

CURRICULUM VITA
OF
PROFESSOR VIJAY P. SINGH

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1. PERSONAL DATA

Place of Birth: Agra, U.P., India; Date of Birth: July 15, 1946
Marital Status: Married
Health: Excellent
Nationality: U.S.A. and Overseas Citizen of India (OCI)

2. EDUCATIONAL TRAINING AND RESEARCH AREAS

2.1 Education and Degrees

B. S. Engineering and Technology with emphasis on Soil and Water Conservation Engineering. U.P. Agricultural University, Pant College of Technology, Pantnagar, Nainital, U.P., India, September 1967.

Project: Determination of Rugosity Coefficient of Concrete and Clay Channels, directed by Professors Jaswant Singh and Ghansyam Das.

M. S. Engineering with specialization in Hydrology. University of Guelph, Guelph, Ontario, Canada, May 1970.

Thesis: Estimation of Soil Moisture and Surface Runoff for Small Agricultural Watersheds, directed by Professors W. T. Dickinson and R. W. Irwin.

Ph. D. Civil Engineering with specialization in Hydrology and Water Resources. Colorado State University, Fort Collins, Colorado, U.S.A., May 1974.

Dissertation: A Non-linear Kinematic Wave Model of Surface Runoff, directed by Dr. D. A. Woolhiser, Supervisory Research Hydraulic Engineer, U.S. Department of Agriculture, Agricultural Research Service, and Professor of Civil Engineering.

D. Sc. Environmental and Water Resources Engineering. The University of the Witwatersrand, Johannesburg, South Africa, June 1998.

Published Contribution: Entropy-Based Modeling in Hydrology and Water Resources.

2.2 Professional Registration

P. E. State of Louisiana, since January 1988; State of Colorado, since May, 1973.

P. H. American Institute of Hydrology, since January, 1984.

Hon. D. WRE American Academy of Water Resources Engineers, ASCE, since October 2005;
Hon. D. WRE, since October 2008

2.3 Professional Specialty and Interest

Surface-water Hydrology, Groundwater Hydrology, Hydraulics, Irrigation Engineering, Environmental Quality, and Water Resources.

2.4 Research Areas

Principal research topics have encompassed: 1. Hydrodynamics of Watershed Runoff, 2. Hydrodynamics of Surface Irrigation (Flow over Porous Beds), 3. Erosion and Sediment Transport in Upland Watersheds, 4. Point- and Nonpoint-Source Water Quality Modeling, 5. Hydrology of Ungaged Watersheds, 6. Streamflow Forecasting, 7. Areal Rainfall, 8. Dam Break Analysis, 9. Parameter Estimation, 10. Stochastic Analysis, 11. Entropy-Based Modeling, 12. Copua-based modeling, 13. Network Design, 14. Landfill Hydrology, 15. Saltwater Intrusion, 16. Groundwater Modeling, 17. Hydrologic Impacts of Climate Change, 18. Watershed Modeling, 19. Ecosystems Management, and 20. Social Engineering.

3. EMPLOYMENT

Distinguished Professor (September 1, 2013-present), Department of Biological and Agricultural Engineering and Zachry Department of Civil & Environmental Engineering, Texas A&M University

Regents Professor (February, 2017-present), Department of Biological and Agricultural Engineering and Zachry Department of Civil & Environmental Engineering, Texas A&M University

Caroline and William N. Lehrer Distinguished Chair in Water Engineering (from July 1, 2006-present), Department of Biological and Agricultural Engineering, Texas A&M University

Professor of Biological and Agricultural Engineering (from July 1, 2006 to present), Department of Biological and Agricultural Engineering, Texas A&M University

Professor of Civil Engineering (from July 1, 2006 to present), Zachry Department of Civil and Environmental Engineering, Texas A&M University

Arthur K. Barton Endowed Professor Emeritus (June 2006-present); Arthur K. Barton Endowed Professor (from January 1999-June 2006), and **Coordinator of Environmental and Water Resources Systems Engineering Program** (March, 2001-June 2006), Department of Civil and Environmental Engineering, Louisiana State University

Professor of Civil and Environmental Engineering (from August 1983 to 2006), and **Coordinator of Water Resources Program** (August 1983-1998).

