

CURRICULUM VITAE STEVEN E. LINDOW

Education:

- 1973 B.Sc. Botany, Oregon State University, Corvallis, Oregon
1977 Ph.D. Plant Pathology, University of Wisconsin, Madison, Wisconsin
Minor: Biochemistry
Thesis: Leaf surface bacterial ice nuclei as incitants of frost damage to corn (*Zea mays* L.) and other plants.

Professional Experience:

- 1989 - Present Professor of Plant Pathology, Department of Plant and Microbial Biology, University of California, Berkeley, CA 94720
1983 - 1989 Associate Professor of Plant Pathology, Department of Plant Pathology, University of California, Berkeley, CA 94720
1978 - 1983 Assistant Professor of Plant Pathology, Department of Plant Pathology, University of California, Berkeley, CA 94720
1977 - 1978 Postdoctoral Fellow, Department of Plant Pathology, University of Wisconsin, Madison, WI 53706

Honors and Awards:

- 1985 National Academy of Sciences - National Academy of Sciences Award for Initiatives in Research.
1985 American Phytopathological Society - CIBA/Geigy Award.
1987 American Phytopathological Society - Ruth Allen Award.
1994 American Phytopathological Society - Fellow
1995 Oregon State University - Alumnus of the Year
1996 Chancellors Professor - University of California-Berkeley
1999 Member, National Academy of Sciences
1999 Hildebrand-Laumeister Chair in Plant Pathology – UC-Berkeley
1999 Fellow, American Academy of Microbiology
1999 Fellow, American Association for the Advancement of Science
1999 Procter and Gamble Award - American Society for Microbiology
2004 Distinguished Teaching Award – College of Natural Resources

Research Interests and Activities:

Current work involves the molecular ecology of epiphytic ice nucleation active and plant pathogenic bacterial species and determinants of endophytic growth of bacteria. Major efforts are underway to develop molecular biological tools for the study of microorganisms in their natural habitats; "biological sensors", comprised of environmentally-responsive promoters linked to reporter genes such as genes conferring ice nucleation activity or an improved GFP protein are being used to assess microbial activity in situ, and the abundance of resources such as fructose, sucrose, tryptophan, nitrate, and ferric iron in the microhabitats in which bacteria reside on leaves and in the rhizosphere. Genes conferring epiphytic fitness are being elucidated, and genes selectively expressed on leaf surfaces are being identified by a novel promoter-trapping scheme. The aggregated nature of epiphytic bacterial populations and cell density-dependent behavior and quorum sensing mediated by n-acyl homoserine lactones is being studied in *Pseudomonas syringae*. Endophytic colonization of plants by *Xylella fastidiosa* and the role of small diffusible signal molecules in regulating virulence in plants and biofilm formation and transmission by insect vectors is being studied. We also study epiphytic IAA-producing bacteria and their role in altering normal plant development. The ecology of flower-associated bacteria and the use of antagonistic bacteria for the biological control of fire blight of pear and apple is also a thrust of my lab. Quantitative epidemiology of walnut blight, caused by *Xanthomonas arboricola* pv. *juglandis* is being pursued to develop new strategies of disease control.

Professional Service:

Editor, *Molecular Ecology*, 1995-1999
Senior Editor – *MPMI* 1998-2000
Associate Editor, *Biological Control*, 1993-present
Editorial Board, *Microbial Ecology* 1996-present
Editorial Board, *Cellular Microbiology*, 2002-present
Editorial Board, *Phytoparasitica*, 2004-present
Editorial Board, *Environmental Microbiology*, 2000-present
Editorial Board, *PNAS* 2005-present
Editorial Board, Annual Review of Phytopathology, 2005-present
Panelist, 1986-1989 - NSF Ecology Panel
Panelist, 1994, 1995, 1997 - USDA -NRI
Panel Manager - USDA-NRI in Plant Pathology 1997-1998

USDA Agricultural Biotechnology Research Advisory Committee (ABRAC), 1988-1990
EPA/BSAC subcommittee on mitigation and containment of recombinant organisms. 1989
American Society for Microbiology Public and Scientific Affairs Board/ 1988-1990.
National Science Foundation, Workgroup on "Molecular Ecological Methods", 1985"
National Academy of Science taskforce on Biological Control research needs and priorities in plant-microbe interactions in agriculture/ 1988.
Department of Energy workgroup on "Molecular Methods in Ecology", 1991
American Academy of Microbiology, workgroup on "Climate variability and human health", 1997.
European Commission concerted action member on "Marker and Reporter genes in microbial ecology" 1998-2000
Liason of Society for Microbial Ecology with American Society for Microbiology 1995-2000.
USDA-CREES Working Group in Biological Control – 1998-2000.
Member Honors and awards committee 1997-2000, Phyllosphere microbiology committee 1989-1992, 1998-2001, epidemiology committee 1995-1998- American Phytopathological Society
Review team for Departmental reviews in: University of Florida, Cornell University, University of California-Davis.
Co-organizer of the International Conference on Biological Ice Nucleation held in San Francisco, 1982; Flagstaff, 1984; Newport Oregon, 1987; Saskatoon Canada, 1989; and Madison Wisconsin, 1991.
Organizing committee for "Microbiology of the Phyllosphere" 1990 in Madison, Wisconsin, 1995 in Bandol, France, and 2005 in Oxford UK.
Co-organizer for International Conference on *Pseudomonas syringae* pathovars, Berlin, 1995.
Organizer, 7th International Conference on Phylloplane Microbiology, 2000, Berkeley, CA Organizer, International Conference on "Diversity of Plant-Pathogenic Bacteria", 1998, Berkeley.
Board of Governors nominating committee, American Society for Microbiology, 2003-present
Scientific Board, International Society for Molecular Plant-Microbe Interactions, 2003-present

Invited Lectures:

Gordon Research Conference on "Plant Temperature Stress", 1985, 1987, 1989, 1991, 2003.
Gordon Research Conference on "Bacterial Cell Surfaces," 1988, and "Applied and Environmental Microbiology", 1992, 1997.
184 National and International meetings between 1980 - 2006, on topics ranging from the safety and design of experiments involving the release of genetically engineered organisms, Ecological basis for the biological control of plant disease and plant frost injury, Molecular genetic studies of epiphytic fitness determinant of bacteria, The role of ice nucleation active bacteria in frost injury to plants, Biochemical and genetic determinant of ice nucleation actively in bacteria, The role of microcomputers in the disease assessment, Biological control of weeds with plant pathogens, Marker and reporter genes in microbial ecology, and other topics.

Publications:

124 Peer-reviewed papers
69 Book chapters, mini-reviews and books