

## Curriculum Vitae

### Min-Ji Kim

Ph. D. candidate  
Department of Applied Biosciences  
Kyungpook National University  
80 Daehak-ro, Daegu, 41566, Republic of Korea  
E-mail: tbd01188@knu.ac.kr | tbd01188@gmail.com  
Mobile: +82-10-2563-3046  
Homepage: <https://mj-kim.netlify.app>

## Education Background

---

- |                            |  |
|----------------------------|--|
| <b>Mar.2021 – Current</b>  | <b>Ph.D. of Agriculture   Kyungpook National University</b><br><i>Department of Applied Biosciences</i><br>Dissertation: Working title_ Understanding Hazards Derived from<br>Microbes in Agricultural Environment using Multi-Omics Approach:<br>Antibiotic Resistance Genes and Microcystin<br>Advisor: Jae-Ho Shin, Ph.D. |
| <b>Mar.2019 – Feb.2021</b> | <b>M.S. of Agriculture   Kyungpook National University</b><br><i>Department of Applied Biosciences</i><br>Thesis: Effect of bioconverted product of <i>Lotus corniculatus</i> seed on body<br>odor and axillary microbiome<br>Advisor: Jae-Ho Shin, Ph.D.  |
| <b>Mar.2014 – Feb.2019</b> | <b>B.S. of Environment and Life Science, integrated major in<br/>Bioinformatics   Kyungpook National University</b><br><i>College of Agriculture and Life Sciences, School of Applied Biosciences</i>  |

## Research Interests

---

Environmental Metagenomics in One-Health Approach

Antibiotic Resistance Genes  
Cyanobacterial Blooms, Cyanotoxins, Microplastics  
Host-Microbe Interactions

## Publications

---

### *In preparation*

1. **M.-J. Kim**, G. D. Lee, K. Lim, W. Kim, I. Kim, G. Nam, D. Kang, K. Kim, S. Lee, and J.-H. Shin\*. "Co-acceleration of Dissemination of Antibiotic Resistance Genes and Cyanobacterial Blooms in Antibiotic Residues" *Journal of Hazardous Materials: in preparation*
2. **M.-J. Kim**<sup>†</sup>, J.-M. Lee<sup>†</sup>, H. Lee, E. S. Kim\*, and J.-H. Shin\*. "Longitudinal Changes in Gut Microbiota among DSS-induced Colitis Mothers and Their Offsprings." *Cell Host & Microbe: in preparation*
3. **M.-J. Kim**, D.-R. Jung, E.S. Kim, J.-H. Shin\*. "Microbial Dysbiosis Index for Assessing Colitis Status in Mouse Models: A Systematic Review and Meta-Analysis." *Frontiers in Microbiology*:

*under review*

4. **M.-J. Kim**, D. Kang, G. D. Lee, M. Jeong, S. Lee\*, and J.-H. Shin\*. "Uncovering the Interplays between Cyanobacterial Blooms and Antibiotic Resistance Genes." *Microbiome*: *under review*

