

SUBRAMANIA (SRI) I. SRITHARAN Ph.D., P.E.

PERSONAL DATA

Address: 180 Southway Drive
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Phone (Home): (937) 429-5122

Present Occupation: Professor and Chair /Director of Water Resources Management
Department of Water Resources Management
International Center for Water Resources Management
Central State University
Wilberforce, OH 45384. USA.

Phone (Office): (937) 376-6275. (e-mail: sri @centralstate.edu)

Citizenship: US

EDUCATION

Ph. D, Hydraulics Program, Department of Civil Engineering, College of Engineering, Colorado State University, Fort Collins, 1984.

M.S., Hydraulics Program, Department of Civil Engineering, College of Engineering, Colorado State University, Fort Collins, 1981.

B.S., Civil Engineering, Faculty of Engineering, University of Ceylon, 1971 with Honors.

PROFESSIONAL AFFILIATION

Professional Engineer, Ohio (Registration Number - E 56988)

Member, American Society of Civil Engineers (ASCE)

Associate Editor, Journal of Irrigation and Drainage Engineering (Through January 1997)

Member, Publications Committee - Journal of Irrigation and Drainage Engineering

Member, On-Farm Committee / Water Resources Engineering of ASCE

Member, Design and Operation of Irrigation and Drainage Systems Committee of ASCE

Member, American Association of University Professors.

PROFESSIONAL BACKGROUND

Expertise:

Water Quality and Environmental Engineering- Wetland water quality kinetics and wetland design, water treatment and supply, wastewater treatment; environmental system modeling.

Surface Hydraulics - Physical and computer modeling of steady and unsteady flow in channels and pipes; control of hydraulic transients in open channels; applications of transient control for irrigation canal systems; erosion and sedimentation, vortex flow at hydraulic intakes ; convection and diffusion of contaminants; hydraulic structures; wetland hydraulics; application of hydraulics to irrigation

Sub-surface Hydraulics - Flow interaction between surface and subsurface flows under saturated and unsaturated conditions, field scale studies of convection and diffusion parameters under saturated and unsaturated conditions; applications of subsurface hydraulics to irrigation and drainage.

Water Resources Systems Analysis- Optimal design of water resources system design, operation and management, Computer Aided Decision Making in Water Resources Systems Analysis, Remote Sensing Applications in water and environmental systems.

Hydrology (deterministic and stochastic) - Evaporation processes, rainfall-runoff correlation in watersheds, wetland hydrology.

Irrigation and Drainage – Hydraulic applications in irrigation and drainage; System design, operation and management; Design of optimal links for on-farm and main system operation and management; Computer aided design and management (CAD) and management of irrigation systems; Rehabilitation planning and design of irrigation systems; Interdisciplinary agricultural systems studies; Environmental impacts of irrigation and drainage; Irrigated Agricultural Development; Soil and Water Conservation.

Professional Activities:

Actively engaged in numerous areas of environmental engineering and water resources management research and education. Associate Editor Journal of Irrigation and Drainage Engineering (Through January, 1997), Member of Technical Oversight Committees of Environmental and Water Resources Institute (EWRI) of ASCE on Publications, On-farm Irrigation and Design, Operation and Maintenance of Irrigation Systems. Active participation in innumerous university committees.

HONORS

America's Registry of Outstanding Professionals 2002-2003
Who's Who Among America's Teachers and Who's Who in Science and Engineering
Sigma -Xi, The Scientific Honor Society

RESEARCH ACTIVITIES

Environmental Technology Transfer.
Modeling of soil and water remediation processes.
Remote sensing and GIS applications in water and environmental management.
Systems Analysis of Large Scale Water Systems
Integrated modeling of soil evaporation.
Canal controls in the framework of implicit methods as alternatives to method of characteristics approach for gate stroking in open channel flow.
Biospheric-atmospheric interactions for General Circulation Models.
Global changes in Rainfall-Runoff processes.
Renewable energy technology applications in water resources systems.
Drainage systems design under stochastic recharge in agricultural areas.
Applied probabilistic modeling.

