PEI-LING YU

Department of Plant Pathology
University of Florida
2550 Hull Road, Gainesville, FL 32611
Email: plyu@ufl.edu | Phone: 352-283-3273
LinkedIn: www.linkedin.com/in/pei-ling-yu-384299117/

EDUCATION

Ph.D. in Plant Pathology May 2021
University of Florida FL
Advisor: Dr. Jeffrey A Rollins
Dissertation: Study of host-fungal pathogen interactions in *Arabidopsis thaliana–Sclerotinia sclerotiorum* (Lib.) de Bary pathosystem: early infection process and regulation of cAMP/PKA signaling pathway in fungal development and virulence

M.S. in Plant Pathology 2012
National Chung Hsing University Taiwan
Advisor: Dr. Miin-Huey Lee
Master thesis: Cloning and functional analysis of an oxidative stress-regulated gene *MfAP1* from *Monilinia fructicola*

B.S. in Plant Pathology 2010
National Chung Hsing University Taiwan
Advisor: Dr. Miin-Huey Lee
Special Topics Research & Internship: Secondary metabolites antagonistic to bacterial or fungal plant pathogens from *Monilinia fructicola*

RESEARCH AND WORK EXPERIENCE

Post-Doctoral Associate 2021–
Department of Plant Pathology, University of Florida FL
- Writing grant proposal for the independent research.
- Generating Research Performance Progress Report toward USDA-NIFA
- Publishing results in the research and conferences journals
- Design and implement research protocols
- Developing the platform for fast plant pathogens identification integrated with breeding program to select disease resistance plant varieties.

Graduate Research Assistant 2016 – 2021
Department of Plant Pathology, University of Florida FL
- Designed and executed experiments to study the host-fungal pathogen interactions in *Arabidopsis thaliana–Sclerotinia sclerotiorum* pathosystem.

- Performed comparative transcriptome analysis to elucidate the early phase of *Sclerotinia* infection.
- Conducted CRISPR-Cas9 gene editing to study the regulation of cAMP/PKA signaling pathway in *S. sclerotiorum.*
- Studied carbohydrate metabolism with microplate and enzyme assays.
- Investigating infection process via GFP-expressing *S. sclerotiorum* strain.
- Reporting scientific finding via conference presentations, posters, and peer-reviewed publications.

Research Assistant 2015 – 2016
Department of Plant Pathology, National Chung Hsing University Taiwan

- Studied signaling pathways regarding osmotic and oxidative stress, fungicide sensitivity, and pathogenesis in *Alternaria alternata* causing Alternaria brown spot of citrus.
- Identified targets of membrane-bound NADPH oxidase using yeast two-hybrid system.
- Reporting scientific findings through peer-reviewed manuscripts.

Research Assistant 2012 – 2014
Department of Plant Pathology, National Chung Hsing University Taiwan

- Studied interactions between brown rot pathogen *Monilinia fructicola* and peach.
- Participated in international cooperative research project between National Chung Hsing University and University of California, Davis regarding Plant-Pathogen interactions.
- Functionally characterized transcription factor YAP1 homolog and five endo-polygalacturonase-encoding genes via gene-overexpression and gene-silencing strategy.
- Examination of infection progress of *M. fructicola* and monitoring of ROS accumulation in infected plant tissues.
- Verification of expression patterns of antioxidant-related and virulence-related genes during pathogenesis via qRT-PCR.
- Genomic DNA and total RNA extraction for next-generation sequencing.
- Reporting scientific findings through peer-reviewed manuscripts.

PUBLICATIONS

Google Scholar profile: https://scholar.google.com/citations?user=hxkX-WgAAAAJ&hl

- **Pei-Ling Yu,** Chenggang Wang, Yucheng Zhang, and Jeffrey A. Rollins. Comparative transcriptome analysis supports a two-phase infection model for *Sclerotinia sclerotiorum* infection of *Arabidopsis thaliana*. *In preparation*.
- **Pei-Ling Yu** and Jeffrey A. Rollins. The regulation of virulence in *Sclerotinia sclerotiorum* by cyclic AMP–protein kinase A signaling pathway. *In preparation*.
- Jingtao Li, Yanhua Zhang, Yucheng Zhang, **Pei-Ling Yu**, Hongyu Pan, and Jeffrey A. Rollins. 2018. Introduction of large sequence inserts by CRISPR-Cas9 to create pathogenicity mutants in the multinucleate filamentous pathogen *Sclerotinia sclerotiorum*. mBio, 9(3): e00567-18.

