

## Biographical Sketch

Sharon Lafferty Doty

Professor

### a. Education and Training

University of California, Davis	Genetics	B.Sc.	1989
University of Washington	Microbiology	Ph.D.	1995
University of Washington	Biochemistry	postdoc	1995-2003

### b. Professional Experience:

Professor, School of Environmental and Forest Sciences, College of the Environment, University of Washington, Sept. 16, 2016 (present position)

Adjunct Professor, Department of Microbiology, UW. Feb 1, 2017 (present position)

Associate Professor, SEFS, CoEnv, UW, 2009-2016

Assistant Professor, College of Forest Resources, UW, Sept. 15, 2006- Sept 14, 2009

Research Assistant Professor, College of Forest Resources, UW, August 1, 2003- September 14, 2006

### c. Publications in the last three years

#### i. Peer-reviewed

1. Firrincieli, A., Otilar, R., Salamov, A., Schmutz, J., Khan, Z., Redman, R. S., Fleck, N. D., Lindquist, E., Grigoriev, I. V., Doty, S. L. Genome Sequence of the Plant Growth Promoting Endophytic Yeast *Rhodotorula graminis* WP1. *Frontiers in Microbiology*. **2015**, 6 978.
2. Khan, Z.; Kandel, S.; Ramos, D.; Ettl, G. J.; Kim, S.-H.; Doty, S. L. Increased biomass of nursery-grown Douglas-fir seedlings upon inoculation with diazotrophic endophytic consortia. *Forests*. **2015**, 6 3582-3593.
3. Weir, E.; Doty, S. L. Social Acceptability of Phytoremediation: The Role of Risk and Values. *Intern. J. Phytoremediation*. **2016**, 118 (10), 1029-1036.
4. Doty, S. L.; Sher, A. W.; Fleck, N. D.; Khorasani, M.; Bumgarner, R.; Khan, Z.; Ko, A. W. K.; Kim, S. H.; DeLuca, T. H. Variable nitrogen fixation in wild *Populus*. *PLoS One*. **2016**, 11 (5), e0155979.
5. Khan, Z.; Rho, H.; Firrincieli, A.; Luna, V.; Hung, S. H.; Kim, S.-H.; Doty, S. L. Growth enhancement and drought tolerance of hybrid poplar upon inoculation with endophyte consortia. *Current Plant Biology*. **2016**, 6 38-47.
6. Kandel, S.; Firrincieli, A.; Joubert, P. M.; Okubara, P. A.; Leston, N.; McGeorge, K.; Harfouche, A.; Mugnozza, G. S.; Doty, S. L. An *in vitro* study of bio-control and plant growth promotion potential of Salicaceae endophytes. *Frontiers in Microbiology*. **2017**, 8 (386), 1-16.
7. Legault, E. K.; James, C. A.; Stewart, K.; Muiznieks, I.; Doty, S. L.; Strand, S. E. A Field Trial of TCE Phytoremediation by Genetically Modified Poplars Expressing Cytochrome P450 2E1. *Environ. Sci Technol*. **2017**, 51 (11), 6090-6099.
8. Doty, S. L.; Freeman, J. L.; Cohu, C. M.; Burken, J. G.; Firrincieli, A.; Simon, A.; Khan, Z.; Isebrands, J. G.; Lukas, J.; Blaylock, M. J. Enhanced Degradation of TCE on a Superfund Site Using Endophyte-Assisted Poplar Tree Phytoremediation. *Environ. Sci Technol*. **2017**, 51 (17), 10050-10058.
9. Rho, H.; Hsieh, M.; Kandel, S. L.; Cantillo, J.; Doty, S. L.; Kim, S. H. Do Endophytes Promote Growth of Host Plants Under Stress? A Meta-Analysis on Plant Stress Mitigation by Endophytes. *Microb. Ecol*. **2017**, doi:10.1007/s00248-017-1054-3 .
10. Okubara, P. A.; Kumar, N.; Hohenwarter, N.; Graham, D.; Kandel, S. L.; Doty, S. L.; Micknass, U.; Kogel, K. H.; Imani, J. Inhibition of fungal and bacterial plant pathogens by VEG'LYS<sup>®</sup>, an *Allium*-based antimicrobial formulation. *J. Biol. & Nature*. **2017**, 8 (2), 40-51.
11. Kandel, S., Joubert, P., and Doty, S.L. **2017**. Bacterial endophyte colonization and distribution within plants. *Microorganisms* 5, 77; doi:10.3390/microorganisms5040077
12. Asaf Levy, Scott Clingenpeel, Isai Salas Gonzalez, Sur Herrera Paredes, Kyra Stillman, Freddy Monteiro, Bryan Rangel Alvarez, Derek Lundberg, Tse-Yuan Lu, Sarah Lebeis, Zhao Jin, Meredith

McDonald, Meghan Feltcher, Tijana Glavina del Rio, Sarah Grant, Ruth Ley, Sharon Doty, Dale Pelletier, Tanja Woyke, Susannah G. Tringe, Jeffery L. Dangl. **2017**. Genetic determinants of bacterial adaptation to plants. *Nature Genetics* 50:138-150.