RECENT ACCOMPLISHMENTS

- Instrumental in obtaining funding to set up the Geo-spatial DataBase Center (GDBC) from the National Institute of Health.
- Instrumental in establishing a collaboration program with the United States Bureau of Reclamation (USBR) to apply remote sensing technologies for water management problems in the Western United States.
- Established an Environmental Engineering Program at the International Center for Water Resources Management (ICWRM).
- Established a Remote Sensing Laboratory at the International Center for Water Resources Management (ICWRM).
- Instrumental in making the ICWRM as an integral member of the Ohio View Consortium which comprises of all Universities in Ohio engaged in remote sensing research.
- Provided leadership for the QUEST Program funded by National Science Foundation for improvement of science, technology, engineering and mathematics education at Central State University.
- Instrumental in establishing the National Environmental Technology Incubator at Central State University in collaboration with Battelle Memorial Research Institute at the Center.

- Instrumental in bringing the engineering and outreach unit of the Greene County Natural Resources Conservation Service (NRCS) to the Center.
- Established liason with external agencies such as US Geological Survey, U.S. Army Corps of Engineers, US Department of Agriculture - Natural Resources Conservation Service, Ohio Environmental Protection Agency for student internship.
- Enhanced linkages with Water Resources Research Institute at Kent State Universty.
- Instrumental in the establishments of Regional Water and Waste Water Training and Research Center in collaboration with University of Dayton.
- Enhanced Linkages with other universities in Ohio.
- Enhanced linkages with companies and industries in the area through applied research projects.
- Instituted a Summer Transportation Institute at the University.
- Established a water use efficiency component for Rebuild America Program in Ohio.
- Established a minor in Water Resources Management and an interdisciplinary minor in Environmental Science in collaboration with the areas of Chemistry and Biology.
- Strengthened the interdisciplinary curriculum by establishing 4 areas of emphasis.
- Enhanced external funding and student recruitment to the Program.

RESEARCH PROJECTS AT CENTRAL STATE UNIVERSITY

Modeling The Effects Of Nutrient Loading From The Contributing Streams On The Growth Of Cyanobacteria In Lake Erie –The research project funded by NOAA investigates the key issue of nutrient loading from the Maumee river contributing to *Microcystis sp.* algal blooms along the Maumee Bay shoreline of Lake Erie. The study involves modeling (using the US EPA WASP water quality model) the hydrodynamics of Lake Erie in the Maumee bay region, modeling the fate and transport of nitrogen, phosphorus, dissolved oxygen and chlorophyll and decoupling of hydrodynamics and transport models resulting in the prediction of algal bloom concentrations (2007-2008).

Monitoring Agricultural Sewage Sludge, OH- Phase II - funded by the USDA-Ohio Aerospace Institute- served as co-PI. Project involves developing a GIS based sludge database for the Greene county Ohio permitted fields. Central State University is part of a large consortium headquartered at University of Toledo (PI: Kevin Czajkowski) cataloguing these sites across several regions in the State of Ohio to study the epidemiological effects of sludge application on agricultural fields and possible soil and water contamination with heavy metals (2007-2008).

Applied Remote Sensing of Evapotranspiration. This is a \$3 million multi- university, multi-agency effort aiming at applying remote sensing technologies for the estimation of evapotranspiration from irrigated areas and from riparian vegetation in the Lower Colorado River Region.

Water Quality Database Management System for the Upper Little Miami River Basins- Funded by Greene County,Ohio through the Water and Wastewater Training Research Center at University of Dayton. This research involves developing an integrated data base management system for water quality determination studies for Total Maximum Daily Load determination.

Ascertaining Non-Point Source Pollution Loads in TMDL Determination Using Remote Sensing – A Case Study of Upper Little Miami River. Funded by the Ohio Aerospace Institute under NASA Ohio View Program. As the principal investigator studied determining appropriate methodologies for assessing non-point source pollution from watersheds as applied to Upper Little Miami River in Ohio. The methodologies include using remote sensing technology as well. Comparison of pollution amounts from agricultural watersheds and wastewater treatment plans

is being attempted combining remotely sensed data and watershed modeling using WMS software.

Dewatering, Remediation, and Evaluation of Dredged Sediments. Funded by US EPA. As a researcher in the project studied bare soil evaporation that would enable us to study the impact of soil moisture evaporation from dredged sediments and evapotranspiration from test areas under phyto-remediation. We were trying to build an integrated soil evaporation model that would include thermal processes in the soil-moisture transport under evaporative conditions.

