J Waddell

RECEIVED
FEB 28 2007
COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PUBLIC WORKS

COUNTY OF SAN LUIS OBISPO
APPLICATION FOR APPOINTMENT
TO A BOARD, COMMISSION, OR COMMITTEE

Date: 1/27/2007

Applying For: Los Osos Wastewater Project Technical Advisory Committee

Name: Shaun Kelly

Address: [redacted]

Home Phone [redacted] Business Phone [redacted]

Fax Phone: [redacted] E-mail Address: skelly@calpoly.edu

Supervisorial District: 2 Years resided in County: 5

Present Occupation/Employer: Asst. Professor, Biological & Agricultural Engineering Dept., Cal Poly SLO

If retired, past Occupation/Employer:

Education: B.S. Agric. Engineering Michigan State Univ.
M.S. Agric Engineering Michigan State Univ.
Ph.D. Civil Engineering Oregon State University

List any school courses, volunteer activities, special skills, training, certificates, licenses, or work experience that you feel relate to your qualifications. If you like, you may attach a separate sheet for this purpose or to state your qualifications.

I have a lot of experience in the areas of wastewater environmental research, agriculture and SCADA systems. For more info. see attached sheets.

Previous service on county or city advisory bodies or an elected office (names/dates).

None

Membership in Organizations: American Society of Agricultural & Biological Engineers

Please explain why you would like to serve (attach a separate sheet if necessary):

As a homeowner in Los Osos, I feel compelled to offer my expertise to the Technical Advisory Committee. I would like to see an end to the current wastewater dilemma in Los Osos. I am not hung up on any particular technology and would welcome the opportunity to work with the county staff to come up with a workable solution.

If appointed, are you willing to participate in the majority of meetings each year and, if necessary, in numerous related meetings or subcommittees? X YES ___ NO

Should you be appointed, are you willing, if necessary for that particular body, to file a statement of disclosure as a public official under the standards set forth by the Fair Political Practice Commission? X YES ___ NO

OFFICE USE ONLY

Date called/interviewed _____ Recommended for appointment? ___ YES ___ NO

Appointee prefers not to have address or phone number published? ___ YES ___ NO

Additional Comments: _____

Selected Activities and Qualifications

Shaun F. Kelly, PhD., PE

EDUCATION

1998: Ph.D. Civil Engineering, Oregon State University.

1989: M.S. Agricultural Engineering, Michigan State University.

1985: B.S. Agricultural Engineering, Michigan State University.

CERTIFICATION AND LICENSING

Professional Engineer, Oregon, Certification# 58991PE.

Professional Engineer, California, Application in Progress.

PREVIOUS AND CURRENT RESEARCH ACTIVITIES:

In situ Ozone Generation to Fumigate Soil as an Alternative to Methyl Bromide for Crop Production, C3RP Research Consortium.

Development and Performance of RFID Containers for the Nursery Industry. - Horticultural Research Institute.

Design, development and construction of SCADA system for Building 11, East Greenhouse.

Remote Monitoring of CalPoly Biogas Pilot Project Using Internet 2. – CalPoly Internet 2 Minigrant Proposal Phase 3

NASA: Boreal Ecosystem and Atmosphere Study (BOREAS).

NSF: Cooperative Atmosphere Surface Exchange Study (CASES).

Closed Insulated Plant Production System (CIPS).

Development of miniature time domain reflectometry probes to measure soil moisture and salinity.

Fertilizer movement in horticultural container systems.

Diffusion of ions in porous media.

Measurement of nitrogen pathways from pastures spread with dairy manure.

Finite Element Analysis of Drip Irrigation Hydraulics.

Development and installation of remote data acquisition systems and automated weather stations.

Microcomputer based sonar steering for tractors and an apple harvester.

PREVIOUS AND CURRENT CONSULTING ACTIVITIES:

Potlatch Corporation, Hybrid Poplar Program, Boardman OR. – Soil Moisture Monitoring Program.