Adjunct Professor (from April 2004-June 2006), School of Renewable Natural Resources, Louisiana State University

Associate Professor of Civil Engineering (July 1981-August, 1983).

Director (Acting), Louisiana Water Resources Research Institute, College of Engineering, May 1984 - July 1986.

The administrative assignment included supervision of the annual cooperative program, matching program, and technology transfer program supported by the U.S. Department of Interior through its Geological Survey; and direction of the water resources research institute.

Member, Graduate Faculty (1981-2006), Louisiana State University, Baton Rouge, Louisiana.

Associate Professor of Civil Engineering, and Member, Graduate Faculty (8/78 - 7/81), Department of Civil Engineering, Mississippi State University, Mississippi State, Mississippi.

Associate Research Professor of Civil Engineering (7/77 - 7/78), School of Engineering and Applied Science, The George Washington University, Washington, D.C.

Assistant Professor of Hydrology (8/74 - 6/77), Department of Geosciences, New Mexico Institute of Mining & Technology, Socorro, New Mexico.

Postdoctoral Research Fellow (6/74 - 7/74), Department of Civil Engineering, Colorado State University, Fort Collins, Colorado.

Graduate Research Assistant (6/70 - 5/74), Department of Civil Engineering, Colorado State University,

Graduate Research Assistant (9/68 - 5/70), School of Engineering, The University of Guelph, Guelph, Ontario, Canada.

Engineer and Member of the Technical Staff (9/67 - 9/68), The Rockefeller Foundation, New Delhi office, India.

The assignment involved (1) design of surface and subsurface irrigation and drainage systems for a large research farm of the Indian Agricultural Research Institute, New Delhi, (2) supervision and management of these systems, (3) supervision of farm operations, and (4) supervision of maintenance and servicing of agricultural machinery.

4. VISITING POSITIONS/PROFESSORSHIPS: [Visiting Professor in Australia, Austria, Belgium, India, Italy, Sweden, Singapore, South Africa, and Switzerland]

US-India Exchange Scientist(12/80 - 1/81): Gave lectures on mathematical modeling in hydrology and hydraulics at (a) Water Technology Center, Indian Agricultural Research Institute, New Delhi, (b) Indian Institute of Technology, Kharagpur, (c) Bihar College of Engineering, Patna, (d) Pant College of Technology, G. B. Pant University of Agriculture and Technology, Pantnagar, and (e) Central Mine Planning and Design Institute Limited, Ranchi.

Visiting Academic (5/82 - 6/82): Department of Civil and Mining Engineering, The University of Wollongong, Wollongong, New South Wales, Australia. Gave lectures on hydrologic modeling and conducted research on ungaged basin hydrology.

Senior Research Engineer (7/84 - 8/84): Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. Conducted research on mathematical modeling of streamflow from ungaged basins, and on evolution of breach during dam failures.

Senior Research Engineer (5/85 - 8/85): Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. Conducted research on military hydrology with specific reference to streamflow modeling on ungaged basins, and dam breach development and its impact on downstream flooding.

Senior Research Engineer (5/86 - 8/86): Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. Conducted research on military hydrology with emphasis on sensitivity of dam breach parameters on downstream hydrology.

Senior Research Engineer (5/87 - 5/88): Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. Conducted research on military hydrology with emphasis on dam breach modeling technology.

Visiting Professor (3/88 - 5/88): Laboratory of Hydrology, Interuniversity Post-graduate Programme in Hydrology, Vrije Universiteit Brussel, Brussels, Belgium.

Visiting Professor (5/90): Institute of Hydraulics and Hydraulic Structures, University of Basilicata, Potenza, Italy.

Visiting Professor (6/90): Institute of Hydraulics and Energy, Swiss Federal Institute of Technology, Lausanne, Switzerland.

Visiting Professor (5/92 - 6/92): Institute of Soil and Water Management, Swiss Federal Institute of Technology, Lausanne, Switzerland.

