

SEUNGMAN CHOI

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WORKING EXPERIENCE

- Alternative Military Service as Research Associate** Apr 2019 – Current
in Mechanical Engineering Research Institute
 KAIST, 291 Daehak-ro, Yuseong-gu, Daejeon 34141, Republic of Korea
 Advisors: Prof. Seung-Woo Kim, Prof. Young-Jin Kim
 Work:
 - EUV light source development via nonlinear light-matter interaction.
 - High-precision & ultrafast metrology via EUV spectroscopy and computational imaging.

EDUCATIONAL BACKGROUND

- M.S. in Mechanical Engineering** Apr 2017 – Mar 2019
 Tokyo Institute of Technology, Tokyo, JP.
 Advisor: Prof. Takasi Nisisako
 Thesis: Elastically deformable soft step emulsification for actively-tunable droplet.
- B.S. in Mechanical and Intelligent Systems Engineering** Apr 2013 – Mar 2017
 Tokyo Institute of Technology, Tokyo, JP (GPA 3.69/4.00).
magna Cum Laude in 4 years (Top 10%)
 Advisor: Prof. Shigeki Saito
 Thesis: Development of bipolar electrostatic chuck module having array of beam assembly using lithography technique.
- Preparatory Education of Joint Government Scholarship Program** Apr 2012 – Mar 2013
 Kyunghee University and Tokyo Institute of Technology, KR&JP.
 Study about Japanese, basic physics and mathematics for 6 months at each institute.

PUBLICATIONS

JOURNALS & PATENT

- [1] **(In Preparation) “Opticsless Control of Extreme Ultraviolet Beam based on High Harmonic Generation from Solids.”**
 B. Kim*, S. Choi*, Y. W. Kim, Y.-J. Kim and S.-W. Kim,
 *equally contributed to this work.
- [2] **(In Preparation) “Soft Step Emulsification for Actively-tunable Droplet.”**
S. Choi, N. Tottori, T. Nisisako
- [3] **“Compensation of Laser Propagation Effects within Solids for High Harmonic Generation of Extreme Ultraviolet Radiation.”**
 Y.W. Kim*, B. Kim*, S. Choi*, H. K. Nam, H. Kim, Y.-J. Kim and S.-W. Kim,
 *equally contributed to this work.
Optics & Laser Technology, 2022, [145: 107507](#).

- [4] **“Micro Step-emulsification Device”**
T. Nisisako, S. Choi and N. Tottori
Application num.: 2018-036016, Patent num.: [2019-150748](#), JP.
- [5] **“Development of Bipolar Electrostatic Chuck Module Having Array of Beam Assembly Using Lithography Technique”**
S. Choi, K. Wakabayashi, S. Saito
Journal of Micromechanics and Microengineering, 2018, [28.12: 125011](#).

INTERNATIONAL PROCEEDINGS

- [1] **“High Harmonic Generation from Bulk Crystals using Tailored Driving Femtosecond Laser Pulse”**
S. Choi, Y.W. Kim, B. Kim, H.K. Nam, Y.-J. Kim and S.-W. Kim
2020 International Symposium on Precision Engineering and Sustainable Manufacturing (PRESM 2020), Online Symposium, Nov. 15-18, 2020.
- [2] **“Mechanically and Directionally Tunable Soft Step Emulsification”**
S. Choi, N. Tottori and T. Nisisako
The 22nd International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS2018), Kaohsiung, TW, Nov. 11-15, 2018.
- [3] **“Development of Bipolar Electrostatic Chuck Module Having Array of Beam Assembly Using Lithography Technique”**
S. Choi, K. Wakabayashi and S. Saito
2017 Materials Research Society Fall meeting (MRS 2017), Boston, MA, USA, Nov. 26-Dec 1, 2017.
- [4] **“A Soft and Disposable Step-emulsification Device for Generating Monodisperse Emulsions and Particles”**
S. Choi, N. Tottori, R. Zhang and T. Nisisako
The 7th International Conference of Asian Society for Precision Engineering and Nanotechnology (ASPEN 2017), Seoul, Korea, Nov. 14-17, 2017.

GRANTS & AWARDS

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| [1] Best Paper Award
<i>2021 Next Generation Lithography Conference</i> , KR. | Nov 2021 |
| [2] Excellence Presentation Award
<i>Korean Scientists and Engineers Association in Japan (KSEAJ)</i> , JP. | Feb 2019 |
| [3] ITO Educational Foundation Scholarship (JPY 180,000 per month)
<i>ITO Foundation for International Education Exchange</i> , JP. | Apr 2017 – Mar 2019 |
| [4] Foreign Tour Business Grant (JPY 197,000 once)
<i>The Precise Measurement Technology Promotion Foundation (PMTF-F)</i> , JP. | Aug 2018 |
| [5] MutoEiji Award
Academic Excellence Award in mechanical engineering department
<i>The Japan Society for Design Engineering (JSDE)</i> , JP. | Mar 2017 |
| [6] Korea-Japan Join Government Scholarship (JPY 130,000 per month)
<i>Korea and Japan Government</i> , KR&JP. | Apr 2013 – Mar 2017 |

RESEARCH SKILLS

- **Experimental Technique:** Photo/soft lithography, focused-ion beam (FIB), scanning electron microscopy (SEM), atomic force microscopy (AFM), ultra-high vacuum system, 3D printer, etc.
- **Programming/software skills:** Python, LabVIEW, ANSYS Lumerical, ANSYS Mechanical, COMSOL Multiphysics, Solidworks, etc.