

Fedro S. Zazueta

## CURRICULUM VITAE

# Fedro S. Zazueta Curriculum Vitae

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# FEDRO SIGMUNDO ZAZUETA RANAHAH

## CURRICULUM VITAE

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### ADDRESS

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Home:	Work:	Internet
9307 NW 12 PL Gainesville, FL 32606 Tel : 352 219 4600 FAX (904) 332-3827	Office of Academic Technology 1012 Turlington Gainesville, FL 32611 Tel: (352) 392-0365 FAX: (352) 392-7065	Email: fsz@ufl.edu <a href="http://fsz.ifas.ufl.edu">http://fsz.ifas.ufl.edu</a>

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### EDUCATION

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- 6/1982 Ph.D. Irrigation and drainage. Agricultural Engineering Department. Colorado State University, Fort Collins, CO.  
DISSERTATION: Stochastic Simulation of Agricultural Drainage Systems.
- 1/1977 M.S. Water use and conservation. Escuela de Graduados en Agricultura, Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Monterrey, N.L., México.  
THESIS: Design of Portable Sprinkler Irrigation Systems.
- 6/1974 B.S. Civil engineering. Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), Monterrey, N.L. México.  
THESIS: Waterhammer Routing.
- 6/1969 High School.  
American School of Guadalajara A.C., Guadalajara, Jalisco, México.

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EMPLOYMENT

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01/02 - Date **Director and Professor.**

University of Florida Office of Academic Technology

Responsible for all Information Technology (IT) central services at the University of Florida that support the academic mission, including University wide strategic planning for IT, development and execution of plans and budgets. Provide direction to: the Center for Instructional Technology and Training (CITT), the Center for Instructional and Research Computing Activities (CIRCA), UF Computing Help Desk, Media Services, Classroom support, Computer Teaching Laboratories, Testing and Evaluation, Teaching Center, Reading and Writing Center, Testing Center, Video and Collaboration Systems and the Media Resource Library.

10/97- 8/01 **Director and Professor.**

UF/IFAS Information Technologies Office

University of Florida

Gainesville, FL

**Responsibilities:** Design, deployment and management of State wide IT systems to support agricultural research teaching and extension programs. Direct development of enterprise level systems, including: directory, administrative systems, publications database, distance diagnostic systems. Manage the technical support infrastructure (Help Desk and Desktop Support). Responsible for a State wide network that included 72 extension offices and 23 research centers.

4/96-9/97 **Coordinator and Professor.**

UF/IFAS Information Technologies Office

University of Florida

Gainesville, FL

**Responsibilities:** Administer the UF/IFAS Information Technologies Office. Develop state wide proactive programs related to the use of information technologies in agriculture. Establish procedures and methods for IT use in Florida agriculture and natural resource management.

9/82-4/96 **Professor.** (82-86 as Assistant professor, 86-92 Associate Professor, 84-86 Software Support Office Coordinator)

Department of Agricultural Engineering.

University of Florida.

Gainesville, FL.

**Responsibilities:** Research and Extension in irrigation and drainage. Development of software for irrigation system design and management.

Development and teaching of graduate courses in: 1) Microirrigation technology, and 2) software engineering for microcomputers. Development of materials and installation of a microcomputer teaching laboratory. Development of automated computer control systems for irrigation and electronic soil moisture sensing devices. Development and support of statewide research and extension programs on water use and management. Organization of conferences on topics related to computers at the State and International levels. Teaching the graduate courses on microirrigation technology

9/75-8/78 Professor (Profesor de planta).

Department of Thermal Fluids and Control Engineering. Division of Engineering, Instituto Tecnológico y de Estudios Superiores de Monterrey. Monterrey, N.L., México.

**Responsibilities:** Teaching the undergraduate courses of Fluid Mechanics and Thermodynamics with their corresponding laboratories. Developing and teaching a graduate course in Trickle Irrigation design. Research in low cost housing alternatives, including materials, natural ventilation and solar energy applications.

9/74-8/7 Professor (Profesor de planta).

Department of Civil Engineering. Universidad de Sonora, Hmo., Sonora, Mex.

**Responsibilities:** Teaching the undergraduate courses in Fluid Mechanics, Hydraulics, Mathematics, and Mechanics.

#### HONORS

#### AWARDS

##### National

- Elected as Fellow, **ASAE** 2005
- Outstanding Leadership recognition, **ASAE** 2002.
- Outstanding State Specialist, American Association of Extension Professionals (**AAES**), 2000
- State Team Award, **ΕΣΦ** National Honorary Extension Fraternity, 2000
- Outstanding Service Award, United States Department of Agriculture (**USDA**), 1999
- President's Citation, American Society of Agricultural Engineers (**ASAE**), 1998
- State Team Award, **ΕΣΦ** National Honorary Extension Fraternity, 1998
- Directors Award, American Society of Agricultural Engineers (**ASAE**), 1996.
- Blue Ribbon Award, co-author. 1989. American Society of Agricultural Engineers (**ASAE**).
- Blue Ribbon Award, co-author. 1989. American Society of Agricultural Engineers (**ASAE**).

## State

- Outstanding Specialist Award, Florida Association of Extension Professionals, 2000
- Davis Productivity Award, Florida Tax Watch, 1998
- Superior Accomplishment Award. IFAS, University of Florida, 1997.
- Davis Productivity Award, Florida Tax Watch, 1994.
- Young Engineer of The Year Award. 1990. American Society Of Agricultural Engineers, Florida Section.
- Best Paper Award, co-author. 1988 Florida State Horticultural Society Meeting, Orlando, FL.
- Best Paper Award, co-author. 1984 Florida State Horticultural Society Meeting, Miami Beach, FL.

## University

- Professor of the year, 1978. Awarded by the Mechanical Engineering Student Association of the ITESM. Monterrey, N.L., México.

### HONORARY SOCIETIES

- The National Honor Student Society.
- Honor Society of Agriculture Gamma Sigma Delta.
- Alpha Epsilon Honorary Agricultural Engineering Society.
- Phi Beta Delta Honor Society for International Scholars.
- Phi Kappa Phi Honor Society.

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**TEACHING**

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The following are full semester courses taught at major universities for graduate and undergraduate programs.

Course Title	Level	University	Comments
• Fluid Mechanics	Undergrad	Universidad de Sonora	
• Mathematics I	"	"	
• Hydraulics	"	"	
• Hydromechanical Installations	"	"	
• Fluid Mechanics I	"	TEC. DE MONTERREY (ITESM)	
• Fluid Mechanics II	"		
• Fluid Mechanics Laboratory	"	"	Developed
• Thermal Engineering Practice	"	"	
• Thermodynamics	"	"	
• Heat and Mass Transfer for Biochemical Engineers	"	"	
• Trickle Irrigation Design	Graduate	"	Developed
• Soil and Water Engineering	Undergrad	University of Florida	
• Drainage and Hydraulic Structures	"	"	Developed WWW based course
• Introduction to Engineering	"	"	Developed
• Computers in Agriculture and Natural Resources	"	"	Developed for Distance Educ.
• Advances in Microirrigation	Graduate	"	Developed
• Agricultural Software Engineering	"	"	Developed

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**CONSULTING**

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5/75-date Computer software and hardware development for applications in analytic photogrammetry, cadastral systems and interactive graphic systems. ICFA International.

- 6/94 Analysis of a proposal for development of a 10,000 Ha pistachio grove. Private farmer. Argentina. 3 weeks.
- 7/94- Computer aided Irrigation management. Asociación Civil de Usuarios. Módulo 3. Delicias Chih., México. 6 days.
- 9/94 Development of a crop pattern selection expert system. Instituto Mexicano de Tecnología del Agua. Cuernavaca, México. 1 year.
- 8/92-8/94 SICODE senior engineer and manager. Use of GIS, DBMS and simulation for irrigation district water management. Instituto Mexicano de Tecnología del Agua., Cuernavaca, México. 2 years.
- 6/93 Integration of models and GIS for agricultural decision making. FIRA, Banco de México, Morelia. 2 days.
- 3/93 Innovations in Agricultural Technology. FIRA, Banco de México. Morelia, México. 1 day.
- 3/93 Hidraulics of continuous discharge irrigation pipe. Instituto Mexicano de Tecnología del Agua. IMTA. Texcoco, México. 1 day.
- 8/92 Troubleshoot software installation for interface of GIS system to V8-Wild stereo-plotting equipment. Secretaria de la Defensa. ICFA International, México, D.F.. 1 day.
- 7/92 Troubleshoot computer-based logging system in oil-well perforation platform. ROTENCO, Villahermosa, México. 1 day.
- 5/92 Training of irrigation engineers on portable sprinkler design and management. GEMA-INCAT, San Salvador, El Salvador. 5 days.
- 4/92 Critical review of multimedia software for technical training in soil and water relations. Tech. Pubs. Hal., Jerusalem, Israel. 3 days.
- 4/92 Final evaluation of the Crop Diversification/Irrigation Project, Jamaica. USAID (Through contract with Tropical Research and Development). 21 days.
- 10/91 Critical review of multimedia software for technical training in fertigation. Tech. Pubs. Hal., Jerusalem, Israel. 3 weeks.
- 9/91 Critical review of environmental impact assessments of 4 hidro-agricultural development programs in México. World Bank. 4 days.
- 6/91 Critical review of environmental impact assessments of 24 hidro-agricultural development programs in México. World Bank. 13 days.