Visiting Professor (5/94 - 9/94): Department of Water Resources Engineering, Lund Institute of Technology, Lund University, Lund, Sweden.

Visiting Professor (10/94 - 1/95): Laboratory of Hydraulics, Hydrology, and Glaciology, Swiss Federal Institute of Technology, Zurich, Switzerland.

Senior Research Engineer (1/95 - 5/95): Hydraulics Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Visiting Professor (5/95 - 8/95): Laboratory of Hydraulics, Hydrology and Glaciology, Swiss-Federal Institute of Technology, Zurich, Switzerland.

Visiting Professor (5/97): Institute of Geography, Swiss-Federal Institute of Technology, Zurich, Switzerland.

Visiting Professor (5/97): Department of Environmental Engineering and Physics, University of Basilicata, Potenza, Italy.

Visiting Professor (7/97-8/97): Water Resources Development Training Centre, University of Roorkee, Roorkee, India.

Visiting Professor and Fulbright Scholar (4/98-5/98): Institute of Hydrodynamics, Hydraulics and Hydrology, University of Technology, Graz, Austria.

Visiting Professor and Fulbright Scholar (6/98-7/98): Institute of Hydraulics and Hydrology, University of Technology, Vienna, Austria.

Hydraulic Engineer (5-99 - 7/99): River Systems and Meteorology Group, Technical Services Center, Bureau of Reclamation, U. S. Department of Interior, Denver, Colorado.

Visiting Professor (7-2001 – 12-2001): School of Civil and Environmental Engineering, Nanyang Technological University, Singapore.

Visiting Eminent Professor (1-07–present): School of Natural Sciences, University of Western Sydney, Penrith South DC, New South Wales, Australia.

Visiting Professor (January 2012), Institute of Hydraulics and Water Engineering, Technical University of Munich, Munich, Germany.

Senior Research Engineer (7/2012 - 8/2012): Hydraulics and Coastal Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Senior Research Engineer (6/2013 - 8/2013): Hydraulics and Coastal Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Visiting Professor (June-July 2013), Department of Soil Science, Universidade Federal Rural de Pernambuco (UFRPE), Recife, Brazil.

Senior Research Engineer (6/2014 - 8/2014): Hydraulics and Coastal Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Visiting Professor(2016-present), Department of Statistics and Information Sciences, Universidade Federal Rural de Pernambuco (UFRPE), Recife, Brazil.

Adjunct Professor (2018-present), TarbiatModares University, Tehran, Iran.

Distinguished Visiting Professor (2018-present), Department of Water Resources Development and Management, Indian Institute of Technology Roorkee, Roorkee, India.

5. TEACHING AND THESIS SUPERVISION

5.1 Teaching and Development of Courses

Texas A & M University:[Taught seven courses and developed one course.]

1. BAEN 481-500 Seminar
2. BAEN 464-500 Irrigation and Drainage Engineering
3. BAEN 468-500 Directed Studies: Irrigation and Drainage Engineering
4. BAEN 689-602 Special Topics: Entropy Theory and its Application in Environmental and Water Engineering
5. BAEN 683 Peer Review and Publications
6. BAEN 690 Theory of Research
7. BAEN 667 Entropy Theory and its Application in Water Engineering

Louisiana State University: [Taught and developed 18 courses.]

1. CE 2250 Fluid Mechanics Laboratory
2. CE 2720 Computational Methods in Civil Engineering
3. CE 3200 Hydraulics
4. CE 3440 Senior Design Project
5. CE 4200 Hydrology
6. CE 4250 Ground Water
7. CE 4700 Special Topics in Civil Engineering (Hydrologic Modeling)
8. CE 4730 Risk and Reliability Analysis
9. CE 4780 Special Topics in Civil Engineering (Mathematical Modeling in Hydrology)
10. CE 7260 Advanced Hydrology
11. CE 7700 Special Topics in Civil Engineering (Analysis and Synthesis of Hydrologic Systems)
12. CE 7270 Hydrologic Systems

13. CE 7280 Modeling in Physical Hydrology
14. CE 7255 Advanced Hydraulics
15. CE 7275 Modeling for Management of Ground Water
16. CE 7265 Advanced Groundwater Hydrology and Hydraulics
17. CE 7700 Watershed Kinematics
18. CE 7700 Risk and Reliability Analysis in Environmental and Water Resources

Mississippi State University: [Taught and developed 7 courses.]

