

CURRICULUM VITAE

JO HANDELSMAN

University of Wisconsin
Department of Bacteriology
1550 Linden Drive, Microbial Sciences Building
Madison, WI 53706
(608) 263-8783

EDUCATION

1979-1984 Ph.D., University of Wisconsin-Madison, Molecular Biology
1976-1979 B.S., Cornell University, Agronomy

POSITIONS HELD

2007- Professor and Chair, Department of Bacteriology, University of Wisconsin
2007- Editor-in-Chief, *DNA and Cell Biology*
2004- Co-Chair (with Bill Wood, University of Colorado), National Academies
Summer Institute on Undergraduate Education in Biology
2003- Series Editor, "Controversies in Science and Technology"
2002- Howard Hughes Medical Institute Professor
2002- Director, Wisconsin Program for Scientific Teaching
2005-2008 Editor, *Applied and Environmental Microbiology*
2005-2008 Editor, *Cell Biology Education*
2001-2007 Co-Director (and Co-Founder with Molly Carnes), Women in Science and
Engineering Leadership Institute (WISELI)
1997-1999 Director, Institute for Pest and Pathogen Management, University of
Wisconsin
1995-2007 Professor, Department of Plant Pathology, University of Wisconsin
1991-1995 Associate Professor, Department of Plant Pathology, University of
Wisconsin
1985-1991 Assistant Professor, Department of Plant Pathology, University of
Wisconsin
1984-1985 Postdoctoral Fellow, Department of Plant Pathology, University of
Wisconsin

RESEARCH INTERESTS

The goal of the Handelsman lab's research is to understand the structure and function of microbial communities and the signals that govern them through the application of metagenomics, genetics, and small molecule chemistry. Areas of emphasis include biochemistry and genetic regulation of antibiotic production, microbial diversity, antibiotic resistance, and symbioses in communities in soil, on plant roots, and in insect guts. The lab is exploring the insect gut as a model for human gut microbiology and to study the nature of community robustness and invasion processes that may govern gut health and stability.

AWARDS AND HONORS

2009 – American Society for Microbiology Carski Foundation Distinguished Undergraduate Teaching Award
2009 – Named “Revolutionary Mind” by Seed Magazine
2009 – Fellow, Association for Women in Science
2009 – Fellow, American Association for the Advancement of Science
2008 – National Associate, National Research Council
2008 – ASM Roche Diagnostics Alice C. Evans Award
2006 – YWCA Woman of Distinction Award
2004 – National Academies Education Mentor in the Life Sciences
2003 – Fellow, American Academy of Microbiology
2002 – Howard Hughes Medical Institute Professor
2002 – Clark Lecturer in Soil Biology, Soil Science Society of America
1998 – Cabinet 99 Recognition Award
1995 – Chancellor's University Teaching Award for UW-Madison
1991 – Jung Excellence in Teaching Award for CALS, UW-Madison
1988 – Chancellor's Research-Service Award for UW-Madison
1984 – 1985 NIH Postdoctoral Fellowship
1984 – American Cancer Society Postdoctoral Fellowship

RECENT SERVICE ON EDUCATIONAL AND SCIENTIFIC COMMITTEES

National Institutes of Health, Organizer, Workshop on Microbial Ecology (2008)
American Academy of Microbiology, Committee on Colloquia (2007-)
Wisconsin Institute for Discovery Steering Committee (2006-)
National Institutes of Health Roadmap Planning Committee (2006)
National Academy of Sciences Board on Life Sciences (2005-)
Institute of Medicine of the National Academies, Forum on Microbial Threats (2005-)
Department of Plant Pathology Academic Affairs Committee (2005-2006)
Department of Plant Pathology Admissions Committee (2005-2006)
National Research Council Metagenomics Report Committee: Challenges and Functional Applications, Co-Chair (2005-2007)
The National Academies Committee on Women in Academic Science and Engineering (2005-2006)
University of Wisconsin System Working Group for the Status of Women (2005-2006)
UW Honorary Degrees Committee, Chair (2004-)
Chancellor's Advisory Committee (2004-2008)
American Society for Microbiology Committee on Graduate Education (2004-2006)
American Academy of Microbiology Alice Evans Award Nominations (2004-2006)
Institute for Cross-College Biology Education Steering Committee (2004-2005)
Department of Plant Pathology Long Range Planning Committee (2003-2005)
The National Academies Summer Institutes on Undergraduate Education in Biology Steering Committee (2003-)
American Society for Microbiology Small Conferences Committee (2003-2007)

