

# SANGJOON LEE

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<https://sangjoonlee.tk/>

## RESEARCH INTERESTS

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

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

## EDUCATION

**University of California – Berkeley**, Berkeley, CA, USA  
*Ph.D. Student, Mechanical Engineering*

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

## 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](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

Energy & Environmental Flow Lab, Seoul National University  
**Researcher** (*Supervisor: Dr. Wontae Hwang*)

Jul. 2017 - Aug. 2018

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

Turbulence, Flow Control & CFD Lab, Seoul National University  
**Research Intern for Thesis** (*Supervisor: Dr. Haecheon Choi*)

Sep. 2016 - Dec. 2017

- Simulation of flow around rotating small vertical axis wind turbine
- Source code study on CFD based on immersed boundary method

## TEACHING EXPERIENCE

Basic Calculus 1, 2 & Basic Physics 1, Seoul National University  
**Teaching Assistant**

Mar. 2013 - Dec. 2013

- Planned lessons for 2 hours every week and made original teaching materials
- Instructed freshmen to help them keep up with university mathematics or physics courses

## AFFILIATIONS

SNU Tomorrow's Engineers Membership, Seoul National University  
**Excellent Honorary Member**

Mar. 2016 -

- Collegiate honor society of superior engineering students, 20 - 25 members in each year
- Served as the 7th vice president & head manager during Sep. 2016 - Aug. 2017

## HONORS & AWARDS

Ilju Academy & Culture Foundation,  
**Overseas Ph.D. Scholarship**

Aug. 2019 - May 2023

Korea Student Aid Foundation (KOSAF),  
**National Scholarship for Science and Engineering**

Mar. 2012 - Dec. 2017