

# Woojin Bae

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## Education

Bachelor's degree in Chemical and Biological Engineering | **Seoul national University** 2020 - Present

Major in Chemistry | **Daejeon Science High School for the Gifted** 2017 – 2020

## Research Experience

**Undergraduate Researcher** | Multi-dimensional Materials Chemistry Lab, SNU, Republic of Korea Mar. 2024 - Present

- Synthesized Ag cluster-based AIGS(silver indium gallium sulfide)-core
- Analyzed LMBs SEI Components by Cryo-TEM Imaging and region-specific characterization
- **Led a semester-long project** “Student-Direct Education” regarding SEI Cryo-TEM Imaging

**R&E Student** | Center for Cell-Encapsulation Research, KAIST, Republic of Korea Mar. 2018 - May. 2019

- Created a porous titanium oxide shell to facilitate the simple culturing of astrocytes
- Confirmed the function of encapsulated astrocytes by analyzing the length of neurons co-cultured with astrocytes

## Conferences & Research Presentations

Regulation of astrocyte growth using porous titanium oxide shells. Bae, W.; Lee, K.; Lee, C.; Kim, T.; Choi, I.  
*Korean Chemical Society Future Chemist Research Presentation Competition*, Daegu, Republic of Korea (October 19, 2018). Poster Presentation.

Wettability Change of Self-Assembled Monolayers (SAMs) of Thiol on Gold. Bae, W.; Lee, K.; Lee, C.  
*The 51st Joint School Science Exhibition*, Hong Kong, Hong Kong (August 22-27, 2018). Poster Presentation

## Honors & Awards

**Excellence Poster Award** | The 5th Undergraduate Student Advanced Experimental Research Program Jan. 2024

- Consideration on the relationship between microscopic structure and macroscopic shape according to the synthesis conditions of Hollow ZSM-5

**Team Section Selected** | Changing SNU Contest Jul. 2022

- Spatial-restricted messenger. The receiver can open a message only at the point where the sender had designated it to do so. Consists of an experimental UI Design, including 100 different interfaces for the loading screen.

**The Education and Research Foundation Scholarship** | College of Engineering, SNU Mar. 2021 - Jun. 2021

**Merit-based Scholarship** | Department of Chemical Biological Engineering, SNU Sep. 2020 - Dec. 2020

**2020 Future Chemistry Talent Award** | The Korean Union of Chemical Science and Technology Societies Feb. 2020

- Awarded as one of the **top 6 science high school students** in Korea

**Excellence Poster Award** | 2019 Gifted School R&E Joint presentation Jan. 2019

- Regulation of astrocyte growth using porous titanium oxide shells

**Encouragement Prize** | 2017 Korea Foundation for the Advancement of Science & Creativity Conference Jan. 2018

- Correlation between Z-potential and contact angle of QDs solution

## Leadership

**Serving military service** | Daegu, Republic of Korea Aug.2022 - May.2024

- 110<sup>th</sup> Squadron, operating the F-15K Slam Eagle
- Selected as an **exemplary soldier**

**Marketing team & manager** | SNUfestival, SNU, Republic of Korea Jun. 2021 - May. 2022

- Promoted the festival through **the online website** during COVID-19
- Created and performed promotional content and videos
- Secured a **\$2300 sponsorship** agreement with the shared scooter company ‘Swing’

**Vice president** | CBE Interim Leadership, SNU, Republic of Korea Dec. 2020 - Mar. 2021

- **Conducted freshman orientation**, facilitating the integration of new students, via Zoom during COVID-19.

## Teaching Experience

<b>Korean Language Peer Mentor</b>   Language Education Institute, SNU	Sep. 2024 – Nov. 2024
<b>Teaching Assistant</b>   Faculty of Liberal Education, SNU <ul style="list-style-type: none"><li>Basic Computing: First Adventures in Computing, L0444.000400</li></ul>	Sep. 2024 - Dec. 2024
<b>TEM Seminar</b>   Multi-dimensional Materials Chemistry Lab, SNU <ul style="list-style-type: none"><li>Delivered a presentation titled “Amplitude and Phase Contrast”</li></ul>	May. 2024
<b>Student Mentor</b>   Seoul National University Social Responsibility <ul style="list-style-type: none"><li>Selected as a <b>superb mentor</b></li></ul>	Apr. 2023 – Present

## Extracurricular Activities

<b>Tokyo Forum Youth Session</b>   The University of Tokyo & Chey Institute for Advanced Studies, Japan	Aug. 2024 – Nov. 2024
<b>HKUST Entrepreneurship Bootcamp 2024</b>   Hong Kong University of Science and Technology, Hong Kong <ul style="list-style-type: none"><li>Explored local startups and interviewed representatives.</li><li>Participated in the mock start-up competition and won the third prize for the idea of worldwide healthcare platform</li></ul>	Jul. 2024
<b>SNU-UMN Culture Exchange Program</b>   via Zoom	Mar. 2024 - Apr. 2024
2023 Winter Vacation Data Science Bootcamp: <b>Computing</b>   Graduate School of Data Science, SNU	Feb. 2024
<b>Encouragement Prize</b>   SNU in the World Program UCC Contest, Office of International Affairs, SNU	Nov. 2022
<b>SNU in EU program</b>   Brussels School of Governance, Belgium <ul style="list-style-type: none"><li>Understanding European Unions (EU), M2170.004600</li><li>Delivered a presentation titled "The European External Action Service"</li></ul>	Jul. 2022
<b>Summer International Exchange program</b>   Kansas Academy of Mathematics and Science, USA <ul style="list-style-type: none"><li>Synthesized conventional Quantum dots (CdSe) and eco-friendly Quantum Dots (ZnSe). Applying them on Gratzel cell</li></ul>	Jul. 2018

## Skills & Languages

- Instruments:** Cryo-TEM, SEM, UV-Vis, OM, PL
- Language:** Korean (Native), English (C1, TOEFL 95)
- Computer Language:** Python, Html, CSS, JavaScript (Experienced), C (Experienced)
- Software:** Adobe Premiere Pro, Adobe illustrator, Fusion 360