- 1/91 Consulting on problems related to biological clogging of trickle irrigation systems, fertilization practices and water management in nurseries in nurseries. FUSADES, San Salvador, El Salvador. (Through INCAT, Miami, FL). 1 week.
- 8/90 Computer applications in agricultural water management, FUSADES, San Salvador. (Through INCAT, Miami, FL.) (3 days).
- 6/90 Microirrigation design and management course. Córdoba, Spain. Junta de Andalucía, Córdoba, España. 5 days.
- 11/89 Microirrigation Technology course to soviet engineering team (senior engineers of new Valmont plant in the Soviet Union). VALMONT, Valley, Nebraska. 6 days.
- 11/89 Requirements for CAD in an engineering firm. Agroservicios Cumbre, Monterrey, N.L. 2 days.
- 9/89 Provided technical expertise on water management disputes arising design problems in pumping systems for frost protection. Congen Properties vs. Johnston Pump legal case. Henderson, Franklin, Sterns and Holt, Ft. Myers, Florida.
- 8/89 Analysis of institutional computer system requirements. Universidad Agrícola Panamericana, El Zamorano, Honduras. 3 days.
- 8/89 Irrigation of ornamental landscapes using reclaimed water. UANL, Monterrey, N.L., México. 1 day.
- 8/89 Artificial Intelligence in Manufacturing. VITROTEC, Fideicomiso, Monterrey, N.L., México. 2 days.
- 8/89 Design of irrigation and soil mechanics laboratory facilities for technical training Institute, Egypt. Crop Water Management Consultants, Gainesville, FL. 10 days.
- 4/89 Irrigation technology course. Presentation to engineers, credit officials and irrigation system managers on selection of irrigation systems and the use of microirrigation in fruit crops. Banco de México, Torreon, Coah., México. 3 days.
- 3/89 Feasibility of microirrigation systems in the Caborca region. Give recommendation to surface irrigation and land grading engineering company on extending their services to microirrigation. OVSSA. Caborca, Sonora, México. 1 week.
- 1/88 Range lands water management. Consulting on solution of water management related problems along the coast of Ecuador. Proyecto MEGALIT, US-AID, Asociación Ganadera del Litoral, Guayaquil, Ecuador. 1 week.

- 3/87 On farm water management course. To instructors of the On Farm Water Management Training Institute, Agricultural University of Tando Jam and Drainage Research Institute. Sheladia Assoc. - USAID. Karachi, Pakistan. 3 weeks.
- 9/86 Computer code generator for applications interface with graphics editor and photogrammetric software. ICFA International. México DF, San Antonio TX. 6 weeks.
- 8/86 Computer controlled environments for the home. Ryan Electronics. Miami, FL. 1 day.
- 6/85 Microcomputer Technology Course to the Meals for Millions: Freedom From Hunger Foundation., Davis, CA. 2 days.
- 4/82 Development of a voice synthesizer software driver under the CP/M operating system. MI-8, Ft. Collins, CO. 1 week.
- 4/82 Development of a real time clock software driver under the CP/M operating system for Environmental Control Systems, Houston, TX. 1 week.
- 11/81 Course on cadastral and photogrammetric computer applications. INALDAZ Ltda., Quito, Ecuador. 1 week.
- 5/79 Population Projections and Socioeconomical Study of Cayambe, Ecuador. Ingenieria Cartografica (INGECART), Quito, Ecuador. 3 months.
- 8/77 Development of a simulation model for heat transfer in plant production of bottles. Fomento de Industria y Comercio (FAMA). Monterrey, N.L. México. 3 months.
- 5/77 Course to technical personnel, on hydraulics of canals and wells. Peerless-TISA, Monterrey, N.L., México. 3 days.
- 1/75 Design of trickle and sprinkler irrigation systems on several farms in the states of Nuevo Leon and Coahuila, México, for private farmers over a period of three years.
- 8/77 In plant evaluation of vortex separators in textile combing. Leona Textil S.A., Monterrey, N.L., México. 3 days.
- 3/77 In plant evaluation of pumping efficiencies. Fundidora de Monterrey S.A., Monterrey, N.L. México. 1 day.
- 7/76 Solution of in-plant problems related to pump testing equipment. Jacuzzi, S.A., Monterrey N.L., México. 1 day.

9/74 Trickle irrigation design. Organizer and lecturer of courses and seminars on trickle Irrigation. Gerencia de la Zona Norte. Secretaria de Recursos Hidraulicos. Hermosillo, Sonora México. Over a period of 1 year.

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CREATIVE WORKS

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SOFTWARE:

Main author a large number of software packages distributed commercially and by the Florida Extension Service. (See list of publications).

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CONTRACTS AND GRANTS

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F.S. Zazueta. College level Academic Skills Test Support. Florida Department of Education. \$1'257,563. 2002-2006.

F.S. Zazueta. College level Academic Skills Test Administration. Florida Department of Education. \$1'541,492. 2002-2006.

F.S. Zazueta. Test Item Development for Florida Exit Exams. Florida Department of Education. \$69,154. 2002-2003.

F.S. Zazueta. Test Item Development for Florida Exit Exams. Florida Department of Education. \$68,916. 2001-2002.

F.S. Zazueta. College level Academic Skills Test Support. Florida Department of Education. \$1'258,446. 1999-2002.

F.S. Zazueta. College level Academic Skills test support. Florida Department of Education. \$1'488,490. 1999-2002.

F.S. Zazueta. Increasing Accessibility Awareness of K12-K20 Faculty. South East Disability and Business Technical Assistance Center. \$44,550. 2003.

F.S. Zazueta. Florida Automated Weather Network Extension. Florida División of Emergency Services, Florida. 2001. \$127,000

F.S. Zazueta. Sustainable Agriculture Network. United States Department of Agriculture (USDA). 2000-2001. \$20,000.

F.S. Zazueta. Sustainable Agriculture Network. United States Department of Agriculture (USDA). 1999-2000. \$15,000.

Howard Beck\*, Fedro S. Zazueta, Don Poucher and Julie Graddy. Development of an automated system for the generation of management guides. United States Department of Agriculture (USDA). 1997-1998, \$160,000.

F.S. Zazueta, G. Miller and A.G. Smajstrla. Turfgrass water use and quality under reduced irrigation conditions. Tricounty Government (Pinellas, Hillsborough, and Manatee counties) 1997-1998. \$82,000

F.S. Zazueta. Reduced irrigation of turf. West Coast Regional Water Supply Authority. 1996-1997. \$85,000.

F.S. Zazueta. Automated data validation for a 175 Station Weather Station Network. St. John's Water Management District. 1994-95. \$28,000

F.S. Zazueta. GIS for water for agricultural industrial and urban use. St. John's Water Management District. 1993-94. \$70,000.00

F.S. Zazueta. Soil moisture sensors. St. John's Water Management District. 1991. \$10,000

T. French, J. Stricker and F.S. Zazueta. Use of perennial peanuts for mined land recovery. 1991-1993. \$90,000.

F.S. Zazueta. Benchfarm database manager. St. John's Water Management District. 1990-91. \$20,000

F.S. Zazueta. Mobile Irrigation Laboratory Evaluation Software. West Coast Regional Water Supply Authority. 1989-1990. \$10,000.

F.S. Zazueta, and J. Earl. Process analysis and development important to the design of multiphase anaerobic digestion systems. Gas Research Institute, 1988-1989, \$5000.

F.S. Zazueta, B. McCarty, L. Landrum, and A. Brockway. Turf Irrigation demonstrations. St. Johns's River Water Management District. 1988-1989, \$16,000.

F.S. Zazueta, Real time expert systems. 1987. \$15,000. ( in Kind-Software, training and custom driver software donated to University by RTES).

E.E. Albregts, F.S. Zazueta and C.D. Stanley. Crop coefficients of strawberry from lysimeter studies. South West Florida Water Management District. 1986-1987. \$60,000.

E.E. Albregt\*, F.S. Zazueta, C.D. Stanley and G. Clark. Rain water harvesting and irrigation water tailings recovery in fruiting strawberry (continuation). South West Florida Water Management District. 1987-1988. \$20,000.

D.Z. Haman, F.S. Zazueta and A.G. Smajstrla. Irrigation requirements and water use of blueberries. Governor's Energy Office of Florida. \$100,000.

E.E. Albregts, F.S. Zazueta and C.D. Stanley. Rain water harvesting and irrigation water tailings recovery in fruiting strawberry. South West Florida Water Management District. 1986-1987. \$50,000.

Haman, D.Z\*, A.G. Smajstrla and F.Z. Zazueta. Improving energy water use efficiency of seepage irrigation. Governor's Energy Office of Florida. 1985-1987. \$50,000.

F.S. Zazueta, D. Chynowetz. Computer control of anaerobic digesters. Gas Research Institute. 1986-1987. \$20,000.

F.S. Zazueta, D. Chynowetz. Computer control of anaerobic digesters. Gas Research Institute. 1985-1986. \$10,000.

S.C. Buzdugan, E.C. French, A.G. Smajstrla, F.Z. Zazueta. Water use in small farming systems in the tropics. USDA Tropical and Subtropical Agriculture. 1985-1988. \$56,000/year. This project was discontinued after one year because the College of the Virgin Islands refused to release funds, hire personnel or cooperate as proposed.

E.A. Albregts, F.S. Zazueta and C.D. Stanley. Rainwater Harvesting for strawberry irrigation. 1985-1986. \$50,000.

E.E. Albregts, F.S. Zazueta and C.D. Stanley. Irrigation water tailings recovery in fruiting strawberry. South West Florida Water Management District. 1985-1985. \$5,000.

F.S. Zazueta. Agricultural Engineering Microcomputer Laboratory. Cain & Bultman Inc. \$70,000. 1983. This consisted of a donation to IFAS of 15 microcomputer systems (\$30,000 hardware and \$40,000 software) to be used in extension and education programs.

