

Wendy D. Gelernter

1267 Diamond Street, San Diego, CA 92109 858-272-9897 gelernter@paceturf.org

PROFESSIONAL EXPERIENCE

PACE Turf (Owner and Research Director) San Diego, CA 1995 - present

PACE Turf is an internationally recognized leader in research, education, information, extension and agronomic services in support of the development and implementation of integrated pest management strategies for turfgrass and other agricultural crops.

- Conducted research projects with revenues of over one million dollars, producing key advances in integrated pest management and cultural practices for turf management.
- Led multi-institution team to produce "The IPM Planning Guide", a web-based tool that provides turf managers with the information needed to produce a comprehensive integrated pest management plan for their location.
- Characterized species, life cycles, biology, temperature-based predictive models and management of key turf insects of California including masked chafers, black turfgrass ataeenius, billbugs and black cutworms.
- Created web-based multimedia information service delivering turf agronomic advice to more than 300 paid subscribers using weekly email updates, pest and plant forecasting models and real-time site-specific weather data.
- Developed a public service website providing turf management guidelines and an online venue, "Super Journal", for turf managers to publish and share their research results.
- Designed and wrote monthly technical bulletins and weekly email updates on turfgrass agronomic topics, ranging from soil management and water conservation, to basic biology and chemistry, to pest management.
- Sponsored, organized and led annual education and research conferences attracting hundreds of golf course superintendents, representatives of major agrichemical companies and distributors.
- Recognized for research and extension contributions by the California Environmental Protection Agency, regional chapters of the Golf Course Superintendents Association of America and the Turfgrass and Ornamental Communicators Association.

Biopesticide Consulting San Diego, CA 1995 - present

Consultant for agrichemical companies (company names not disclosed due to confidentiality agreement requirements) 2005-present

- Developed criteria for research, development and marketing evaluation of biopesticide candidate products

Team Leader, U.S. Agency for International Development, Washington, D.C. 2004

- Led project to identify optimal systems for production of mycoinsecticides for use as grasshopper and locust biocontrol agents in Africa

External Advisory Committee, LUBILOSA Project on the Biological Control of Grasshoppers and Locusts (Centre for Agricultural Bioscience International, Oxfordshire, U.K.) 1997 - 1999

- Provided guidance to this international aid project that resulted in introduction of the mycoinsecticide product, Green Muscle, to Africa for use in biological control of grasshoppers and locusts.

Mycogen Corporation**San Diego, CA****1984 - 1995**

Director, Biopesticide Commercial Development

1990 - 1995

- Directed research and development, regulatory, quality assurance and product management departments to support successful commercialization of nine new products, including the first genetically engineered microbial insecticide registered in the U.S.

Product Manager

1985 - 1990

- Managed Mycogen's microbial pesticide product candidates, including internal coordination of company research and technical development activities, and external coordination of university, government lab and private agricultural consultant field research programs; developed product recommendations and product labels and coordinated regulatory efforts.

Research Scientist, insect pathology and biochemistry

1984 - 1985

EDUCATIONUniversity of California
Ph.D., Entomology

Riverside, CA

1984

Cornell University
B.S., Agricultural Science

Ithaca, NY

1976

PROFESSIONAL SERVICE

2006 - 2008 President, Society for Invertebrate Pathology
 2003 Review panel for USDA CAR/RAMP Competitive Grants Program
 2001 - present Editorial Board, Biocontrol Science and Technology
 2001 - 2003 Chair, Microbial Control Division, Society for Invertebrate Pathology
 2000 Review panel for: National Research Initiative Competitive Grants Program
 1999 - 2000 Chair, Agricultural Biotechnology Task Force, National Alliance of Independent Crop Consultants
 1999 - 2000 Chair, Nominations Committee, Society for Invertebrate Pathology
 1999 Founding member, International Biopesticide Consortium for Development
 1996 - 2000 Board member, Association of IPM Ecologists
 1994 - 1996 Secretary, Society for Invertebrate Pathology
 1994 - 1995 Chair, Insect Pathology Subsection, Entomological Society of America
 1993 - 1994 Board of Reviewing Editors, Journal of Economic Entomology

