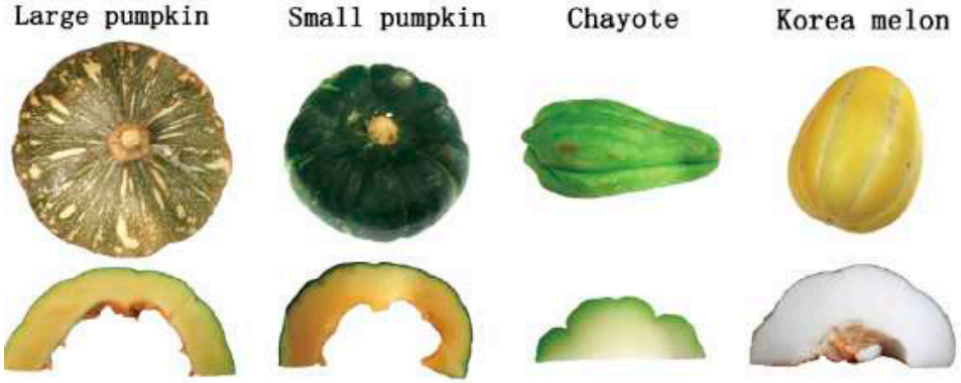

FIG. 6. Measured wrinkled fruits and vegetables.

From: Dai, H. H. & Liu, Y. Critical thickness ratio for buckled and wrinkled fruits and vegetables. EPL (Europhys. Lett.) 108, 44003-1–44003-6 (2014).

Professor Hui-Hui Dai

See:
https://www.cityu.edu.hk/ma/people/profile/daihh.htm
https://www.researchgate.net/scientific-contributions/Hui-Hui-Dai-14614845

Department of Mathematics and Department of Materials Science and Engineering
City University of Hong Kong, Kowloon, Hong Kong

Summary:

Prof. Hui-Hui Dai's research interests include: 1) Mathematics and mechanics of phase transitions and bifurcation phenomena in solids; 2) Nonlinear waves in solids and solitons; 3) Asymptotic methods and their applications to problems in mechanics. He is serving on the editorial boards of International Journal of Non-linear Mechanics and International Journal of Applied Mathematics and Applications. He has organised a number of international conferences and served as the programme secretary of the Hong Kong Mathematics Society and a member of the executive committee of the Hong Kong Society of Theoretical and Applied Mechanics. Currently, he is the departmental project leader on joint supervision schemes with Wuhan University, Zhengzhou University and Zhongshan University.

Selected Publications:

(Some of the "H. Dai" and "H.H. Dai" are probably different people.)

Cohen, H., Dai, H.H.: Nonlinear axisymmetric waves in compressible hyperelastic rods: long finite amplitude waves. Acta Mech. 100, 223–239 (1993)
Tans, S. J., Devoret, M. H., Dai, H., Thess, A., Smalley, R. E., Georliga, L. J. and Dekker, C. [1997] "Individual single-wall carbon nanotubes as quantum wires," Nature 386, 474–477.
J. Liu, A. G. Rinzler, H. Dai, J. H. Hafner, R. K. Bradley, P. J. Boul, A. Lu, T. Iverson, K. Shelimov, and C. B. Huffman, "Fullerene pipes," Science, vol. 280, no. 5367, pp. 1253–1256, 1998.
Yalcintas, M, Dai, H. Magnetorheological and electrorheological materials in adaptive structures and their performance comparison. Smart Mater Struct 1999; 8: 560.
Zhang, Y., Franklin, N. W., Chen, R. J. and Dai, H. [2000] " Metal coating on suspended carbon nanotubes and its implication to metal–tube interaction," Chemical Physics Letters 331(1), 35–41.
H. H. Dai and Y. Huo , Solitary shock waves and other travelling waves in a general compressible hyperelastic rod, R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci. 456 (2000) 331–363.
Q. Bi and H. H. Dai, "Analysis of non-linear dynamics and bifurcations of a shallow arch subjected to periodic excitation with internal resonance," Journal of Sound and Vibration, vol. 233, no. 4, pp. 557–571, 2000.
Zhang, Y. and Dai, H. [2000] " Formation of metal nanowires on suspended single-walled carbon nanotubes," Applied Physics Letters 77(19), 3015–3017.