1. CE 3533 Introduction to Hydrology
2. CE 4523/6523 Open Channel Hydraulics
3. CE 8583 Methods in Statistical Hydrology
4. CE 9513 Modeling in Physical Hydrology I
5. CE 9523 Modeling in Physical Hydrology II
6. CE 9533 Hydrologic Systems I
7. CE 9543 Hydrologic Systems II

The George Washington University: [Taught and developed 3 courses.]

1. CE 195 Hydrology
2. CE 216 Advanced Hydrology
3. CE 299 Special Topics in Hydrology and Water Resources

New Mexico Institute of Mining and Technology: [Taught and developed 6 courses.]

1. Hydrology 571 Rainfall-Runoff Modeling
2. Hydrology 571 Physical Hydrology
3. Hydrology 572 Statistical Hydrology
4. Hydrology 412 Surface Water Hydrology
5. Hydrology 413L Groundwater Hydrology Laboratory
6. Hydrology 413L Surface Water Hydrology Laboratory

5.2 Supervision of Theses and Research Projects: [62 theses: 29 Ph.D. and 33 M.S. theses]

The following students were advised and their theses/research projects directed:

1. Mr. Kevin L. Shelburne, M.S. in Hydrology, May 1976. Estimation of Parameters of Two Mathematical Models Surface Runoff. **M.S.** Research Project. New Mexico Institute of Mining and Technology, Socorro, New Mexico.
2. Ms. Somkid Buapeng, M.S. in Hydrology, May 1977. A Non-linear Hydrologic Cascade. **M.S.** Research Project. New Mexico Institute of Mining and Technology, Socorro, New Mexico.

3. Dr. Rama S. Ram, Ph.D. in Civil Engineering with Major in Hydrology and Water Resources, April, 1982. Mathematical Modeling of Surface Irrigation. **Ph.D.** Dissertation. Mississippi State University, Mississippi State, Mississippi.
4. Mr. Hossein Aminian, M.S. in Civil Engineering with Major in Water Resources, October, 1984. Synthesis of Direct Runoff from Ungaged Basins. **M.S.** Thesis. Louisiana State University, Baton Rouge, Louisiana.
5. Mr. ParvizIzadjoo, M.S. in Landscape Architecture, December, 1985. Effect of Land Use Change on the Amount of Runoff - Case Study of Ward Creek Drainage Basin. **M.S.** Thesis, jointly directed with Dr. Daniel W. Earle, Louisiana State University, Baton Rouge, Louisiana.
6. Mr. Deepak Jain, M.S. in Civil Engineering with Major in Water Resources, May, 1986. A Comparative Evaluation of Methods of Flood Frequency Analysis and Estimation of Parameters. **M.S.** Thesis. Louisiana State University, Baton Rouge, Louisiana.
7. Mr. Sergio A. Raudales, M.S. in Civil Engineering with Major in Water Resources, August, 1986. Advance and Recession Flow in Surface Irrigation. **M.S.** Project. Louisiana State University, Baton Rouge, Louisiana.
8. Mr. Cesar A. Quiroga, M.S. in Civil Engineering with Major in Water Resources, August, 1986. Modeling of Earth Dam Breach Erosion. **M.S.** Thesis. Louisiana State University, Baton Rouge, Louisiana.
9. Mr. Kishore Arora, M.S. in Civil Engineering with Major in Water Resources, December, 1986. A Comparative Evaluation of Estimators of Commonly Used Flood Frequency Models Using Monte Carlo Simulation. **M.S.** Thesis. Louisiana State University Baton Rouge, Louisiana.
10. Sanjay K. Jain, M.S. in Civil Engineering with Major in Water Resources, December, 1986. A Comparative Evaluation of Infiltration Models in Surface Irrigation. **M.S.** Thesis. Louisiana State University Baton Rouge, Louisiana.
11. Kulwant Singh, M.S. in Civil Engineering with Major in Water Resources, May 1988. Bivariate Probability Densities with Exponential Margins: An Application in Hydrology. **M.S.** Research Project. Louisiana State University, Baton Rouge, Louisiana.
12. Predrag F. Krstanovic, Ph.D. in Civil Engineering with Major in Water Resources, May 1988. Application of Entropy Theory to Multivariate Hydrologic Analysis, **Ph.D.** Dissertation. Louisiana State University, Baton Rouge, Louisiana.
13. Fang Xin Yu, M.S. in Civil Engineering with Major in Water Resources, December 1988. Simulation of Surface Irrigation Systems. **M.S.** Thesis. Louisiana State University, Baton Rouge, Louisiana.

