11th i-CoMSE Workshop:
Mesoscale Particle-Based Modeling
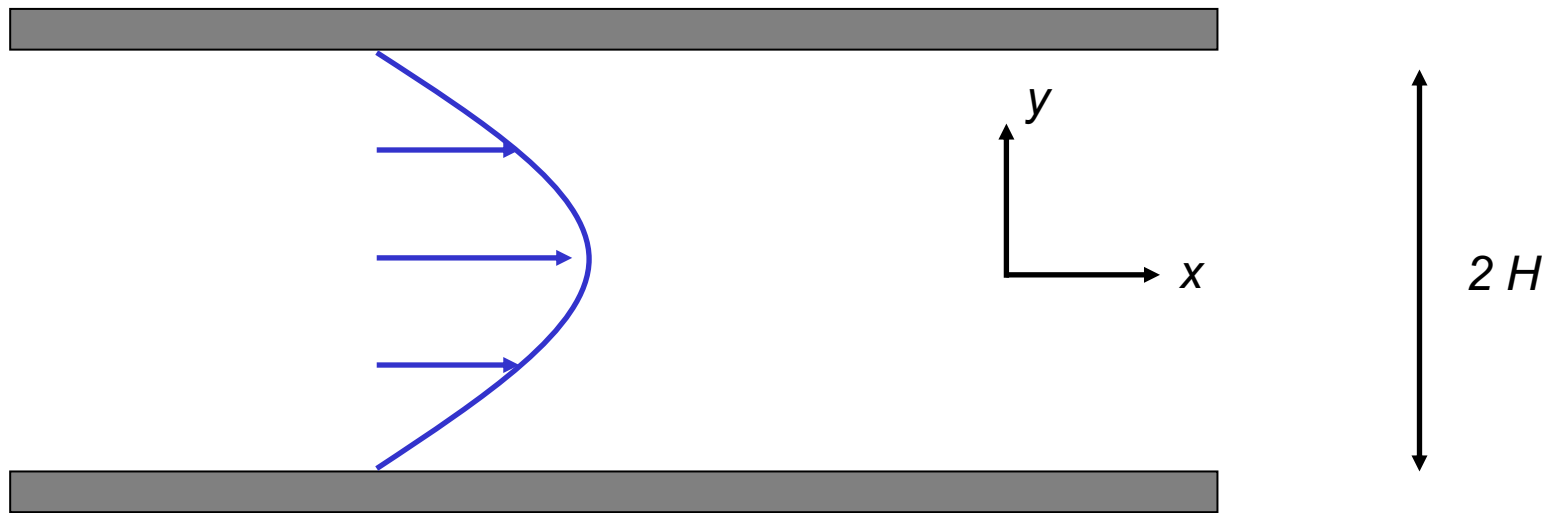
Mississippi State University
July 21–25, 2025

Multiparticle collision dynamics II

Session 14: Coupling to boundaries II (pressure-driven flow)

Exercise: Poiseuille flow

- Pressure-driven flow can be simulated by applying a constant body force on the particles.

$$u_x(y) = \frac{\rho f_x H^2}{2\mu} \left[1 - \left(\frac{y}{H} \right)^2 \right]$$