



## **Analysis and PDE Seminar**

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TITLE: Relaxation limits of compressible one-velocity bifluid systems

 $\begin{array}{rcl} Date: & {\rm May}\; 23 {\rm rd}, \; 2025 \; ({\rm Friday}) & & \\ Time: & 10 {\rm am-11am} \; ({\rm Hong}\; {\rm Kong}\; {\rm time}) & & \\ & 11 {\rm am-12noon} \; ({\rm Korea}\; {\rm time}) & & \\ Link\; to\; ZOOM: \; {\rm https://cuhk.zoom.us/j/99008163597} & \\ & {\rm Meeting}\; {\rm ID}: & 990\; 0816\; 3597 & \\ & {\rm Password}: & \; 219834 & \end{array}$ 

**Abstract.** Considering a one-velocity Baer–Nunziato system with friction forces, I will first justify its pressure-relaxation limit toward a Kapila model in a uniform manner with respect to the time-relaxation parameter associated with the friction forces. Then, I will show that the diffusely rescaled solutions of the damped Kapila system converge to the solutions of the new two-phase porous media system as the time-relaxation parameter tends to zero. For each relaxation limit, rates of convergence will be exhibited.



This is a joint activity organized by Department of Mathematics, The Chinese University of Hong Kong, Hong Kong; Department of Mathematics, Institute of Mathematical Research, Research Division of Mathematical and Statistical Science, The University of Hong Kong, Hong Kong; and Department of Mathematical Sciences, Ulsan National Institute of Science and Technology, Korea. More details can be found in https://hkumath.hku.hk/~imr/event/CUHK\_HKU\_UNIST\_Analysis\_and\_PDE/index.php.