---

**Published**

1. **M.-J. Kim**<sup>†</sup>, T. H. Park<sup>†</sup>, Y.-K. Lee, J. S. Lee, J. Lee, H. Y. Park, J. D. Yang\*, and J.-H. Shin\*. "Study of the Microbiome of the Contractured Breast Capsule Using Next Generation Sequencing." *Scientific Reports* (2023): *in press*
2. J. Kim<sup>†</sup>, G.D. Lee<sup>†</sup>, S. Han, **M.-J. Kim**, J.-H. Shin, S. Lee\*. "Microbial Communities in Aerosol Generated from Cyanobacterial Bloom-affected Freshwater Bodies: an Exploratory Study in Nakdong River, South Korea." *Frontiers in Microbiology* (2023): *in press*
3. C.-E. Park, B.-J. Cho, **M.-J. Kim**, M.-C. Kim, M.-K. Park, J.-I. Son, H.-C. Park, J.-H. Shin\*. "Ecoinformatic Analysis of the Gut Ecological Diversity of Wild and Captive Long-Tailed Gorals Using Improved ITS2 Region Primers to Support Their Conservation." *Microorganisms* 11.6 (2023): 1368
4. M. Jeong, S. B. Tagele, **M.-J. Kim**, S.H. Ko, K.-S. Kim, J.-G. Koh, D.-R. Jung, Y. J, Y.G. Jung, Y.-J. Park, M.-S. Kim, K. Lim, J.-H. Shin\*. "The Death of Korean Fir (*Abies koreana*) Affects Soil Symbiotic Fungal Microbiome: Preliminary Findings." *Frontiers in Forests and Global Change* 5 (2023): 289
5. D.-R. Jung<sup>†</sup>, H.-Y. Yoo<sup>†</sup>, **M.-J. Kim**, V. Singh, S.-H. Park, M. Jeong, B.-J. Park\* and J.-H. Shin\*. "Comparative Analysis of Scalp and Gut Microbiome in Androgenetic Alopecia: A Korean Cross-sectional Study." *Frontiers in Microbiology* (2022): 4921
6. **M.-J. Kim**, T. H. Park, D.-R. Jung, G. D. Lee, and J.-H. Shin\*. "Complete Genome sequence of *Bacillus inaquosorum* 1HC-NA assembled from the Oxford Nanopore sequencing data." *The Microbiological Society of Korea* 58.3 (2022): 194-196
7. **M.-J. Kim**, T. H. Park, M. Jeong, G. D. Lee, D.-R. Jung, and J.-H. Shin\*. "Complete Genome Sequence of *Bacillus amyloliquefaciens* KNU-28 Isolated from Peach Leaves (*Prunus Persica* [L.] Batsch)." *Microbiology Resource Announcements* (2022): e00934-22
8. G. D. Lee, **M.-J. Kim**, and J.-H. Shin\*. "Data on complete genome sequence and annotation of *Paenibacillus sonchi* LMG 24727<sup>T</sup>." *Data in brief* 38 (2021): 107271.
9. C.-E. Park, B.-J. Cho, **M.-J. Kim**, H. C. Park, and J.-H. Shin\*. "Geographical Relationships between Long-Tailed Goral (*Naemorhedus caudatus*) Populations Based on Gut Microbiome Analysis." *Microorganisms* 9.9 (2021): 2002.
10. **M.-J. Kim**, S. B. Tagele, H. W. Jo, M.-C. Kim, Y. G. Jung, Y.-J. Park, J.-H. So, H. J. Kim, H. J. Kim, D.-G. Lee, S. Kang, and J.-H. Shin\*. "Effect of a bioconverted product of *Lotus corniculatus* seed on the axillary microbiome and body odor." *Scientific Reports* 11.1 (2021): 1-14.
11. T.-K. Hwang, Y.-J. Park, **M.-J. Kim**, G. D. Lee, R.-H. Kim, T.-I. Lee, S.-K. Park, and J.-H. Shin\*. "Whole-genome sequence of *Bacillus aryabhattai* strain GW320, a potential plant growth-promoting rhizobacterium from *Cucumis sativus* L. rhizospheric soil." *The Microbiological Society of Korea* 57.1 (2021): 62-65.
12. Y.-J. Hwang, J.-S. Son, S.-Y. Lee, **M.-J. Kim**, J. M. Park, J.-H. Shin, S.-Y. Ghim\*. "*Adhaeribacter radiodurans* sp. nov., isolated from the rhizospheric soil of *Elymus tsukushiensis*, a plant native to the Dokdo Islands, Republic of Korea." *International Journal of*

Systematic and Evolutionary Microbiology 71.1 (2021): 004612.

13. M.-K. Park, Y.-J. Park, **M.-J. Kim**, M.-C. Kim, J. C. Ibal, G.-U. Kang, G. D. Lee, S. B. Tagele, H.-J. Kwon, M.-S. Kang, M.-H. Kim, S.-Y. Kim, and J.-H. Shin\*. "Complete genome sequence of a plant growth-promoting bacterium *Pseudarthrobacter* sp. NIBRBAC000502772, isolated from shooting range soil in the Republic of Korea." The Microbiological Society of Korea 56.4 (2020): 390-393.
14. **M.-J. Kim**, Y.-J. Park, M.-K. Park, C. E. Park, Y. J. Jo, S. B. Tagele, and J.-H. Shin\*. "Complete genome sequence of *Labrys* sp. KNU-23 isolated from ginseng soil in the Republic of Korea." The Microbiological Society of Korea 56.4 (2020): 410-412.
15. H. W. Jo, S. B. Tagele, H. Q. Pham, M.-C. Kim, S.-D. Choi, **M.-J. Kim**, Y.-J. Park, J. C. Ibal, G.-S. Park, and J.-H. Shin\*. "Response of soil bacterial community and pepper plant growth to application of *Bacillus thuringiensis* KNU-07." Agronomy 10.4 (2020): 551.
16. C. E. Park, Y.-J. Park, M.-C. Kim, M.-K. Park, Y. G. Jung, S.-D. Choi, Y. J. Jo, G.-U. Kang, **M.-J. Kim**, Q. X. Li, B. A. Yoza, K.-H. Kim, H. C. Park, and J.-H. Shin\*. "The first complete mitochondrial genome sequence of the Korean endemic catfish *Silurus microdorsalis* (Actinopteri, Siluriformes, Siluridae)." Mitochondrial DNA Part B 5.1 (2020): 131-132.
17. M.-K. Park, Y.-J. Park, M.-C. Kim, G.-U. Kang, **M.-J. Kim**, Y. J. Jo, H.-J. Kwon, M.-S. Kang, M.-H. Kim, S.-Y. Kim, and J.-H. Shin\*. "Complete genome sequence of *Pseudarthrobacter* sp. NIBRBAC000502771 isolated from shooting range soil in Republic of Korea." The Microbiological Society of Korea 55.4 (2019): 419-421.

