

## **Derek W. Wood**

Department of Biology  
3307 3<sup>rd</sup> Ave W, Suite 205  
Seattle Pacific University  
Seattle, WA 98119  
[woodd1@spu.edu](mailto:woodd1@spu.edu)  
(206) 281-2955 (Work)

### ***Education***

- **Doctor of Philosophy.** **1997**  
University of Arizona, Tucson, AZ.  
Major: Plant Pathology  
Minor: Biochemistry
- **Bachelor of Science.** **1991**  
cum laude  
Washington State University, Pullman, WA.  
Major: Microbiology  
Minor: History

### ***Professional Experience***

- **Chair.** Department of Biology, **2013-present**  
Seattle Pacific University, Seattle, WA.  
Genomics Education in the Undergraduate Curriculum.
- **Associate Professor.** Department of Biology, **2008-present**  
Seattle Pacific University, Seattle, WA.  
Genomics Education in the Undergraduate Curriculum.
- **Affiliate Associate Professor.** Department of Microbiology, **2008-present**  
University of Washington, Seattle, WA.  
Biology and genomic analyses of *Agrobacterium*.
- **Assistant Professor.** Department of Biology, **2004-2008**  
Seattle Pacific University, Seattle, WA.  
Genome biology of prokaryotes.
- **Affiliate Assistant Professor.** Department of Microbiology, **2005-2008**  
University of Washington, Seattle, WA.  
Biology and genomic analyses of *Agrobacterium*.
- **Research Assistant Professor.** Department of Microbiology, **2004-2005**  
University of Washington, Seattle, WA.  
Biology and genomic analyses of *Agrobacterium*.

## **Selected Grants and Awards**

### **National Science Foundation TUES phase II. #7325436**

Authentic discovery based research in college sciences curricula: Assessing the impacts on students and faculty.

9/01/13-9/30/16; \$599,067 (Direct plus indirect).

Wood, PI

Effort: none

### **Monsanto Fund**

The Genomics Education National Initiative (GENI): A community-based research curriculum focused on functional genomics.

07/01/09-07/31/10; \$251,941 (Direct plus indirect)

Slater, PI; Wood, co-PI

Effort: No salary

### **Seattle Pacific University Faculty Research Grant**

Enhanced recombination in *Agrobacterium tumefaciens*.

06/01/09-8/31/09; \$4,000 (Direct plus indirect)

Wood, PI

Effort: No salary

### **National Science Foundation CCLI program proposal #0736671**

Collaborative research: Genomics as the foundation of a new undergraduate curriculum.

02/28/08-02/28/10; \$163,146 (Direct plus indirect)

Slater, PI; Wood, co-PI

Effort: 5% annual academic release

### **Murdock College Research Program for Life Sciences. #2006245:JVZ**

Defining the role of newly identified virulence genes in the biotechnology agent *Agrobacterium tumefaciens*.

06/15/07-09/30/10; \$42,125 (Direct plus indirect)

Wood, PI

Effort: 3 Sumr through summer 08

### **National Science Foundation proposal MCB#0333297**

Genome sequencing of *Agrobacterium* biovar type strains.

10/01/03-09/30/05; \$1,039,782 (Direct plus indirect).

Eugene W. Nester, PI; Wood, co-PI

Effort: 1.8 Acad; 3 Sumr

### **National Science Foundation proposal MCB#0646895**

Sequencing *Agrobacterium rhizogenes* A4. Supplement to: Genome sequencing of *Agrobacterium* biovar type strains.

10/01/03-09/30/05; \$18,000 new + 30,000 redirect (Direct plus indirect).

Eugene W. Nester, PI; Wood, co-PI

Effort: no salary

### **National Science Foundation proposal #0523357**

Microbial Genome Sequencing: Genome sequencing and analysis of *Azotobacter vinelandii*.

10/01/05-09/30/07; \$289,975 (Direct plus indirect).

