

CURRICULUM VITAE

DongHyeon Lee (Ph.D. student in Microbiology and Forest Pathology)

Permanent address

1414-302, Jugong APT, Sanggae-Dong,
Nowon-Gu, Seoul 139-764, Republic of, Korea

Present address

FABI, University of Pretoria,
Cnr. of Lynnwood and University Rds, Hatfield, Pretoria, 0083, South Africa

EDUCATION

- 3/2009 – 2/2011 M.S., Agriculture (Tree Pathology), Department of Forest Environment Protection, Kangwon National University, South Korea. (GPA 4.0/4.0)
Thesis Title : Detection of *Phytophthora Katsurae* using PCR techniques.
- 3/2003 – 2/2009 B.S., Agriculture, Department of Forest Environment Protection, Kangwon National University, South Korea. (GPA 3.35/4.0, Major 3.54/4.0)
Thesis Title : Detection of *Rhizina undulata* in soil by Nested-PCR Using rDNA ITS-specific Primer

RESEARCH EXPERIENCE

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| 2/2012 – Present | Researcher | Research project (Wattle wilt disease caused by tree pathogenic fungus, <i>Ceratocystis albifundus</i>) supported by Tree Protection Co-operative Program (TPCP), the National Research Foundation and the THRIP initiative of the Department of Trade and Industry (DTI), and the Department of Trade and Industry (DST)/NRF Centre of Excellence in Tree Health Biotechnology (CTHB), South Africa |
| 2/2012 – Present | Researcher | Pest and Pathogen Diagnostic Clinic at Forestry and Agricultural Biotechnology Institute (FABI) supported by Tree Protection Co-operative Program (TPCP) and (DST)/NRF Centre of Excellence in Tree Health Biotechnology (CTHB), South Africa |
| 3/2009 – 2/2011 | Researcher | Research project (Chestnut ink disease caused by <i>Phytophthora katsurae</i>) supported by Korea Forestry Service, South Korea |
| 3/2008 – 2/2009 | Lab. Assistant | Tree Pathology & Virology Lab. Dept. Forest Resource Protection, College of Forestry, Kangwon National University, South Korea |

SKILLS, TRAININGS, MEMBERS, AND AWARDS

Research Skills

- Screening for fungal pathogens such as *Fusarium circinatum* causing Pitch canker on Pine trees.
- Isolation, Culture and Storage of Fungi
- Pathogenicity Test of Tree Pathogens by Log inoculation and Trunk inoculation using fungal pathogens.
- Microscopic Techniques including Image Analysis by Computer
- Fungicide Screening
- Designing specific primers for the detection of fungal pathogens
- PCR techniques including conventional PCR, nested PCR, SCARs, duplex PCR, and SSCP
- Real-time PCR (Quantitative PCR, Precision Melt Analysis)
- Grafting of tree seedlings

Computer Skills Related with Running Experiments

- R for statistical analysis
- Sigma plot for schematic presentation
- Sequence analysis (CLC genomic / main work bench, BioEdit, DNASTAR)
- Phylogenetic analysis (MEGA, PAUP, Phyml, MrBayes, Tracer, Beast)
- Population study (GeneMapper, Principle coordinate analysis, Popgene, Structure, Multilocus, TCS, NTSYSpc)

Training

- Advanced Phylogenetic Workshop 11/2013
- Introductory Statistics with R Course 10/ 2013
- Micosatellite Workshop 9/2013
- Introductory Phylogenetic Workshop 5/2012
- Investigation of the Fungal and Bacterial Biodiversity in Japan National Parks 1/2011 – 2/2011
- Korean Red Cross, First Aid and AED Instructors Course 8/2009 – 9/2009
- Korea Forest Service, Forest Interpreter Course 3/2009 – 7/2009
- Forest Engineer Course 11/2008
- Military Service 12/2003 – 12/2005

Professional Memberships

- Student Member of Southern African Society for Plant Pathology 1/2013 - Present
- Student Member of Korean Society of Plant Pathology 3/2009 – Present
- Student Member of Australasian Plant Pathology 11/2011 – Present

Awards

- Academic Achievement Scholarship (Bachelor's degree), Kangwon National University 3/2007 - 9/2008
- Academic Achievement Scholarship (Master's degree), Kangwon National University 3/2009

PUBLICATIONS

1. **Dong-Hyeon Lee, Sun-Keun Lee, Sang-Yong Lee and Jong-Kyu Lee, 2013.**
Development of SCAR Markers for the Identification of *Phytophthora katsurae* Causing Chestnut Ink Disease in Korea.
2. **Dong-Hyeon Lee, Sun-Keun Lee, Sang-Hyun Lee, Sang-Yong Lee and Jong-Kyu Lee, 2012.**
Accurate detection of chestnut ink disease causing *Phytophthora katsurae* by nested PCR
3. **Dong-Hyeon Lee, Sun-Keun Lee, Sang-Hyun Lee, Sang-Yong Lee and Jong-Kyu Lee, 2012.**
A Duplex PCR for Detection of *Phytophthora katsurae* Causing Chestnut Ink Disease
4. Sun-Keun Lee, Ha-Na Jang, **Dong-Hyeon Lee**, Jong-Kyu Lee, Sang-Hyun Lee and Sang-Yong Lee, 2011.
Molecular Characteristics of *Phytophthora katsurae* using PCR-SSCP analysis

PRESENTED POSTERS

1. The wattle wilt pathogen *Ceratocystis albifundus* displays multiple reproduction strategies in nature
2. Pathogenicity test of *Phytophthora katsurae* on different chestnut cultivars by artificial inoculation, and their detection from the inoculated seedlings by nested PCR and fluorescence microscopy
3. Morphological and cultural characteristics of *Phytophthora katsurae*, the fungus causing chestnut ink disease in Korea, and their molecular detection
4. Southern Hybridization Detection of *Rhizina undulata* in Soil Using DIG-labelled cDNA Probes Synthesized by ITS-specific primers
5. A duplex PCR-based method for the identification and detection of *Phytophthora katsurae* causing Chestnut Ink Disease.
6. Accurate and Sensitive Detection of *Phytophthora katsurae* from Artificially Infected Chestnut Tissue and Soil by Nested Polymerase Chain Reaction
7. Application of Sequence Characteristic Amplification Regions (SCARs) Markers for Detecting *Phytophthora katsurae*, the Fungal Pathogen of Chestnut Ink Disease in Korea
8. Detection of *Phytophthora katsurae* using PCR-SSCP of nuclear DNA β -Tubulin