

CONTACT INFORMATION

Division of Applied Mathematics, Brown University

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Citizenship : Republic of Korea

EDUCATION

Sc.M. Division of Applied Mathematics Brown Univ. May 2007

Sc.M. Department of Mechanical Engineering Yonsei Univ. Feb. 2005

Sc.B. Department of Civil Engineering Yonsei Univ. Feb. 1999

EXPERIENCES

- *Research Assistant*

Sep. 2005-present Division of Applied Mathematics Brown Univ.

Sep. 2002-June. 2005 Department of Mechanical Engineering Yonsei Univ.

Computational Turbulence Laboratory

July 2001-Aug. 2002 Department of Civil Engineering Yonsei Univ.

Environmental Hydrodynamics Group

- *Teaching Assistant*

Sep. 2008-present Division of Applied Mathematics Brown Univ.

Course: Method of Applied Mathematics

Sep. 2007- May 2008 Division of Applied Mathematics Brown Univ.

Course: Introduction to Computing Sciences

- *Other*

Mar. 1999-June. 2001 *Lieutenant* Corps. of Field Engineers Korea Army

HONORS AND AWARDS

- Outstanding M.S. Thesis in Fluid Engineering,
Korean Society of Mechanical Engineering, May 2005.

RESEARCH INTERESTS

- High Performance Computing
- Numerical Analysis
- Computational Fluid Dynamics
- Low Reynolds number hydrodynamics
- Physics of turbulent flows

SKILLS

- MATLAB, C++ and FORTRAN programming
- Parallel programming: MPI, OpenMP

PUBLICATIONS**JOURNALS**

1. **K. Yeo** & M.R. Maxey, “Dynamics of concentrated suspensions of non-colloidal particles in Couette flow” *Journal of Fluid Mechanics*, to appear
2. **K. Yeo**, S. Dong, E. Climent & M.R. Maxey “Modulation of homogeneous turbulence seeded with finite size bubbles or particles” *International Journal of Multiphase flow*, to appear
3. **K. Yeo**, B.-G. Kim & C. Lee, “Eulerian and Lagrangian statistics in stably stratified turbulent channel flows,” *Journal of Turbulence*, **10**, art. no. 17 (2009)
4. J. Jeong, **K. Yeo** & C. Lee, “Behavior of heavy particles in isotropic turbulence,” *Physical Review E*, **77**, art. no. 016307 (2008)
5. E. Climent, **K. Yeo**, M.R. Maxey & G.E. Karniadakis “Dynamic self-assembly of spinning particles,” *Journal of Fluid Engineering*, **129**, 379 (2007).
6. A.M. Reynolds, **K. Yeo** & C. Lee, “Anisotropy of acceleration in turbulent flows,” *Physical Review E*, **70**, art. no. 017302 (2004).
7. C. Lee, **K. Yeo** & J.-I. Choi, “Intermittent nature of acceleration in near wall turbulence,” *Physical Review Letters*, **92**, art. no. 144502 (2004).
8. J.-I. Choi, **K. Yeo** & C. Lee, “Lagrangian statistics in turbulent channel flow,” *Physics of Fluids*, **16**, 779 (2004).
9. S.-U. Choi, H. Kang & **K. Yeo**, “Flow and sediment transport in emerging vegetated zone,” *Ecology and Civil Engineering*, **6**, 87 (2003).

In preparation

1. **K. Yeo** & M.R. Maxey, “Simulation of concentrated suspensions using the force-coupling method.” *submitted to Journal of Computational Physics*
2. **K. Yeo** & M.R. Maxey, “Disorder-order transitions of non-colloidal particles in confinement by steady shear” *to be submitted*
3. **K. Yeo** & M.R. Maxey, “Nonlinear rheological response of the sheared non-Brownian suspensions to external torques” *to be submitted*

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4. **K. Yeo** & M.R. Maxey, “Anomalous diffusion in wall-bounded suspensions of non-Brownian particles under steady shear” *to be submitted*

CONFERENCES

1. **K. Yeo** & M.R. Maxey, “Order transition in non-colloidal Couette suspension flows: effects of external torques,” APS DFD 62nd Annual Meeting, MN, U.S., 2009
2. **K. Yeo** & M.R. Maxey, “Numerical simulation of concentrated suspensions of non-colloidal particles in Couette flow,” Society of Rheology 81st Annual Meeting, WI, U.S., 2009
3. **K. Yeo** & M.R. Maxey, “Dynamic self-assembly of non-colloidal particles in Couette flow,” Society of Rheology 81st Annual Meeting, WI, U.S., 2009
4. L.-P. Wang, H. Gao, L.-S. Luo, Y. Peng, **K. Yeo** & M.R. Maxey, “Comparing particle-resolved simulation methods for moving particles in a viscous fluid,” APS DFD 61st Annual Meeting, TX, U.S., 2008
5. J. Lim, **K. Yeo** & C. Lee, “On the modification of near-wall structures in stably stratified turbulence,” APS DFD 58th Annual Meeting, IL, U.S., 2005
6. J. Jeong, **K. Yeo** & C. Lee, “Dispersion of heavy particles in isotropic turbulence,” APS DFD 58th Annual Meeting, IL, U.S., 2005
7. C. Lee, J. Jeong & **K. Yeo**, “Acceleration, enstrophy and dissipation in isotropic turbulence,” APS DFD 58th Annual Meeting, IL, U.S., 2005
8. **K. Yeo** & C. Lee, “On the modification of near-wall structures in stably stratified turbulence,” APS DFD 57th Annual Meeting, WA, U.S., 2004.
9. **K. Yeo** & C. Lee, “Modification of near-wall turbulent characteristics under stable stratification,” The 6th KSME-JSME Thermal and Fluid Engineering Conference, Jeju, Korea, 2004.
10. **K. Yeo** & C. Lee, “On the acceleration in inhomogeneous turbulence,” APS DFD 56th Annual Meeting, NJ, U.S., 2003.
11. A.M. Reynolds, **K. Yeo** & C. Lee, “On the anisotropy of Lagrangian accelerations in turbulence,” APS DFD 56th Annual Meeting, NJ, U.S., 2003.
12. **K. Yeo** & C. Lee, “Acceleration statistics in turbulent channel flow,” 5th Asian Computational Fluid Dynamics, Busan, Korea, 2003.

REFERENCES

- Professor Martin R. Maxey, Adviser (Ph.D.), Division of Applied Mathematics, Brown University, Providence, RI 02912, U.S., +1-401-863-1482, maxey@cfm.brown.edu
- Professor George E. Karniadakis, Division of Applied Mathematics, Brown University, Providence, RI 02912, U.S., +1-401-863-1217, gk@cfm.brown.edu
- Professor Changhoon Lee, Adviser (M.S.), Department of Mechanical Engineering, Yonsei University 134, Shinchon-dong, Sodaemoon-gu, Seoul, KOREA, +82-2-2123-2846, clee@yonsei.ac.kr