E.A. Albregts, F.S. Zazueta and S. Kovack. Irrigation water tailings recovery in fruiting strawberry. South West Florida Water Management District. 1983-1984. \$5,000.

F.S. Zazueta. Donation of 25 microcomputers for Teaching Laboratory. Zenith Corporation. 1982. \$65,000.

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## SERVICE

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### PROFESSIONAL.

- CSREES/USDA Information Technologies Internal Review Committee, **Chairman**. 2001.
- International Standards Organization (ISO). Irrigation standards committee. Member. 1997-2001.
- World Federation of Engineering Associations.
  - Food and Agricultural Engineering Committee. Member. 1995 to 2000.
  - International Taskforce Committee. Member. 1998 to 1999
  - Committee on Technology (ComTech). Member. 1998 to 2000.
- AAES (American Association of Engineering Societies).
  - International Technical Advisory Committee, Member. 1998-2000.
  - United Nations Sustainable Development Report Committee (UNSDC8), **Chairman**. 2000.
- ASAE (The Society for Engineering in Agricultural, Food and Biological Systems)
  - Meetings council, Member 1997-2004
  - M156 Kishida International, 2001-2004. **Chairman** 2003.
  - INTL 602 International Steering. 2000-2004. **Secretary** 2004.
  - INTL 612/2 Breakfast Reception. 2002-2004. **Chairman** 2003-2004.
  - P416 Continuing Professional Development. Member 2003-2004.
  - IET 254 Emerging Technologies. Member 2004-2004
  - SW 245 Microirrigation Committee, Member. 1996 to 1999. **Chairman** 2000-2001.
  - International Activities Committee. 1998-2000. **Chairman**. 2000-2001.
  - SW 03 Soil and Water Standards Committee, Member, 1997-2000.
  - SW 245 Micro-irrigation standards committee, Member. Member. 1985-2004.
  - Groundwater Hydraulics Committee. Member. 1985-1986.
- European Federation of Information Technologies Advisory Committee, Member, 1998-2003 .
- Food and Agriculture Committee, **Chairman**. UPADI (Unión Panamericana de Asociaciones de Ingeniería) 1993-1996
- Editorial board for "Revista Hidráulica de México", Member. 1994 to date.
- Florida Irrigation Society
  - **Technical Advisor**, 1984-1994.
- Turf and landscape irrigation standards committee, Florida Irrigation Society, 1988.

### UNIVERSITY OF FLORIDA.

- Windows 2000 Consortium, **Chairman**, 2000-2002.
- Network Advisory Committee, **Chairman**. 1998-2000.

- UF Identification number Committee, Member. 2000.
- Information Technologies Internal Review Committee, Member. 2000-2001.
- Acceptable use of computing resources, Member. 2000
- Year 2000 advisory committee, Member. 1998-2000.
- Overseas Studies Advisory Committee, Member. 1998.
- WWW Appropriate Use Policy Committee, Member. 1998..
- Gartner/UF contract implementation committee, Member. 1998.
- Overseas Studies Faculty Advisory Committee, Member. 1997.
- OSS Faculty Advisory Committee, Member. 1996-1998.
- IP/FANR Advisory Council. Member, 1996.
- School of Engineering Ethics Committee, Member. 1892-1993.
- Dean for Research Search and Screen Committee, Member. 1992.
- International Student Office Advisory Board, Member. 1994-to date.
- Latinamerican Studies Institute Advisory Board, Member. 1993-1995
- School of Engineering Curriculum Committee, Member. 1989-1993.

INSTITUTE OF FOOD AND AGRICULTURAL SCIENCES, UNIV. OF FLORIDA.

- Information Technologies Policy Advisory Committee. At large member. 1997-date.
- IFAS Publication Implementation Committee, Member. 1997- 2002.
- Accountability system implementation committee, member, 1999-2002.
- Digital Distance Diagnostics Committee, member. 1999-2002.
- Florida Automated Weather Network Steering Committee, 1999-2002.
- Information Technologies Curriculum Committee, **Chairman**. 2000
- IFAS Extension Publications Task Force, Member. 1996-1997.
- Technology Assisted Graduate Education Committee, Member. 1997.
- International Programs Advisory Council, Member. 1996- 2000.
- IFAS Computer Support Office 1986 to 1988.
- Infostructure task force, **Chairman**. IFAS. 1996-1997.
- Distance Education Committee, IFAS, Member. 1996-1997.
- International Dimensions task force, 1997-1998.
- Minority Scholarships Committee, **Chairman**. 1994-1996.
- Dean of Research Search and Screen Committee, Member. 1993.
- FOCUS 91 Committee, Member. 1987 to 1991
- IFAS Computers in Teaching Committee, Member. 1988-1990.
- Four year planning committee on Water Management FL-29 State Program. **Chairman**. 1986-1990.
- IFAS Computers in Teaching Committee, Member. 1987-1989.
- IFAS Computers in Extension Committee, Member. 1988.
- HORT2000 committee, Member. 1986-1987.
- Search and Screen Committee for the Computer Support Office Coordinator position **Chairman**, 1986.
- IFAS Computer Operations Committee, Member. 1984-1985.

DEPT. OF AGRICULTURAL ENGINEERING, UNIV. OF FLORIDA.

- IT in agriculture curriculum committee, 1990 to Date.
- Soil and Water Curriculum Committee, Member. 1983 to 1996.
- Senior Eng. Design Committee, Member. 1991-1993
- Curriculum Committee, Member. 1988-1989.
- Graduate Committee, Member. 1986-1987.
- Computer aided visual generation, **chairman** , 1986.
- Microcomputers Committee, Ag. Eng. Dept. , Member. 1985-1986
- Various Search and screen committees 1982-date.

OTHER

- Minority Mentor, 1988-to date.
- Mexican Student Association Faculty Advisor, 1995-1997.
- Lambda Theta Phi, Faculty advisor, 1996-1997.
- Senior Faculty Advisor to the American Society of Agricultural Engineers student branch. 1985.
- Senior Faculty Advisor to the Florida Alpha Epsilon Society Florida chapter, 1984. Gainesville, FL.

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LECTURES OR SPEECHES AT PROFESSIONAL CONFERENCES/MEETINGS

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- 07/03 Use of Handheld Computers in Agriculture. Proceedings of the 5<sup>th</sup> Congress of the European Federation of Information Technology in Agriculture. **Keynote Speaker**. Debrecen, Hungary.
- 08/02 Use of Personal Digital Assistants (PDAs) in Agricultural Extension Programs. Proceedings of the Third Asian Conference on Information Technologies in Agriculture.
- 10/00 Change in Information Technologies: Its application to Agriculture, InfoAgro2000: Computers in Agriculture Congress. **Plenary Session**. Ponta Grossa, Brasil.
- 10/99 Bioengineered Foods. American Association of Engineering Societies. **Invited Speaker**. Academy of Engineering. Wasington D.C.<sup>1</sup>
- 6/15/00 Information Technologies in Agricultural Extension. 2<sup>nd</sup> Asia Federation of Information Technologies in Agriculture (AFITA) Congress. **Keynote Speaker**. Suwon, Korea.

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<sup>1</sup> This presentation was made at the Academy of Engineering to assist in developing a position statement related to genetically modified foods using biotechnology.



- 5/2/00 The Role of Engineering in Sustainable Food Production<sup>2</sup>. **Invited Speaker**. United Nations Sustainability Committee. UN General Session. New York.
- 9/28/99 A Centralized Distributed Model for Information Technologies. 2<sup>nd</sup> European Federation of Information technologies in agriculture (EFITA) Congress. **Plenary Session**. Bonn. Germany.
- 11/16/99 Information Technologies for the XXI Century. World Federation of Engineering Associations. Symposium on Food, Agriculture and Energy. **Plenary Session**. Madrid, Spain.
- 8/19/98 Sustainability and water resources: Fantasy or achievable goal? Seminario internacional del uso integral del agua. **Keynote speaker** Universidad Autónoma Chapingo, México.
- 1998 Information Technologies in the Ag. Engineering Curriculum. ASAE Florida Chapter. Key Largo Florida.
- 9/19/96 Computers in irrigated agriculture. XI National Irrigation and Drainage Congress. **Plenary Session**. Campinas, Brasil.
- 5/11/96 Computer-based Tools for Irrigation. AGRITEC Conference, **Invited Speaker**, Tel Aviv, Israel.
- 7/14/95 24th Congress of Agricultural Engineering, Brazilian Society of Ag. Eng. Informatics applied to hydroagricultural projects. **Plenary Session**. Visoça July 14/95
- 7/18/95 Electronic Information Delivery Technologies. EMBRAPA. **Invited Speaker**. Sete Lagoas. Brasil.
- 1995 Aquaculture aeration using irrigation porous pipe. 5th Int. Irr. Congress. Orlando, FL. ASAE.
- 1995 International developments in microirrigation. 1995. 5th Int. Irr. Congress. Orlando, FL. ASAE
- 1995 Simple method to design tapered sloping manifolds. 5th Int. Irr. Congress. Orlando, FL. ASAE.
- 1995 A simple equation to estimate soil-water movement from a drip irrigation source. 5th Int. Irr. Congress. Orlando, FL. ASAE.

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<sup>2</sup> Organized forum at the request of the American Association of Engineering Societies and The World Federation of Engineering Associations and made presentations on low-tech sustainable energy production and engineered animal powered plows.