High Performance Computer Applications in Hydrology

Summer Research - Worked as a research faculty for the NASA sponsored High Performance Computing Summer Research Institute at Morgan State University, Baltimore, Maryland. Performed simulation studies of surface water and sediment runoff using CRAY J916 computer at Morgan State University. Using the USDA's Computer Model KINEROS peak flows of runoff and sediment were correlated with watershed parameters using different storm patterns. Equations for peak runoff and time to peak were developed for general use by analyzing different watersheds of extents in the range of 250-750 square miles. The model is useful in tracking the after-effects of storms in watersheds by satellite imagery. (Summer 1997)

Biospheric - Atmospheric Interactions

Summer Research - Biospheric Sciences Division of NASA's Goddard Space Flight Center, Greenbelt, Md. Engaged in adapting the Sib2 Model which is a sub-component of Global Circulation Model (GCM) for predicting evapotranspiration and yield performance from agricultural areas using satellite data. Engaged in developing a full fledged proposal in collaboration with USDA. (1995)

Hydraulics of Surface- Subsurface Flow Interactions

Wadi- El Assiuti Groundwater Resources Evaluation Project, Egypt. - Research/ Feasibility Study of developing groundwater resources for agricultural development. Study of the surface hydraulics of flash floods including sediment transport phenomena in the area as it impacts the contribution to groundwater. Developed a surface-subsurface flow interaction modeling involving hydraulic modeling of surface flow coupled with the unsaturated flow in dry run (wadi) beds. Project funded by USAID (1991-1992).

Carbondale Wetland and Monitoring Regulation Project

Project aimed at finding mechanisms of iron removal and improving design standards for cattail wetlands constructed to treat acid mine drainage by monitoring an abandoned wetland in southeastern Ohio. Work involved studying the hydraulics/hydrology of the acid mine drainage from abandoned mines, measuring water quality, soil and plant parameters and the analysis of the data. Project resulted in a new formula for sizing wetlands to treat acid mine drainage. Project was funded by the Office of Surface Mining Reclamation and Enforcement through Ohio Department of Natural Resources. (1992-1993)

Groundwater Resources Evaluation of Eastern Oweinat Region Project

This was a feasibility study of using groundwater for the development of about 190,000 acres of desert land for agriculture. Estimation of water requirements, determination of appropriate prime mover systems for the pumps and a study of expected hydraulic performance of the use systems were conducted. Project resulted in a number of recommendations for the design of the project. funded by United States Agency for International Development through Egyptian Supreme Council of Universities. (1990-1992)

Hydraulics/Hydrology Laboratory for the C. J. McLin International Center for Water Resources Management

Was responsible for assisting in the design and equipping the hydraulics/laboratory for the Department of Water Resources Management at the C. J. McLin International Center for Water Resources Management at Central State University - \$8.3 million facility. Instructional and research hydraulic equipment was selected and purchased. Assisted in equipping the computer and remote sensing laboratories. Funded by the State of Ohio. (1990- 1994)

COURSES TAUGHT

Undergraduate level - Fluid mechanics and hydraulics, hydrology, soil and water conservation, groundwater, irrigation system design, drainage systems design, water supply, wastewater treatment, urban water problems.

Advanced/graduate level- Hydraulics of surface irrigation, Environmental hydraulics, Applications of Optimization in Water System Rehabilitation

PROFESSIONAL RECORD SUMMARY

September, 97 - To Date

Professor and Chairman of Water Resources Management
Department of Water Resources Management
International Center for Water Resources Management,
Central State University
Wilberforce, OH 45384

Functions: Providing leadership to the Department in the areas of curriculum development; external research funding; industry partnerships; liason with community colleges in the area; faculty development. Co-Principal Investigator for the QUEST Program(\$2.2 million) funded by National Science Foundation. Principal Investigator for the Applied Remote Sensing project(\$3.0 million) with the United States Bureau of Reclamation. mandated by the U.S. Congress and Departmental Administration including management of budget; Teaching and research in water resources management, hydraulic, hydrologic and environmental areas.

Accomplishments: Provided leadership that resulted in growth in number of research, training and educational projects in the department; Expanded linkages with universities and agencies engaged in water resources management work; Expanded the faculty and expertise base.