14. Haosheng Guo, M.S. in Civil Engineering with Major in Water Resources, May 1992. A Comparative Evaluation of Estimators of Frequency Distributions by Monte Carlo Simulation. **M.S.** Thesis. Louisiana State University, Baton Rouge, Louisiana.
15. Fang Xin Yu, Ph.D. in Civil Engineering with Major in Water Resources, May 1992. Three Dimensional Modeling of Groundwater and Solute Transport by the Finite Element Method with Parameter Estimation. **Ph.D.** Thesis, Louisiana State University, Baton Rouge, Louisiana.
16. Babak Naghavi, Ph.D. in Civil Engineering with Major in Water Resources, June 1993. Temporal and Spatial Characteristics of Annual Maximum Precipitation in Louisiana. **Ph.D.** Thesis, Louisiana State University, Baton Rouge, Louisiana. Co-Advisor: Professor D.D. Adrian.
17. John K. Lovelace, M.S. in Engineering Science with Major in Water Resources, December 1994. Geohydrology and Simulation of Saltwater Encroachment in the "600-Foot" Sand of the Baton Rouge Area, Louisiana. **M.S.** Thesis, Louisiana State University, Baton Rouge, Louisiana.
18. Becnel, B.J., M.S. in Civil Engineering with Major in Water Resources, May 1996. Systems Approach to Hydrologic Modeling. **M.S.** Project Louisiana State University, Baton Rouge, Louisiana.
19. Bobba, A.G., Ph. D. In Water Resources Engineering, May 1996. Environmental Modeling of Hydrologic Systems. **Ph.D.** thesis, Lund University, Lund, Sweden. Co-Advisor: Professor L. Bengtsson.
20. Prasana, M., M.S. in Engineering Science with Major in Water Resources, May 1996. Application of Burgers Equation in Hydrologic Routing. **M.S.** Project, Louisiana State University, Baton Rouge, Louisiana.
21. Ensminger, P.A., M.S. in Civil Engineering with Major in Water Resources, December 1996. Techniques for Estimating Flood Magnitude and Frequency for Louisiana. **M.S.** Thesis, Louisiana State University, Baton Rouge, Louisiana.
22. Thiam, E.H.I., M.S. in Civil Engineering with Major in Water Resources, December 1996. Precipitation, Runoff, and Salinity Analysis in the Casamance Watershed Managed by the SZWMP. **M.S.** Thesis, Louisiana State University, Baton Rouge, Louisiana.
23. Cetiner, S.N., M.S. in Civil Engineering with Major in Water Resources, December, 1996. Linear Conceptual models for Simulation of Runoff for Semi-Arid Regions in Turkey. **M.S.** Thesis, Louisiana State University, Baton Rouge, Louisiana.