- 1995 A modified tensiometer for control of potted plant irrigation in nurseries. 5th Int. Irr. Congress. Orlando, FL. ASAE.
- 1995 International developments in microirrigation. 1995. 5th Int. Irr. Congress. Orlando, FL. ASAE. (Plenary session)
- 2/7/94. A facility to study water management of citrus. International Conference of Computers in Agriculture. Orlando, FL.
- 2/8/94. Using simulation to asses extension program directions. International Conference of Computers in Agriculture. Orlando, FL.
- 2/9/94 Effects of temperature and salinity induced errors in soil moisture measurement. 1994 International Conference of Computers in Agriculture. Orlando, FL.
- 7/4/94 Combate a la pobreza (Combating poverty.) **Invited speaker.** UPADI congress. Acapulco, México.
- 7/5/94 An expert system to diagnose biological clogging problems in irrigation. UPADI congress. Acapulco México.
- 11/25/94 Agroinformática. 1er Congreso, Asociación Latinoamericana de Ingenieros Agrícolas. Universidad de Concepción. Chillán, Chile.
- 11/26/94 Agricultural sustainability issues in developing countries. **Plenary Session.** 1er Congreso, Asociación Latinoamericana de Ingenieros Agrícolas. Universidad de Concepción. Chillán, Chile.
- 2/7/94. A facility to study water management of citrus. 1994 International Conference of Computers in Agriculture. Orlando, FL.
- 2/8/94. Using simulation to asses extension program directions. 1994 International Conference of Computers in Agriculture. Orlando, FL.
- 2/9/94 Effects of temperature and salinity induced errors in soil moisture measurement. 1994 International Conference of Computers in Agriculture. Orlando, FL.
- 7/4/94 Combate a la pobreza. **Invited speaker.** UPADI congress. Acapulco México.
- 7/5/94 An expert system to diagnose biological clogging problems in irrigation. UPADI congress. Acapulco México.

- 11/25/94 Agroinformática. **Invited speaker.** 1er Congreso, Asociación Latinoamericana de Ingenieros Agrícolas. Universidad de Concepción. Chillán, Chile.
- 11/26/94 Agricultural sustainability issues in developing countries. **Invited speaker.** 1er Congreso, Asociación Latinoamericana de Ingenieros Agrícolas. Universidad de Concepción. Chillán, Chile.
- 1992 Tecnologías emergentes en el sistema de riego localizado. International Symposium on irrigation of Horticultural Crops. International Society of Horticultural Science. Madrid, Spain. **Invited speaker.**
- 1992 Sistemas de Microirrigación. Curso Internacional de Riego. Universidad Autónoma Chapingo. Chapingo, México. **Invited speaker.**
- 1991 Simulación de sistemas agrícolas. Semana de Parasitología Agrícola. Universidad Autónoma Chapingo. Chapingo, México. **Invited speaker.**
- 1991 Agroinformática. 2do Simposio Internacional Sobre la Ciencia y Tecnología con Fuerza Productiva. Montevideo, Uruguay. **Invited speaker.**
- 1991 Computer design and management of microirrigation systems. Centro de Investigación y desarrollo Agrario. Curso Internacional Sobre Teoría y Práctica de Riego. Córdoba, España. **Invited speaker.**
- 1991 Field evaluation of turf and landscape irrigation systems and the effects of management strategies on irrigation water use. American Society of Agricultural Engineers. Florida-Georgia Meeting. Jacksonville, FL.
- 1991 Benchmark-farm Irrigation database. Paper No. FL91-105. American Society of Agricultural Engineers. Florida-Georgia Meeting. Jacksonville, FL
- 1991 Evaluation of a capacitive-type soil-moisture sensor. Paper No. FL91-111. American Society of Agricultural Engineers. Fla. Section Meeting. Jacksonville, FL.
- 1990 Control automático en invernaderos. Modernización de la empresa agropecuaria. Simposio Internacional de Agronomía. Instituto Tecnológico y de Estudios Superiores de Monterrey. Monterrey, N.L. **Invited speaker.**
- 1990 Computer aided design of irrigation systems. Centro de Investigación y desarrollo Agrario. Curso Internacional Sobre Teoría y Práctica de Riego. Córdoba, España. **Invited speaker.**
- 1990 Microirrigación en Frutales. Universidad de Concepción. Curso Internacional de Manejo de Agua en Frutales. Chillán, Chile. **Invited speaker.**

- 1990 Determination of the spatial and temporal distribution of normalized irrigation intervals. Proc. Third National Irr. Symp. (Prepared presentation, presented by G.A. Clark)
- 1990 Power-line modulation control of irrigation systems. Int. Conf. on Comp. on Ag. Ext., Orlando, FL.
- 1990 Software for design and management in soil and water. Int. Conf. on Comp. on Ag. Ext., Orlando, FL.
- 1990 Design, Scheduling and operation of turf irrigation systems. Florida Turfgrass Association Meeting. Orlando, FL.
- 1990 A software package for the simulation of ponds for irrigation water tailings recovery, and rainwater harvesting. American Society of Agricultural Engineers, Florida Section Meeting. St Joseph, MI
- 1990 Predicting erosion soil losses. American Society of Agricultural Engineers, Florida Section Meeting.
- 1990 Field evaluation of turf and landscape irrigation systems. American Society of Agricultural Engineers, Florida Section Meeting. St Joseph, MI
- 1989 Small turf irrigation system management. Proc. Fla. State Hort. Soc.
- 1989 Real-time expert control of irrigation systems. American Society of Agricultural Engineers, Florida Section Meeting.
- 1988 Normalized Irrigation Intervals for Florida. Soil and Crop Sci. Soc. of Fla., Marco Island, FL.
- 1988 Computer aided design and management of sugarcane irrigation systems. Sugarcane Institute Meeting. Miami, FL.
- 1988 Computer control of irrigation systems. Int. Plant Prop. Soc. Proc. 37:27-34. Engineers, Florida Section Meeting. St Joseph, MI
- 1988 Computer control for the home, 2<sup>nd</sup> International Conference on Computers in Agricultural Extension Programs. Orlando, FL.
- 1988 Computer control of irrigation systems, 2<sup>nd</sup> International Conference on Computers in Agricultural Extension Programs. Orlando, FL.
- 1988 SCREENS: An Information delivery system development tool. 2<sup>nd</sup> International Conference in Agricultural Extension Programs. Orlando, FL.

- 1988 The computer as a programmer. Amer. Soc. of Agric. Eng., Fla. State Meeting. Sarasota, FL.
- 1987 Analysis of Agricultural Drainage systems in Florida. Soil and Crop Sci. Soc. of Fla., Sarasota, FL.
- 1987 SCREENS: An information delivery systems utility generator. Amer. Soc. of Agric. Eng. Summer Meeting., Baltimore MA.
- 1986 Elements of computer control in agricultural systems. Purdue Agricultural Computing Conference. West LaFayette, Indiana. **Invited speaker.**
- 1986 Low cost computer control of agricultural systems. Purdue Agricultural Computing Conference. West LaFayette, Indiana. **Invited speaker.**
- 1986 Computer aided design (CAD) of turf irrigation systems. Florida State Horticultural Society Meeting.
- 1986 Economic analysis of labor saving devices in nursery operations. Florida State Horticultural Society Meeting.
- 1986 Irrigation scheduling of peanuts in northern Florida. Soil and Crop Science Society of Florida Meeting.
- 1986 CAD and management software for irrigation systems. International Conference on Computers in Extension Programs. Orlando FL.
- 1986 Computer control of agricultural irrigation systems. International Conference on Computers in Extension Programs. Orlando FL.
- 1985 Rainwater harvesting and irrigation tailwater recovery to reduce water use for fruiting strawberries. Soil and Crop Science Society of Florida Meeting.
- 1985 A simple numerical model for the prediction of soil-water flow from trickle sources. Soil and crop Science Society of Florida Meeting.
- 1985 Microcomputer aided design and management of trickle irrigation systems. Third International Drip/Trickle Irrigation Congress. American Society of Agricultural Engineers. San Diego, CA.

- 1985 Microcomputer control of trickle irrigation systems. Proceedings of the Third International Drip/Trickle Irrigation Congress. American Society of Agricultural Engineers. San Diego, CA.
- 1984 Computer management of trickle irrigation systems. Proc. Fla. State Hort. Soc. Meeting.
- 1984 Microcomputer control of irrigation systems. I: Hardware and software considerations. Soil and Crop Science Society of Florida Meeting.
- 1984 Computer control of irrigation systems for Nurseries. Fla. State Hort. Soc. Meeting.
- 1984 The hydraulics of continuous flow irrigation pipes. American Society of Agricultural Engineers Summer Meeting, Knoxville TN.
- 1984 Software engineering in the agricultural engineering curriculum. 1984 Summer Meeting. Amer. Soc. of Agr. Eng., Knoxville, TN.
- 1983 Microcomputer software sources for Florida agriculture. Florida State Horticultural Society Meeting.
- 1983 Irrigation systems and cost estimate for row crop production in Florida. Soil and Crop Science Society of Florida Meeting.
- 1978 Un Metodo Simplificado para el Diseno de Sistemas de Riego por Goteo con Emisores Hidraulicamente Controlables (A Simplified Method for the Hydraulic Design of Trickle Irrigation Systems with Controlable Emitters) II Seminario Nacional sobre Riego por Goteo. SARH. Region (2<sup>nd</sup>. National Conference on Trickle Irrigation) Lagunera, Coah.. Julio de 1978.
- 1978 Aspectos Termofluidicos de Tuberias con Salidas Multiples. (Thermofluidic Aspects of Multiple Outlet Systems). IV Congreso, Academia Nacional de Ingenieria, Merida, Yuc. (4<sup>th</sup>. Congress of the National Academy of Engineering) Septiembre de 1978.
- 1977 Diseno 'Optimo' de Sistemas de Riego por Aspersion y su Calculo Electronico. (Optimal Design of Sprinkler Irrigation Systems). III Congreso, Academia Nacional de Ingenieria, (3<sup>rd</sup>. Congress of the National Academy of Engineering). Oaxtepec, Morelia. Septiembre de 1977.
- 1976 Uso de Computadoras en el Diseño Hidraulico de Sistemas de Riego por Goteo. (Computer Applications in Hydraulic Design of Trickle Irrigation) II Seminario Latinoamericano sobre Riego por Goteo. (2<sup>nd</sup>. Latinamerican Conference on trickle Irrigation) SARH, IICA. Region Lagunera, Coah. y Dgo.. Junio de 1977.