USDA SBIR (Small Business Innovative Research) Phase I and II grants – Automated Tension Infiltrometer .

USDA SBIR Phase I: Algorithm to determine water content and salinity in highly saline soils using TDR (Time Domain Reflectometry)

Owens Lake Dust Mitigation Program – Los Angeles Power and Water District/CH2M Hill

Hanford, WA – Design and construction of automated soil moisture network for experiments to characterize solute movement in the vadose zone.

City of Woodburn OR, Wastewater Treatment Plant,Poplar water use project/CH2M Hill

Bandon Cranberry Irrigation District –Johnson Creek Reservoir Project.

Klamath Basin irrigation requirements / U.S. Dept of Justice.

COMMUNITY (activities related to professional expertise)

2002 - 07 FFA State Finals Agricultural Mechanics Contest – Head Judge for the Electrical Project

SLO.CO. Scholastic Chess Organization – Boardmember, 2004- 07.

Los Osos Little League 2007 – Vice President.

TEACHING EXPERIENCE:

Oregon State University

BRE 540: "Lab and Field Techniques in Subsurface Hydrology"
BRE 550: "Engineering Properties of Biological Materials"
CSS 435/535 "Soil Ecosystem Properties and Processes"

CaPoly, San Luis Obispo

BRAE 121 Agricultural Mechanics (Lecture and Lab)
BRAE 151 CAD for Agricultural Engineering (Laboratory)
BRAE 216 Fundamentals of Electricity (Lecture and Lab)
BRAE 240 Agricultural Engineering Lab (Laboratory)
CRSC 244 Precision Agriculture (Lecture and Lab)
BRAE 302 Servo-Hydraulics (Lecture and Lab)
BRAE 324 Principles of Agricultural Electrification (Lecture and Lab)
BRAE 328 Measurements and Computer Interfacing (Lecture and Lab)
BRAE 348 Energy for a Sustainable Society (Lecture and Lab)
BRAE 425 Electrical and Computer Controls for Agriculture (Lecture and Lab)
BRAE 570 Agricultural Electricity for Educators (Lecture and Lab)

AWARDS:

American Geophysical Union, Hydrology Section. Best Ph.D. poster presentation at the 1993 "Hydrology Days" held at Colorado State University, Ft. Collins CO. Mar. 30 - Apr. 2, 1993.

Graduate Congress 93, Graduate Student Senate, OSU. Best paper presented at the Graduate Congress 93 in Session II. April 25, 1993.

REFEREED PUBLICATIONS:

Kelly, S. F. 2006. *Teaching Computer and Technological Concepts in Agricultural Engineering.* (Abstract) NACTA, Abstracts from Annual Conference 2006, University of British Columbia, Vancouver, British Columbia, Canada.

Kelly, S. F. and M Lehmkuhl. 2003. *Internet Video Instruction/Demonstration System for Teaching Lab.* (Abstract) NACTA, Abstracts from Annual Conference 2003, CalPoly, San Luis Obispo, CA.

Kelly, S. F., J. Phillips and R. Strohman. 2003. *Using Web Based Lectures, Disscussion Groups and Hands on Laboratories for Precision Agriculture Instruction.* (Abstract) NACTA, Abstracts from Annual Conference 2003, CalPoly, San Luis Obispo, CA.

Kelly, S. F. and J. S. Selker. 2001 *Osmotically Driven Water Vapor Transport in Unsaturated Porous Media.* Soil Sci. Soc. Am. J. 65(6).

Cuenca, R. H. and S. F. Kelly. 2001. *Ground-based soil moisture observations in regional scale experiments. Land Surface Hydrology, Meteorology, and Climate: Observations and Modeling.* Water Science and Application. Volume 3, 47-61.

LeMone, M. A., R. L. Grossman, R. L. Coulter, M. L. Wesely, G. E. Klazura, G. S. Poulos, W. Blumen, J. K. Lundquist, R. H. Cuenca, S. F. Kelly, E. A. Brandes, S. P. Oncley, R. T. McMillen and B. B. Hicks. 2000. *Land-Atmosphere Interaction Research and Opportunities In the Walnut River Watershed in Southeast Kansas: CASES and ABLE.* Bulletin of the Amer. Meteor. Soc.