AWARDS

2009 Environmental Communicator of the Year Award, Turf and Ornamental Communicators Association
 2002 Honorary Member, Southern California and San Diego Golf Course Superintendents Association
 1999 Distinguished Service Award, Southern California Golf Course Superintendents Association
 1994 IPM Innovators Award. California Environmental Protection Agency

RECENT RESEARCH GRANTS

2008 "Management and Biology of Brown Ring Patch on Annual Bluegrass Greens", Golf Course Superintendents Association of America (\$14,000)
 2006 "Producing an integrated pest management (IPM) template to assist golf course superintendents in developing written IPM plans for golf courses", Golf Course Superintendents Association of America (\$13,000)

PROFESSIONAL SOCIETY MEMBERSHIPS

Association of IPM Ecologists
Crop Science Society of America
Entomological Society of America
Golf Course Superintendents Association of America
Society for Invertebrate Pathology
National Turfgrass Entomology Working Group
Weed Science Society of America

VOLUNTEER WORK

2009-present International Rescue Committee
Support for newly arrived refugee families

WEBSITES

PACE Turf homepage www.paceturf.org
Facebook (PACE Turf) www.facebook.com/paceturf
Facebook (personal) www.facebook.com/wendy.gelernter?sk=info
YouTube (PACE Turf) www.youtube.com/user/paceturf
Linked in profile www.linkedin.com/pub/wendy-gelernter/10/469/766

REFEREED PUBLICATIONS

- Glare, T., Caradus, J., Gelernter, W., Jackson, T., Keyhani, N., Kohl, J., Marrone, P., Morin, L. and A. Stewart, 2012. Have biopesticides come of age? Trends in Biotechnology. <http://dx.doi.org/10.1016/j.tibtech.2012.01.003>
- Linde, D.T., L.J. Stowell, W. Gelernter, and K. McAuliffe. 2011. Monitoring and managing putting green firmness on golf courses. Online. Applied Turfgrass Science. doi:10.1094/ATS-2011--01260-0-RS.
- Gelernter, W.D. 2007. Microbial control in Asia: a bellwether for the future? J. Invertebr. Pathol. 95:161-167.
- Fidanza, M.A., D.L. Sanford, L.J. Stowell, W. Gelernter, P.J. Landschoot, N. Bosold, and J. Welshans. 2006. Survey of irrigation water for golf courses in Southeastern Pennsylvania. Applied Turfgrass Science doi:10.1094/ATS-2006-0210-01-TT.
- Stowell, L.J., S.B. Martin, M. Olsen, D. Bigelow, M. Kohout, P.D. Peterson, J. Camberato, and W.D. Gelernter. 2005. Rapid blight, a new plant disease. APSnet Features. doi: 10.1094/APSnetFeature/2005-0705.
- Wong, F.P., W. Gelernter, and L. Stowell. 2005. First report of *Pyricularia grisea* causing gray leaf spot on kikuyugrass (*Pennisetum clandestinum*) in the United States. Plant Dis., 89(4):433.
- Gelernter, W.D. 2004. The rise and fall of *Bacillus thuringiensis tenebrionis*. Phytoparasitica 32:4 (321-324).
- Koppenhöfer, A.M., E.M. Fuzy, R.L. Crocker, W.D. Gelernter and S. Polavarapu. 2004. Pathogenicity of *Heterorhabditis bacteriophota*, *Steinernema glaseri* and *S. scarabei*. (Rhabditida: Heterorhabditidae, Steinernematidae) against 12 white grub species (Coleoptera: Scarabaeidae). Biocontrol Sci. and Techn. 14 (1):87-92.
- Olsen, M.W., D.M. Bigelow, R.L. Gilbertson, L.J. Stowell, and W.D. Gelernter. 2003. First report of a *Labyrinthula* sp. causing rapid blight disease of rough bluegrass and perennial ryegrass. Plant Dis. 87 (10): 1267.
- Stowell, L.J., and W.D. Gelernter. 2001. Diagnosis of turfgrass diseases. Annu. Rev. Phytopathol. 39:135-55.
- Gelernter, W.D. and J.T. Trumble. 1999. Factors in the success and failure of microbial insecticides in vegetable crops. Integrated Pest Management Reviews 4:301-106.
- Gelernter, W.D. and H.F. Evans. 1999. Overview: factors in the success and failure of microbial insecticides. Integrated Pest Management Reviews 4:279.
- Koppenhöfer, A.M., H.Y. Choo, H.K. Kaya, D.W. Lee and W.D. Gelernter. 1999. Increased field and greenhouse efficacy against scarab grubs with a combination of an entomopathogenic nematode and *Bacillus thuringiensis*. Biol. Cont. 14:37-44.