January 89 – August 1997

Associate Professor (Tenured) [Assistant Professor 1989-1992]
International Center for Water Resources Management,
Central State University
Wilberforce, OH 45384

Functions: Teaching, training and research in hydrology, hydraulics and environmental areas; Development of the International Center for Water Resources Management.

Accomplishments: Lead faculty in the development of the International Center for Water Resources Management (ICWRM) at Central State University. Conducted research for NASA Goddard Space Flight Center on modeling of biospheric –atmospheric interactions including evapotranspiration from plant cover on land. Suggested modifications for the NASA's Sib2 Model component of the General Circulation Model. Studied hydrological balance in arid climates. Developed numerous grant proposals and carried out research as principal or co-principal investigator for various agencies including USAID. Conducted training programs funded by agencies such as World Bank and USAID for water professionals from overseas.

Functioned as a reviewer and an Associate Editor for the Journal of Irrigation and Drainage Engineering.

September 1985 - December 1988

Assistant Professor, Department of Civil Engineering
Colorado State University
Fort Collins, CO 80523

Functions: Resident Engineer, Regional Irrigation Improvement Project, Ministry of Public Works and Water Resources, Egypt. Advising in computer assisted irrigation water management, rehabilitation of irrigation systems and training engineers in computer assisted system management as a member of the Technical Assistance Team from Colorado State University in Egypt. The project was funded by USAID.

Accomplishments: Developed computer models for water system management including an unsteady open-channel flow model for irrigation channels. Provided technical advice in rehabilitation design of large irrigation systems and trained engineers from the Egyptian Ministry of Public Works and Water Resources. Assisted in the rehabilitation of a 120 km long irrigation canal system and the modernization of 12 cross regulators with electro-mechanical controls. Conducted numerous workshops in the topic of water management and linking main system operation with on-farm practices

April 1984 - August 1985

Research Engineer, Water Management Synthesis Project
Department of Civil Engineering
Colorado State University
Fort Collins, CO

Functions: Conducted studies related to soil-water and groundwater phenomena in irrigated areas. Conducted interdisciplinary watermanagement workshops in Pakistan.

Accomplishments: Developed numerous computer models for water management to be used in personal computer systems and trained engineers in the use of the models. Conducted field workshops on diagnostic analysis and improvement of irrigation systems.

September 1978 - March 1984

Research Assistant, Department of Civil Engineering
Colorado State University, Fort Collins, CO

Functions: Research in hydraulics and systems analysis of irrigation systems including on-farm systems; design of a pipe line system for Egypt

Accomplishments: Developed the first Ph.D dissertation on linking the operation of the on-farm and the main distribution systems in reservoir irrigation projects. The first ever dissertation on using the concepts of mathematical sociology for solving conflicts in irrigation water distribution in terminal areas. Developed an algorithmic solution to the "Poisson's trials" problem. (Bernoulli's trials with variable probabilities) and closed form solution to the finite Markov chain problem. Developed an interface package for the engineering discipline in the design, operation and management of surface irrigation conveyance systems in interdisciplinary mode. Derived methodologies to incorporate on-farm hydraulics and hydrology to the surface water distribution hydraulics and to the groundwater processes in irrigated areas. Studies included developing models to optimally operate a large irrigation system considering variations in on-farm

conditions, to operate canal systems to match the on-farm practices and to predict the impact of irrigation practices in watertable build-up in irrigated areas.

January 1973- August 1978

Irrigation Engineer, Irrigation Department
Colombo, Sri Lanka

Functions: Planning, design and construction of irrigation systems.

Accomplishments: Investigated numerous reservoir irrigation projects. Carried out hydraulic and hydrologic computations for a number of irrigation projects. Designed hydraulic structures, small dams and outlet structures. Supervised the construction of a canal system and appurtenant structures for an irrigation project. Also assisted in planning a multi-purpose reservoir project.

January 1972 - December 1972

Instructor in Engineering Mathematics, University of Ceylon, Peradeniya

Functions: Instruction in Engineering Mathematics and assisting in research on internal waves in density stratified liquids

PUBLICATIONS

“Enhancement of Higher Order Thinking Skills in Web-Assisted Education: A Case Study in the Water Resources Field”, Nedunuri K.V. , Sritharan S. I., and E. Basista (To be submitted, 2008).