Green, J.L., B. Blackburn, S. Kelly and M. Albahou. 2000. *Efficient fertilization of nursery crops - plant controlled uptake.* pp 59-64. Acta Horticulturae 511, XXV International Horticultural Congress. Part I. Culture Techniques with Special Emphasis on Environmental Implications - Nutrient Management. 287 pages.

Cuenca, R. H., D. E. Stangel and S. F. Kelly. 1997. *Soil water balance in a boreal forest.* J. of Geophysical Research. 102(D24):29,355-29,365. 1997.

Kelly, S. F., J. L. Green, and J. S. Selker. 1997. *Fertilizer diffusion in container medium.* J. Amer. Soc. Hort. Sci. 122(1):122-128.

Kelly, S. F., J. S. Selker and J. L. Green. 1995. *Using short soil moisture probes with high resolution time domain reflectometry instruments.* Soil Sci. Soc. Am. J. 59:97-102.

Green, J. L., S. F. Kelly, B. Blackburn, J. Robbins, B. Briggs and D. Briggs. 1993. *A protected diffusion zone (PDZ) to conserve soluble production chemicals.* Combined Proceedings International Plant Propagator's Society, Volume 43, pages 40-44.

Bralts, V. F., S. F. Kelly, W. H. Shayya and L. J. Segerlind. 1993. *Finite element analysis of microirrigation hydraulics using a virtual emitter system.* Transactions of the ASAE. Vol. 36(3):717-725.

NON-REFEREED PUBLICATIONS:

Kelly, S. F. 2005. *Potlatch Hybrid Poplar Project Irrigation and Soil Moisture Monitoring Final Report – 2002-2006.* AnnualTechnical Reports Submitted to Oregon Water Resources Department (OWRD), Salem OR, 97301.

Kelly, S. F., J. S. Selker, R. H. Cuenca and B. A. Flugstad. 2000. *Automated Infiltrometer for Determination of Soil Hydraulic Properties.* (Abstract) EOS, Transactions, American Geophysical Union Supplement, p. F545.

Cuenca, R. H. and S. F. Kelly. 2000. Invited: *Integration of Soil Observations in CASES.* (Abstract) EOS, Transactions, American Geophysical Union Supplement, p F140.

Kelly, S. F. and J. S. Selker. 1999. *Solute transport in the vadose zone.* p. 229-258. *In* J. S. Selker, C. K. Keller, and J. T. McCord. Vadose Zone Processes. CRC Press LLC., Boca Raton, FL, USA.

Kelly,S. F., R. H. Cuenca, D. Butler and B. Jacob. 1998. Measurement Network for Soil Water Content and Soil Temperature Profiles in the CASES Experiment. (Abstract) EOS, Transactions, American Geophysical Union, Vol. 79, No. 45, Supplement, p. F350.

Cuenca, R. H., S. F. Kelly, M. Clark, D. Butler and B. Jacob. 1998. Recording Precipitation Network for the CASES Experiment. (Abstract) EOS, Transactions, American Geophysical Union, Vol. 79, No. 45, Supplement, p. F287.

R. Angulo-Jaramillo, R. Haverkamp, C. Zammit, R. H. Cuenca and S. F. Kelly. 1998. Field Estimation of Soil Hydraulic Properties from Tension Disk Infiltrometers and Flux Scaling Techniques. (Abstract) EOS, Transactions, American Geophysical Union, Vol. 79, No. 45, Supplement, p. F368.

Kelly, S. F. *Non-convective ion diffusion in unsaturated porous media.* Ph.D. Dissertation. Oregon State University. 1998.

