

# Woojin Bae

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## Research Experience

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

- Synthesis Ag cluster-based AIGS(silver indium gallium sulfide)-core
- Analyze LMBs SEI Components by Cryo-TEM Imaging and region-specific characterization
- Led 1semester 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
- Poster presentation on 'Korean Chemical Society Future Chemist Research Presentation Competition'

## 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**

## Honors & Awards

**3<sup>rd</sup> Prize** | AUA-HKUST Entrepreneurship Bootcamp Final Presentation **Jul. 2024**

- Borderless Healthcare: A Platform for Overseas Patients to Obtain Prescriptions Everywhere

**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

## International Activities

**Tokyo Forum Youth Session** | The University of Tokyo & Chey Institute for Advanced Studies, Japan **Aug. 2024 – Nov. 2024**

**AUA-HKUST Entrepreneurship Bootcamp 2024** | Hong Kong University of Science and Technology, Hong Kong **Jul. 2024**

**SNU-UMN Culture Exchange Program** | via Zoom **Mar. 2024 - Apr. 2024**

**SNU in EU program** | Brussels School of Governance, Belgium **Jul. 2022**

- Understanding European Unions (EU)
- Make a presentation about "The European External Action Service"

**Korean representative** | 51st Joint School Science Exhibition, Hong Kong **Aug. 2018**

- Wettability Change of Self-Assembled Monolayers (SAMs) of Thiol on Gold

**Summer International Exchange program** | Kansas Academy of Mathematics and Science, USA **Jul. 2018**

- Synthesis of conventional Quantum dots, CdSe; eco-friendly Quantum Dots, ZnSe. Applying them on Gratzel cell

## Leadership

<b>Serving military service</b>   Daegu, Republic of Korea	<b>Aug.2022 - May.2024</b>
<ul style="list-style-type: none"><li>• 110<sup>th</sup> Squadron, operating F-15K Slam Eagle</li><li>• Selected as an <b>exemplary soldier</b></li></ul>	
<b>Marketing team &amp; manager</b>   SNUfestival, SNU, Republic of Korea	<b>Jun. 2021 - May. 2022</b>
<ul style="list-style-type: none"><li>• Promoted the festival through <b>the online website</b> during COVID-19</li><li>• Created and performed promotional content and videos</li><li>• Secured a <b>\$2300 sponsorship</b> agreement with the shared scooter company ‘Swing’</li></ul>	
<b>Vice president</b>   CBE Interim Leadership, SNU, Republic of Korea	<b>Dec. 2020 - Mar. 2021</b>
<ul style="list-style-type: none"><li>• Conducted freshman orientation, facilitating the integration of new students, via Zoom during COVID-19.</li></ul>	

## Extracurricular Activities and Teaching Experience

<b>Korean Language Peer Mentor</b>   Language Education Institute, SNU	<b>Sep. 2024 – Nov. 2024</b>
<b>Teaching Assistant</b>   Faculty of Liberal Education, SNU	<b>Sep. 2024 - Dec. 2024</b>
<ul style="list-style-type: none"><li>• Basic Computing: First Adventures in Computing, L0444.000400</li></ul>	
Presentation on <b>TEM Seminar</b>   Multi-dimensional Materials Chemistry Lab, SNU	<b>May. 2024</b>
<ul style="list-style-type: none"><li>• Amplitude and Phase Contrast</li></ul>	
2023 Winter Vacation Data Science Bootcamp: <b>Computing</b>   Graduate School of Data Science, SNU	<b>Feb. 2024</b>
<b>Encouragement Prize</b>   SNU in the World Program UCC Contest, Office of International Affairs, SNU	<b>Nov. 2022</b>
<b>Student Mentor</b>   Seoul National University Social Responsibility	<b>Apr. 2023 - Present</b>
<ul style="list-style-type: none"><li>• Selected as a superb mentor</li></ul>	

## 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)
- **Design:** Adobe Premiere Pro, Adobe illustrator, Color correction