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## INTERNATIONAL ACTIVITIES<sup>3</sup>

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### ADJUNCT PROFESSORSHIPS

- Agricultural Engineering Dept., UNICAMP, Campinas Brasil 1992-date.
- Agricultural Engineering Dept., Universidad de Concepción, Chile. 1994-date.

### EXCHANGE PROGRAMS:

- Graduate student Committee member (2), Universidad de Concepción, Chillán Chile. 1995
- Graduate student Committee member (2), Colegio de Posgraduados, México. 1994.
- Student thesis committee member (2), Universidad Autónoma Chapingo. México. 1993
- Adjunct professor (profesor visitante), Member of the Graduate Faculty. Universidad de Concepción, Chillán Chile. 1992
- Adjunct professor, Member of the Graduate Faculty. University of Campiñas, Campiñas, Brazil. 1990
- Participated in exchange program with Agricultural University, Wageningen, Holland. Have directed 3 graduate students on practical training sessions. 5/87 to date
- Major advisor, international exchange student carrying out research projects in Florida. Instituto Tecnológico y de Estudios Superiores de Monterrey, Monterrey, N.L., México. 5/89 to date
- Initiated exchange programs between the University of Florida and the following institutions:
  - Colegio de Posgraduados, Escuela de Agricultura, México.
  - Instituto Tecnológico y de Estudios Superiores de Monterrey, México.
  - Universidad Autónoma Chapingo (Universidad Nacional de Agricultura), México.
  - Politecnico Nacional, México.
  - Universidad de Concepción, Chile.
  - Universidad de Campinas, Brasil.
  - Universidad de Vicosa, Brasil.
  - University of Wageningen, Holland.

### INTERNATIONAL COURSES TAUGHT

- Curso de Riego en Frutales. Universidad de Concepción, Chile November, 2003.

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<sup>3</sup> Some international work is listed under consulting.

- VIII International Course on Irrigation Systems, **Invited lecturer**. Universidad Autónoma Chapingo, México, May, 2003.
- VIII International Course on Irrigation Systems, **Invited lecturer**. Universidad Autónoma Chapingo, México, May, 2002.
- VII International Course on Irrigation Systems, **Invited lecturer**. Universidad Autónoma Chapingo, México, May, 2001.
- VI International Course on Irrigation Systems, **Invited lecturer**. Universidad Autónoma Chapingo, México, August 11/00.
- V International Course on Irrigation Systems, **Invited lecturer**. Universidad Autónoma Chapingo, México, May, 1999.
- Microirrigation design and management. **Invited lecturer**. University of Córdoba, Spain. May, 1998.
- IV International Course on Irrigation Systems, **Invited lecturer**. Universidad Autónoma Chapingo, México, May, 1997.
- Microirrigation design and management. Universidad de Córdoba, Spain. May, 1996
- III International Course on Irrigation Systems, **Invited lecturer**. Universidad Autónoma Chapingo, México, May, 1996.
- II International Course on Irrigation Systems, **Invited lecturer**. Universidad Autónoma Chapingo, México, May, 1995.
- Microirrigation design and management. **Invited lecturer**. Universidad de Córdoba, Spain. May, 1995.
- Computers in Agriculture. **Invited lecturer**. University of Vicosa, Brasil. July, 1995
- Computers in Agriculture. National Extension Service. Bello Horizonte, Brasil. July, 1995.
- International Course on Irrigation Systems. **Invited lecturer**. Universidad Autónoma Chapingo. Texcoco México. May, 1994.
- Microirrigation design and management. **Invited lecturer**. University of Córdoba, Spain. May, 1994.
- Biological Simulation. Instituto Mexicano de Tecnología del Agua. Cuernavaca, México. August, 1994.
- Microirrigation Design short course. **Invited lecturer**. Colegio de Posgraduados. Montecillo. México. September, 1994.
- Expert systems in agriculture. **Invited lecturer**. Universidad de Concepción, Chillán, Chile. November, 1994.
- Visual Basic Programming. **Invited lecturer**. Universidad de Concepción, Chillán, Chile. November, 1994.
- Microirrigation Design short course. **Invited lecturer**. Colegio de Posgraduados. Montecillo. México. 9/29/94-9/30/94.
- Curso Internacional de Riego. **Invited lecturer**. Universidad Autónoma Chapingo. Texcoco México. May 23-27, 1994.
- Expert systems in agriculture. **Invited lecturer**. Universidad de Concepción. Chillán, Chile. 11/14/94-11/17/94.



- Visual Basic Programming. **Invited lecturer.** Universidad de Concepción. Chillán, Chile. 11/94.
- Curso Internacional de Riego. **Invited lecturer.** Universidad Autónoma Chapingo. Texcoco México. May 23-27, 1994. 5/94.
- Curso internacional de Riego. **Invited lecturer.** Universidad Autónoma Chapingo. Texcoco México. 1 week. 5/93
- Diplomado sobre riego. **Invited lecturer.** Colegio de Posgraduados. Texcoco. México. 1 week. 5/93
- Expert systems in agriculture. Instituto Mexicano de Tecnología del Agua. Cuernavaca, México. 1 week. 7/93
- Avances en Microirrigación. **Invited lecturer.** Semana de Irrigación. Universidad Autónoma Chapingo, Texcoco, México. 3/93
- Informática en Agricultura. **Invited lecturer.** Semana de Irrigación. Universidad Autónoma Chapingo, Texcoco, México. 3/93
- Diplomado en Irrigación. Centro de Hidrociencias, Colegio de Posgraduados. Texcoco, México. 24 hrs. **Invited lecturer.** 3/92
- El Curso internacional de Irrigación, Departamento de Irrigación, Universidad Autónoma Chapingo, Chapingo, México. 25 hrs. **Invited lecturer.** 3/92
- Rapid prototyping of expert systems. 1/3, 4 hrs. International conference on agricultural extension programs. Orlando. (Organizer and single lecturer.) 1/92
- Portable Sprinkler Irrigation Design. 1/6-5/6, 5 days. USAID, San Salvador, El Salvador. **Invited lecturer.** 6/92
- International course on irrigation in Fruit and vegetable production. Cordoba, Spain. **Invited lecturer.** 11/92
- Microirrigation. 5 days. Las Brujas, Uruguay. **Invited lecturer.** 12/92
- Expert systems in Agriculture. 5 days. Montevideo Uruguay. **Invited lecturer.** 12/92
- Curso internacional de Irrigación, Departamento de Irrigación, Universidad Autónoma Chapingo, Chapingo, México. 25 hrs. **Invited lecturer.** 4/92
- Rapid prototyping of Expert Systems. International Computer Conference on Computers in Agriculture. ASAE. 5 hrs. 2/92
- Tendencias de la Agroinformática. Instituto Nacional de Investigaciones Agrícolas, INIA. Montevideo, Uruguay. 5 hrs. **Invited lecturer.** 8/91
- Uso de computadoras en Tecnología de Riego. Instituto Nacional de Investigaciones Agrícolas, INIA. Montevideo, Uruguay. 5 hrs. **Invited lecturer.** 8/91
- Microirrigation systems design, installation and management. Curso Internacional de Riego. Junta de Andalucía. Dirección General de Investigación y Extensión Agraria. Córdoba, España. 5 days. **Invited lecturer.** 5/91
- Agricultural Computing: Computer aided design and expert systems. 3 days. Universidad Nacional Autónoma de Chapingo, Texcoco, México. **Invited lecturer.** 10/90
- Computer aided design and management of microirrigation systems. 5 days. Universidad de Córdoba, Córdoba, Spain. **Invited lecturer.** 5/90
- Water management of fruit crops. Universidad de Concepción. Chillán, Chile. 4 days. **Invited lecturer.** 1/90

- Microcomputer systems in agriculture. Instituto Tecnológico y de Estudios Superiores de Monterrey, Monterrey, México. 21 hr. Invited lecturer. 8/88
- Short course on Computers in Agriculture. Tecnológico de Monterrey. Monterrey N.L. 21 hr. Invited lecturer. 8/88
- Drainage Engineering Short Course. University Hermanos Escobar, Cd. Juarez, Chi. México. 20 hr. Invited lecturer. 10/8

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EXTENSION PROGRAM ACTIVITIES

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MAJOR ACCOMPLISHMENTS:

Provided Leadership for Statewide Planning Programs:

FL713: Science and Technology Youth Program (1999-date)  
 FL411: Florida Water Conservation (1996-1997)  
 FL029: Florida Water Conservation. (1996-1991)  
 FL041: Florida Water Conservation. (1991-1995)  
 FL411: Florida Water Conservation (1996-1997)

This involved planning, organizing and reporting extension statewide efforts.

Software Support Office.

Was a key member of the group that in 1983 established this office. It was the support and distribution center for agricultural software for IFAS until late 1997.

Developed software for water system design and management (See list of publications).

These are sold through the Computer Support Office. It is widely used in Florida, the US and Internationally. Most of the invitations the author receives to teach courses outside Florida are related to this software.

Founding member of the CD-ROM effort in Florida.

This has become a major component of the IFAS extension information delivery system. This program is the undisputed leader in electronic information technologies in agricultural extension.

