



**Professor Hamed Farokhi**

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<https://scholar.google.ca/citations?user=Gg5xwXEAAAAAJ&hl=en>

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Mechanical Engineering, Northumbria University  
 Department of Aeronautics, Imperial College London  
 Previously: McGill University

**Education:**

2013-2017 PhD, Mechanical Engineering, McGill University

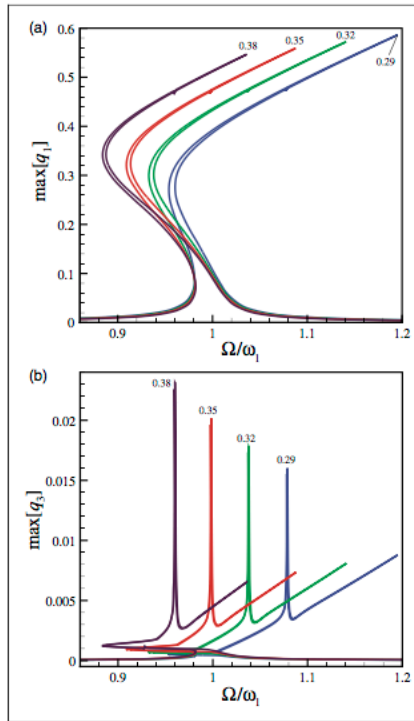
2012-2013 Master's Mechanical Engineering, McGill University

**Research Interests:**

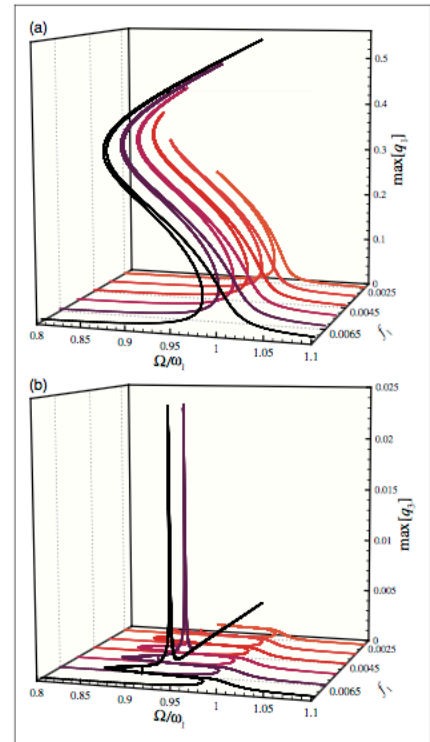
Nonlinear vibrations; Nonlinear dynamics; Composite structures; MEMS/NEMS

**Selected Publications:**

M. Ghayesh, H. Farokhi, M. Amabili, Coupled nonlinear size-dependent behaviour of microbeams, Applied Physics A, 112 (2013), pp. 329–338



**Figure 5.** The effect of the amplitude of the initial curvature ( $A_0$ ) on the frequency-response curves of the system with  $\omega_2 \approx 3\omega_1$ : (a) the maximum amplitude of the first generalized coordinate; (b) the maximum amplitude of the third generalized coordinate. The values of  $A_0$  are denoted on the curves.



**Figure 6.** The effect of the forcing amplitude ( $f_1$ ) on the frequency-response curves of the system with a three-to-one internal resonance in the form of  $\omega_2 \approx 3\omega_1$ : (a) the maximum amplitude of the first generalized coordinate; (b) the maximum amplitude of the third generalized coordinate.

From: H. Farokhi, M.H. Ghayesh, Nonlinear size-dependent dynamics of microarches with modal interactions, Journal of Vibration and Control, 22 (2016), pp. 3679–3689

H. Farokhi, M.H. Ghayesh, M. Amabili, Nonlinear dynamics of a geometrically imperfect microbeam based on the modified couple stress theory, *International Journal of Engineering Science*, 68 (2013), pp. 11–23

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M.H. Ghayesh, H. Farokhi, M. Amabili, Nonlinear behaviour of electrically actuated MEMS resonators, *International Journal of Engineering Science*, 71 (2013), pp. 137–155

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M.H. Ghayesh, H. Farokhi, Nonlinear dynamics of microplates, *International Journal of Engineering Science*, 86 (2015), pp. 60–73

A. Gholipour, H. Farokhi, M.H. Ghayesh, In-plane and out-of-plane nonlinear size-dependent dynamics of microplates, *Nonlinear Dynamics*, 79 (2015), pp. 1771–1785

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H. Farokhi, M.H. Ghayesh, Nonlinear size-dependent dynamics of microarches with modal interactions, *Journal of Vibration and Control*, 22 (2016), pp. 3679–3689

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Mergen H. Ghayesh and Hamed Farokhi, "Global dynamics of imperfect axially forced microbeams", *International Journal of Engineering Science*, Vol. 115, pp 102-116, June 2017

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Mergen H. Ghayesh and Hamed Farokhi, "Nonlinear mechanics of doubly curved shallow microshells", *International Journal of Engineering Science*, Vol. 119, pp 288-304, October 2017

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Ali Farajpour, Hamed Farokhi, Mergen H. Ghayesh and Shahid Hussain, "Nonlinear mechanics of nanotubes conveying fluid", *International Journal of Engineering Science*, Vol. 133, pp 132-143, December 2018