USDA National Research Initiative Panel Manager (2002-2003)
Provost's Climate Networking Group (2001-2004)
Department of Plant Pathology Long Range Planning Committee, Chair (2001-2003)
Search Committee for Dean of the Graduate School, Chair (2001-2002)
Search Committee for Director of Research and Sponsored Programs (2001)
Search Committee for Chancellor (2000)
Center for Biology Education Executive Committee (1999-2004)
Women Faculty Mentoring Program, Member (1998-2007)
Graduate School Technology Transfer Council (1998-2003)
Chemical Biology Initiative at UW-Madison, Co-Chair (1998-2002)
UW Committee on Women at the University (1996-2001); Chair, (1998-2000)

MEMBERSHIP AND PARTICIPATION IN PROFESSIONAL SOCIETIES

Rosalind Franklin Society, President (2006-)
American Society for Microbiology
American Association for the Advancement of Science
The International Society for Molecular Plant-Microbe Interactions
Soil Science Society of America
The International Society for Microbial Ecology

GRADUATE STUDENTS TRAINED (DEGREE, YEAR OF COMPLETION, TRAINING PROGRAM, CURRENT POSITION)

Gwyn Beattie, Ph.D., 1991, Cell and Molecular Biology, *Associate Professor, Iowa State University*
Greg Gilbert, Ph.D., 1991, Plant Pathology (co-advised with J.L. Parke), *Associate Professor, University of California, Santa Cruz*
Larry Halverson, Ph.D., 1991, Institute for Environmental Studies, *Research Assistant Professor, Iowa State University*
Ricardo Araujo, Ph.D., 1992, Plant Pathology, *Lecturer, Brazil*
Kevin Smith, M.S., 1992, Plant Breeding and Plant Genetics (co-advised with M.J. Havey), *Associate Professor, University of Minnesota*
Kevin O'Connell, Ph.D., 1993, Bacteriology, *Researcher, Naval Research Unit, Adjunct Assistant Professor, University of Maryland*
Laura Silo-Suh, Ph.D., 1994, Bacteriology, *Assistant Professor, Auburn University*
Eduardo Robleto, M.S., 1995, Plant Pathology, *Assistant Professor, University of Nevada, Las Vegas*
Eric Stabb, Ph.D., 1997, Bacteriology, *Associate Professor, University of Georgia*
Elizabeth Stohl, Ph.D., 1998, Cell and Molecular Biology, *Research Assistant Professor, Northwestern University Medical School*
Amy Klimowicz, M.S., 1999, Bacteriology, *Research Specialist, University of Wisconsin-Madison*
Elizabeth Emmert, Ph.D., 1999, Bacteriology, *Associate Professor, Salisbury University*
Mark Bittinger, Ph.D., 1999, Cell and Molecular Biology, *Research Group Leader,*

Novartis

Zhengrong Cui, M.S., 1999, Plant Pathology (co-advised with R.M. Goodman),
Assistant Professor, Pharmacology, University of Oregon

Anne Dunn, Ph.D., 2002, Bacteriology, *Assistant Professor, University of
Oklahoma*

Lynn Williamson, M.S. 2005, Bacteriology, *Research Specialist, University of
Wisconsin-Madison*

Christian Riesenfeld, Ph.D., 2006, Microbiology, *NSF Postdoctoral Fellow, Desert
Research Institute*

Brad Borlee, Ph.D., 2006, Plant Pathology, *Postdoctoral Fellow, University of
Washington*