## Patents

---

1. "Bacterial-based Hair Loss Diagnosis Biomarkers and Models through Machine Learning" (2022): - collaborate with Kolmar Korea
2. "Novel *Pseudomonas chlororaphis* KNU-10 Strain with Phosphate Solubilization, Urea Solubilization and Antifungal Activity, and Uses thereof" (2021): 10-2295067-00-00
3. "Novel *Beauveria bassiana* KNU-101 strain with insecticidal effect and uses thereof" (2021): 10-2251508-00-00
4. "*Labrys neptuniae* KNU-23 strain having plant growth promoting effect, and uses thereof" (2021): 10-2204522-00-00
5. "Composition for preventing or improving Osmidrosis axillae comprising Seed fermented of *Lotus* spp. plant" (2020): PCT/KR2021/008182 – collaborate with COSMAX R&I
6. "Composition for preventing or improving Osmidrosis axillae comprising *Corydalis remota* extract" (2020): PCT/KR2021/008204 - collaborate with COSMAX R&I
7. "*Pantoea ananatis* strain and skin condition improving uses of thereof" (2020): 10-2020-0069097 - collaborate with COSMAX R&I
8. "*Microbacterium oleivorans* strain and skin condition improving uses of thereof" (2020): 10-2020-0069096 - collaborate with COSMAX R&I

## Skills and Techniques

---

Molecular biology techniques	Nucleic acid isolation, PCR (RT-PCR, RT-qPCR, dPCR and ddPCR) Gene cloning, CRISPR, Scanning Electron Microscope
Sequencing instruments	2 <sup>nd</sup> generation NGS: Illumina Miseq, Novaseq and ThermoFisher IonTorrent 3 <sup>rd</sup> generation NGS: Oxford Nanopore MinION, MGI DNBSeg, PacBio RSII and Sequel
Analytical instruments	LC-MS/MS, LC-Q-TOF-MS, Ion Chromatography
Bioinformatics skills	Python, R <ul style="list-style-type: none"> <li>- Whole genome sequencing data processing</li> <li>- Amplicon, Shotgun metagenome data processing</li> <li>- Transcriptome, Metatranscriptome data processing</li> <li>- Machine learning and deep learning</li> <li>- Statistical analysis</li> </ul>

## Grants and International presentation

---

### Grants

Grant #	Min-Ji Kim
Funding Organization	National Research Foundation of Korea (NRF), the Ministry of Education
Amount Awarded	USD 300,000
Period of Grant Award	2 years
Title of Project	Characterization of association between algal blooms and antibiotic resistance genes in the environmental microbiome

### International presentation

- “Microbial Dysbiosis in Freshwater Environment during Cyanobacterial Blooms is associated with Dissemination of Antibiotic Resistance Genes”, 2023, ASM Microbe 2023 – poster presentation
- “Dynamics of microbiome and resistome during cyanobacterial harmful algal blooms”, 2022, CSHL Meeting Microbiome – poster presentation
- “Occurrences and Distribution of Mobile Antibiotic Resistome in the Nakdong River”, 2022, 49<sup>th</sup> KMB International Symposium – poster presentation
- “Dynamics of Microbiome and Antibiotic Resistome in the Nakdong River”, 2022, KSABC International Symposium – poster presentation
- “Effect of a Bioconverted Product of *Lotus corniculatus* Seed on the Axillary Microbiome and Body Odor”, 2021, 48<sup>th</sup> KMB International Symposium – oral presentation

## Awards and Honors

---

2022	Ministerial Commendation, Korea Environmental Industry & Technology Institute, Seoul, Korea Best poster presentation award, 49 <sup>th</sup> KMB International Symposium, Gyeongju, Korea Best oral presentation award, BK21 Research Performance Presentation, Daegu, Korea USD 1,400 Excellent thesis award, Kyungpook National University, Daegu, Korea USD 210
2021	Research award, 6 <sup>th</sup> mBiome International Conference, Seoul, Korea Academic Excellence Scholarship, Kyungpook National University USD 420

- 2018 Top Prize, Korea Agro-Fisheries & Food Trade Corporation, Korea  
USD 700
- 2014 Academic Excellence Scholarship, Kyungpook National University  
USD 420

### **Extracurricular Activities**

---

- 2018 Young Agri-Food Fellowship, Korea Agro-Fisheries & Food Trade Corporation, Korea
- 2017 Exchange student, Lleida University, Spain
- 2015 Public relations manager, Student Council, School of Applied Biosciences

### **References**

---

#### **Professor Jae-Ho Shin, Ph.D.**

Professor at Department of Applied Biosciences  
Kyungpook National University  
Tel: +82 53 950 5716  
Email: [jhshin@knu.ac.kr](mailto:jhshin@knu.ac.kr)

#### **Professor Seungjun Lee, Ph.D**

Assistant professor at Department of Food Science and Nutrition  
Pukyong National University  
Tel: +82 51 629 5854  
Email: [paul5280@pknu.ac.kr](mailto:paul5280@pknu.ac.kr)