- McGaughey, W.H., F. Gould, and W. Gelernter. 1998. Bt resistance management. *Nature Biotechnology* 16:144-146.
- Robertson, J. L., H.K. Preisler, S.S. Ng, L.A. Hickie, A. Berdeja, and W. D. Gelernter, 1996. Comparative effect of temperature and time on activity of Dipel 2 and MVP preparations of *Bacillus thuringiensis* subsp. *kurstaki* on diamondback moth (Lepidoptera: Plutellidae). *J. Econ. Entomol.* 89:1084-1087.
- Robertson, J.L., H.K. Preisler, S.S. Ng, L.A. Hickie and W.D. Gelernter, 1995. Natural variation: a complicating factor in bioassays with chemical and microbial pesticides. *J. Econ. Entomol.* 88:1-10.
- Gelernter, W. D., G.E. Schwab and L. Rovesti. 1993. Sviluppo scientifico e commerciali del *Bacillus thuringiensis*. *Informatore Fitopatologico* 6: 9 - 14.
- Gelernter, W. D. 1992. Application of biotechnology for improvement of *Bacillus thuringiensis* based products and their use for control of lepidopteran pests in the Caribbean. *Florida Entomologist* 75:484-493.
- Gelernter, W.D. and B.A. Federici. 1990. Virus epizootics in California populations of *Spodoptera exigua*: Dominance of a single viral genotype. *Biochem. Syst. Ecol.* 18:461-466.
- Ferro, D.N. and W.D. Gelernter. 1989. Toxicity of a new strain of *Bacillus thuringiensis* to Colorado potato beetle. *J. Econ. Entomol.* 82 (3): 750-755.
- Zehnder, G.W. and W.D. Gelernter. 1989. Activity of the M-One formulation of a new strain of *Bacillus thuringiensis* against the Colorado potato beetle: Relationship between susceptibility and insect life stage. *J. Econ. Entomol.* 82 (3) 756-761.
- Gelernter, W.D. and B.A. Federici. 1986. Isolation, identification and determination of virulence of a nuclear polyhedrosis virus from the beet armyworm, *Spodoptera exigua*. *Environ. Entomol.* 15: 240-245.
- Gelernter, W.D., N.C. Toscano, K. Kido and B.A. Federici. 1986. Comparison of a nuclear polyhedrosis virus and chemical insecticides for control of the beet armyworm on head lettuce. *J. Econ. Entomol.* 79:714-717.
- Gelernter, W.D. and B.A. Federici. 1986. Continuous cell line from *Spodoptera exigua* that supports replication of nuclear polyhedrosis viruses from *Spodoptera exigua* and *Autographa californica*. *J. Invertebr. Pathol.* 48:199-207.