“Mapping the Invasive Salt cedar Plant Species (*Tamarix ramosissima*) using Spectral Reflectance and Remote Sensing”, B. B. Maruthi Sridhar, Robert K. Vincent, Pete Clapham, David Eckhardt, Christopher Neale, John Osterberg, Doyle Watts and **Subramania Sritharan**. Paper presented at the American Society for Photogrammetry and Remote Sensing (ASPRS), 2008 Annual Conference, April 28 to May 2, 2008, in Portland, Oregon

“Multi-Faced Approaches For Stem Education Quality Improvement” S. I. Sritharan, C. Lowell. M. Abdallah, R. Marcus and Gerald T. Noel, Poster Presentation at the HBCU-UP National Research Conference, AAAS, Grand Hyatt Hotel, Washington D.C, October 4-7, 2007.

“Estimating Evapotranspiration at The Palo Verde Irrigation District (California) From Statistical Models Using Remotely Sensed And Meteorological Data”, Sumantra Chatterjee, Doyle Watts, **Subramania Sritharan**, Thaddeus Tarpey, East Lakes Division of the Association of American Geographers (ELDAAG) Conference , University of Toledo, October 21, 2006.

“A General Purpose Rock and Mineral Hyperspectral Reflectance Library for Earth Science Education and Research (350 to 2500 nanometers)”, Geological Society of America, North Central Section, Minneapolis, May, 2005, accepted; Kito, Youkoy, Izeh, B., Okunade, S.A., Beck, R.A., Laki, S.L., Nedunuri, K.V., and Sritharan, S.I.,

“Correlation of land use with nutrient loading in the Upper Little Miami River Watershed using remote sensing,” K.V. Nedunuri, **Subramania I. Sritharan**, M. Smart, D.R. Watts, 2004 Annual Scientific Symposium and 20th Anniversary, Ohio River basin consortium for research and education, Walter Hall, Ohio University, Athens, Ohio, August 18-20, 2004.

“Water Quality Database Management System for the Upper Little Miami River (ULMR) and Great Miami River Basins”, K.V. Nedunuri, **S.I. Sritharan**, , D.R.Watts, D. Robertson, M.E.

Smart S. Sainthalbyhyme, Y. Kito, Regional Water and Wastewater Training and Research Center, Phase 1 Research Seminar, US EPA NRMRL Labs, Cincinnati, June 8, 2004

"Use of Remote Sensing in Determining Components in Total Maximum Daily Pollutant Load (TMDL) assessments – A Case Study in Upper Little Miami River" by S. I. Sritharan., K. Nedunuri, M. Smart and D. Watts. Presentation made at the Satellite Imagery for Water Management Workshop, La Posada De Albuquerque, November 13-14, 2003

"Modeling rapid dewatering of dredged sediments", Niya Curry, K.V. Nedunuri, and S.I. Sritharan, Paper presented at 2003 Midwest Hazardous Substance Research Meeting (Purdue University and US EPA), May 13, 2003, Embassy Suites Plaza Hotel, Kansas City, Missouri.

"Dewatering, Remediation, and Evaluation of Dredged Sediments", A.P Schwab, M.K. Banks, K.V. Nedunuri, S.I. Sritharan, K.W. Euliss, and V.S. Mankad, Paper presented at Mid-west Hazardous Substance Research Center Kick-off meeting, May 14-15, 2002, US EPA Purdue University, West Lafayette, IN 47906.

"Effect of Recharge Duration on Water Table Response in Tile Drain Systems", S. I. Sritharan and H. R. Gee, Journal of Irrigation and Drainage Engineering, ASCE, Vol. 122, No.4, 1996.

"Particle Size Distribution and Hydrometer Tests of River Bed Samples", Final Report, S. S. Okunade, S. I. Sritharan and S. L. Laki, International Center for Water Resources Management, Central State University, Wilberforce, OH 45384, Final Report Prepared for the Department of Army, Huntington District, Corps of Engineers, Huntington, W. Va. August 1996

Time Integrated Radiative Transfer Parameters for the Simple Biosphere (SiB) Model, Final Report S. I. Sritharan, Visiting Scientist, Biospheric Sciences Division, Code 923, Goddard Space Flight Center, Greenbelt, Maryland, August 1995.

