

# SANGJOON LEE

sangjoonlee@berkeley.edu

<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. wildfire & 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*

Mar. 2012 - Aug. 2018  
*\* 2-year leave of absence for military service*

- Representative of the 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

## MAJOR 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 -

- 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