

Myoung-Hwan Chi, Ph. D.

Research Lab Facility Scientist
Noble Research Institute, LLC.
2510 Sam Noble Parkway, Ardmore, Oklahoma 73401, USA
E-mail) mhchi@noble.org Mobile) 580-277-5576

EDUCATION and TRAINING

| <u>Institution</u> | <u>Major</u> | <u>Degree</u> | <u>Year</u> |
|----------------------------------|----------------------|---------------|-------------|
| Seoul National University, Korea | Plant Microbiology | Ph. D. | 2009 |
| Seoul National University, Korea | Agricultural Biology | B.S. | 2002 |

PROFESSIONAL EXPERIENCE

| <u>Institution</u> | <u>Job title</u> | <u>Year</u> |
|--|---------------------------------|-------------------|
| Noble Research Institute, LLC | Research Lab Facility Scientist | 2021.07 - Present |
| Responsible for scientific and administrative supports for lab members and collaborators | | |
| - Managing a group collaboration for EPSCoR project in Red River Farm and Coffey Ranch (2021-) | | |

| <u>Institution</u> | <u>Job title</u> | <u>Year</u> |
|--|---------------------------|-------------------|
| Noble Research Institute, LLC | Senior Research Associate | 2011.10 – 2021.07 |
| - Managed an internal group collaboration for ‘microbial population and grazing animal impact under no-till and cover crop’ project in Pasture Demonstration Facility (2016-2017) | | |
| - Managed an external group collaboration for ‘switchgrass sustainability project’ in Red River Farm and HQ3 (2017-2021) | | |
| - Managed an external group collaboration for ‘deployment and metagenomics analysis of beneficial switchgrass microbes in a field environment’ in Red River Farm and HQ3 (2018-2021) | | |
| - Managed multi-years of field applications on forage species by using beneficial microbes isolated from tall grass prairie in Oklahoma (2009-2021) | | |
| - Led and guided new team members, visiting scientists, summer scholars, and SOTC interns | | |

| <u>Institution</u> | <u>Job title</u> | <u>Year</u> |
|--|------------------|-------------------|
| Noble Research Institute, LLC | Postdoc Fellow | 2009.09 – 2011.09 |
| Responsible for performing scientific research involving diverse microbial species. | | |
| - Identified new hypothesis on dissemination mechanism of model and human pathogenic | | |

fungi

- Involved in isolation and identification of root endophytes and generated a collection of 1500 fungal isolates and 550 bacterial isolates.

| <u>Institution</u> | <u>Job title</u> | <u>Year</u> |
|--|------------------|-------------------|
| Seoul National University, Korea | Graduate Student | 2002.03 – 2009.08 |
| <ul style="list-style-type: none"> - Created a large insertional mutant library of rice blast pathogen - Involved in development of database cataloging phenotypes/genotypes of the library and a portal site providing tools for various analyses and data curation. - Contributed to writing grant proposals - Led an interdisciplinary project (Biogreen21), managed budget and orchestrated collaborations | | |

CERTIFICATIONS

National certificate for plant protection specialist (2002-)

Certificate of completion for Microbiome Bioinformatics with QIIME2 (2021-)

PUBLICATIONS

Wang, N. R., Melnyk, R. A., Wiesmann, C. L., Hossain, S. S., **Chi, M. H.**, Martens, K. & Haney C. H. 2021. Commensal *Pseudomonas fluorescens* protect Arabidopsis from closely-related *Pseudomonas* pathogens in a colonization-dependent manner. mBio. (Accepted)

Ray, P., Guo, Y., **Chi, M. H.**, Krom, N., Boschiero, C., Watson, B., Huhman, D., Zhao, P., Singan, V. R., Lindquist, E. A., Yan, J., Adam, C., & Craven, K. D. 2021. *Serendipita* fungi modulate the switchgrass root transcriptome to circumvent host defenses and establish a symbiotic relationship. MPMI. Doi: 10.1094/MPMI-04-21-0084-R

Ray, P., Guo, Y., **Chi, M. H.**, Krom, N., Saha, M. C. & Craven, K. D. 2020. *Serendipita bescii* promotes winter wheat growth and modulates the host root transcriptome under phosphorus and nitrogen starvation. Environmental Microbiology, doi: 10.1111/1462-2920.15242.

Ray, P., **Chi, M. H.**, Guo, Y., Chen, C., Adam, C., Kuo, A., LaButti, K., Lipzen, A., Barry, K. W., Grigoriev, I. V., Tang, Y. & Craven, K. D. 2018. Genome sequence of the plant growth-promoting fungus *Serendipita vermifera* subsp. *bescii*: The first native strain from North America. Phytobiomes Journal, 2 (2), 62-63 <https://doi.org/10.1094/PBIOMES-04-17-0017-A>.

Chi, M. H., and Craven, K. D. 2016. RacA-mediated ROS signaling is required for polarized cell differentiation in conidiogenesis of *Aspergillus fumigatus*. PloS one, 11(2), e0149548.

Chi, M. H. and Craven, K. D. 2013. Oxygen and an extracellular phase transition independently control central regulatory genes and conidiogenesis in *Aspergillus fumigatus*. PLoS ONE. 8: e74805.