H. H. Dai and Y. Huo, Asymptotically approximate model equations for nonlinear dispersive waves in incompressible elastic rods, Acta Mech. 1(157) (2002) 97–112.
Kim, W., Javey, A., Vermesh, O., Wang, Q., Li, Y. and Dai, H. [2003] " Hysteresis caused by water molecules in carbon nanotube field-effect transistors," Nano Letters 3(2), 193–198.
Hui-Hui Dai and Xiaojun Fan, "Asimptotically approximate model equations for weakly nonlinear long waves in compressible elastic rods and their comparisons with other simplified model equations", Mathematics and Mechanics of Solids, vol. 9, 1: pp. 61-79. , First Published Feb 1, 2004.
E. Pop, D. Mann, Q. Wang, K. Goodson, H. Dai, Thermal conductance of an individual single-wall carbon nanotube above room temperature, Nano Letters, 6 (2005) 96–100.
E. Pop, D. Mann, Q. Wang, K. Goodson, and H. Dai, "Thermal conductance of an individual single-wall carbon nanotube above room temperature," Nano Lett., vol. 6, pp. 96–100, 2006.
Sun, X., Liu, Z., Welsher, K., Robinson, J.T., Goodwin, A., Zaric, S., Dai, H., 2008. Nano-graphene oxide for cellular imaging and drug delivery. Nano Res. 1 (3), 203–212.
Li, X., Wang, X., Zhang, L., Lee, S., Dai, H.: Chemically derived, ultrasmooth graphene nanoribbon semiconductors. Science 319, 1229–1232 (2008)
Dai, H.H., Li, J.B.: Nonlinear travelling waves in a hyperelastic rod composed of a compressible Mooney–Rivlin material. Int. J. Non-Linear Mech. 44, 499–510 (2009)
H.-H. Dai, J. K. Paik, and S. N. Atluri, "The global nonlinear galerkin method for the analysis of elastic large deflections of plates under combined loads: a scalar homotopy method for the direct solution of nonlinear algebraic equations," Computers, Materials and Continua, vol. 23, no. 1, pp. 69–99, 2011.
H.-H. Dai, J. K. Paik, and S. N. Atluri, "The global nonlinear galerkin method for the solution of von karman nonlinear plate equations: an optimal and faster iterative method for the direct solution of nonlinear algebraic equations, using," Computers, Materials and Continua, vol. 23, no. 2, pp. 155–185, 2011.
Mao, Y., Fu, Y., Dai, H.: Creep buckling and post-buckling analysis of the laminated piezoelectric viscoelastic functionally graded plates. Eur. J. Mech. A Solids 30(4), 547–558 (2011).
Dai, H.H., Peng, X.: Weakly nonlinear long waves in a prestretched Blatz–Ko cylinder: solitary, kink and periodic waves. Wave Motion 48, 761–772 (2011)
Wang, L., Dai, H., Qian, Q.: Dynamics of simply supported fluid-conveying pipes with geometric imperfections. J. Fluids Struct. 29, 97–106 (2012)
Hui-Hui Dai and Zongxi Cai, "An analytical study on the instability phenomena during the phase transitions in a thin strip under uniaxial tension", Journal of the Mechanics and Physics of Solids, Vol. 60, No. 4, pp 691-710, April 2012
Vallikivi, M., Salupere, A., Dai, H.H.: Numerical simulation of propagation of solitary deformation waves in a compressible hyperelastic rod. Math. Comput. Simul. 82, 1348–1362 (2012)
H.H. Dai, Y. Wang, F.F. Wang, Primary and secondary bifurcations of a compressible hyperelastic layer: Asymptotic model equations and solutions, Int. J. Non-Linear Mech. 52 (2013) 58–72
H. Dai and H. Jiang, "Forced vibration analysis for a FGPM Cylindrical Shell," Shock & Vibration, vol. 20, no. 3, pp. 531–550, 2013.
Dai, H. H. & Liu, Y. Critical thickness ratio for buckled and wrinkled fruits and vegetables. EPL (Europhys. Lett.) 108, 44003-1–44003-6 (2014).
Hui-Hui Dai and Yang Liu, "Compression of a hyperelastic layer-substrate structure: Transitions between buckling and surface modes", International Journal of Engineering Science, Vol. 80, pp 74-89, 2014
H. Dai, X. Yue, and S. Atluri, "Solutions of the von Kármán plate equations by a Galerkin method, without inverting the tangent stiffness matrix," Journal of Mechanics of Materials and Structures, vol. 9, no. 2, pp. 195–226, 2014.
H. Dai, X. Yue, J. Yuan, and S. N. Atluri, "A time domain collocation method for studying the aeroelasticity of a two dimensional airfoil with a structural nonlinearity," Journal of Computational Physics, vol. 270, pp. 214–237, 2014.
D. Xie, M. Xu, H. H. Dai, and E. H. Dowell, "Observation and evolution of chaos for a cantilever plate in supersonic flow," Journal of Fluids and Structures, vol. 50, pp. 271–291, 2014.
H. Dai, A. Abdelkefi and L. Wang, Piezoelectric energy harvesting from concurrent vortex-induced vibrations and base excitations, Nonlinear Dyn. 77(3) (2014) 967–981.
Dai, H. and Dai, T. (2014), "Analysis for the thermoelastic bending of a functionally graded material cylindrical shell", Meccanica, 49, 1069-1081

