SANGJOON LEE

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https://sangjoonlee.tk/

RESEARCH INTERESTS

Fluid mechanics (CFD & experiment), heat transfer, energy and environment

- Analyzing motion of flows and concurrent scalar transports to comprehend underlying mechanisms
- Improving energy conversion processes from renewable energy sources with consideration of health and environmental issues such as fine dust pollution

EDUCATION

University of California, Berkeley – Berkeley, California, USA — Aug. 2019 -
Ph.D. Student, Mechanical Engineering (Advisor: Dr. Philip S. Marcus)

Seoul National University – Gwanak, Seoul, South Korea — Mar. 2012 - Aug. 2018
(included 21-month military duty)
B.Sc., Mechanical & Aerospace Engineering
B.B.A., Business Administration (DUAL MAJOR)

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

Seoul Science High School – Jongno, Seoul, South Korea — Mar. 2009 - Feb. 2012
High School Diploma for Gifted Students

KEY 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.
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.

RESEARCH EXPERIENCE

Researcher *(Supervisor: Dr. Wontae Hwang)* — Jul. 2017 - Aug. 2018
Energy & Environmental Flow Lab, Seoul National University

- Development of conjugate heat transfer codes combining heat conduction and convection
- Flow visualization using magnetic resonance velocimetry and large eddy simulation

Research Intern for Thesis *(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

TEACHING EXPERIENCE

Graduate Student Instructor, University of California, Berkeley — Aug. 2019 - May 2020
Experimentation and Measurements (ME 103)

- 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, — Aug. 2019 - Jul. 2023
Ilju Academy & Culture Foundation

National Scholarship for Science and Engineering, — Mar. 2012 - Dec. 2017
Korea Student Aid Foundation (KOSAF)