Dr. C.Q. Ru (CQ Ru)

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Brief CV : Dr. Ru is currently a professor in the department of mechanical engineering, University of Alberta, Canada. Dr. Ru received his doctorate in solid mechanics at Peking university of China. After then he briefly worked in the Institute of Mechanics, Chinese Academy of Science, then Dr. Ru held a number of research positions as a visiting scholar, postdoctoral fellow or research associate in several universities in Italy, USA and Canada. He joined the University of Alberta in 1997 as an assistant professor and became a Professor in 2004.

Dr. Ru's past research areas include dynamic buckling of plastic structures, mechanics of composite materials, electroelastic mechanics, carbon nanotubes, and some applied mathematics problems related to solid mechanics.

His current research interests cover various subjects of particle-laden fluids, including stability of particulate flow, rotational/oscillatory particulate flow and flow with porous walls, and traditional solid mechanics, including mechanics of soft matter and metacomposite materials.

Recent publications (2024-April 2025)

[1] Ru CQ (2025) On Kelvin-Helmholtz instability of particulate two-fluid flow. Acta Mechanica Sinica (41), 324143.

[2] Ru CQ (2025) A modified Orr-Sommerfeld equation for axisymmetric stability of particulate pipe flow. J. Engng. Math.(150), article 18.

[3] Ru, CQ (2025) Particulate flow of a viscous fluid driven by a torsionally oscillating disk. J. Fluid Engng. (ASME), 041302.

[4] Ru CQ (2024) Rotational flow field of a particle-laden fluid on a co-rotating disk. Phys. Fluids (36), 113356.

[5] Samadi-Aghdam, K; Ru, CQ & Schiavone, P (2025) Reflection of plane waves from the free surface of a hard sphere-filled elastic metacomposite. Math. & Mech. Solids 30 (4), pp 908-926.

[6] Ru CQ (2024) On particle-modified velocity fields of particulate Taylor-Couette flow. Phys. Fluids (36), 093340.

[7] Ru CQ (2024) Stability of plane parallel flow revisited for particle-fluid suspensions. J. Appl, Mech. (ASME) 91 (11), 111005.

[8] Ru CQ (2024) Stokes second flow problem revisited for particle-fluid suspensions. J. Appl. Mech. (ASME) 91, 041010.

[9] Ru CQ (2024) A direct method for acoustic waves in hard particle-fluid suspensions. Acta. Mech.235 (2), pp 1051-65.

[10] Ru CQ (2024) A Direct Method for Acoustic Waves in Unidirectional Fiber-Filled Viscous Fluids. J. Vibration Engng. & Tech. 12(3), pp 4483-93.