- Hsien-Che Lin, **Pei-Ling Yu**, Li-Hung Chen, Hsieh-Chin Tsai, and Kuang-Ren Chung. 2018. A major facilitator superfamily transporter regulated by the stress-responsive transcription factor Yap1 is required for resistance to fungicides, xenobiotics, and oxidants and full virulence in *Alternaria alternata.* Front Microbiol 9: 2229
- **Pei-Ling Yu**, Chiu-Min Chiu, Pei-Yin Chen, and Miin-Huey Lee. 2017. The YAP1 homolog-mediated redox sensing is crucial for a successful infection by *Monilinia fructicola*. Molecular Plant Pathology, 18(6): 783-797. * *This paper being featured on the cover of the journal.*
- Li-Hung Chen, Hsieh-Chin Tsai, **Pei-Ling Yu,** and Kuang-Ren Chung. 2017. A major facilitator superfamily transporter-mediated resistance to oxidative stress and fungicides requires Yap1, Skn7, and MAP kinases in the citrus fungal pathogen *Alternaria alternata*. PLoS ONE, 12(1): e0169103.
- **Pei-Ling Yu**, Li-Hung Chen, and Kuang-Ren Chung. 2016. How the pathogenic fungus *Alternaria alternata* copes with stress via the response regulators SSK1 and SHO1. PLOS ONE, 11(2): e0149153.
- Siwy-Ling Yang**, Pei-Ling Yu**, and Kuang-Ren Chung. 2015. The glutathione peroxidase–mediated reactive oxygen species resistance, fungicide sensitivity and cell wall construction in the citrus fungal pathogen *Alternaria alternata*. Environmental Microbiology, 18(3):923-35.
- Chien-Ming Chou, Fang-Yi Yu, **Pei-Ling Yu**, Jia-Fang Ho, Richard M. Bostock, Kuang-Ren Chung, Jenn-Wen Huang, and Miin-Huey Lee. 2015. Expression of five endopolygalacturonase genes and demonstration that MfPG1 overexpression diminishes virulence in the brown rot pathogen *Monilinia fructicola*. PLOS ONE, 10(6): e0132012.
- Chiu-Min Chiu, Bang-Jau You, Chien-Ming Chou, **Pei-Ling Yu**, Fang-Yi Yu, Shiah-Mei Pan, Richard M. Bostock, Kuang-Ren Chung, and Miin-Huey Lee. 2013. Redox status-mediated regulation of gene expression and virulence in the brown rot pathogen *Monilinia fructicola*. Plant Pathology, 62: 809-819

CONFERENCE PAPERS

- Comparative transcriptome analysis uncovers a two-phase infection process of *Sclerotinia sclerotiorum* on *Arabidopsis thaliana*. Chosen for oral presentation at BotrySclero2021 webinar. 2021.
- The regulation of sclerotium initiation and virulence in *Sclerotinia sclerotiorum* by cyclic AMP–protein kinase A signaling pathway. Oral presentation at APS annual meeting: Plant Health 2020. 2020.
- Testing a two-phase infection model in *Sclerotinia sclerotiorum* through comparative transcriptome profiling of wild type and oxalic acid – minus mutants. Poster presented at 30th Fungal Genetics Conference. 2019.
- Identifying oxalic acid independent compatibility factors from *Sclerotinia sclerotiorum*. Poster presented at International Congress of Plant Pathology (ICPP) 2018: Plant Health in A Global Economy. 2018.
- Functional analysis of an oxidative stress-regulated gene *MfAP1* from *Monilinia fructicola*. Poster presented at XV International Congress of Molecular Plant-Microbe Interactions. 2012.

AWARDS

Named Student Travel Awards 2020
American Phytopathological Society Foundation MN

Government Scholarship to Study Abroad 2018-2020
Ministry of Education Taiwan

Travel Award 2018
Plant Pathology Graduate Student Organization, University of Florida FL

IFAS/CALS Graduate Student Travel Grant 2018
IFAS Shared Service Center, University of Florida FL

LEADERSHIP AND TEAMWORK

Committee member 2021-
University of Florida Postdoctoral Association

Peer reviewer 2020 – present
Phytopathology MN

Co-chair of Social committee 2020
Plant Pathology Graduate Student Organization, University of Florida FL
- Organized spring BBQ social event and team challenge course.
- Active member of outreach, fundraising, and social committees since 2016.

Committee member 2019-2021
American Phytopathological Society Graduate Student Committee FL

Volunteer 2019
2019 CATALySES program, University of Florida CPET FL
- Assisted teachers on microscope examination of samples

LABORATORY SKILLS

- **Molecular biology**: CRISPR-mediated gene editing, RNA silencing, qRT-PCR, PCR primer design, DNA/RNA/Protein extraction, northern and southern blotting, molecular cloning, *Agrobacterium*-mediated fugal transformation, PEG-mediated protoplast transformation
- **Microbiology**: light microscope, fluorescent microscope, laser confocal microscopy

COMPUTER SKILLS

RNA-seq data analysis, R, Shell/Bash, SAS, Microsoft Office

LANGUAGES

English (fluent), Chinese (native)

TEACHING EXPERIENCE

Guest lecture 2020
Department of Plant Pathology, University of Florida FL
- Lecture 12: Fungal Pathogens in Row Crops vs. Perennial Crops

Teaching Assistant 2017
Department of Plant Pathology, University of Florida FL
- Teaching assistant for Fungal Plant Pathogens.
- Instructed students on sampling and examination of field samples.
- Assisted students complete their lab assignments.

Teaching Assistant 2010
Department of Plant Pathology, National Chung Hsing University Taiwan
- Teaching assistant for Experiments in Physiological and Molecular Plant Pathology.
- Designed and prepared materials for experiments.
- Evaluated students' oral presentations.

MENTORING

University of Florida
Owen Hudson – PhD student 2021–

University of Florida
Elizabeth A White – Lab Technician 2019–2020

National Chung Hsing University
Chang-Xian Chen – Master's student 2015–2016
Pin Hua Wang – Master's student 2015–2016
Irene Hsiang – Master's student 2015–2016
Chiao-Yin Yang – Undergraduate student 2012
Ying-Chieh Pan – Undergraduate student 2012

PROFESSIONAL AFFILIATIONS

- AAAS/Science, 2021-present
- Genetics Society of America, 2019-present
- Florida Phytopathological Society, 2018-present
- American Phytopathological Society, 2012-present