Mobile irrigation laboratory program.

Developed a field irrigation testing laboratory, including software for on field interactive evaluation. Field lab. is in use by state and county agencies. Standards being developed for statewide use.

#### CONDUCTED SEMINARS AND CLINICS<sup>4</sup>

12/6/96	Agriculture and the Internet II, Orlando
11/8/96	Agriculture and the Internet II, Cocoa Beach
10/23-24/96	Internet in Agriculture, Florida Citrus Mutual Meeting Lakeland
10/4/96	Agriculture and the Internet II, Monticello
9/30-10/ 2/96	Internet in Agriculture: FACTS Trade Show, Lakeland
9/6/96	Agriculture and the Internet II, Pensacola
8/28-29/96	Southwest Florida Citrus Exposition, Ft Myers
8/14/96	New Information Technology, Jacksonville
07/11/96	Agriculture and the Internet II, Jacksonville
06/6/96	Agriculture and the Internet II, West Palm
05/16/96	Agriculture and the Internet II, Seffner
05/9/96	Agriculture and the Internet II, Gainesville
04/11/96	The InterNet and Agriculture, 2 Sessions, Jacksonville
04/4/96	Agriculture and the Internet II, Ft. Myers
04/04/96	The InterNet and Agriculture, 2 Sessions, Ft. Myers
03/28/96	The InterNet and Agriculture, 2 Sessions, W. Palm Beach
03/14/96	The InterNet and Agriculture, 3 sessions, Bradenton REC
03/7/96	Agriculture and the Internet II, Homestead
03/07/96	The InterNet and Agriculture, 3 sessions, Homestead
02/15/96	The InterNet and Agriculture, 2 Sessions, Naples
02/08/96	The InterNet and Agriculture, 2 Sessions, Gainesville
02/7/96	Agriculture and the Internet II, Ft. Pierce
01/25/96	The InterNet and Agriculture, 2 Sessions, Cocoa
01/18/96	The InterNet and Agriculture, 2 Sessions, Pensacola
01/11/96	The InterNet and Agriculture, 2 Sessions, Ft. Pierce
01/10/96	Agriculture and the Internet II, Bradenton
12/07/95	The InterNet and Agriculture, 2 Sessions, Seffner
11/16/95	The InterNet and Agriculture, 2 Sessions, Monticello
11/03/95	The InterNet and Agriculture, 2 Sessions, Orlando
10/11/95	Controllers for Citrus Irrigation. Course (4 hours) Immokalle.
10/05/95	Drainage Engineering ASAE PE Review Session (2 hr) Gainesville
9/18/94	Irrigation controllers and sensors for landscape irrigation. Gainesville. 1 hr.
9/16/94	Irrigation evaluation. FNATS. 1 hr., Orlando
7/25/94	Water conservation technologies. World Food Day. Sat. Conference.2, 1 hr Gainesville
2/16/94	Chemical injection. FACCTS. 1 hr., Orlando
09/22/82	Irrigation Systems. AREC, Dover.
6/95-6/96	Over this year conducted 26 Workshops at different locations in the state for the general public on "Agriculture and the Internet".
01/06/95	Conserv II field tour. Orlando, FL. 8 hrs.
07/28/94	4H state event. Mechanical and electronic sciences. Gainesville, 8 hrs.
09/16/94	Irrigation Evaluation. FNATS. Orlando, FL.. 1 hr.

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<sup>4</sup> All Agriculture and the Internet sessions here were 4hrs in duration each.

09/18/94 Irrigation controllers and sensors for landscape irrigation. Gainesville. FL. 1 hr.

07/25/94 Water conservation technologies. World Food Day. Satellite conference. Gainesville, FL. 1 hr.

02/16/94 Chemical injection. FACCTS. Orlando FL. 1 hr.

01/13/93 Irrigation of turf and ornamentals. Brevard.

10/09/92 Soil moisture sensors. Florida Irrigation Society. Orlando.

09/12/92 Improving delivery of water in the landscape. IFAS Advisory Committee. Gainesville, Alachua.

07/05/92 Automation of citrus irrigation systems. Growers, Ag. related agency personnel, support industry. CONSERV II, Orange Cty.

06/18/92 Soil-moisture sensors. Growers, Ag. related agency personnel, support industry. Sanford. Tavares, Lake Cty.

04/28/92 Irrigation system design. Growers, Ag. related agency personnel, support industry. Sanford. Seminole Cty.

04/28/92 Computer controlled irrigation systems. Growers, Ag. related agency personnel, support industry. Sanford. Seminole Cty.

12/09/91 Soil Moisture sensors. Florida Irrigation Society, Orlando. (2 hrs.)

06/14/91 Soil moisture sensors. Florida Irrigation society, Sanibel Island, (1 hr.)

06/05/91 Evaluation of Irr. Systems. IFAS Irr. Sem. SWFWMD, Brooksville, (30 min.)

06/05/91 Irrigation scheduling. IFAS Irr. Sem. SWFWMD, Brooksville, (30 min.)

04/09/91 Conserv II computer control system. Krezdorn Grove. (3 hrs.)

03/21/91 Computer controlled environments. Indian river community campus. (3.5 hrs.)

03/21/91 Irrigation design. Indian river community campus. (3.5 hrs.)

12/08/90 Soil-water relations, Orlando, FIS. (45 min., Att. 40.)

12/07/90 Evaluation of Turf and Landscape irr. sys., Orlando. (45 min., Att. 40.)

12/07/90 Basic hydraulics, Orlando (FIS). (45 min., Att. 40.)

10/18/90 Conservation of water quality and quantity, Sanford. (45 min. Att. 50.)

10/01/90 Turf-grass Association workshop, (5 hr., Att. 60.)

07/02/90 Florida File video contribution. (30 min., TV.)

05/15/90 Irrigation design for hydroponic tomato systems, Lake City (1 hr., Att. 75.)

05/10/90 Mobile Lab Demonstration, Fla. Turf Day. (4 hr. Att. 500.)

03/03/90 Reality of artificial intelligence (1 hr, Att. 50.)

03/19/89 Computer aided design of irrigation systems (3.5 hr, Att. 40)

11/03/89 Basic hydraulics. Florida Irrigation Society. Orlando, FL.

11/02/89 Water management in nurseries. Broward Cty. Extension Office. (Att. 30).

11/01/89 Water management in nurseries. Collier Cty. Extension Office. (Att. 45).

01/19/89 Computer aided irrigation scheduling. (Att. 6).

01/19/89 Computer aided irrigation design. Fla. State Computer Workshop. (Att. 8).

01/19/89 Introduction to computers for youth. Fla. State Computer Workshop. (Att 24).

01/19/89 Loosing you Fear of computers II. Fla. State Computer Workshop. (Att. 18).

01/18/89 Soil Ph Control. Fla. State Computer Workshop. (Att. 30).

01/18/89 Crop Water demands. Fla. State Computer Workshop. (Att. 18).

01/18/89 Irrigation management. Fla. State Computer Workshop. (Att. 20).

- 01/18/89 Getting started with computer irrigation design. Fla. State Computer Workshop. (Att. 20).
- 08/25/88 Basic concepts in irrigation efficiency. Horticultural Agents Retreat, Mt. Dora, FL. (Att. 150)
- 05/15/88 Irrigation of Christmas trees. Christmas Tree Growers Association Meeting, Lake City, FL. (Att. 120)
- 02/19/88 Introduction to Pascal. Fla. State Computer Workshop and Trade Show. Gainesville, FL (Att. 6).
- 02/19/88 Computer controlled environments. Fla. State Computer Workshop and Trade Show, Gainesville, FL (Att. 25).
- 02/18/88 Communications. Fla State Computer Workshop and Trade Show. Gainesville, FL (Att. 75).
- 02/18/88 Loosing your fear of computers. Fla. State Computer Workshop and Trade Show. Gainesville, FL (att. 250).
- 1/20-21/88 Nursery irrigation. TPIE, Miami, FL.
- 12/19/87 Efficiencies of irrigation systems in Florida. Sanford, FL. Attendance 40.
- 10/15/87 Demonstration of new computer extension delivery techniques. Horticulture retreat. Tampa, FL. Attendance 80.
- 10/13/87 Computer control of irrigation systems. International Plant Propagators Society. Orlando, FL. Attendance 500.
- 9/26-27/87 Demonstration of nursery irrigation design and management software. Florida Nursery and Allied Trades Show. Orlando FL. Attendance to trade show over 7000.
- 06/09/87 Installation of residential and commercial turf irrigation systems. De Land, FL. Attendance 28.
- 05/30/87 Advantages/disadvantages of mist versus fog systems. Florida Ornamental Growers Association. Orlando, FL. Attendance 230.
- 5/1/87. Microcomputers in the nursery. Lake County Community College.(3 hr.).
- 4/25/87. Demonstration on Computer control of greenhouses. Ornamental Horticulture Open House, Gainesville. (4 hr.).
- 4/16/87. Planning Woody Ornamentals Irrigation Systems. Alachua Ext. Office. (1 hr.).
- 4/14/87. Estimating Crop Water Use. Ft. Myers. (1.5 hr).
- 3/4/87. Microirrigation in the landscape. Pinnellas Ext. Office. (1 hr.).
- 3/3/87. Microirrigation in the nursery. Hillsborough Ext. Office. (1 hr.).
- 3/2/87. Microirrigation systems. Sarasota Ext. Office. (1 hr.).
- 3/2/87. Microirrigation in the home. Sarasota Ext. Office. (1 hr.).
- 1/22-23/87. Demonstration on computer control of mist and irrigation systems. TPIE meeting. Miami, FL.
- 1/10/87. Low Cost Computer for Greenhouse Control. National Foliage Meeting. Orlando, FL.
- 9/13/86. Design of Turf irrigation systems (2 hrs). FNATS, Orlando.
- 9/12/86. Demonstration on a computer controller for irrigation systems (2 hrs). FNATS, Orlando.
- 9/5/86. Demonstration of computer controller for irrigation systems (1 hr). West Palm Beach Extension Office.
- 7/31/86. Use of computers in agriculture (1 hr to 4 hrs), Gainesville.

