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Research Summary:

My research interests include fabrications and measurements of MEMS/NEMS devices built from novel low dimensional materials, such as graphene. The flexibilities of robust signal transduction schemes enable efficient characterizations for different applications of those systems, and also provide toolkits to investigate fundamental physics arising at the intersection of various domains.

Selected Recent Publications:

Changyao Chen, Sunwoo Lee, *et al.*, “Graphene mechanical oscillators with tunable frequency”, *Nature Nanotechnology*, **8**, 923–927 (2013)

Changyao Chen, James Hone, “Graphene Nanoelectromechanical Systems”, *Proceedings of the IEEE*, **101**, No. 7, July 2013

Sunwoo Lee, **Changyao Chen**, Vikram V. Deshpande, *et al.*, “SU-8 clamped CVD graphene drum resonators”, *Applied Physics Letters*, **102**, 153101 (2013), (Cover)

Yuehang Xu, **Changyao Chen**, *et al.*, “Radio frequency electrical transduction of graphene mechanical resonators”, *Applied Physics Letters*, **97**, 243111 (2010)

Changyao Chen, Sami Rosenblatt, *et al.*, “Performance of monolayer graphene nanomechanical resonators with electrical readout”, *Nature Nanotechnology*, **4**, 861 - 867 (2009)

Mingyuan Huang, Hugen Yan, **Changyao Chen**, Daohua Song, Tony F. Heinz, James Hone, “Phonon softening and crystallographic orientation of strained graphene studied by Raman spectroscopy”, *Proceedings of the National Academy of Sciences*, **106** 7304-7308 (2009)