BOOK CHAPTERS AND PROCEEDINGS

- Gelernter, W., 2011 (submitted). Insect pests of turfgrass: management challenges in a changing environment. *In* R. Brandenburg and C. Prater (ed.) *Handbook of turfgrass insect pests*. Entomological Society of America, Lanham, MD.
- Solter, L.R., W.D. Gelernter, and S. Jaronski, 2007. Entomopathogens. p. 146-153. *In* W. Lampet. al. (ed.) *Handbook of forage and rangeland insects*. Entomological Society of America, Lanham, MD.
- Gelernter, W.D., 2005. Biological control products in a changing landscape. p. 293-300. *In* The BCPC International Congress Proceedings: 2005, Volume 1, Glasgow, Scotland, October 31 - November 2, 2005. The British Crop Protection Council, Hampshire, UK.
- Gelernter, W. and, L. Stowell, 2004. Resistance issues in golf course turf. p. 38-42. *In* Management of pesticide resistance: strategies using crop management, biotechnology and pesticides. Special Publication No. 24. Council for Agricultural Science and Technology Ames, Iowa.
- Gelernter, W.D. 2000. Environmental persistence of *Bacillus thuringiensis* and other bacterial insect pathogens. *In* M.E. Baur and J.R. Fuxa (ed), *Factors Affecting the Survival of Entomopathogens*. Southern Cooperative Series Bulletin 400.
- Gelernter, W.D. and C.J. Lomer. 2000. Success in biological control of above-ground insects by pathogens. p. 297-322. *In* G. Gurr and S.D. Wratten (ed), *Biological control: measures of success*. Kluwer Academic Publishers, The Netherlands.
- Gelernter, W.D. 1997. Resistance to microbial insecticides: the scale of the problem and how to manage it. p. 201 - 214. *In* H.F. Evans (ed), *Microbial insecticides: novelty or necessity?* British Crop Protection Council Symposium Proceedings No. 68, Farnham, Surrey, UK.
- Gelernter, W. D. 1997. Transgenic pest control products: development and commercialization status. *In* A.J. Hruska and M.L. Pavon (ed) *Transgenic plants in Mesoamerican agriculture*. Zamorano Academic Press, Tegucigalpa, Honduras.

- Gelernter, W. D. and G. E. Schwab. 1993. Transgenic bacteria, viruses, algae and other microorganisms as *Bacillus thuringiensis* toxin delivery systems. p. 89 - 104. In P. F. Entwistle et al. (ed), *Bacillus thuringiensis*, an environmental biopesticide: theory and practice. John Wiley and Son Ltd, Chichester.
- Gelernter, W. D. 1990. *Bacillus thuringiensis*, bioengineering and the future of bioinsecticides. p. 617-624. In Brighton Crop Protection Conference: Pests and Diseases, Brighton, U.K., November, 1990.
- Gelernter, W. D. 1990. Targeting insecticide resistant markets: new developments in microbial-based products. p.105-117 In M.B. Green et al. (ed) Managing resistance to agrochemicals: from fundamental research to practical strategies. American Chemical Society, Washington, D.C.
- Gelernter, W.D. 1989. Development of *Bt*-based insecticides: New tools for resistance management? In 1989 Crop Protection Workshop Proceedings, Cooperative Extension Service, University of Illinois, Urbana-Champaign, IL
- Herrnstadt, C., Gaertner, F. Gelernter, W., and D. L. Edwards. 1987. *Bacillus thuringiensis* isolate with activity against Coleoptera In K. Maramorosch (ed) Biotechnology in Invertebrate Pathology and Cell Culture. Academic Press, Inc. San Diego, CA.