13. Rho, H., Van Epps, V., Wegley, N., Doty, S.L., and Kim, S.-H. **2018**. Salicaceae endophytes modulate stomatal behavior and increase water use efficiency in rice. *Frontiers in Plant Science* (in press) DOI: 10.3389/fpls.2018.00188

**ii. Non-peer-reviewed publications in the last three years:**

1. Sharon L. Doty. 2016. Key roles of the poplar microbiome. *Poplar and Willow News*. Issue #6.
2. Sharon L. Doty. 2016. Editorial: Plant-microbe symbiotic interactions. *Plant Molecular Biology* 90(6)1.
3. Sharon L. Doty. 2017. Chapter 1: Functional Importance of the Plant Endophytic Microbiome: Implications for Agriculture, Forestry and Bioenergy. In *Functional Importance of the Plant Endophytic Microbiome: Implications for Agriculture, Forestry and Bioenergy*. Sharon L. Doty, editor. Springer doi: 10.1007/978-3-319-65897-1
4. Sharon L. Doty. 2017. Chapter 2: Endophytic Nitrogen Fixation: Controversy and a Path Forward. In *Functional Importance of the Plant Endophytic Microbiome: Implications for Agriculture, Forestry and Bioenergy*. Sharon L. Doty, editor. Springer doi: 10.1007/978-3-319-65897-1
5. Pierre M. Joubert and Sharon L. Doty. 2018. Endophytic Yeasts: Biology, Ecology and Applications. In *Endophytes of Forest Trees: Biology and Applications*, 2<sup>nd</sup> edition. AM Pirttila and AC Carolin, eds. Springer (in press)

**d. Synergistic Activities**

1. International Roles: Vice-president of the International Symbiosis Society (2015-2019). Chair of the Working Party on Environmental & Ecosystem Services for the International Poplar Commission of the United Nations (2012-2016; re-elected 2016-2020). Participating faculty in the Joint Institute for Integrative Microbiology Research and Education (JIIM) between South China Agricultural University (SCAU) and University of Washington.
2. Editorial roles: Guest co-editor of Special Issue of *Plant Molecular Biology* on symbiotic microorganisms (2015-2016). Associate Editorial Board of *Microbial Symbioses*, a specialty section of *Frontiers in Microbiology* (Jan 2016-present). Editor of Springer book, “Functional Importance of the Plant Endophytic Microbiome: Implications for Agriculture, Forestry and Bioenergy”. Guest editor of special issue of *Microorganisms* on Symbiotic Plant-Bacterial Endospheric Interactions (2017-2018)
3. Panel Member: Scientific Advisory Council member (and Chair 2018) for the Department of Energy Pacific Northwest National Laboratory (2016-2021). Department of Energy grant proposal review panel member (Dec 2015-Feb 2016). Scientific Program Committee member for the 9<sup>th</sup> International Symbiosis Society conference (2017-2018). Ad hoc reviewer for NSF/NIFA/USDA grant proposal (2018)
4. Oral presentations since autumn 2015: Invited presentations at the International Plant and Animal Genomics (PAG) conferences in San Diego (2015, 2016, 2017, 2018), at the Agricultural Bioscience International Conference in Australia (2015), and at the International Congress on N-Fixation (2015). Invited speaker at the International Congress on Frontiers in Biology in Brazil. Invited presentations for the 15<sup>th</sup> Symposium on N-Fixation in Non-Legumes in Budapest (2016) and plenary speaker at the 25<sup>th</sup> Session of the International Poplar Commission in Berlin (2016). Invited plenary speaker for the International Congress on N-Fixation (Sept 2017) in Granada, Spain. Oral presentation at the International Phytotechnologies Conference in Montreal (Sept. 2017). Invited speaker for the Biocontrol, Biostimulation and Microbiome Congress (2018).

5. Awards and Honors: Chosen by Illumina for subject of research video as part of their series on “Adventures in Genomics”, receiving tens of thousands of views (2018). University of Washington Undergraduate Research Mentor Award (2017). Ranked by SEFS as Highly Meritorious (2017). Invited seminar speaker for University of Missouri’s Interdisciplinary Plant Group (2015). UW School of Environmental and Forest Sciences Faculty Member of the Year award (2014). Invited speaker by the Biology Graduate Student Association at Idaho State University (2014).