07/31/86 Software development. (1 hr to 4 hrs), Gainesville.

7/8/86. Computer is a management and in field nurseries (4 hrs). Brown County Extension Office.

7/1/86. Tour of the irrigation park and computer control software demonstration FFA meeting, Gainesville.

5/13/86. Course on computer application in agriculture (5 hrs). County Extension Office. Ft. Myers.

5/13/86. Computer uses in irrigation (1 hr). FNGA meeting. Ft. Myers.

2/26/86. Demonstrations on CAD control, AI and management aids of agricultural systems. 1986 FACCTS. Lakeland.

12/5/85. Spreadsheet analysis (3 hr). Fla. Irrigation Society. Winter Meeting. Orlando.

12/4/85. Introduction to microcomputers (3 hr). Fla. Irrigation Society. Winter meeting. Orlando.

11/13/85. Computer control of irrigation systems on nurseries (1 hr). County Extension Office, Tavares.

11/7/85. Computer control of irrigation systems on nurseries. Computer estimation of acid injection rates for pH control of irrigation water (1 hr). County Extension Office, Monticello.

10/9/85. Environmental control of greenhouses (1 hr). Bedding Plant Industry meeting. San Jose, California.

9/30/85. School on computers (2.5 hr). Orlando Florida Turf Grass Association.

8/19-21/85 Computer control of irrigation systems for nurseries. Orlando. 6 20 min. presentations. Fla. Nursery and Allied Trade Show.

8/1/85. Drip irrigation for woody ornamentals (1.5 hr). Volusia County Office.

6/15/85. Spreadsheet analysis (3 hr). Fla. Irrigation Society. Summer Meeting.

06/14/85 Introduction to microcomputers (3 hr). Fla. Irrigation Society. Summer Meeting.

5/10/85. Computer control of irrigation systems for nurseries. Ft. Lauderdale AREC.

3/27/85. Gainesville. Talk on the CP/M operating system and assembly language programming. Open to the general public, by invitation of the local CP/M user's group.

3/7/85. Ft. Pierce. Talk to citrus growers on digital control of irrigation systems. Indian River Citrus Seminar.

2/21/85. Lakeland. Environmental control of greenhouses. FL. Comp. Conf. and Trade Show.

2/5/85. Orlando. Talk to nursery growers on computer control of irrigation systems for nurseries.

6/15/84. Microcomputer applications in irrigation. To Florida Fruit and Vegetable Association, annual meeting.

10/9/84. Efficiency and uniformity of sprinkler irrigation systems for nurseries. Volusia County Extension Office.

5/10/84. Computer applications in nurseries. To nursery growers, Pinellas County Extension Office.

- 5/9/84. Computer use in irrigation system design, management and control. To nursery growers, Lee County Extension Office.
- 5/8/84. Computer control of irrigation systems. To nursery growers, Hillsborough County Extension Office.
- 4/13/84. Design Criteria and uniformity evaluation of irrigation systems. Indian River County Extension Office.
- 4/12/84. Design Criteria and uniformity evaluation of irrigation systems. Lee County Extension Office.
- 3/20/84. Microcomputer agricultural software developments in Florida. To the Southern Regional Extension Agricultural Program Leaders Conference.
- 3/19/84. Report on use of computers in extension in the State of Florida. To the Southern Regional Extension Agricultural Program Leaders Conference.
- 2/7/84. Introduction to microcomputer systems. To the 1984 Florida Agribusiness Computer Conference and Trade Show. (Also Co-Chairman).
- 1/24/84. Microcomputer for increased management efficiency. To the Southern Cemetery Association.
- 1/11/84. Computer aided design of irrigation systems. To the Indian River Citrus Seminar.
- 1/14/84. Introduction to microcomputer hardware. To faculty and students of the College of Veterinary Medicine.
- 9/13/83. Microcomputer software and irrigation design. Seffner Ag. Center.
- 6/13/83. Design criteria and management of trickle irrigation systems. County Extension Office.
- 5/10/83. Demonstration of CAD irrigation software. Ag. Eng. Dept.
- 3/10/83. Trickle irrigation system design. Lake Alfred AREC.
- 3/8/83. Irrigation clinic. County extension office. Wauchula.
- 2/24/83. Design criteria, filtration and emitter selection. Agricultural center, Stuart.
- 2/16/83. Irrigation systems for cemeteries. Southern Cemetery Association Meeting. Gainesville.
- 1/12/83. Design of low volume irrigation systems for bedded groves. Indian River Citrus Seminar. Cocoa Beach.
- 12/7/82. Trickle Irrigation. Crop Irrigation Short Course. County Extension Office, Gainesville, Fl.
- 9/23/82. Planning Irrigation Systems for Woody Ornamentals. AREC, Orlando.

#### IN SERVICE TRAINING<sup>5</sup>

- 6/9-10/97 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Jacksonville
- 7/9-10/97 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Jacksonville
- 1/8-9/97 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Bradenton
- 6/4-5/97 Developing Your IFAS Documents for Print, CD-ROM and the WWW, West Palm Beach

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<sup>5</sup> Inservice training organized and conducted for UF/IFAS faculty and staff. Duration 4 hrs., except were noted.

6/4-5/97 Introduction to Microsoft Windows and Novell/Corel Perfect Office, West Palm Beach

5/14-15/97 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Seffner

5/4-5/97 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Seffner

2/5-6/97 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Ft. Pierce

3/5-6/97 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Homestead

3/5-6/97 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Homestead

2/5-6/97 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Ft. Pierce

1/8-9/97 Introduction, to Microsoft Windows and Novell/Corel Perfect Office, Bradenton

4/28/97 Developing Computer Software for Extension, Gainesville

4/14/97 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Gainesville

3/31/97 Developing Computer Software for Extension, Gainesville

3/24/97 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Gainesville

3/17/97 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Gainesville

4/2-3/97 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Ft. Myers

4/2-3/97 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Ft. Myers

2/24/97 Developing Computer Software for Extension, Gainesville

2/17/97 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Gainesville

2/10/97 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Gainesville

1/27/97 Developing Computer Software for Extension, Gainesville

1/20/97 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Gainesville

1/13/97 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Gainesville

12/30/96 Developing Computer Software for Extension, Gainesville

12/23/96 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Gainesville

12/16/96 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Gainesville

11/25/96 Developing Computer Software for Extension, Gainesville

12/5/96 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Orlando

12/4/96 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Orlando

11/18/96 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Gainesville

11/11/96 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Gainesville

11/6/96 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Cocoa Beach

11/6/96 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Cocoa Beach

10/28/96 Developing Computer Software for Extension, Gainesville

10/21/96 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Gainesville

10/14/96 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Gainesville

10/2/96 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Monticello

9/30/96 Developing Computer Software for Extension, Gainesville

9/23/96 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Gainesville

9/16/96 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Gainesville

9/4/96 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Pensacola

9/4/96 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Pensacola

8/26/96 Developing Computer Software for Extension, Gainesville



8/21/96 Introduction to Microsoft Windows and Novell/Corel Perfect Office, Gainesville  
8/19/96 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Gainesville  
4/21/96 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Gainesville  
04/11/96 The Internet and Agriculture, Jacksonville  
04/04/96 The Internet and Agriculture, Ft. Myers  
03/28/96 The Internet and Agriculture , W. Palm Beach  
03/14/96 The Internet and Agriculture, 2 sessions Bradenton  
03/07/96 The Internet and Agriculture, 3 sessions Homestead  
10/2-3/96 Developing Your IFAS Documents for Print, CD-ROM and the WWW, Monticello  
02/15/96 The Internet and Agriculture, Naples  
02/08/96 The Internet and Agriculture, 2 Sessions Gainesville  
02/01/96 The Internet and Agriculture, MacClenny  
01/25/96 The Internet and Agriculture, Cocoa  
01/18/96 The Internet and Agriculture, Pensacola  
01/11/96 The Internet and Agriculture, Ft. Pierce  
12/07/95 The Internet and Agriculture, Seffner  
11/16/95 The Internet and Agriculture, Monticello  
11/03/95 The Internet and Agriculture, Orlando  
2/25/94 Soil moisture sensors, 8 hr, Gainesville  
2/24/94 Irrigation controllers and rain sensors, 8 hr, Gainesville.  
01/06/95 Conserv II field tour. 4 hrs.  
07/28/94 4H state event. Mechanical and electronic sciences. Gainesville, 8 hrs.  
02/25/94 Soil moisture sensors, Gainesville, FL, 8 hr.  
02/24/94 Irrigation controllers and rain sensors. Gainesville, FL. 8 hr.  
09/30/93 Testing turf irrigation systems. Seffner, FL. 1 day  
03/20/93 Soil moisture sensors, Orlando, FL, 1 hr.  
03/09/93 Irrigation controllers and sensors. Conserv 2, FL. 1 day.  
01/22/93 Evaluation of irrigation systems. SCS. Homestead. 1 day.  
01/13/93 Irrigation of Turf and Ornamentals. Cocoa, FL. 1 hr.  
01/28/92 Mobile irrigation laboratory. Soil Conservation Service. Homestead. 2 days  
03/03/92 Calibration of tensiometers. Agents and field technicians. Gainesville. 4 hrs.  
08/25/91 Evaluation of irrigation systems. The MOBILE laboratory. Hort Agents retreat, 3 hrs. Camp Ocala.  
05/15/91 Water Management training program to SFWMD. Co-organized and taught (1.5 hr) with other water management specialists.  
01/31/89 Landscape irrigation components, design and installation. Gainesville, FL.  
02/24/87 Irrigation In-service training: Basic principles and the need for irrigation. Irrigation hydraulics. Quincy, FL.  
02/17/87 Irrigation In-service training: Basic principles and the need for irrigation. Irrigation hydraulics. West Palm Beach, FL.  
02/28/87 Pascal programming. Agribusiness Comp. Conf. and Trade Show. (1 hr.).  
02/28/87 Advanced BASIC programming. Agribusiness Comp. Conf. and Trade Show. (1 hr.).  
09/26/86 Software development for Non-programmers (8 hrs. course). Organized and taught 7 hours.