Katherine Butler, M.S., 2006, Bacteriology

Brad Garcia, Ph.D., 2008, Plant Pathology, *Staff Scientist, Gen-tel Corp.*

Zakee Sabree, Ph.D., 2008, Microbiology, *Postdoctoral Fellow, University of
Arizona*

Brook Peterson, Ph.D., 2008, Microbiology, *Postdoctoral Fellow, University of
Washington*

Nichole Broderick, Ph.D. Entomology and Microbiology, *Postdoctoral Fellow,
Ecole Polytechnique Federale de Lausanne, Switzerland*

Courtney Robinson, Ph.D., 2008, Microbiology, *Postdoctoral Fellow, University of
Michigan Medical School*

CURRENT GRADUATE STUDENTS (DEGREE, TRAINING PROGRAM)

Heather Allen, Ph.D., Microbiology

Jon Holt, Ph.D., Microbiology

Matthew McMahon, Ph.D., Microbiology (joint with Prof. Michael Thomas)

Brandon Converse, M.S., Bacteriology

Cliff Hogan, M.S., Bacteriology

Lindsay Rusnak, M.S., Plant Pathology

PUBLICATIONS: MICROBIOLOGY

Vasanthakumar, A., Handelsman, J., Schloss, P.D., and Raffa, K. F. 2008. Gut microbiota of an invasive subcortical beetle, *Agrilus planipennis* Fairmaire, across various life stages. *Environ. Entomol.* 37(5): 1344-1353.

Allen, H. K., Moe, L. A., Rodbumrer, J., Gaarder, A., and Handelsman, J. 2008. Functional metagenomics reveals diverse β -lactamases in a remote Alaskan soil. *ISME Journal*. doi:10.1038/ismej.2008.86.

Little, A. E. F., Robinson, C., Peterson, S. B., Raffa, K. F., and Handelsman, J. 2008. Rules of engagement: Interspecies interactions that regulate microbial communities. *Annu. Rev. Microbiol.* 62: 375–401.

Borlee, B. R., Geske, G.D., Robinson, C.R., Blackwell, H., and Handelsman, J. 2008. Quorum-sensing signals in the microbial community of the cabbage white butterfly larval midgut. *ISME Journal* 2: 1101-1111.

- Liles, M.R., Williamson, L.L., Rodbumrer, J., Torsvik, V., Goodman, R.M., and Handelsman, J. 2008. Recovery, purification, and cloning of high-molecular-weight DNA from soil microorganisms. *Appl. Environ. Microbiol.* 74(10): 3302-3305.
- Isenbarger, T. A., Finney, M., Ríos-Velázquez, C., Handelsman, J., and Ruvkun, G. 2008. Miniprimer PCR, a new lens for viewing the microbial world. *Appl. Environ. Microbiol.* 74(3): 840-849.
- Schloss, P.D., Handelsman, J. 2008. The Last Word: Books as a statistical metaphor for microbial communities. *Annu. Rev. Microbiol.* 61: 23-24.
- Schloss, P.D. and Handelsman, J. 2008. A statistical toolbox for metagenomics: Assessing functional diversity in microbial communities. *BMC Bioinformatics* 9: 34.
- Handelsman, J. 2007. Metagenomics and microbial communities. In: *Encyclopedia of the Life Sciences*. John Wiley and Sons, Ltd. Chichester, UK.
- Delalibera, I. Vasanthakumar, A., Burwitz, B.J., Schloss, P.D., Klepzig, K.D., Handelsman, J. and Raffa, K.F. 2007. Composition of the bacterial community in the gut of the pine engraver, *Ips pini* (Say) (Coleoptera) colonizing red pine. *Symbiosis* 43: 97-104.
- Guan, C., Ju, J., Borlee, B.R., Williamson, L.L., Shen, B., Raffa, K.F., and Handelsman, J. 2007. Signal mimics derived from a metagenomic analysis of gypsy moth gut microbiota. *Appl. Environ. Microbiol.* 73(11): 3669-3676.
- Vasanthakumar, A, Delalibera Jr. I., Handelsman, J., Klepzig, K.D., P. Schloss, P., and Raffa, K.F. 2006. Characterization of gut-associated microorganisms in larvae and adults of the southern pine beetle, *Dendroctonus frontalis* Zimmerman. *Environ. Entomol.* 35: 1710-1717.
- Broderick, N.A., Raffa, KR., and Handelsman, J. 2006. Midgut bacteria required for *Bacillus thuringiensis* insecticidal activity. *Proc. Natl. Acad. Sci. USA.* 103(41): 15196-15199.
- Chan, Y.A., Boyne, M.T., Podevels, A.M., Klimowicz, A.K., Handelsman, J., Kelleher, N.L., and Thomas, M.G. 2006. Two new polyketide synthase extender units: hydroxymalonyl-acyl carrier protein and aminomalonyl-acyl carrier protein. *Proc. Natl. Acad. Sci. USA.* 103(41): 14349-14354.
- Sabree, Z.L., Bergendahl, V., Liles, M.R., Burgess, R.R., Goodman, R.M., Handelsman, J. 2006. Identification and characterization of the gene

