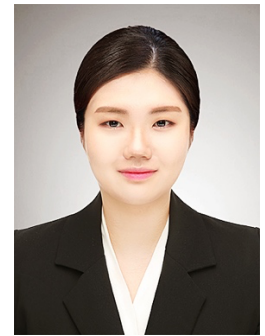


Bohyeon Park

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Research Interests

Neuroimmunology, Microglia, Blood–Brain Barrier (BBB), Aging, Noise-Induced Hearing Loss (NIHL), Age-Related Hearing Loss (ARHL), Occupational & Environmental Health

EDUCATION

- **Ph.D. Student in Medicine (Anatomy and Cell Biology major)** Sep 2026 ~
Seoul National University, Seoul, Korea
- **Master of Science in Medicine (Anatomy and Cell Biology major)** Sep 2024 – Aug 2026
Seoul National University, Seoul, Korea
- **Bachelor of Science in Chemistry** Mar 2018 – Feb 2023
Sungshin Women's University, Seoul, Korea

WORK EXPERIENCE

- **Research Assistant (B.S.)** Apr 2023 – Mar 2024
Neuroscience Research Unit, Biomedical Research Center/Asan Medical Center, Seoul, Korea
 - Cellular & Molecular Neuroscience
 - Conducted research using Alzheimer's disease mouse models (5x FAD), incorporating behavioral assays, western blot analyses, and immunohistochemical evaluation of brain regions.

RESEARCH EXPERIENCE

- **Chronic Noise-Induced Hearing Loss (NIHL) model** Oct 2024 – Apr 2026
- Characterization of microglial activation and context-dependent cognitive impairment in chronic noise-induced hearing loss model
- **Age-Related Hearing Loss (ARHL) model**
- Seoul National University college of Medicine (SNU Medicine) - Korea Advanced Institute of Science and Technology Graduate School of Medical Science and Engineering (KAIST GSMES) Joint Research program
- - Research title: Nuclear Envelop Defects in Cochlear Aging
 - BANF1 (Barrier to autointegration factor 1)-based detection of nuclear envelope defects and evaluation of H151- mediated STING inhibition
- Age-related changes in cochlear and hippocampal macrophages/microglia in CX3CR1^{+GFP} mice

- PLX5622-mediated depletion of microglia and macrophages

SCHOLARSHIP

- **Teaching and Research Assistant Scholarship**
Received from Seoul National University
- **National Scholarship for Science and Engineering**
Received from Ministry of Science and ICT

Conference presentation

- **The 30th Conference of Korean Society of Otorhinolaryngology-Head and Neck Surgery** October 11, 2024
 - Oral presentation (**Title:** Changes in Perineuronal Net Protein and Microglia in Auditory Cortex (AUD) of the White Noise (WN) Model Using Immunohistochemistry (IHC))
- **The 10th International Congress of ORL-HNS 2025** April 20, 2025
 - Oral presentation (**Title:** Age-Related Changes in Cochlear Macrophages and Microglia and Their Impact on Neuronal and Behavioral Outcomes in CX3CR^{+GFP} Mice)
- **Korea Society for Molecular and Cellular Biology 2026** Jan 6, 2026
 - Data Blitz presentation and Poster presentation (**Title:** Microglial Activation and Noise-Induced Cognitive Vulnerability in a Chronic Hearing Loss Model)
- **Neuroscience Research Institute workshop 2026** June 26, 2026

Skills

Histology & Tissue processing

- H&E staining, IHC, IF, Cryosectioning (cryo block section), Microtome sectioning (paraffin block section)

Molecular techniques

- Western blotting, qRT-PCR, ELISA, Magnetic-activated cell sorting (MACS)

Animal models & In vivo, In vitro experiments

- Behavioral test: Novelty object preference test (NOPT), Y-maze test
- Stereotaxic surgery
- Cell culture skills