Dai, H., Yue, X., Xie, D., Atluri, S.N.: Chaos and chaotic transients in an aeroelastic system. J. Sound Vib. 333(26), 7267–7285 (2014)
H.-H. Dai, F.-F. Wang, J. Wang, J. Xu, Pitchfork and octopus bifurcations in a hyperelastic tube subjected to compression: Analytical post-bifurcation solutions and imperfection sensitivity, Math. Mech. Solids 20 (2015) 25–52.
H. Dai, X. Yue, J. Yuan, D. Xie, and S. N. Atluri, "A comparison of classical Runge-Kutta and Henon's methods for capturing chaos and chaotic transients in an aeroelastic system with freeplay nonlinearity," Nonlinear Dynamics, vol. 81, no. 1-2, pp. 169–188, 2015.
D. Xie, M. Xu, H. Dai, and E. H. Dowell, "Proper orthogonal decomposition method for analysis of nonlinear panel flutter with thermal effects in supersonic flow," Journal of Sound and Vibration, vol. 337, pp. 263–283, 2015.
K. Hu, Y. Wang, H. Dai, L. Wang, Q. Qian, Nonlinear and chaotic vibrations of cantilevered micropipes conveying fluid based on modified couple stress theory, Int. J. Eng. Sci., 105 (2016), pp. 93-107
Zilong Song and Hui-Hui Dai, "On a consistent finite-strain shell theory based on 3-D nonlinear elasticity", International Journal of Solids and Structures, Vols. 97-98, pp 137-149, October 2016
H. Dai, Y. Rao and T. Dai , A review of recent researches on FGM cylindrical structures under coupled physical interactions, 2000–2015, Compos. Struct. 152 (2016) 199–225.
L. Wang, Y. Hong, H. Dai, and Q. Ni, Natural frequency and stability tuning of cantilevered CNTs conveying fluid in magnetic field, Acta Mechanica Solida Sin., vol. 29, pp. 567–576, 2016.
H. Dai, A. Abdelkefi, Y. Yang and L. Wang, Orientation of bluff body for designing efficient energy harvesters from vortex-induced vibrations, Appl. Phys. Lett. 108(5) (2016) 053902
Y.B. Wang, X.W. Zhu, H.H. Dai, Exact solutions for the static bending of Euler-Bernoulli beams using Eringen's two-phase local/nonlocal model, AIP Advances, 6 (2016), p. 085114
X. Zhu, Y. Wang, H.H. Dai Buckling analysis of Euler-Bernoulli beams using Eringen's two-phase nonlocal model, International Journal of Engineering Science, 116 (2017), pp. 130-140
H. Dai, X. Wang, M. Schnoor, and S. N. Atluri, "Analysis of internal resonance in a two-degree-of-freedom nonlinear dynamical system," Communications in Nonlinear Science and Numerical Simulation, vol. 49, pp. 176–191, 2017.
Jiang, H., Liang, L., Ma, L., Guo, J., Dai, H. and Wang, X. [2017] " An analytical solution of three-dimensional steady thermodynamic analysis for a piezoelectric laminated plate using refined plate theory," Composite Structures 162, 194–209.
F. He, H. Dai, Z. Huang and L. Wang, Nonlinear dynamics of a fluid-conveying pipe under the combined action of cross-flow and top-end excitations, Appl. Ocean Res. 62 (2017) 199–209.
L. Zhang, H. Dai, A. Abdelkefi and L. Wang, Improving the performance of aeroelastic energy harvesters by an interference cylinder, Appl. Phys. Lett. 111(7) (2017) 073904
D. Xie, M. Xu, H. Dai, and T. Chen, "New look at nonlinear aerodynamics in analysis of hypersonic panel flutter," Mathematical Problems in Engineering, vol. 2017, Article ID 6707092, 13 pages, 2017
Y. Yang, H.H. Dai, F. Xu, M. Potier-Ferry, Pattern transitions in a soft cylindrical shell, Phys. Rev. Lett., 120 (2018), Article 215503–1–215503–5
H. Yan, H. Dai, Q. Ni, L. Wang and Y. Wang, Nonlinear dynamics of a sliding pipe conveying fluid, J. Fluids Struct. 81 (2018) 36–57.
Jiong Wang, David Steigmann, Fan-Fan Wang and Hui-Hui Dai, "On a consistent finite-strain plate theory of growth", Journal of the Mechanics and Physics of Solids, Vol. 111, pp 184-214, February 2018
Dai, H., Jing, X., Wang, Y., Yue, X., Yuan, J.: Post-capture vibration suppression of spacecraft via a bio-inspired isolation system. Mech. Syst. Signal Process. 105, 214–240 (2018)
Y. Wang, L. Wang, Q. Ni, H. Dai, H. Yan and Y. Luo, Non-planar responses of cantilevered pipes conveying fluid with intermediate motion constraints, Nonli. Dyn. 93 (2018) 505–524.
F. He, H. Dai and L. Wang, Vortex-induced vibrations of a pipe subjected to unsynchronized support motions, J. Mar. Sci. Technol. 23(4) (2018) 978–990.
Yuanyou Li, Hui-Hui Dai and Jiong Wang, "On a consistent finite-strain shell theory for incompressible hyperelastic materials", Mathematics and Mechanics of Solids, vol. 24, 5: pp. 1320-1339. , First Published July 25, 2018.
Erick Pruchnicki and Hui-Hui Dai, "New refined models for curved beams in both linear and nonlinear settings", Mathematics and Mechanics of Solids, vol. 24, 7: pp. 2295-2319. , First Published February 8, 2019.