Wood, PI

Effort: 1.8 Acad

### **Murdock College Research Program for Life Sciences. 2004262:JVZ**

Defining the role of newly identified virulence genes in the biotechnology agent *Agrobacterium tumefaciens*.

06/15/05-09/30/05; \$49,212 (Direct plus indirect)

Wood, PI

Effort: 1 Sumr

### **Selected Publications**

- Slater S, Setubal JC, Goodner B, Houmiel K, Sun J, Kaul R, Goldman BS, Farrand SK, Almeida N Jr, Burr T, Nester E, Rhoads DM, Kadoi R, Ostheimer T, Pride N, Sabo A, Henry E, Telepak E, Cromes L, Harkleroad A, Oliphant L, Pratt-Szegila P, Welch R and **Wood D**. 2013. The Genome of *Agrobacterium tumefaciens* C58: Reconciliation of sequence data, updated annotation, and distribution of linear chromosome in genus *Agrobacterium*. *Appl Environ Microbiol*. 79(4):1414-7.
- João C. Setubal, Patricia dos Santos, Barry S. Goldman, Helga Ertesvåg, Guadalupe Espin, Luis M. Rubio, Svein Valla, Nalvo F. Almeida, Divya Balasubramanian, Lindsey Cromes, Leonardo Curatti, Zijin Du, Eric Godsy, Brad Goodner, Kaitlyn Hellner-Burris, José A. Hernandez, Katherine Houmiel, Juan Imperial, Christina Kennedy, Timothy J. Larson, Phil Latreille, Lauren S. Ligon, Jing Lu, Mali Mærk, Nancy M. Miller, Stacie Norton, Ina P. O'Carroll, Ian Paulsen, Estella Raulfs, Rebecca Roemer, James Rosser, Daniel Segura, Steve Slater, Shawn L. Stricklin, David J. Studholme, Jian Sun, Carlos J. Viana, Erik Wallin, Baomin Wang, Cathy Wheeler, Huijun Zhu, Dennis R. Dean, Ray Dixon, **Derek Wood**. 2009. The genome sequence of *Azotobacter vinelandii*, an obligate aerobe specialized to support diverse anaerobic metabolic processes. *J Bacteriol*. 191(14):4534-4545 (**Journal Cover**)
- Slater SC, Goldman BS, Goodner B, Setubal JC, Farrand SK, Nester EW, Burr TJ, Banta L, Dickerman AW, Paulsen I, Otten L, Suen G, Welch R, Almeida NF, Arnold F, Burton OT, Du Z, Ewing A, Godsy E, Heisel S, Houmiel KL, Jhaveri J, Lu J, Miller NM, Norton S, Chen Q, Phoolcharoen W, Ohlin V, Ondrusek D, Pride N, Stricklin SL, Sun J, Wheeler C, Wilson L, Zhu H, **Wood D.W.** 2009. Genome Sequences of Three *Agrobacterium* Biovars help Elucidate the Evolution of Multichromosome Genomes in Bacteria. *J Bacteriol* 191(8):2501-2511.
- Setubal, J. C., **D.W. Wood**, T. Burr, S. K. Farrand, B. S. Goldman, B. Goodner, L. Otten, and S. Slater. 2009. The Genomics of *Agrobacterium*: Insights into its Pathogenicity, Biocontrol, and Evolution, p. 91-112. In R. Jackson (ed.), *Plant Pathogenic Bacteria: Genomics and Molecular Biology*. Horizon Scientific Press, Norfolk, UK.
- Slater, S. C., B. W. Goodner, J. C. Setubal, B. S. Goldman, **D. W. Wood**, and E. W. Nester. 2008. The *Agrobacterium tumefaciens* C58 genome, p. 149-181. In T. Tzfira and V. Citovsky (ed.), *Agrobacterium*. Springer, New York, NY.
- Liu, P., **D.W. Wood**, and E. W. Nester. 2005. Phosphoenolpyruvate carboxykinase is an acid-induced, chromosomally encoded virulence factor in *Agrobacterium tumefaciens*. *J Bacteriol* 187:6039-45.