"Improved Procedures for Hydrometer Analysis of Sediment Samples", C. K. Ogouma, M. Gominho, S.I. Sritharan, S. A. Okunade and S. Laki. Paper presented at the Thirteenth Annual Symposium, Central State University, Wilberforce, OH, April 29, 1995.

Particle Size Distribution and Atterberg Limits of Monangahela, Ohio and Kanahwa River Reconnaissance Bed Samples, Final Report, S. S. Okunade, S. I. Sritharan and S. L. Laki, International Center for Water Resources Management, Central State University, Wilberforce, OH 45384, Final Report Prepared for the Department of Army, Huntington District, Corps of Engineers, Huntington, W. Va., January 1995

Carbondale Wetland Monitoring and Regulation Project, Final Report, S. I. Sritharan, C. A. Lowell and R. C. Murthy, International Center for Water Resources Management, Central State University, Wilberforce, OH 45384, March, 1993.

A Surface-Subsurface Interaction Flow Modeling Procedure for Dry Bed Flows in Arid Zone, S. I. Sritharan and S. A. Okunade, Final Report Prepared for the Wadi El Assiuti, Groundwater Resources Management and Land Use Evaluation Project, International Center for Water Resources Management, Central State University, Wilberforce, OH 45384, December, 1992.

"Effects of Uncertainties on the Limits of On-Farm Improvements in Irrigation Rehabilitation", S. I. Sritharan and W. Clyma, Journal of Water Resources Research, Vol.28, No.10, pp. 2559-2567, October, 1992

"Water Quality Remediation of Acid Mine Drainage Using Wetlands: A Case Study in Carbondale, Ohio", S. I. Sritharan and V. I. Okereke, Proceedings of the Conference on Water Resources and Environment: Education, Training and Research, Colorado State University, Fort Collins, Colorado, July 13 -17, 1992

Discussion paper on "Transient Hydraulic Model for Simulating Canal-Network Operation", S. Sritharan and W. Clyma to Journal of Drainage Engineering, ASCE, Volume 118, May/June 1992.

Irrigation Systems for East Oweinat Region: Effects of Uncertainties, S. I. Sritharan, Final Report on the Project on Groundwater Resources Evaluation of East Oweinat Area, Southwestern Desert, Egypt: Phase II - Volume 1. ICWRM, Central State University, Wilberforce, OH, June 1992

"Remediation of Acid Mine Drainage Using a Constructed Wetland", O. Aiyetigha, N. Agbenowosi and S. I. Sritharan Paper presented at the 101 st Annual Meeting of the Ohio Academy of Science, University of Akron, May 2, 1992

"Iron Removal Efficiency of the Carbondale Wetland System", N. Agnenowosi and S. I. Sritharan. Paper presented at the Tenth Annual Symposium, Central State University, Wilberforce, OH, April 11, 1992.

"Bacteriological Survey of Acid Mine Drainage", K. Hughes, R. C. Murthy, C. A. Lowell and S. I. Sritharan Paper presented at the Tenth Annual Symposium, Central State University, Wilberforce, OH, April 11, 1992.

"Equivalent Kostiakov Parameters for SCS Infiltration Families", S. Sritharan, Journal of Irrigation and Drainage Engineering, ASCE, Vol. 118, No. 1, February, 1992

"Evapotranspiration in High Wind Regimes", L. Coulibaly and S. I. Sritharan. Paper presented at the Ninth Annual Science Symposium at Central State University, April 1991.

"Performance of Physically Based Methods of Crop Evapotranspiration: A Comparative Study", M. A. M. Ali and S. I. Sritharan. Paper presented at the Ninth Annual Science Symposium at Central State University, April 1991.

Cropping Pattern and Water Requirement Studies for East - Oweinat Project, S. I. Sritharan, ICWRM, Central State University, Wilberforce, OH, January 1991.

Wadi El Rayan Project - Scope and Monitoring Requirements, A. H. Rady, W. F. Mankarous, H. Mostafa and S. Sritharan Water Distribution and Irrigation Systems Institute, Water Research Center, Cairo, Egypt, August 1990.