Microscopy & Imaging

- LSM980, Bench-top confocal microscopy

Publications

- **Park, B.,** Jeon, J. C., Kim, D. E., Park, N., & Kim, S. Y. (2026). Noise exposure induces microglial reactivity and context-dependent cognitive vulnerability in chronic noise-induced hearing loss rats. *Neurobiology of Disease*, 107532. <https://doi.org/10.1016/j.nbd.2026.107532>

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- Phone: 010-4195-9492

Research Interests

Neuroimmunology, Microglia, Blood–Brain Barrier (BBB), Aging, Noise-Induced Hearing Loss (NIHL), Age-Related Hearing Loss (ARHL), Occupational & Environmental Health

EDUCATION

- 의학과, 의학박사 과정 (해부학 전공) Sep 2026~
서울대학교
- 의학과, 의학석사 (해부학 전공) Sep 2024 – Aug 2026
서울대학교
- 화학과, 이학사 Mar 2018 – Feb 2023
성신여자대학교

WORK EXPERIENCE

- 학사 연구원 Apr 2023 – Mar 2024
서울아산병원 아산생명과학연구원
- Alzheimer's disease mouse models (5x FAD) 을 이용한 행동실험 진행 및 Western blot 분석과 면역 형광 기법을 이용한 뇌 영역 병리적 변화 관찰

RESEARCH EXPERIENCE

- 만성 소음성 난청 연구 Oct 2024 – Apr 2026
 - 미세아교세포(Microglia) 활성화와 맥락의존적 인지 기능저하 사이의 관련성 탐색 연구 진행
- 노인성 난청 연구
 - 서울의대-카이스트 의과학대학원 연구교류 마중물 프로그램
 - 연구 주제: Nuclear Envelop Defects in Cochlear Aging
 - BANF1(Barrier-to-autointegration factor 1) 기반 핵막 파열 관찰과 H151 약물 처리와 STING 억제 연구 진행
- 24개월령 이상의 Cx3cr1⁺GFP transgenic 고령 마우스 모델의 달팽이관 내 Macrophage/Microglia의 노화에 따른 변화 관찰 Sep 2024 – Current
- PLX5622 약물 처리를 통한 Microglia와 Macrophage 제거 효과 관찰

SCHOLARSHIP

- 강의연구지원장학금
- 국가이공계 우수장학금

Conference presentation

- 제 30차 대한이비인후과학회 Oct 11, 2024
 - 구연 발표 (**Title:** Changes in Perineuronal Net Protein and Microglia in Auditory Cortex (AUD) of the White Noise (WN) Model Using Immunohistochemistry (IHC)
- The 10th International Congress of ORL-HNS
 - 영어 구연 발표 (**Title:** Age-Related Changes in Cochlear Macrophages and Microglia and Their Impact on Neuronal and Behavioral Outcomes in CX3CR1⁺GFP Mice) Apr 20, 2025
- 2026 한국분자세포생물학회 동계학술대회
- Data Blitz 발표 및 포스터 발표 (**Title:** Microglial Activation and Noise-Induced Cognitive Vulnerability in a Chronic Hearing Loss Model) Jan 6, 2026
- 2026 신경과학연구소 워크숍
 - 구연 발표 June 26, 2026

Skills

- **Histology & Tissue processing**
 - H&E staining, IHC, IF, Cryosectioning (cryo block section), Microtome sectioning (paraffin block section)
- **Molecular techniques**
 - Western blotting, qRT-PCR, ELISA, Magnetic-activated cell sorting (MACS)
- **In vivo & In vitro experiments**
 - Behavioral test: Novelty object preference test (NOPT), Y-maze test, Startle reflex response
 - Stereotaxic surgery
 - Cell culture skills
- **Microscopy & Imaging**
 - LSM980, Bench-top confocal microscopy

Publications

- **Park, B.,** Jeon, J. C., Kim, D. E., Park, N., & Kim, S. Y. (2026). Noise exposure induces microglial reactivity and context-dependent cognitive vulnerability in chronic noise-induced hearing loss rats. *Neurobiology of Disease*, 107532. <https://doi.org/10.1016/j.nbd.2026.107532>