- Suksomtip, M., P. Liu, T. Anderson, S. Tungpradabkul, **D. W. Wood**, and E. W. Nester. 2005. Citrate Synthase Mutants of *Agrobacterium* Are Attenuated in Virulence and Display Reduced vir Gene Induction. *J Bacteriol* **187**:4844-52.
- C. B. Monteiro-Vitorello, L. E. A. Camargo, M. A. Van Sluys, J. P. Kitajima, D. Truffi, A. M. do Amaral, R. Harakava, J. C. F. de Oliveira, **D. Wood**, M. C. de Oliveira, C. Miyaki, M. A. Takita, A. C. R. da Silva, L. R. Furlan, D. M. Carraro, G. Camarotte, N. F. Almeida, Jr. , H. Carrer, L. L. Coutinho, H. A. El-Dorry, M. I. T. Ferro, P. R. Gagliardi, E. Giglioti, M. H. S. Goldman, G. H. Goldman, E. T. Kimura, E. S. Ferro, E. E. Kuramae, E. G. M. Lemos, M. V. F. Lemos, S. M. Z. Mauro, M. A. Machado, C. L. Marino, C. F. Menck, L. R. Nunes, R. C. Oliveira, G. G. Pereira, W. Siqueira, A. A. de Souza, S. M. Tsai, A. S. Zanca, A. J. G. Simpson, S. M. Brumbley, and J. C. Setúbal. 2004. The Genome Sequence of the Gram-Positive Sugarcane Pathogen *Leifsonia xyli* subsp. *xyli*. *MPMI* **17** (4): 827-836.
- Wood, D. W.**, Setubal, J. C. and E. W. Nester. 2004. Genome sequence analysis of prokaryotic plant pathogens. *In: Plant Microbiology*. Gillings, M. and A. Holmes, eds. pp 223-241, BIOS Scientific Publishers, Oxford U.K.
- Chen, L., Y. Chen, **D. W. Wood**, and E. W. Nester 2002. A new type IV secretion system that promotes conjugal transfer in *Agrobacterium tumefaciens*. *J. Bacteriol* **184**(17):4838-4845.
- Wood, D. W.**, et al. 2001. The genome of the natural genetic engineer *Agrobacterium tumefaciens* C58. *Science* **294** (5550): 2317-2323.
- Matveeva, T. V., I. E. Dodueva, **D. W. Wood**, I. S. Buzovkina, L. A. Lutova, and E. Nester. 2000. Role of phytohormones in tumor formation in radish. *Rus. J. Genet* **36** (2): 145-149.
- Chancey, S. T., **D. W. Wood**, and L. S. Pierson III. 1999. Two-component transcriptional regulation of *N*-acyl-homoserine lactone production in *Pseudomonas aureofaciens*. *Appl Environ. Microbiol.* **65** (6):2294-2299.
- Pierson III, L. S., **D. W. Wood** and S. Beck von Bodman. 1999. Quorum sensing in plant-associated bacteria. *In: Cell-Cell Signaling*. Dunney, G. M., and S. C. Winans, eds. pp. 101-116, ASM Press, Washington, D. C.
- Pierson, E. A., **D. W. Wood**, J. A. Cannon, F. M. Blachere, and L. S. Pierson III. 1998. Interpopulation signalling among bacteria in the wheat rhizosphere. *MPMI* **11** (11):1078-1084.
- Deng, W., L. Chen, **D. W. Wood**, T. Metcalfe, X. Liang, M. P. Gordon, L. Comai, and E. W. Nester. 1998. *Agrobacterium* VirD2 protein interacts with plant host cyclophilins. *Proc. Natl. Acad. Sci.* **95**:7040-7045
- Pierson III, L. S., **D. W. Wood**, E. A. Pierson, and S. T. Chancey. 1998. Homoserine lactone-mediated gene regulation in plant-associated bacteria. *Annu. Rev. Phytopathol.* **36**:207-225 (Invited review).
- Wood, D. W.**, F. Gong, M. M. Daykin, P. Williams, and L. S. Pierson III. 1997. *N*-acyl-homoserine lactone-mediated regulation of phenazine gene expression by *Pseudomonas aureofaciens* 30-84 in the wheat rhizosphere. *J. Bact.* **179** (24): 7663-7660.