"Droughts in Surface Irrigation Projects ", S. Sritharan and H. Smith, Proceedings of the International Conference on Climatic Fluctuations and Water Management, Sponsored by WRC, IWRA and UNEP, Cairo, Egypt, Paper III.11 December 1989.

"On-Farm Application System Design and Project Scale Water Management ", S. Sritharan, W. Clyma and E. V. Richardson. Journal of Irrigation and Drainage Engineering, ASCE, Vol. 114, No. 4, November 1988

"On the Sizing of Terminal Areas in Surface Irrigation Projects: I. Probabilistic Systems Analysis", S. Sritharan, W. Clyma and E. V. Richardson. Journal of Water Resources Planning and Management, Vol. 114, NO 1, Jan 1988.

"On the Sizing of Terminal Areas in Surface Irrigation Projects: II. Engineering Economic Analysis ", S. Sritharan, W. Clyma and E. V. Richardson. Journal of Water Resources Planning and Management, Vol. 114, NO 1, Jan 1988.

"Irrigation Gaps and Farmer Readiness in Irrigation Projects", S. Sritharan and E. V. Richardson. Proceedings of the Sixth Regional Conference, International Commission on Irrigation and Drainage, Cairo, March 1987.

Feasibility Report on Mesqa Alternatives, S. Sritharan, E. N. Biggs, V. Wahab. CID/CSU Report, Colorado State University, May 1988.

Serry Canal Controls Design, S. Sritharan and R. Bakhoum, CID/CSU Report, January 1988.

"Serry Canal System Rehabilitation", S. Sritharan and F. Shahin. Working Paper Presented at USAID Seminar on Irrigation System Rehabilitation held in Karachi, Pakistan, January 1987.

"On-farm Implications of Low Infiltration Soils in Nile Valley", S. Sritharan, E. Barakat and N. A. Welson. Notes Presented at UNDP - FAO Seminar on Irrigation System Rehabilitation in Old Lands, Meridien Hotel, Cairo, Egypt, May 1987.

Serry Canal - Capacity Design, S. Sritharan, H. Shouman and R. Bakhoum CID/CSU Report, Colorado State University, Fort Collins, CO1986.

"Scheduling in Manually Controlled Canal Delivery Systems", S. Sritharan, W. Clyma and E. V. Richardson. Paper presented at ASCE Specialty Conference in San Antonio, TX, July 1985.

"On-Farm Application System Design and Project Scale Water Management", S. Sritharan, W. Clyma and E. V. Richardson. Paper Presented at ASCE Specialty Conference, Flagstaff, Arizona, 1984.

"Application System Design and Long Term Water Table Build Up in Irrigated Areas", S. Sritharan, W. Clyma and E. V. Richardson. Paper Presented at ASCE Specialty Conference, Flagstaff, Arizona, 1984.

"Probability Based Design Evapotranspiration", S. Sritharan, W. Clyma and E. V. Richardson. Paper presented at ASAE Summer Meeting, Knoxville, TN , 1984.

"Furrow Irrigation Runoff - A Linear Systems Approach", S. Sritharan, W. Clyma and E. V. Richardson. Journal of Irrigation and Drainage, ASCE, VOL. 109, No.1, March 1983.

Hydraulic Design of El-Hammami Pipeline System, M. Moodie and S. Sritharan., EWUP Report, Colorado State University, Fort Collins, CO. 1981.

"Air Entrainment in Radial Flow Towards Intakes", by A. K. Jain et al.. Discussion Paper by S. Sritharan, Journal of Hydraulics, ASCE, May 1979.

"Stability of Double Surge Tank Systems - A Note on the Particular case of Equal Diameter Head Race and Tail Race Tunnels of Same Wall Material". Transactions of the Institution of Engineers, Sri Lanka, 1978.

SELECTED LIST OF GRANTS

At Central State University, Wilberforce, OH.

