

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. I currently aim to understand **the regulatory mechanism of native biological system** and **disease-associated metabolism currently out of reach**.

Education

2016 – 2021 **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

Laboratory of Proteolytic Systems, Advisor: Seokhee Kim

Seoul, Republic of Korea

Undergraduate Research, Department of Chemistry, Seoul National University

Mar. 2020 – Jun. 2021

- Biochemical characterization of backbone *N*-methylated ribosomally synthesized and post-translationally modified peptides (RiPPs) modified *in trans* using heterologous expression
- Examination of cross-reactivity of *N*-methyltransferase and enzyme engineering

Functional Organic Material Lab, Advisor: Tae-Lim Choi

Seoul, Republic of Korea

Undergraduate Research, Department of Chemistry, Seoul National University

Sep. 2019 – Dec. 2019

- Synthesis of fluorene-substituted diyne monomer and cyclopolymerization with Grubbs 3rd generation catalyst
- Characterization of conjugated homopolymer nanostructure by controlling conditions including polymer concentration, aging temperature, and co-solvent ratio

Molecular Bionics Lab, Advisor: Giuseppe Battaglia

London, United Kingdom

Visiting Summer Researcher, Department of Chemistry, University College London

Jun. 2019 – Aug. 2019

- Research on the association of LRP-1 and syndapin-2 on brain endothelium during tubular formation using immunofluorescence microscopy and proximity ligation assay

Single-Molecule & Cell Dynamics Lab, Advisor: Nam Ki Lee

Seoul, Republic of Korea

Undergraduate Research, Department of Chemistry, Seoul National University

Sep. 2018 – Dec. 2018

- 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

Publications

HyunJin Cho; Hyunbin Lee; Kyung Tae Hong; Hannah Chung; Inseok Song; Jun-Seok Lee; Seokhee Kim “Bioinformatic Expansion of Borosins Uncovers *Trans*-Acting Peptide Backbone *N*-Methyltransferases in Bacteria”, **2021**, submitted

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”, Hannah Chung, Sanghee Yang, Tae-Lim Choi, *Seoul National University Undergraduate Research Symposium*, 2019 [Poster]
[2] “Investigation of Transcription-Translation Coupling in *Escherichia coli* Using Super-Resolution Microscopy”, Hannah Chung, Jung Bae Son, Nam Ki Lee, *Seoul National University Undergraduate Research Symposium*, 2018 [Poster]

Work/Teaching Experience

Research Investigator *JL Medilabs. Seoul, Republic of Korea. 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, Republic 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/purification, SDS-PAGE/Western blot, Proximity ligation assay
- *Organic & Polymer chemistry*: Textbook organic synthesis, Polymerization techniques using Grubbs catalyst
- *Analytical Techniques*: HPLC, 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)