- Pierson III, L. S., **D. W. Wood**, S. T. Chancey and E. A. Pierson. 1997. *N*-acyl-homoserine lactone mediated gene regulation in fluorescent pseudomonads: Current knowledge and future work. *Eur. J. Plant Pathol.* **104**:1-9. (Invited review).
- Pierson III, L. S., E. A. Pierson, **D. W. Wood**, S. T. Chancey, and D. E. Harvey. 1997. Recent advances in the genetic regulation of the activity of plant growth-promoting rhizobacteria. *In: Plant Growth-Promoting Rhizobacteria: Present Status and Future Prospects.* Ogoshi, A., K. Kobayashi, Y. Homma, F. Kodama, N. Kondo, and S. Akino eds. pp. 94-104, OECD Press, Paris.
- Pierson III, L. S., **D. W. Wood**, and S. T. Chancey. 1996. Phenazine antibiotic synthesis in the biological control bacterium *Pseudomonas aureofaciens* 30-84 is regulated at multiple levels. *In: Biology of Plant-Microbe Interactions.* Stacey, G., B. Mullin, and P. M. Gresshoff, eds., pp. 463-468. IS-MPMI Press, St. Paul, MN.
- **Wood, D. W.** and L. S. Pierson III. 1996. The *phzI* gene of *Pseudomonas aureofaciens* 30-84 is responsible for the production of a diffusible signal required for phenazine antibiotic production. *Gene* **168**: 49-53.
- Pierson III, L. S., V. D. Keppenne and **D. W. Wood**. 1994. Phenazine antibiotic biosynthesis in *Pseudomonas aureofaciens* 30-84 is regulated by PhzR in response to cell density. *J. Bacteriol.* **176** (13): 3966-3974.

### ***Selected Student presentations***

- **Genevieve Roberts**, Katherine Houmiel and D. W. Wood. Unraveling the Genome of *Agrobacterium rhizogenes* A4. Twenty-third Regional Conference on Undergraduate Research of the Murdock College Science Research Program. Poster presentation. Vancouver, WA. Nov 2014.
- **Mary Anderson, Reed Hawkins and Reyn Kenyon**, Jenny Tenlen and Derek Wood. Suspect genes involved in Wnt pathway signaling and intestinal cell fate in *C. elegans*. Oral presentation. Twelfth Annual Erickson Undergraduate Research Conference. Seattle, WA. May 2014.
- **Welter, Chris, Danielle Vellon**, Katherine Houmiel and D. W. Wood. Closing Chromosome 1 of *Agrobacterium rhizogenes* A4. Twentieth Regional Conference on Undergraduate Research of the Murdock College Science Research Program. Poster presentation. Seattle University, Seattle, WA. Nov 2011.
- **Erin Dunnington, Nicholas Maurice, Cara Peter, Ilona Tretyak**, Katherine Houmiel and Derek Wood. Investigating recombination efficiency in *Agrobacterium tumefaciens* C58. Oral presentation. Ninth Annual Erickson Undergraduate Research Conference. Seattle, WA. May 2011.

- McDonald, James**, K. Houmiel and D. W. Wood. Investigating recombination efficiency in *Agrobacterium tumefaciens* C58. Poster presentation. University of Washington Undergraduate Research Symposium. Seattle, WA May 2010
- Rosser, J.**, K. Houmiel and D. W. Wood. Generation of a functional genomics screen for essential genes in *Azotobacter vinelandii* DJ. Poster presentation. 2008 Posters on the Hill. Washington, DC. Apr 2008. (**Nationwide competition: 78 selected/245 applicants**)

