

SANGJOON LEE

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<https://sangjoonlee.tk/>

RESEARCH INTERESTS

Fluid mechanics (emphasis in CFD), computational analysis, energy and environment

- Modeling, computing and interpreting motion of turbulent flows and concurrent scalar transports in both effective and efficient manner
- Investigating environmental flow problems involving clean energy (i.e. wind turbine) and public health (i.e. micro-particle dissemination) applications

EDUCATION

University of California, Berkeley – Berkeley, California, USA
Ph.D. Student, Mechanical Engineering (Advisor: Dr. Philip S. Marcus)

Aug. 2019 -

Seoul National University – Gwanak, Seoul, South Korea
B.Sc., Mechanical & Aerospace Engineering
B.B.A., Business Administration (DUAL MAJOR)

Mar. 2012 - Aug. 2018
(included 21-month military duty)

- Representative of SNU Engineering Class of 2018 (*Summa cum laude*)

Seoul Science High School – Jongno, Seoul, South Korea
High School Diploma for Gifted Students

Mar. 2009 - Feb. 2012

RECENT PUBLICATIONS

1. LEE, S., & HWANG, W. (2019). **Development of an Efficient Immersed-Boundary Method with Subgrid-Scale Models for Conjugate Heat Transfer Analysis using Large Eddy Simulation.** *International Journal of Heat and Mass Transfer*, 134, 198-208. [doi:10.1016/j.ijheatmasstransfer.2019.01.019](https://doi.org/10.1016/j.ijheatmasstransfer.2019.01.019).
2. BAEK, S., LEE, S., HWANG, W., & PARK, J. S. (2018). **Experimental and Numerical Investigation of the Flow in a Trailing Edge Ribbed Internal Cooling Passage.** *Journal of Turbomachinery*, 141 (1), 011012. [doi:10.1115/1.4041868](https://doi.org/10.1115/1.4041868).

RESEARCH EXPERIENCE

Researcher (*Supervisor: Dr. Wontae Hwang*)

Jul. 2017 - Aug. 2018

Energy & Environmental Flow Lab, Seoul National University

- Development of conjugate heat transfer codes with an efficient interpolation scheme
- Flow visualization using magnetic resonance velocimetry and large eddy simulation

Research Intern (*Supervisor: Dr. Haecheon Choi*)

Sep. 2016 - Dec. 2017

Turbulence, Flow Control & CFD Lab, Seoul National University

- Large eddy simulation of flow around a rotating small vertical axis wind turbine
- Source code study on CFD based on an immersed boundary method as a part of undergraduate thesis program

TEACHING EXPERIENCE

Graduate Student Instructor, University of California, Berkeley
Experimentation and Measurements (MEC ENG 103)

Aug. 2019 - May 2020

- Taught experimental techniques for mechanical engineering, run lab sessions, graded assignments and reports, had office hours and answered questions in person and online

Teaching Assistant, Seoul National University

Mar. 2013 - Dec. 2013

Basic Calculus 1, 2 & Basic Physics 1 (007.098A, 102 & 099A)

- Tutored freshmen who have difficulty in studying university-level calculus and physics

HONORS & AWARDS

Overseas Ph.D. Scholarship, Study Abroad Doctoral Program
Ilju Academy & Culture Foundation

Aug. 2019 - Jul. 2023

- Merit-based financial aids of \$120,000 for promising Ph.D. students studying out of Korea

National Scholarship for Science and Engineering

Mar. 2012 - Dec. 2017

Korea Student Aid Foundation (KOSAF)

- Full-tuition scholarship for undergraduates with strong academic performance