Seungju Seo

612 Oiwake International Lodge 1-12-8 Mukogaoka Bunkyo-ku Tokyo 113-0023
Phone: +81 80 9290 7111 E-mail : seungju1991@gmail.com
LinkedIn : https://www.linkedin.com/in/seungju-seo-b34a67129
Google Scholar : https://scholar.google.co.jp/citations?user=5EtTp6wAAAAJ&hl=en

EDUCATION

The University of Tokyo - Tokyo, Japan **March 2021 (expected)**
Ph.D. Department of Mechanical Engineering(major) & Technology Management for Innovation(minor)
- Thesis: Application of low dimensional materials on photovoltaics

Masters. Department of Mechanical Engineering with Highest Honors **March 2018**
- Thesis: Application of nano-carbon materials on perovskite solar cells

Massachusetts Institute of Technology - Cambridge, USA
Visiting Student Jeehwan Kim Research group (http://jeehwanlab.mit.edu) **January 2019 - June 2019**
- Project: Optoelectronic devices based on low-dimension materials

Visiting Student Mechanosynthesis group (http://mechanosynthesis.mit.edu) **January 2017 - February 2017**
- Project : Surface Engineering of Carbon Nanotube Forests via Ar / O_2 plasma

Waseda University - Tokyo, Japan **March 2016**
BA Department of Applied Mechanics and Aerospace Engineering
- Thesis : Three-dimensional numerical analysis of indoor air flow in air-conditioning system.

WORK EXPERIENCE

Apple – Yokohama, Japan **January 2020 – Present**
Panel Process and Optics Engineer Internship
- Supported process development for new optical device concepts and advanced technology for panel processing and process flow optimization.
- Integrated new processes to enable next generation technology working with upstream and downstream teams in Cupertino and Tokyo.

Bloomberg New Energy Finance – Tokyo, Japan **October 2019 – December 2019**
Emerging PV Technology Research Analyst Internship
- Conducted research on topics such as project finance on renewable energy and fossil power plants.
- Assisted with quantitative analysis, market sizing, policy/ regulatory research and forecasting, and making reasonable estimates where data is poor and/or confusing.
- Read and conduct basic analysis and evaluation of projects, companies and technologies.

GCI Asset Management – Tokyo, Japan **September 2019 – Present**
Research & Development Internship
- Conducted research on modern portfolio theory based on historical data including fixed incomes and equities using Python
- Assisted in performing portfolio valuations and return analyses with senior managers.

Republic of Korea Army – Daegu, South Korea **April 2012 – January 2014**
Private - Sergeant
- Led an infantry team of 10 members in combat operations providing tactical guidance.

ACHIEVEMENTS

- Scholarship : Tokyu Foundation / Fuji-seal Foundation / Monbukagakusho Honors (2011.4 ~ 2018.3)
- University of Tokyo, School of Engineering, Dean's award (2018.3)
- Japan Society of Mechanical Engineers (JSME) Miura award (2018.3)
- Japan Society for the Promotion of Science Research Fellowship (2018.4 ~ 2021.3)
- Research featured in The Nikkei newspaper (2018.2.26 P.9 morning paper), UTokyo webpage (http://www.t.u-tokyo.ac.jp/foe/press/setnws_20171218113937120559287 4.html).
- Uenohara Encouragement Award (2019.6)
- Best Poster Award at 10th A3 Symposium on Emerging Materials (2019.10)

PUBLICATIONS

- C. Delacou, I. Jeon, **S. Seo** et al., 「Indium tin oxide-free small molecule organic solar cells using single-walled carbon nanotube electrodes」, *ECS J. Solid State Sci. Technol.*, 6(6), M3181-M3184 (2017.5)
- I. Jeon[1st], **S. Seo**[1st] et al., 「Perovskite Solar Cells using Carbon Nanotubes both as Cathode and Anode」, *J. Phys. Chem. C*, 121(46), 25743-25749 (2017.10)
- I. Jeon, R. Sakai, **S. Seo** et al., 「Engineering high-performance and air-stable PBTZT-stat-BDTT-8: PC 61 BM/PC 71 BM organic solar cells」, *J. Mater. Chem. A*, 6, 5746-5751, (2018.2)
- I. Jeon, H. Ueno, **S. Seo** et al., 「Lithium-Ion Endohedral Fullerene (Li+@C60) Dopant in Stable Perovskite Solar

Cells Inducing Anti-Oxidation」, *Angew. Chem. Int. Ed*., 57(17), 4607-4611 (2018.2) Selected as VIP Paper

- H. Lin, I. Jeon, R. Xiang, **S. Seo** et al., 「Achieving High Efficiency in Solution-Processed Perovskite Solar Cells Using C_{60}/C_{70} Mixed Fullerenes」, *ACS Appl. Mater. Interfaces*, 10(46), 39590-39598, (2018.9)
- J. Lee, I. Jeon, H. Lin, **S. Seo** et al., 「Vapor-Assisted Ex-Situ Doping of Carbon Nanotube toward Efficient and Stable Perovskite Solar Cells」, *Nano Lett.,* 19(4), 2223-2230 (2018.12)
- A. Thote, I. Jeon, J. Lee, **S. Seo** et al., 「Stable and Reproducible 2D/3D Formamidinium-Lead-Iodide Perovskite Solar Cells」, *ACS Appl. Energy Mater.* 2(4), 2486-2493 (2019.3)
- **S. Seo**[1st] et al., 「Semiconducting carbon nanotubes as crystal growth templates and grain bridges in perovskite solar cells」, *J. Mater. Chem. A*, 7, 12987-12992, (2019.5)
- I. Jeon, A. Shawky, H. Lin, **S. Seo** et al., 「Controlled Redox of Lithium-ion Endohedral Fullerene for Efficient and Stable Metal Electrode-Free Perovskite Solar Cells」, *J. Am. Chem. Soc.*, 16553-16558 (2019.9)
- Y. Qian, I. Jeon, Y. Ho, C. Lee, S. Jeong, C. Delacou, **S. Seo** et al., 「Multifuntional effect of p-Doping, Antireflection, and Encapsulation by Polymeric Acid for High Efficiency and Stable Carbon Nanotube-Based Silicon Solar Cells」, *Adv. Energy Mater*., 1902389 (2020.1)
- H. S. Kum, H. Lee, S. Kim, S. Lindemann, **S. Seo** et al., 「Heterogeneous integration of single-crystalline complex-oxide membranes」, *Nature,* 578(7793), 75-81 (2020.1)

ADDITIONAL SKILLS & QUALIFICATIONS

Language:

- Japanese : Native / English : Fluent / Korean : Native

Programming:

- Python, MATLAB, C

Extracurricular:

- President of Korean Students Association at the University of Tokyo (2018 ~ Present)

Certification:

- Japan Securities Dealers Association (JSDA) Class 1 Sales Representative certification (ID:2017020984)
- Microsoft Office Specialist (Word, Excel, Powerpoint, Outlook)