HANNAH CHUNG

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Research Interests

During undergraduate years, I have acquired essential skills for investigating biological processes at molecular level through biophysical/chemical techniques and learned how to control organic molecules and polymeric products through chemical synthesis. Current research interests include **genomic/protein engineering, biophysical research on novel biological mechanisms and design/synthesis of biochemical tools.**

Education

2016- **Seoul National University**, College of Natural Sciences, Seoul, South Korea
B.S. in Chemistry
Foreign study at King's College London (2018 summer)

Research Experience

Mar2020-Jun2021 — Undergraduate Research, Department of Chemistry, Seoul National University — Seoul, Republic of Korea
Laboratory of Proteolytic Systems, *Advisor: Seokhee Kim*
- Genome mining of peptidyl N-methyltransferase for the modular biosynthesis of N-methylated peptide
- Characterization of N-methylated peptide using heterologous expression and examination of its leader core motif using alanine scanning

Sep2019-Dec2019 — Undergraduate Research, Department of Chemistry, Seoul National University — Seoul, Republic of Korea
Functional Organic Material Lab, *Advisor: Tae-Lim Choi*
- Synthesis of fluorene monomer and cyclopolymerization with Grubbs 3rd catalyst
- Characterization of conjugated homopolymer structure by controlling conditions such as concentration, temperature, and co-solvent

Jun2019-Aug2019 — Visiting Summer Researcher, Department of Chemistry, University College London — London, United Kingdom
Molecular Bionics Lab, *Advisor: Giuseppe Battaglia*
- Research on the association of LRP-1 and syndapin-2 on brain endothelium and tubular structures formed using immunofluorescence microscopy and proximity ligation assay

Sep2018-Dec2018 — Undergraduate Research, Department of Chemistry, Seoul National University — Seoul, Republic of Korea
Single-Molecule & Cell Dynamics Lab, *Advisor: Nam Ki Lee*
- Demonstration of transcription-translation coupling by simultaneous DNA/mRNA imaging with super-resolution microscopy
- Identification of localization and dynamics of DNA & mRNA crucial for understanding gene expression mechanism in bacteria

Honors & Awards

2019 **Outstanding Undergraduate Research 3rd place,** Department of Chemistry, Seoul National University

2018/2020 **Work-study Scholarship,** Department of Chemistry, Seoul National University

2018 **Outstanding Undergraduate Research 2nd place,** Department of Chemistry, Seoul National University

Conference Presentations

[1] "Investigation of Self-Assembled 2D Parallelogram Nanosheets of Conjugated Homopolymers", Seoul National University Undergraduate Research Symposium, Seoul, South Korea, 2019 [Poster]

[2] "Investigation of Transcription-Translation Coupling in *Escherichia coli* Using Super-Resolution Microscopy", Seoul National University Undergraduate Research Symposium, Seoul, South Korea, 2019 [Poster]

Work/Teaching Experience

Research Investigator *JL Medilabs. Seoul, Republic of Kore*a 2021
Validated and selected protein cancer biomarkers for serum diagnosis kit

Dream Camp Mentoring *High school of Gwang-ju, Republic of Korea* 2017
Organized mentoring program about designing roadmap for one's dream for high school students in countryside

SNU Science Volunteering Camp *Yeongdeok, Repbulic of Korea.* 2016
Conducted interesting scientific experiments for elementary school students and self-planned mentoring for high school students in underprivileged areas in Korea

Extracurricular Activities

Mar 2018 - Aug 2019 *Student Ambassador*. Seoul National University Student Ambassador

Mar 2018 - Feb 2019 *Council Member.* Photography club of Seoul National University.

Jul 2018 - Oct 2018 *President.* Student Council of Department of Chemistry at Seoul National University

Oct 2017 - Jun 2018 *Vice-President.* Student Council of Department of Chemistry at SNU

Skills

Lab techniques:

- *Biochemistry*: Cell culture/Cloning, Protein expression and purification, SDS-PAGE/Western blot
- *Organic & Polymer chemistry*: Textbook organic synthesis, Polymerization techniques using Grubbs catalyst
- *Analytical Techniques*: HPLC, Proximity ligation assay(PLA), MALDI-TOF, Super-resolution microscopy, Immunofluorescence microscopy, NMR spectroscopy & analysis, TEM imaging, Size-exclusion chromatography(SEC), UV-Vis spectroscopy

Languages: Korean(native), English(fluent), French(basic)