encoding the *Acidobacterium capsulatum* major sigma factor. Gene 376: 144-151.

- Peterson, S.B., Dunn, A.K., Klimowicz, A.K., and Handelsman, J. 2006. Peptidoglycan from *Bacillus cereus* mediates commensalism with rhizosphere bacteria from the *Cytophaga-Flavobacterium* group. Appl. Environ. Microbiol. 72: 5421-5427.
- Schloss, P.D., I. Delalibera, J. Handelsman, K. F. Raffa. 2006. Bacteria associated with the guts of two wood-boring beetles: *Anoplophora glabripennis* and *Saperda vestita* (Cerambycidae). Environ. Entomol. 35: 625-629.
- Schloss, P.D. and Handelsman, J. 2006. Introducing TreeClimber, a tool for phylogeny of microbial communities. Appl. Environ. Microbiol. 72: 2379-2384.
- Schloss, P.D. and Handelsman, J. 2006. Introducing SONS, A tool for operational taxonomic unit-based comparisons of microbial community memberships and structures. Appl. Environ. Microbiol. 72(10): 6773-6779.
- Schloss, P.D. and Handelsman, J. 2006. Toward a census of bacteria in soil. PLoS Computational Biology 2: e92.
- Handelsman, J. 2006. Metagenomics or megagenomics? Nature Rev. Microbiol. 3: 457-458.
- Cloud-Hansen, K.A., S. B. Peterson, E.V. Stabb, W.E. Goldman, M.J. McFall-Ngai, and J. Handelsman. 2006. Breaching the great wall: Peptidoglycan and microbial interactions. Nature Rev. Microbiol. 4: 710-716.
- Gillespie, D., Rondon, M.R., and Handelsman, J. 2005. Metagenomics libraries from uncultured microorganisms. In: *Molecular Microbial Ecology*. A.M. Osborn and C. J. Smith, eds. Bios Sci. Pub.: 261-279.
- Williamson, L.L., Borlee, B.R., Schloss, P.D., Guan, C., Allen, H.K., and Handelsman, J. 2005. Intracellular screen to identify metagenomic clones that induce or inhibit a quorum-sensing biosensor. Appl. Environ. Microbiol. 71: 6335-6344.
- Handelsman, J. 2005. How to find new antibiotics. The Scientist 19: 20.
- Schloss, P.D. and J. Handelsman. 2005. Metagenomics for studying unculturable microorganisms: cutting the Gordian knot. Genome Biology 6:229.