- 09/25/86 Irrigation Principles and methods (45 minutes). Vegetable Crops In Service Training.
- 04/30/86 Introduction to microcomputers for 4-H agents (7 hrs). Organized and taught complete course.
- 03/25/86 Microcomputer in the Ornamentals Industry (7 hrs). Organized and taught complete course.
- 06/06/85 Microcomputers in the nursery industry. In-house training course given to extension county agents. 6 hours of conference starting with basic microcomputer concepts, operating systems, spreadsheets, trickle irrigation design and computer control of irrigation systems.
- 06/06/85 Computer irrigation management. Presentation at the Vegetable Crops in service training (45 minutes).
- 06/06/85 Introduction to the Z90 computer. (Organized and taught course 4 hrs).
- 06/06/85 Introduction to microcomputers (7 hrs). Held a faculty computer support center in cooperation with FRED (Co-chaired with Dick Levins).
- 04/26/84 Member of a panel on microcomputer applications. To IFAS faculty and others (45 minutes).
- 01/26/84 Microcomputer on the Citrus industry. 7 hours in house training seminar for IFAS and SCS extension specialists and county agents. (Organized and taught complete course).
- 06/05/83 Microcomputer technology course. ASAE regional meeting. Member of the organization committee and speaker. Two hour session on basic concepts and computer control.
- 06/05/83 Administrative Computer Workshop. Member of the organization committee. 1 hr. session on microcomputer basic concepts. All day demonstration of computer control computer aided design and database management.
- 06/05/83 Specifications of trickle irrigation systems (45 min). Water Extension Program Workshop. Lake Alfred.
- 06/05/83 Computers in Agricultural Extension Programs Conference. Aided DB Botcher with program coordination during conference.
- 06/05/83 Basic concepts in microcomputers seminar. 1 hr. Dairy science faculty and students.
- 06/05/83 Commercial Vegetable Crops Extension In-Service Training. 45 minutes on computer applications in irrigation.
- 06/05/83 Microcomputers in the citrus industry. In-house training course given to extension county agents. 6 hours of conference starting with basic microcomputer concepts, operating systems, spreadsheets, and trickle irrigation design. (Organized and taught complete course).

#### ORGANIZATION OF MAJOR CONFERENCES<sup>6</sup>.

- 2004 Joint Congress of the Asian Federation of Information Technology in Agriculture and the World Conference on Computers in Agriculture and Natural Resources. **(Program Chairman)**, Bangkok, Thailand
- 2001 World Conference on Computers in Agriculture. **(Chairman)**, Iguazu, Brazil.
- 1998 7<sup>th</sup> International Conference on Computers in Extension Programs. **(Chairman)**. Orlando, FL.
- 1996 6<sup>th</sup> International Conference on Computers in Extension Programs. **(Chairman)**. Orlando, FL.
- 1994 5<sup>th</sup> International Conference on Computers in Extension Programs. **(Co-chairman)**. Orlando, FL.
- 1992 4<sup>th</sup> International Conference on Computers in Extension Programs. **(Co-chairman)**. Orlando, FL.
- 1990 3<sup>rd</sup> International Conference on Computers in Extension Programs. **(Chairman)**. Orlando, FL.
- 1990 Florida State Computer Workshop and Trade Show **(Co-Chairman)**. Lakeland, FL.
- 1989 Florida State Computer Workshop and Trade Show **(Co-Chairman)**. Lakeland, FL.
- 1988 2<sup>nd</sup> International Conference on Computers in Extension Programs. **(Chairman)** Orlando, FL.
- 1988 Florida State Computer Workshop and Trade Show **(Chairman)**. Lakeland, FL.
- 1987 Florida State Computer Workshop and Trade Show **(Chairman)**. Lakeland, FL.
- 1986 International Conference on Computers in Extension progress **(Co-chairman)**. Orlando, FL.
- 1986 South East Computer Conference and Trade Show **(Chairman)**. Lakeland, FL.
- 1985 Florida State Computer Conference and Trade Show **(Chairman)**. Lakeland, FL.
- 1984 Florida State Computer Conference and Trade Show. **(Co-chairman)**. Lakeland, FL.

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<sup>6</sup> The State and Regional Conference and Trade show mentioned was the largest agricultural computer related conference in the Southeast. They include the organization of 6 workshops by agricultural commodity, 6 lectures by industry participants, 21 hands-on courses on a variety of microcomputer skills and a 50+ booth trade show. These are directed to the general public.

#### MAJOR COURSES TO THE INDUSTRY.

- Visual Programming in Delphi. 4 hr course taught at the 1996 International conference on Computers in Agriculture. Cancun, México.
- Rapid Prototyping of Expert Systems. 4 hr course taught at the 1996 International conference on Computers in Agriculture. Cancun, México.
- Agriculture and the Internet. 4 hr course taught at the 1996 International conference on Computers in Agriculture. Cancun, México.
- Linking GIS, DBMS, ES and Simulation. 4 hr course taught at the 1996 International conference on Computers in Agriculture. Cancun, México.
- Visual Programming, 4 hr. course taught to attendees of 1994 International Conference of Computers in Agriculture. Orlando, FL.
- Rapid Prototyping of Expert Systems. 4 hr. course taught to attendees of 1994 International Conference of Computers in Agriculture. Orlando, FL.
- Geographic Information Systems. 4 hr. course taught to attendees of 1994 International Conference of Computers in Agriculture. Orlando, FL.
- Introduction to microcomputer systems. (3 hrs course). 1984 Florida Irrigation Society Winter Meeting. Orlando, FL.
- Use of Computers in the irrigation industry. (3 hrs course). 1985 Florida Irrigation Society Summer Meeting. Orlando, FL.
- Computer aided Design of Trickle Irrigation Systems. (3 hrs course). 1985 Florida Irrigation Society Summer Meeting. Orlando, FL.
- Computer Estimation of Evapotranspiration (3 hrs course). 1985 Florida Irrigation Society Winter Meeting. Orlando, FL.
- Computer aided Design of Turf Irrigation Systems (3 hrs course). 1985 Florida Irrigation Society Winter Meeting. Orlando, FL.
- Solving Irrigation and Drainage Problems. 1987 Florida Turfgrass Association Meeting. 4 hr course, attendance 20. Orlando FL.
- Design and Management of irrigation systems using microcomputers. 1987 Irrigation Association Meeting. Orlando, FL.
- Microcomputer Aided Water Management for Sugarcane. 1988, International Sugarcane Institute. Miami FL.
- Computer Aided Design of Irrigation Systems. 1989, Florida Irrigation Society, Amelia Island, FL.
- Introduction to MicroComputers. 1990. Florida Irrigation Society. Amelia Island, FL.
- Agricultural Drainage. P.E. Review session. Florida Chapter, ASAE. Vero Beach FL. 1989.

#### OTHER EXTENSION ACTIVITIES.

- 4-H subject matter specialist in aerospace sciences. Organized and judged yearly state events on aerospace, rocketry and electronics, 1983-1996.
- Trickle Irrigation specifications review program. 1992-1995  
A computer program for estimating the specifications of trickle irrigation systems was developed. The purpose is for growers to fill in a form with the specifications of their

system. The data in this form is entered into a microcomputer and the resulting output mailed back to them allowing them to review the adequacy of the design. About 275 systems have been renewed since 1983.

- Designed irrigation park for Pinnellas and Hillsborough Co. Extension Offices. 1985. This design involved developing a showcase for different types of landscape irrigation technology. It involved investigation of all available hardware and sources and the design a multiple type irrigation system.
- Designed turf irrigation management demonstrations installed in 4 counties. 1990.
- Designed and installed 6 computer control demonstrations in commercial greenhouses. 1983-1985.

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#### MEMBERSHIP IN PROFESSIONAL SOCIETIES

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##### Current

- American Society of Agricultural Engineers.

##### Past

- American Society of Engineering Education, Member.
- American Society of Agronomy
- Florida Irrigation Society.
- Florida State Horticultural Society
- Soil and Crop Science Society of Florida, member.
- American Society for Engineering Education.
- American Society of Photogrammetry

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#### LANGUAGES

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English: Fluent, written and spoken.

Spanish: Fluent, written and spoken.

##### Information Technology Skills:

Technology administration, including broad knowledge of academic technology connectivity and networking, software engineering, technology training and support. Applications of information technologies to agriculture and natural resources, such as GIS, modeling, knowledge based systems, information delivery systems, data acquisition and control. Programming in conventional and object languages.

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PERSONAL

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Date of Birth: May 5, 1951  
Marital status: Married  
September 1972 to Ivonne  
Audirac.

Citizenship: USA.  
Children: Ilén (1974) and Ian (1975).  
Hobbies: Music performance, martial arts.