TRADE PUBLICATIONS

- Gelernter, W., L. Stowell, R. Brandenburg, D. Kopec, D., K. Umeda, and F. Yelverton. 2010. Bringing IPM to the next level. *Golf Course Management*. 78(7): 72-78.
- Gelernter, W., and L. Stowell. 2009. Biological pest control: a realistic outlook. *Golf Course Management*. 77(4): 110-115.
- Gelernter, W., and L. Stowell. 2009. Preventing herbicide mix-ups. *Golf Course Industry*. 21(3):72-74.
- Gelernter, W., and L.J. Stowell. 2008. Shade versus turfgrass: A no-win situation? *Golf Course Industry* 20(2):66-78.
- Stowell, L.J., and W. Gelernter. 2008. Consider agronomics when negotiating reclaimed water contracts. *Golf Course Industry*. 20(9): 46-54.
- Gelernter, W., and L. Stowell. 2006. Predicting turf performance. *Grounds Maintenance*. August, 2006.
- Gelernter, W., and L. Stowell. 2006. Keeping an eye on nitrogen. *Grounds Maintenance*. April, 2006. pp. 12 - 18.
- Tredway, L.P., L.J. Stowell, and W. Gelernter. 2006. Yellow spot and the potential role of cyanobacteria as turf pathogens. *Golf Course Management*, November, 2006. pp. 83-86.
- Stowell, L., and W. Gelernter. 2006. Sensing the future. *Golf Course Management*, March, 2006. p. 107-110.
- Gelernter, W.D. 2005. Biocontrol on golf courses: is it possible? *Biocontrol Files*, Issue #4, October, 2005. p. 2-3.
- Gelernter, W.D., and L.J. Stowell. 2005. Improved overseeding programs: the role of weather. *Golf Course Management*. March, 2005. p. 108 - 113.
- Gelernter, W.D., and L.J. Stowell. 2005. Improved overseeding programs: managing the spring transition. *Golf Course Management*. March, 2005. p. 114-118.
- Gelernter, W. 2005. Velocity for *Poa annua* control. *On the Road: quarterly bulletin*. October 4(4):2
- Gelernter, W. and L. Stowell. 2005. New product outlook for California turf. *On the Road: Quarterly Bulletin*. April 4(2):3
- Gelernter, W., and L.J. Stowell. 2004. Improving performance of cool-season roughs. *Golf Course Management*. August, 2004. p. 101-104.
- Carrow, R.N., L. Stowell, W. Gelernter, S. Davis, R.R. Duncan, and J. Skorulski. 2004. Clarifying soil testing: III SLAN sufficiency ranges and recommendations. January, 2004 *Golf Course Management*. p. 194-198.
- Carrow, R.N., L. Stowell, W. Gelernter, S. Davis, R.R. Duncan, and J. Skorulski. 2004. Clarifying soil testing: II Choosing SLAN extractants for macronutrients. January, 2004 *Golf Course Management*. p. 189 - 193.
- Carrow, R.N., L. Stowell, W. Gelernter, S. Davis, R.R. Duncan, and J. Skorulski. 2003. Clarifying soil testing: I. Saturated paste and dilute extracts. *Golf Course Management*. September, 2003. p. 81-85.

- Gelernter, W., and L. Stowell. 2003. Improving the performance of warm-season fairways. *California Fairways*. September/October 2003. p. 14-16.
- Olsen, M.W., D.M. Biegelow, R.L. Gilbertson, L.J. Stowell, and W. Gelernter. 2003. Rapid blight pathogen identified. *Golf Course Management*. April 2003. p. 119.
- Gelernter, W., and L. Stowell. 2003. Sulfonylureas control weeds on bermudagrass. *Turfgrass Trends*, May 1, 2003.
- Martin, B., L. Stowell, and W. Gelernter. 2002. Rough bluegrass, annual bluegrass and perennial ryegrass hit by new disease. *Golf Course Management*. 70(4): 61-65.
- Gelernter, W. and L. Stowell. 2001. Advances in *Poa* seedhead management. *Golf Course Management*. 69:49-53.
- Gelernter, W. and L. Stowell. 2001. Learning to love kikuyugrass. *Golf Course Management*. 69:55-59.
- Gelernter, W., and L. Stowell. 2000. Genetically modified plants: problem or solution? *Golf Course Management*. 68(9): 64-67.
- Gelernter, W.D. 1999. Control of annual bluegrass on greens and overseeded fairways. *California Fairways*. 8(5):10-16.
- Gelernter, W.D. 1998. Resistant pests challenge chemical uses. *Golf Course Management*, January, 1998. p. 56-61.
- Stowell, L.J., and W.D. Gelernter. 1998. A guide to testing products and management practices. *California Fairways* 7:14-22.
- Stowell, L.J., and W.D. Gelernter. 1998. How to test products and practices - Part 2, experiment design. *California Fairways* 7:22-31.
- Stowell, L.J., and W.D. Gelernter. 1997. How to test products and practices - Part 1, getting started. *California Fairways* 6:20-22.
- Gelernter, W. and R. Hickling. 1997. Keep your ear to the ground: microphones allow superintendents to spy on underground insects that destroy golf course turf. *Golf Course Management*. 65(3):49-52.
- Gelernter, W.D. 1996. Insect degree-day models for turf. *Golf Course Management*. 64(1):63-72.
- Gelernter, W.D. 1996. Controlling the black turfgrass *ataenius*. *California Fairways*. 5(1):6-8.