- Delalibera, I., K. Raffa, and J. Handelsman. 2005. Contrasts in cellulolytic activities of gut microorganisms between the wood borer *Saperda vestita* (Coleoptera: Cerambycidae), and the bark beetles *Ips pini*, and *Dendroctonus frontalis* (Coleoptera: Curculionidae). *Environ. Entomol.* 34: 541-547.
- Handelsman, J., Robinson, C.J., and Raffa, K. 2005. Microbial communities in lepidopteran guts: from models to metagenomics. In: *The Influence of Cooperative Bacteria on Animal Host Biology*. M.J. McFall-Ngai, B. Henderson, and E.G. Ruby, eds. New York: Cambridge University Press, pp. 143-168.
- Schloss, P. D., and J. Handelsman. 2005. Introducing DOTUR, a computer program for defining operational taxonomic units and species richness. *Appl. Environ. Microbiol.* 71(3): 1501-1506.
- Handelsman, J. 2005. Sorting out metagenomes. *Nature Biotechnology.* 23(1): 38-39.
- Schloss, P. D., and J. Handelsman. 2004. Status of the microbial census. *Microbiol. Molec. Biol. Rev.* 68(4): 686-691.
- Handelsman, J. 2004. Metagenomics: Application of genomics to uncultured microorganisms. *Microbiol. Molec. Biol. Rev.* 68(4): 669-685.
- Liles, M.R., Williamson, L.L., Handelsman, J., and Goodman, R.M. 2004. Isolation of high molecular weight genomic DNA from soil bacteria for genomic library construction. In *Molecular Microbial Ecology Manual*, 2nd ed. G.G. Kowalchuk, F.J. de Bruijn, I.M. Head, A.D. Akkermans, and J.D. van Elsas, eds. The Netherlands: Kluwer Academic Publishers, pp. 839-852.
- Safdar, N., J. Handelsman, and D.G. Maki. 2004. Does combination antimicrobial therapy reduce mortality in gram-negative bacteraemia? A meta-analysis. *The Lancet – Infectious Diseases.* 4(8): 519-27.
- Schloss, P. D., B. R. Larget, and J. Handelsman. 2004. Integration of microbial ecology and statistics: A test to compare gene libraries. *Appl. Environ Microbiol.* 70(9): 5485-92.
- Riesenfeld, C.R., Schloss, P.D., and Handelsman, J. 2004. Metagenomics: genomic analysis of microbial communities. *Annu. Rev. Genetics.* 38: 525-52.
- Riesenfeld, C.R., Goodman, R.M., and Handelsman, J. 2004. Uncultured soil bacteria are a reservoir of new antibiotic resistance genes. *Environ. Microbiol.* 6(9): 981-989.
- Emmert, E.A.B., Klimowicz, A.K., Thomas, M.G., and Handelsman, J. 2004.

- Genetics of zwittermicin A production in *Bacillus cereus*. *Appl. Environ. Microbiol.* 70: 104-113.
- Broderick, N.A., Raffa, K., Goodman, R.M., and Handelsman, J. 2004. Census of the bacterial community of the gypsy moth larval midgut using culturing and culture-independent methods. *Appl. Environ. Microbiol.* 70: 293-300.
- Handelsman, J. 2004. Soils – the metagenomics approach. In: *Microbial Diversity Bioprospecting*. Alan T. Bull, ed. American Society for Microbiology Press, pp. 109-119.
- Handelsman, J., and Smalla, K. 2003. Conversations with the silent majority. *Current Op. Micro.* 6: 271-273.
- Schloss, P.D., and Handelsman, J. 2003. Biotechnological prospects from metagenomics. *Current Op. Biotech.* 14: 303-310.
- Liles, M.R., Manske, B.F., Bintrim, S.B., Handelsman, J., and Goodman, R.M. 2003. A census of RNA genes and linked genomic sequences within a soil metagenomic library. *Appl. Environ. Microbiol.* 69: 2684-2691
- Dunn, A.K., Klimowicz, A.K., and Handelsman, J. 2003. Use of a promoter trap to identify *Bacillus cereus* genes regulated by tomato seed exudate and a rhizosphere resident, *Pseudomonas aureofaciens*. *Appl. Environ. Microbiol.* 69: 1197-205.
- Broderick, N.A., Goodman, R.M., Handelsman, J., and Raffa, K.F. 2003. Effect of host diet and insect source on synergy of gypsy moth (Lepidoptera: Lymantriidae) mortality to *Bacillus thuringiensis* subsp. *kurstaki* by zwittermicin A. *Environ. Entomol.* 32: 387-391
- Handelsman, J., and Wackett, L.P. 2002. Ecology and industrial microbiology: Microbial diversity – sustaining the Earth and industry, editorial overview. *Curr. Opin. Microbiol.* 5: 237-239.
- Gillespie, D.E., Brady, S.F., Bettermann, A.D., Cianciotto, N.P., Liles, M.R., Rondon, M.R., Clardy, J., Goodman, R.M., and Handelsman, J. 2002. Isolation of antibiotics turbomycin A and B from a metagenomic library of soil microbial DNA. *Appl. Environ. Microbiol.* 68: 4301-4306.
- Dunn, A.K., and Handelsman, J. 2002. Toward an understanding of microbial communities through analysis of communication networks. *ISME 9 Antonie von Leewenhoek* 81: 565-574.
- Handelsman, J. 2002. Future trends in biocontrol. In: *Biological Control of Crop Diseases*. S.S. Gnanamanickam, ed. New York: Marcel Dekker, Inc., pp. 443-448.
- Handelsman, J., Liles, M., Mann, D., Riesenfeld, C., and Goodman, R.M. 2002.