Park, S. Y., Choi, J., Lim, S. E., Lee, G. W., Park, J., Kim, Y., Kong, S., Kim, S. Rho, H. S., Jeon, J. **Chi, M. H.**, Kim, S., Khang, C. H., Kang, S. and Lee Y. H. 2013. Global expression profiling of transcription factor genes provides new insights into pathogenicity and stress responses in the rice blast fungus. PLoS Pathogens. 9: e1003350.

Park, S. Y., **Chi, M. H.**, Milgroom, G. M., Kim, H., Han, S. S., Kang, S and Lee, Y. H. 2010. Genetic stability of *Magnaporthe oryzae* during successive passages through rice plants and on artificial medium. Plant Pathol. J. 26(4): 313-320

Chi, M. H., Park, S. Y., Kim, S. and Lee, Y. H. 2009. A novel pathogenicity gene is required in the rice blast fungus to suppress the basal defenses of the host. PLoS Pathogens. 5: e1000401

Chi, M. H., Park, S. Y., Kim, S., Lee, Y. H. 2009. A quick and safe method for fungal DNA extraction. Plant Pathol. J. 25: 108-111.

Yi, M., **Chi, M. H.**, Khang, C. H., Park, S. Y., Kang, S. Valent, B., and Lee, Y. H. 2009. The ER chaperone LHS1 is involved in asexual development and rice infection by the blast fungus *Magnaporthe oryzae*. Plant Cell. 21: 681-695.

Park, S. Y., Jwa, N. S., **Chi, M. H.**, Lee, Y. H. 2009. A fluorescence-based cDNA-AFLP method for identification of differentially expressed genes. Plant Pathol. J. 25: 184-188.

Kim, S., Park, S. Y., Kim, K. S., Rho, H. S., **Chi, M. H.** Choi, J., Park, J., Kong, S., Park, J., Goh, J., and Lee, Y. H. 2009. Homeobox transcription factors are required for conidiation and appressorium development in the rice blast fungus *Magnaporthe oryzae*. PLoS Genetics 5: e1000757.

Jeon, J. Goh, J. Yoo, S. **Chi, M. H.** Choi, J. Rho, H. S. Park, J. Han, S. S. Kim, B. R. Park, S. Y. Kim, S. and Lee, Y. H. 2008. A putative MAP kinase kinase kinase, MCK1, is required for cell wall integrity and pathogenicity of the rice blast fungus, *Magnaporthe oryzae*. Mol. Plant Microbe Interact. 21: 525-534.

Choi, J. Park, J. Jeon, J. **Chi, M. H.** Goh, J. Yoo, S. Y. Park, J. Jung, K. Kim, H. Park, S. Y. Rho, H. S. Kim, S. Kim, B. R. Han, S. S. Kang, S. and Lee, Y. H. 2007. Genome-wide analysis of T-

DNA integration into the chromosomes of *Magnaporthe oryzae*. Mol. Microbiol. 66: 371-382.

Jeon, J. Park, S. Y. **Chi, M. H.** Choi, J. Park, J. Rho, H. S. Kim, S. Goh, J. Yoo, S. Choi, J. Park, J. Y. Yi, M. Yang, S. Kwon, M. J. Han, S. S. Kim, B. R. Khang, C. H. Park, B. Lim, S. E. Jung, K. Kong, S. Karunakaran, M. Oh, H. S. Kim, H. Kim, S. Park, J. Kang, S. Choi, W. B. Kang, S. and Lee, Y. H. 2007. Genome-wide functional analysis of pathogenicity genes in the rice blast fungus. Nat. Genet. 39: 561-565.

SCIENTIFIC COMMUNITY SERVICES

2013-Present Manuscript reviewer for The Plant Pathology Journal, PLOS ONE, Research in Plant Disease and Mycobiology
 2016-2018 Editorial Board of Mycobiology and Research in Plant Disease

INVITED SEMINARS

2019. 10. “Biology of a Plant-beneficial Mycorrhizae, *Serendipita bescii*”
 at Seoul National University, Suncheon National University, and Korean
 Institute of Science and Technology

EXTRACURRICULAR ACTIVITIES

1996.12- 1999. 02 Military Service as an infantry in Korean Army
 2000.03 - 2001.02 Head of classical music club in Seoul National University
 2004.03 - 2005.02 President of student association for Division of Plant Microbiology
 2000.09 - 2000.12 President of student association for Division of Agricultural Biology
 2014.08 – 2019.09 Leader of Noble tennis team and organizer of annual tournament event

References

Dr. Yong-Hwan Lee

Professor/Director

Department of Agricultural Biotechnology

Center for Fungal Genetic Resources

Seoul National University, Seoul 152-921, Korea

Email: yonglee@snu.ac.kr, Phone: +82-2-880-4674

Dr. Kelly D. Craven

Email: kdcraven999@gmail.com, Phone: 580-222-6311

Dr. Barbara Valent

University Distinguished Professor

Member of the National Academy of Science

Department of Plant Pathology

Kansas State University, Manhattan, KS 66506, USA

Email: bvalent@ksu.edu, Phone: 785-532-2336

Shawn Norton

Field Plot Operations Manager

Noble Research Institute

2510 Sam Noble Parkway, Ardmore, OK 73401, USA

Email: slnorton@noble.org, Phone: 580-220-8971