

Curriculum Vitae

Min-Ji Kim

Ph. D. candidate
Department of Applied Biosciences
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Education Background

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

Research Interests

Environmental Microbiome in One-Health Approach

Microbial Hazards
Antibiotic Resistance Genes
Cyanobacterial Blooms, Cyanotoxins
Host-Microbe Interactions

Publications

In preparation

1. **M.-J. Kim**, D. Kang, G. D. Lee, S. Lee*, and J.-H. Shin*. "Water Microbial Dysbiosis in Cyanobacterial Blooms is associated with Dissemination of Antibiotic Resistance Genes." Nature Communications: *in preparation*
2. **M.-J. Kim**[†], T. H. Park[†], 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." Plast Reconstr Surg : *under review*
3. **M.-J. Kim**, L. T. H. Nguyen, M. J. Choi, I.-J. Yang* and J.-H. Shin*. "Effect of Social Environment on Atopic Dermatitis: An Aspect of Gut-Brain axis." Frontiers in Neuroscience: *in preparation*

4. **M.-J. Kim**, V. Singh, K. Lim, M. Jeong, G. D. Lee, K. W. Lee, J. H. Choi, Y.-J. Kim, J. H. Song, S. Kim, S. Y. Jung* and J.-H. Shin*. "Gut microbiome mediated anti-obesity effects of Taeumjowi-tang extract and its associated microbial markers, based on machine learning approach." *Advances in traditional medicine: under review*
 5. G. D. Lee, J. C. Ibal, T.-H. Park, **M.-J. Kim**, S.-D. Choi, and J.-H. Shin*. "Whole genome sequence of a potential bioinsecticide, *Beauveria bassiana* KNU-101." *Fungi: under review*
 6. **M.-J. Kim**, T. H. Park, M. Jeong, G. D. Lee, and J.-H. Shin*. "Complete genome sequence data of *Bacillus velezensis* 2F-NA isolated from the soil of a livestock farmhouse." *Data in brief: under review*
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Published

1. D.-R. Jung[†], H.-Y. Yoo[†], **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: in press*
2. **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
3. **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
4. G. D. Lee, **M.-J. Kim**, and J.-H. Shin*. "Data on complete genome sequence and annotation of *Paenibacillus sonchi* LMG 24727^T." *Data in brief* 38 (2021): 107271.
5. 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.
6. **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.
7. 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.
8. 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.
9. 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.
10. **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.

11. 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.
12. 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.
13. 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 Korea Kolmar
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)
Sequencing instruments	Gene cloning, CRISPR, Scanning Electron Microscope 2 nd generation NGS: Illumina Miseq, Novaseq and ThermoFisher IonTorrent 3 rd 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 (provide Github link....) <ul style="list-style-type: none"> - Whole genome sequencing data processing - Amplicon, Shotgun metagenome data processing - Transcriptome data processing - Machine learning and deep learning

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

- “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, 49th 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, 48th KMB International Symposium – oral presentation

Awards and Honors

2022	Best poster presentation award, 49 th 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 th 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

Teaching experience

Research Assistant, Kyungpook National University, 2022

Project: Distribution of Antibiotic Resistance Genes in Nakdong River Basin

Teaching Assistant, Kyungpook National University, 2022

Courses: Advanced Biochemistry, Modern Microbiology, Basic of Genetic Engineering

Teaching Assistant, Kyungpook National University, 2020

Courses: Bioinformatics Lab., Basic of Bioinformatics, Microbiology & Biochemistry Lab.

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.

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Kyungpook National University
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Professor Seungjun Lee, Ph.D

Assistant professor at Department of Food Science and Nutrition
Pukyong National University
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