Kelly, S. F., R. H. Cuenca, and D. J. Gochis. Abstract only: *Comparison of soil moisture and atmospheric methods to estimate water fluxes in the boreal forest.* Oral presentation at 1997 American Geophysical Union Fall Meeting, Dec. 15-19, 1997 in San Francisco, CA.

R. H. Cuenca, S. F. Kelly, D. J. Gochis and R. Angulo-Jaramillo. Abstract only: *Relationships of soil moisture, soil hydraulic processes and precipitation length scales.* Oral presentation at 1997 American Geophysical Union Fall Meeting, Dec. 15-19, 1997 in San Francisco, CA.

Kelly, S. F. J. S. Selker, and J. L. Green. Abstract only: *Determination of moisture content and ion concentration in laboratory experiments using short TDR probes with high resolution in high salinity porous media.* Oral presentation at 1992 American Geophysical Union Fall Meeting, Dec. 7-11, 1992 in San Francisco, CA.

Kelly, S. F., J. S. Selker, and J. L. Green. *Fertilizer movement in a protected diffusion zone.* Paper No. 93-1018. Presented at the 1993 International summer meetings jointly sponsored by the American and Canadian Societies of Agricultural Engineering, Spokane Center, Spokane WA. ASAE St. Joseph, MI 49085-9659. 1993.

Kelly, S. F., J. A. Moore, M. Gamroth, D. Myrold and N. Baumeister. *Movement of nitrogen from land application of dairy manure on pasture. Paper presented at regional conference: Nonpoint source pollution: the unfinished agenda for the protection of our water quality.* March 20-21, 1991. Tacoma, WA. State of Washington Water Research Center, Washington State University, Pullman WA, 99164-3002.

Kelly, S. F., V. F. Bralts and L. J. Segerlind. *Finite element analysis of drip irrigation hydraulics using quadratic elements and a virtual emitter system.* Paper No. 89-2084. Presented at the 1989 International summer meetings jointly sponsored by the American and Canadian Societies of Agricultural Engineering, Quebec Municipal Convention Centre. ASAE St. Joseph, MI 49085-9659. 1989.

Kelly, S. F. Unpublished masters thesis Michigan State University 1989. *Finite element analysis of drip irrigation hydraulics using quadratic elements and a virtual emitter system.* 1989.

Bralts, V. F., M. A. Driscoll and S. F. Kelly. *Microcomputer based irrigation management and control system.* Paper No. 86-2129. Presented at 1986 Summer Meetings American Society of Agricultural Engineers, California Polytechnic Institute. ASAE St. Joseph, MI 49085-9659. 1986.

OTHER CONFERENCES AND PRESENTATIONS:

Kelly, S. F. J. S. Selker, and J. L. Green. *Determination of ion diffusion coefficients in porous media using time domain reflectometry.* Poster presentation at ASA-CSSA-SSSA 1993 Annual Meetings, Nov. 7-12, Cincinnati, OH.

Kelly, S. F. J. S. Selker, and J. L. Green. *Fertilizer movement in a protected diffusion zone.* Oral presentation at Pacific Division, American Association for the Advancement of Science, Annual meeting, University of Montana, Missoula, June 20-24, 1993. Also presented at International summer meetings jointly sponsored by the American and Canadian Societies of Agricultural Engineering, Spokane Center, Spokane WA, June 20-23, 1993.

Kelly, S. F. J. S. Selker, and J. L. Green. *Short TDR probes to measure water and fertilizer ion gradients in container media.* Oral presentation at Pacific Division, American Association for the Advancement of Science, Annual meeting, University of Montana, Missoula, June 20-24, 1993.

Kelly, S. F.. *Short high resolution TDR probes to measure water content in high salinity soils.* Oral presentation at Graduate Congress 93, April 25 1993, Oregon State University, Corvallis OR.

Kelly, S. F. J. S. Selker, and J. L. Green. *Short high resolution TDR probes to measure water content in high salinity soils.* Poster presentation at American Geophysical Union, "Hydrology Days", Mar. 30 - Apr. 2, 1993, Colorado State University, Fort Collins, CO.