Cloning the metagenome: culture-independent access to the diversity and functions of the uncultivated microbial world. In: *Methods in Microbiology – Functional Microbial Genomics*. Academic Press, pp. 241-255.

- Brady, S.F., Chao, C.J., Handelsman, J., and Clardy, J. 2001. Cloning and heterologous expression of a natural product biosynthetic gene cluster from eDNA. *Organic Letters* 3: 1981-1984.
- Simon, H.M., Smith, K.P., Dodsworth, J.A., Guenther, B., Handelsman, J., and Goodman, R.M. 2001. Influence of tomato genotype on growth of inoculated and indigenous bacteria in the spermosphere. *Appl. Environ. Microbiol.* 67: 514-520.
- Bittinger, M.A., Gross, J.A., Widom, J., Clardy, J., and Handelsman, J. 2000. *Rhizobium etli* CE3 carries *vir* gene homologs on a self-transmissible plasmid. *Molec. Plant-Microbe Interact.* 13: 1019-1021.
- Handelsman, J. 2000. Antagonism. In: *Encyclopedia of Plant Pathology*. O.C. Maloy and T.D. Murray, eds. New York: John Wiley.
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- Rondon, M.R., August, P.R., Bettermann, A.D., Brady, S.F., Grossman, T.H., Liles, M.R., Loiacono, K.A., Lynch, B.A., MacNeil, I.A., Minor, C., Tiong, C.L., Gilman, M., Osburne, M.S., Clardy, J., Handelsman, J., and Goodman, R.M. 2000. Cloning the soil metagenome: a strategy for accessing the genetic and functional diversity of uncultured microorganisms. *Appl. Environ. Microbiol.* 66: 2541-2547.
- Bittinger, M.A., and Handelsman, J. 2000. Identification of genes in the RosR regulon of *Rhizobium etli*. *J. Bacteriol.* 182: 1706-1713.
- Broderick, N.A., Goodman, R.M., Raffa, K.F., and Handelsman, J. 2000. Synergy between zwittermicin A and *Bacillus thuringiensis* subsp. *kurstaki* against gypsy moth (Lepidoptera: Lymantriidae). *Environ. Entomol.* 29: 101-107.
- Stohl, E.A., Milner, J.L., and Handelsman, J. 1999. Zwittermicin A biosynthetic cluster. *Gene* 237: 403-411.
- Stohl, E.A., Brady, S.F., Clardy, J., and Handelsman, J. 1999. ZmaR, a novel and widespread antibiotic resistance determinant that acetylates zwittermicin A. *J. Bacteriol.* 181: 5455-5460.

