Postdoc Opening in Fluid Mechanics at Nanjing University, Suzhou

School of Advanced Manufacturing Engineering
Nanjing University, Suzhou 215163, China

Topic: Computational studies of active fluids using Fast Stokesian Dynamics
Appointment: 2-3 years, with a possibility to extend for another 2-3 years
Salary: 240,000 to 420,000 CNY per annum (including benefits)
PI: Zhouyang Ge (https://gezhouyang.github.io/)

Motivation

Active fluids are complex fluids whose constituent particles can directly supply and dissipate energy. Because of this internal energy flux, active fluids can display a multitude of interesting phenomena ranging from enhanced diffusion to active turbulence and even "superfluidic" rheologies. Despite the tremendous progress in the field of active fluids, or active matter, over the last few decades, to date, there have been relatively few studies that have carefully incorporated *hydrodynamic interactions* among the active particles, thus limiting our physical understanding and potential applications of the subject. This is where we want to contribute. Using the recently developed *Active Fast Stokeisan Dynamics* framework [1-2], we aim to perform rigorous, large-scale hydrodynamic simulations of active suspensions to elucidate their dynamical and rheological behaviours in realistic and flowing conditions [3-4].

Job description

We seek a highly motivated postdoc with a computational background to join us at Nanjing University, Suzhou. The candidate is expected to have a PhD degree in a related area (fluid mechanics, engineering physics, applied mathematics, mechanical engineering, chemical engineering, etc) by the time the position starts. Programming skills are necessary, preferably in C++/CUDA. Prior research experience in active matter simulations is advantageous but not required.

The duty of the job includes mainly research, code development, dissemination, and minor management.

The initial appointment is for 2-3 years, which may be extended for another 2-3 years if there are mutual interest and available funding. The annual base pay is 240,000 CNY (including benefits); see the HR document (in Chinese) for the official policy. Exceptional candidates (under age 35) are encouraged to apply for the Yuxiu Young Scholar program, which offers an annual salary up to 420,000 CNY for three years; see this link (in Chinese) for details.

We strive to create a free and inclusive atmosphere in a dynamic work environment. The university is located on the shores of Lake Tai (the third largest freshwater lake in China), and Suzhou is a safe and family-friendly city (adjacent to Shanghai) with rich cultural heritage, modern skylines, and plenty of options for outdoor activities.

How to apply

Please send an up-to-date CV and one representative paper to Dr. Zhouyang Ge (zhoge@nju.edu.cn), and briefly explain the motivation to join us. Applications received before 2026-02-23 will receive full consideration. Informal inquiries are welcome.

References

1. Fiore & Swan. J. Fluid Mech. **878**, 544-597 (2019).
2. Elfring & Brady. J. Fluid Mech. **952**, A19 (2022).
3. Ge & Elfring. J. Fluid Mech. **1003**, A17 (2025).
4. Ge, Brady & Elfring. Phys. Rev. Lett. **135**, 238302 (2025).