REFEREED ABSTRACTS

- Stowell, L., W. Gelernter, and J. Beardsley. 2008. Ten years of recycled water: what we have learned. International Annual Meeting, ASA-CSSA-SSSA.
- Stowell, L., and W. Gelernter. 2008. Evaluation of a Geonics EM38 and NTech GreenSeeker sensor array for use in precision turfgrass management. International Annual Meeting, ASA-CSSA-SSSA.
- Stowell, L., W. Gelernter, F.P. Wong, C.M. Chen. 2008. Using virtual irrigation to forecast disease. American Phytopathological Society of America.
- Stowell, L., and W. Gelernter. 2007 Virtual Irrigation audits in real-time. International Annual Meeting, ASA-CSSA-SSSA.
- Stowell, L., W. Gelernter, and L. Yoder. 2006. Soil compaction evaluation with the Spectrum Technologies SC-900 before and after a Rolling Stones concert at Petco Park. International Annual Meeting, ASA-CSSA-SSSA.
- Stowell, L., and W. Gelernter. 2005. Temporal variation in golf course soil chemistry: case studies from the arid Southwest. International Annual Meeting, ASA-CSSA-SSSA.
- Fidanza, M.A., Stowell, L., Gelernter, W. and S.D. Davis. 2004. Irrigation water quality survey for golf courses in southeastern Pennsylvania. International Annual Meeting, ASA-CSSA-SSSA.
- Gelernter, W.D. and Stowell, L.J. 2004. Using soil content of plant-available nitrogen as a tool for diagnosing turfgrass damage. International Annual Meeting, ASA-CSSA-SSSA.
- Harivandi, A., Stowell, L.J. and Gelernter, W.D. 2004. Soil acidity and aluminum availability in golf course soils. International Annual Meeting, ASA-CSSA-SSSA.
- Stowell, L.J. and Gelernter, W.D. 2004. Chloride content of golf course turfgrass soils: survey results. International Annual Meeting, ASA-CSSA-SSSA.
- Gelernter, W.D., Stowell, L.J., Darrock, B., Ashworth, M. and Guzman, J. 2003. Effect of interactions among turf variety, water quality, overseeding practices and other stressors on turfgrass performance. International Annual Meeting, ASA-CSSA-SSSA.

- Olsen, M.W., Bigelow, D.M., Gilbertson, R.L., Stowell, L.J. and Gelernter, W.D. 2003. Update on rapid blight, a new disease of turfgrass caused by *Labyrinthula*. International Annual Meeting, ASA-CSSA-SSSA.
- Stowell, L.J., Gelernter, W.D. and Thurow, M. 2003. Evaluation of Spectrum Technology's CM1000 Field Scout Chlorophyll Meter for quantification of turfgrass quality. International Annual Meeting, ASA-CSSA-SSSA.
- Wong, F.P., W. Gelernter, L. Stowell, and N. Tisserat. 2003. First report of *Gaeumannomyces graminis* var. *graminis* on kikuyugrass in the United States. *Plant Dis.* 87(5):600.
- Stowell, L., W. Gelernter, D. Dinelli, D. Garling, D. Potts, G. Dalton and S. Chong. 2002. The influence of soil carbon dioxide on turfgrass performance: field observations from California and Illinois golf course greens. International Annual Meeting, ASA-CSSA-SSSA.
- Martin, S.B., L.J. Stowell, W.D. Gelernter, S.C. Alderman. 2002. Rapid blight: a new disease of cool season turfgrasses. International Annual Meeting, ASA-CSSA-SSSA.
- Gelernter, W., L. Stowell, B. Darrock, J. Guzman, and B. Sandland. 2002. Using a gradient irrigation system to evaluate the interactions among water quality, turf variety and overseeding practices on turfgrass performance. International Annual Meeting, ASA-CSSA-SSSA.
- Wong, F.P., L. Stowell, W. Gelernter. 2002. The role of *Gaeumannomyces* in decline of kikuyugrass in California. International Annual Meeting, ASA-CSSA-SSSA.
- Gelernter, W., Stowell, L., Darrock, B. Guzman, J. and Sandland, B. 2001. Evaluation of warm and cool season turf variety performance using salinity gradient irrigation. International Annual Meeting, ASA-CSSA-SSSA.
- Gelernter, W.D. and L.J. Stowell. 2000. Annual bluegrass seedhead management using ethephon and ethephon plus trinexapac-ethyl on golf course greens and fairways. International Annual Meeting, ASA-CSSA-SSSA.
- Stowell, L.J. and Gelernter, W.D. 2000. Kikuyugrass clipping reduction and quality improvement using trinexapac ethyl. International Annual Meeting, ASA-CSSA-SSSA.
- Stowell, L.J. and W. Gelernter. 1998. A low cost method for monitoring soil carbon dioxide concentrations on golf course greens. International Annual Meeting, ASA-CSSA-SSSA.
- Gelernter, W.D. and L.J. Stowell. 1996. Management of scarab grubs on western golf course turf: Results of a three year study. International Annual Meeting, ASA-CSSA-SSSA.