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- Rondon, M.R., Raffel, S.J., Goodman, R.M., and Handelsman, J. 1999. Toward functional genomics in bacteria: Analysis of gene expression in *Escherichia coli* from a bacterial artificial chromosome library of *Bacillus cereus*. *Proc. Natl. Acad. Sci. USA* 96: 6451-6455.
- Smith, K.P., Handelsman, J., and Goodman, R.M. 1999. Genetic basis in plants for interactions with disease-suppressive bacteria. *Proc. Natl. Acad. Sci. USA* 96: 4786-4790.
- Shang, H., Chen, J.-J., Handelsman, J., and Goodman, R.M. 1999. Behavior of *Pythium torulosum* zoospores during their interaction with tobacco roots and *Bacillus cereus*. *Current Microbiol.* 38: 199-204.
- Dunn, A.K., and Handelsman, J. 1999. A vector for promoter trapping in *Bacillus cereus*. *Gene* 226: 297-305.
- Emmert, E.A.B., and Handelsman, J. 1999. Biocontrol of plant disease: a (Gram-) positive perspective. *FEMS Microbiology Letters* 171: 1-9.
- Rondon, M.R., Goodman, R.M., and Handelsman, J. 1999. The Earth's bounty: assessing and accessing soil microbial diversity. *Trends in Biotechnology* 17: 403-409.
- Handelsman, J., Rondon, M.R., Brady, S., Clardy, J., and Goodman, R.M. 1998. Molecular biology provides access to the chemistry of unknown soil microbes: a new frontier for natural products. *Chemistry & Biology* 5: R245-R249.
- Goodman, R.M., Bintrim, S.B., Handelsman, J., Quirino, B.F., Rosas, J.C., Simon, H.M., and Smith, K.P. 1998. A dirty look: soil microflora and rhizosphere microbiology. In: *Radical Biology: Advances and Perspectives on the Function of Plant Roots*. H.E. Flores, J.P. Lynch, and D. Eissenstat, eds. Rockville, MD: Amer. Soc. Plant Physiol. Press, pp. 219-231.
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- screening *Phaseolus vulgaris* L. germplasm for preferential nodulation with a selected *Rhizobium etli* strain. *Plant and Soil* 203: 71-78.
- O'Connell, K.P., Raffel, S.J., Saville, B.J., and Handelsman, J. 1998. Mutants of *Rhizobium tropici* strain CIAT899 that do not induce chlorosis in plants. *Microbiology* 144: 2607-2617.
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- Handelsman, J., and Stabb, E.V. 1996. Biocontrol of soilborne plant pathogens. *Plant Cell* 8: 1855-1869.
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RECENT SCIENTIFIC AND COMMUNITY PRESENTATIONS (2006-2008)

- Madison, "TEMPO" Women business leaders in Madison
 "Women in Science at UW-Madison"
- Barnard College, New York, Faculty Seminar
 "Boosts and barriers to women in science"
 "Active Learning in the Science Classroom"
- Stanford University Faculty Seminar, Stanford, CA
 "Understanding Our Biases and Assumptions: Male and Female"
- Stanford University Faculty Seminar, Stanford, CA
 "Metagenomics, Soil, Insect Guts and Microbial Communication"