- 1 Data Linkage Systems Project - USGS (1990-1991) - Principal Investigator Funding was for setting up of a computer system to link up with the mainframe system in USGS, Columbus. Amount - \$ 16,490.00.
- 2 University Linkages Project on "Groundwater Resources Evaluation of Eastern Oweinat Region" with Cairo University from US AID/Egyptian Supreme Council of Universities - Principal Investigator. Funding was for research on the feasibility of pumping groundwater to develop about 200,000 acres in Southwest Egypt. Studied water evaporation, uncertainty in the processes and energy requirements for the project. (1990-1992). Amount - \$ 100,000.00.
- 3 Principal Investigator for the "Carbondale Wetland Monitoring and Regulation" Project from the Office of Surface Mining Reclamation and Enforcement through Ohio Department of Natural Resources. Studies on wetlands constructed to treat acid mine drainage. Amount- \$ 76,610.67 (1992-1993).
- 4 University Linkages Project on "Groundwater Resources of Wadi El Assiuti" with Assiut University from US AID/Egyptian Supreme Council of Universities - Principal Investigator. Studied Unsaturated flow phenomenon using finite difference models. (1992-1993). Amount - \$ 50,000.00
- 5 Soil Particle Size Analysis Project (Co Investigator with Dr. Samuel Okunade), Funded by Department of Army, Huntington District, Corps of Engineers, Huntington, W. Va. Studies on hydrometer and pipet analysis of soil samples. (1995- 1996). Amount - 22,000 .
- 6 Consortium for the Advancement of Renewable Energy Technology (Primary Investigator for Water Resources Management). Studies on wind and solar energy technologies and their environmental impact. (1997-1999). Funded ny NASA. Amount - \$99,000.
- 7 Environmental Technology Transfer (Co-Principal Investigator for Water Resources Management). Technology transfer project on commercializing US EPA technologies through transfer to small and disadvantaged businesses. Funded by US EPA through Environmental Technology Commercialization Center. (1998-1999) Amount - \$200,000.
- 8 Research Training Program for US EPA. (Principal coordinator for Central State University). Program aims at working with US EPA, Cincinnati for research training of undergraduate and graduate students in critical areas in collaboration with University of Cincinnati. (1998- 2001) Total amount -\$ 500,000.
- 9 Research on Oil Spill Remediation Technologies (Principal Investigator for Central State University) in collaboration with University of Cincinnati. This is a task order project for the National Risk Management Laboratory of US EPA in Cincinnati. (2000-2003). Total amount -\$ 466,000
- 10 National Environmental Technology Incubator (Principal Investigator for Central State University) in collaboration with the Environmental Techonolgy Commercialization Center of Battelle Memorial Research Institute (2000-2001). Total amount - \$ 250,000.
- 11 Plant Wide Energy Assessment (Principal Investigator for Central State University) in collaboration with Appleton Papers Inc. of the West Carrolton Plant, Miamisburg, OH.

- The project involves assessment of water use and finding ways of minimizing waste at the plant. (2000-2001) Total amount of the project \$ 200,000.
- 12 Establishment of a Remote Sensing/ Geographic Information System (GIS) Capability at Central State University – Funded by Ohio Aerospace Institute, Cleveland. Period Total amount \$95,000 (2002-2005)
 - 13 “Water Quality Database Management System for the Upper Little Miami River Basins” funded by Greene County through Water and Wastewater Training Research Center at University of Dayton. Period: June 2003 – June 2004. Principal Investigators (PI): Krishnakumar V. Nedunuri and Subramania I. Sriitharan. Funding amount: \$ 40, 000
 - 14 Quality Enhancement in Science, Mathematics, Engineering, and Technology (QUEST), National Science Foundation, Period: 2002-2007, Co-Principal Investigator, Funding amount: \$ 2.2 million.
 - 15 Remote Sensing Application, Cooperative Agreeemnt with the United States Bureau of Reclamation (USBR), Period: 2003-2006, Principal Investigator, Funding Amount \$3.0 million
 - 16 Curriculum Enhancements in Environmental Engineering, National Science Foundation, Period: 2008-2010, Funding Amount \$150,000
 - 17 Performance Driven Remote Sensing Research, Air Force Research Laboratories (AFRL), US Air Force, Principal Investigator Period: 2008-2009, Funding Amount \$60,000.
 - 18 Center For Allaying Health Disparities Through Research And Education (CADRE) Project Funded by National Institute of Health, Principal Investigator for Geospatial Data BaseCenter (GDDB) component of the project. Overall Project Funding Amount \$4.2 Million.