Jaekwang Kim – Curriculum Vitae

Address	353 Paddock Drive West Savoy, IL 61874, US	**Mobile Phone**	+1 (217) 418 9813
Date of Birth	9^{th} February 1990	**Email**	jk12@illinois.edu
Nationality	Republic of Korea		

Education

2018-Now Candidate Ph.D. in Theoretical and Applied Mechanics, University of Illinois at Urbana-Champaign

Instability and Transition — Dynamics of Complex Liquid
Soldi Mechanics I

2016-2018 M.S. in Theoretical and Applied Mechanics, University of Illinois at Urbana-Champaign

Research advisor: Dr. Jonathan B. Freund and Dr. Randy H. Ewoldt
Cumulative GPA : 3.8/4.0
Computational Mechanics — Uncertainty Quantification
Inviscid Flow — Viscous Flow
Mathematics Methods I — Mathematics Methods II
Non-Newtonian Fluid Mechanics and Rheology

2009-2015 B.S. in Naval Architecture and Ocean Engineering, Seoul National University

Cumulative GPA : 3.98/4.30
Ranked No. 1 from the top among 36 students in his department.
Graduated with honors (Summa cum laude)

Conferences

Jaekwang Kim, Piyush K. Singh, Jonathan B. Freund, Randy H. Ewoldt, " Uncertainty quantification in computations of a sedimenting sphere in Carbopol". *Poster, Society of Rheology*, (2017).

Jonathan B. Freund, Jaekwang Kim, Randy H. Ewoldt, " Field-sensitivity To Rheological Parameters" *APS Division of Fluid Dynamics*, (2017).

Publications

Jonathan B. Freund, Jaekwang Kim, Randy H. Ewoldt, " Field-sensitivity of flow predictions to rheological parameters," *Journal of Non-Newtonian Fluid Mechanics*, (2018).

Jaekwang Kim, Piyush K. Singh, Jonathan B. Freund, Randy H. Ewoldt, "Uncertainty Quantification in computations of Generalized Newtonian Fluid" *Submitted*.

Research Experience

2019 **Research Assistant**
Admal Research Group

- I don't know

2016 -2018 **Research Assistant**
Freund Research Group / Ewoldt Research Group

- Developed a non-Newtonian fluid flow simulation code using finite-element method
- Developed particle tracking tools using MATLAB image analysis packages
- Analyzed model parametric error in predictions for GNF fluid models

2015-2016 **Undergraduate Research Intern**
Seoul National University, Marine Propeller Laboratory

- Shadow-graphic image analysis for ventilated super-cavities
- Experimental study on morphological behaviors of ventilated super-cavities
- Experimental study of a hydrofoil-assisted amphibious vehicles

Teaching Assistantship

SP 2019 **ME 310 - Fundamentals of Fluid Dynamics**

- Led Laboratory sessions, graded homeworks

SM 2019 **TAM 251 - Introductory Solid Mechanics**

- Quiz Question development

Leadership Experience

2010-2011 **Military Service**
Korea Army Training Center

- Trained new recruits of South Korea army

Award

2012-2015 **National Science & Technology Scholarship**
Ministry of Science and Technology, Korea

2013 **Excellence Award in Writing in Science & Technology**
Dean of College of Engineering, Seoul National University, Korea

2013 **Excellence Award in Student Ship Design Competition**
Society of Naval Architects, Korea

2015 **Graduation with Honors (Summa Cum Laude)**
President of Seoul National University, Korea

Software Engineering Skills

- **Programming Languages**

  Git, *C++*, *Python*, *MATLAB*

- **Visualization**

  Paraview, Tecplot

- **Documentation**

  LaTeX, Beamer, Microsoft Office

- **Mathematical Skills**

  Finite element analysis for fluid flows (non-Newtonian Stokes flow)
  Bayesian Analysis and Uncertainty Quantification

- **Others**

  Bash and Unix system
  Computing using clusters
  Image Analysis

Activities

2017-2018 **Engineering Open House**
Rheology Zoo

- Exhibit and present on Life around non-Newtonian fluids to public

Spring 2014 **Exchange Student**
Chemical Engineering Department, Monash University, Ausralia