Women's Philanthropy Council meeting
 "WISELI – A Progress Report"
 UW-Madison Teaching and Learning Symposium Keynote address
 "Diversity and Bias in the Classroom"
 Briefing of Senators Kennedy and Murray's aides, Washington, DC, on
 "Beyond Bias and Barriers" report from the National Academies Committee
 Phillips Exeter Academy, Exeter, NH, all school assembly
 "Diversity"
 Cabinet 99 Symposium (Wis. Alumni Assoc. women's leadership support network)
 "Women in Science"
 National Academy of Sciences Summer Institute for Biology Education
 "Diversity in the Classroom"
 American Society for Microbiology
 "Metagenomics – NAS Report"
 "Antibiotic Resistance Genes in the Soil Metagenome"
 "Teaching Microbial Ecology"
 Howard Hughes Medical Institute
 "Workshop on mentoring"
 "Workshop on gender in science"
 "Workshop on classroom teaching"
 Biotechnology Research and Development Consortium Scientific Advisory Meeting
 "Metagenomics and Biotechnology"
 Society for General Microbiology; Warwick, UK (keynote speaker)
 "Functional Metagenomics and Microbial Signaling"
 Harvard Microbial Science Initiative Symposium
 "Signals, Antibiotics, and Toxins: Sorting Out the Chemical Soup of Microbial
 Communities"
 Joint Association for Gnotobiotics/SOMED Conference, St. Louis
 "The Caterpillar Gut and Microbial Ecology"
 International Symposium on Microbial Ecology, Vienna, Austria
 "Functional Metagenomics of Soil"
 NIH Advisory Committee on Research on Women's Health
 Briefing on NAS report: Beyond Bias and Barriers
 American Society for Cell Biology, San Diego (invited speaker)
 "Scientific Teaching"
 National Science Foundation
 Briefing on "Metagenomics" National Academies report
 National Institutes of Health
 Briefing on "Metagenomics" National Academies report
 Microbial Genomics Working Group
 Briefing on "Metagenomics" National Academies report
 National Institutes of Health Institute on Neurobiology
 Briefing on "Beyond Bias and Barriers"
 University of Maryland-Baltimore County
 "Seeing the Unseen: Metagenomics Reveals New Signals in Soil Communities"
 "Beyond Bias and Barriers: Enhancing the status of women in science"
 University of Michigan
 "Metagenomic Analysis of Chemical Ecology in Soil Communities"

Michigan State University
“Diversity in Academia”
“Mentoring – Learned, Not Taught”
American Society for Plant Biologists
“Sex and Science”
“Beyond Bias and Barriers”
Rosalind Franklin Society
“State of Women in Science”

Washington University
“Workshop on Diversity and Hiring Practices”

Washington University Medical School
“Workshop on Diversity in Medicine”
American Chemical Society Annual Meeting
“Women in Academic Science”
National Institutes of Health MORE Meeting
“Workshop on Scientific Teaching”
National Science Foundation Board of Advisors Biology Directorate
“Scientific Teaching – Practices, Proof, and the Next Generation”
University of Pittsburgh
“Seeing the Unseen: Metagenomics as a Window on Microbial Communities”
“Diversity in Academia: Bias and Prejudice in the Classroom”
University of Wisconsin, Department of Bacteriology
“The Future of Microbiology”
“The Last Word: Phylogenetic and functional diversity in a soil microbial community”
International Society for Microbial Ecology
“Functional Metagenomics in Soil”
Metagenomics 2006 – San Diego (keynote speaker)
“Origins and Advances in Metagenomics”
Venter Hilton Head Genomics Meeting
“Novel Antibiotic Resistance Genes in the Soil Metagenome”
University of Wisconsin, Department of Nutrition
“Metagenomics of the Insect Gut Microbial Community”
NIH Human Microbiome Meeting
“Metagenomic Analysis of Insect Gut Communities”
University of Texas – Houston Medical Center, Department of Microbiology
“Gypsies, fortresses, arrows, and treasures in 21st Century Microbial Ecology”
ASM Cell-Cell Communication Meeting
“Signals in a Microbial Community”
National Science Foundation – Annual Microbial Observatories Meeting
“Functional Anchors to Study the Soil Metagenome in an Alaskan Boreal Forest”
National Research Council—Bill Gates Committee on World Food Security
“The New Science of Metagenomics: Revealing the Secrets of the Microbial Planet”
Microbial Sciences Dedication Event
“The Invisible World of Microorganisms”

University of Wisconsin, Department of Bacteriology, Raper Symposium
“Microbial Communities, Human Communities, Aspirin, and Coffee
Wednesday Nite @ the Lab
“Great Science and Great Architecture -- The Intersection”
Bacteriology Scientific Teaching Institute
Three-session introduction to scientific teaching
UW Madison Teaching and Learning Symposium
“The Prejudice Paradox”