VIDEO PODCASTS

Free public service videos (available on <http://www.youtube.com/user/paceturf>)

- Aeration: a breath of fresh air for greens
- Frost delays on golf courses: the cold, hard truth
- What makes a grub a grub?
- Why does turf die in the summer?
- Wireworms attack golf course greens
- Golf course sustainability metrics

PACE Turf videos (available on <http://www.paceturf.org> to PACE Turf members)

- pH: An introduction
- Measuring pH
- How much phosphorus is enough (and how much is too much)?
- Monitoring for soil salinity
- Using threat temperatures to prevent disease outbreaks
- Billbugs: Identifying billbug damage
- Billbugs: Billbugs in sod, the gift that keeps giving
- Frit flies: Hiding in plain sight: frit flies on turf
- Mealybugs
- Ground pearls
- Sampling for white grubs
- Moist soils breed weird insects
- Creatures that clog nozzles
- New research on moss management
- Gypsum vs. calcium sulfate anhydrite

- Quick test for gypsum products
- Purple bentgrass and cool temperatures
- Using threat temperatures to prevent disease outbreaks
- Iron, phosphorus and poa
- Influence of heat on Proxy performance

RECENT INVITED PRESENTATIONS AND WEBCASTS

- Precision management for improved soil management, turf quality and IPM, Canadian Golf Course Superintendent's Association, Vancouver, BC, March, 2011.
- Nematode damage on turf: an increasing threat and how to manage it, Canadian Golf Course Superintendent's Association, Vancouver, BC, March, 2011.
- Tools for managing economic challenges: The IPM template and precision turf management. Golf Course Superintendent's Association of America, Orlando, FL, February, 2011.
- Making the most of your IPM plan. Golf Course Superintendent's Association of America. November 2010. Webcast
- Managing soil moisture for improved turf quality, firmness and pest control. TurfNet. August 2010. Webcast
- Opportunities for biopesticides in turf. Biopesticides Industry Alliance Annual Meeting, Sacramento, CA, October, 2008.
- Programs for improved spring transitions. Central California Golf Course Superintendents Association, April, 2008.
- Grub control in Central California. Central California Golf Course Superintendents Association, April, 2008.
- Poa control update. Central California Golf Course Superintendents Association, April, 2008.
- White grub control in Northern California turf. Sierra Pacific Turf Supply meeting, Brooks, CA, March, 2008.
- Developing optimized strategies for improved transitions. Bayer Golf turf Seminar, Fullerton, CA, August, 2006.
- Update on turf insect management. Hi Lo Desert Golf Course Superintendents Association, Palm Desert, CA, May, 2007.
- Turf insect management. Bayer Environmental Sciences Training Session. January, 2007, San Diego, CA.
- Consulting: an independent consultant's perspective. International Annual Meeting, ASA-CSSA-SSSA, November, 2006, Indianapolis, IN.
- Biopesticides: visions vs. reality. American Phytopathological Society, Quebec, Canada, August, 2006.
- The great sprayer nozzle debate of 2006. California Golf Course Superintendent's Association. Temecula, CA. May 2006.
- Developing optimized strategies for improved transitions and white grub control. Bayer Environmental Sciences, December, 2005.
- Biological control products in a changing landscape. BCPC International Congress, Glasgow, Scotland, November, 2005.
- Los productos de control biológico en un panorama cambiante. XXVIII Congreso de Control Biológico, San Miguel Allende, Mexico, November, 2005.
- Developing a comprehensive turfgrass management program. Golf Course Superintendent's Association of America, San Diego, CA, February, 2005.