Zilong Song, Jiong Wang and Hui-Hui Dai, “On a consistent dynamic finite-strain shell theory and its linearization”, Mathematics and Mechanics of Solids, vol. 24, 8: pp. 2335-2360. , First Published February 5, 2018.
W. Chen, L. Wang and H. Dai , Nonlinear free vibration of hyperelastic beams based on neo-Hookean model, Int. J. Struct. Stab. Dyn. 20(1) (2019) 2050015.
Fan-Fan Wang, David J. Steigmann, Hui-Hui Dai, “On a uniformly-valid asymptotic plate theory”, International Journal of Non-Linear Mechanics, Vol. 112, pp 117-125, June 2019
L. Zhang, H. Dai, A. Abdelkefi and L. Wang, Experimental investigation of aerodynamic energy harvester with different interference cylinder cross-sections, Energy 167 (2019) 970–981.
Jiong Wang, Qiongyu Wang, Hui-Hui Dai, Ping Du and Danxian Chen, “Shape-programming of hyperelastic plates through differential growth: An analytical approach”, Soft Matter, Vol. 15, No. 11, pp 2391-2399, 21 March 2019
Chen, W., Wang, L. and Dai, H. [2019] “ Stability and nonlinear vibration analysis of an axially loaded nanobeam based on nonlocal strain gradient theory,” International Journal of Applied Mechanics, in Press
Xiaoyi Chen, Hui-Hui Dai and Erick Pruchnicki, “On a consistent rod theory for a linearized anisotropic elastic material 1. Asymptotic reduction method”, Mathematics and Mechanics of Solids, 2020, https://doi.org/10.1177/1081286520949602
Ping Du, Hui-Hui Dai, Jiong Wang and Qiongyu Wang, “Analytical study on growth-induced bending deformations of multi-layered hyperelastic plates”, International Journal of Non-Linear Mechanics, Vol. 119, Article 103370, March 2020
Xiang Yu, Yibin Fu and Hui-Hui Dai, “A refined dynamic finite-strain shell theory for incompressible hyperelastic materials: equations and two-dimensional shell virtual work principle”, Proceedings of the Royal Society Series A, Vol. 476, No. 2237, Article ID:20200031, 1 May 2020