### ***Selected Talks, Seminars and organized meetings***

- National Council on Undergraduate Research Annual Meeting 2015. “Guiding Education through Novel Investigation (GENI): Facilitating authentic research in the classroom”. Workshop. Eastern Washington University, Cheney, WA. Apr 15.
- Northwest Branch Meeting of the American Society for Microbiology. “Guiding Education using Novel Investigation in the Teaching Lab”. University of Washington, Seattle, WA. Oct 14. (**Organizer**)
- Northwest Branch Meeting of the American Society for Microbiology. “The Genome Education National Initiative - how to implement and coordinate original research in the classroom”. University of Washington, Seattle, WA. Nov 13. (**Organizer**)
- Humanities Washington. “Genetically Modified Foods and initiative 522”. Seattle, WA. Oct 13. (Invited)
- American Society for Microbiology Council on Undergraduate Education National Meeting. “The Genomics Education National Initiative: Integrating Original Microbial Genomics Research in the Classroom”. San Francisco, CA. Jun 12.
- Pacific Lutheran University Biology Department Seminar Series. “The Genomics Education National Initiative: virtual collaboration management facilitates the implementation of genomics research in the classroom”. Pacific Lutheran University, Tacoma, WA. Sep 10. (Invited)
- iPlant Consortium. “The Genomics Education National Initiative”. Washington University, St. Louis, MO. Jun 09. (Invited)
- Azotobacter* Genome Meeting. Virginia Bioinformatics Institute, Washington DC. Jun 08. (**Organizer**)
- Wood, D.W., J. C. Setubal and the K84/S4 genome consortium. Genome sequencing of *Agrobacterium* biovars II and III. 26th Annual Crown Gall meeting, Bloomington, IN. Aug 2005.
- Wood, D.W. Genomic analyses of *Agrobacterium* spp: Sequencing and global regulation. International Plant and Animal Genome Conference XII: Microbial Genome Sequencing Program Awardees Workshop (invited). San Diego, CA. Jan 04. (**Invited**)

- 2004 Division of Plant Pathology and Microbiology Seminar Series. “Genome and microarray analyses of *Agrobacterium tumefaciens*. University of Arizona (**Invited**)
- 2004 Project review panel. “Genome analysis of *Agrobacterium* biovars II and III.” Monsanto Corporation, St. Louis, MO. (**Invited**)

**Teaching:**

Courses taught:

- Bio1100 Current topics (biology for non-majors)
- Bio2567 Introduction to biology (biology for teachers)
- Bio 3351 Microbiology
- Bio3899 Scientific Literature
- Bio 4325 Molecular biology
- Bio 4340 Advanced microbiology
- Bio 4415 Plant physiology
- Nurs 6951 Pathophysiology
- USEM1000 University seminar – Plagues and pandemics

**University Service:**

- SPU High Ceremonies Presiding Marshal **2015-present**
- SPU High Ceremonies Faculty Marshal **2010-present**
- Chair, Department of Biology **2013-present**
- Chair, Faculty Status Committee **2012-2014**
- Faculty Status Committee **2011-2014**
- SPU Presidential Taskforce on Undergraduate Research. **2008-2012**
- Faculty Affairs Committee **2006-2009**
- Chair, Erickson Undergraduate Research Conference Organizing Committee. **2008-2013**
- PPHS advisory board **2006-present**

**Guild Service:**

- Director. Guiding Education through Novel Investigation **2008-present**
- President. Northwest Branch of the American Society for Microbiology. **2010-present**

- Reviewer. National Science Foundation and Murdock Trust **2000-Present**
- Reviewer. Nature, Microbiology, Plant Cell, PNAS,  
Journal of Bacteriology, Plant Molecular Biology,  
Genome Research **1998-Present**

***Church Service:***

- Chair, Staff Parish Relations Committee. Cedar Cross  
United Methodist Church **2011-present**
- Staff Parish Relations Committee. Cedar Cross  
United Methodist Church **2010-present**
- Trustee Committee. Cedar Cross United Methodist Church **2008-2014**
- Usher Lead. Cedar Cross United Methodist Church **2006-present**