24. Bendz, D., Ph. D. in Water Resources Engineering, May 1998. Kinematic Wave Modeling of Landfill Hydrology. **Ph.D.** thesis, Lund University, Lund, Sweden. Co-Advisor: Professor L. Bengtsson.
25. Deng, Zhi-Qiang, Ph. D. in Water Resources Engineering, August 2002. A Scaling Dispersion Model. **Ph.D.** thesis, Lund University, Lund, Sweden. Co-Advisor: Professor L. Bengtsson.
26. Tomaszewicz, M. A., M.S. in Civil Engineering with Major in Water Resources, December 2003, Staying Afloat: A Risk Analysis Study of Flooding in South Louisiana. **M.S.** Thesis, Louisiana State University, Baton Rouge, Louisiana.
27. Mogheir, Yunes Khalil Yusef, Ph. D. in Civil Engineering, February 2004. Assessment and Redesign of Groundwater Quality Monitoring Networks Using the Entropy Theory-Gaza Strip Case Study. **Ph.D.** thesis, University of Coimbra, Coimbra, Portugal. Co-Advisor: Professor J.L.M.P. de Lima.
28. Potta, Suchita, M.S. in Civil Engineering with Major in Water Resources, December 2004, Development of Weather Generation Algorithms. **M.S.** Thesis, Louisiana State University, Baton Rouge, Louisiana.
29. Singh, Vikas, M.S. in Civil Engineering with Major in Water Resources, December 2004, Two Dimensional Sediment Transport Model Using Parallel Computers. **M.S.** Thesis, Louisiana State University, Baton Rouge, Louisiana.
30. Zhang, Lan, Ph.D.. in Civil Engineering with Major in Water Resources, May 2005, Multivariate Hydrological Frequency Analysis and Risk Mapping. **Ph.D.** Thesis, Louisiana State University, Baton Rouge, Louisiana.
31. Fourier, Jonathan E., M.S. in Civil Engineering with Major in Water Resources, August 2007, Urban Stream Stabilization Using Regional Hydraulic Geometry Curves for Bankfull Floodplain Design. **M.S.** Thesis, Louisiana State University, Baton Rouge, Louisiana.
32. Dutta, Deba Prasad, M.S. in Biological & Agricultural Engineering with major in Soil & Water Conservation Engineering, September 2008, Characterization of Drip Emitters and Computing Distribution Uniformity in a Drip Irrigation System at Low Pressure under Uniform Land Slopes, **M.S.** Thesis, Texas A & M University, College Station, Texas. Co-Advisor: Dr. Bruce Lesiker.
33. Hao, Luo, M.S. in Biological & Agricultural Engineering with major in Soil & Water Conservation Engineering, December 2009, Tsallis Entropy Based Velocity Distributions in Open Channel Flow, **M.S.** Thesis, Texas A & M University, College Station, Texas.
34. Chowdhary, Hemant, Ph.D. in Civil Engineering with Major in Water Resources, December 2009, Copula Based Multivariate Hydrologic Frequency Analysis. **Ph.D.** Thesis, Louisiana State University, Baton Rouge, Louisiana.

35. Cui, Huijuan, M.S., in Watershed Management and Hydrologic Sciences, May 2011, Estimation of Velocity Distribution and Suspended Sediment Discharge in Open Channels Using Entropy, **M.S.** Thesis, Texas A & M University, College Station, Texas.
36. Long, Di, Ph.D., in Biological & Agricultural Engineering with Major in Soil & Water Conservation Engineering, August 2011, Improved Modeling of Evapotranspiration Using Satellite Remote Sensing at Varying Spatial and Temporal Scales, **Ph.D.** Thesis, Texas A & M University, College Station, Texas.
37. Lee, Sang Hyun, M.S., in Biological & Agricultural Engineering with Major in Soil & Water Conservation Engineering, December 2011, Prioritizing Water Pipe Replacement and Rehabilitation by Evaluating Failure Risk, **M.S.** Thesis, Texas A & M University, College Station, Texas.
38. Hao, Zengchao, Ph.D., in Biological & Agricultural Engineering with Major in Soil & Water Conservation Engineering, May 2012, Application of Entropy Theory in Hydrologic Analysis and Simulation, **Ph.D.** Thesis, Texas A & M University, College Station, Texas.
39. Lu Chen, Ph.D., in Hydrology and water resources engineering, June 2012, The Theory of Copula and Its Applications in the Multivariate Hydrological Analysis, **Ph.D.** thesis, Wuhan University, Wuhan, China.
40. Chundun Prakash Khedun, Ph.D., in Hydrologic Science and Watershed Management, December 2012, Understanding and Predicting Changes in Precipitation and Water Availability under the Influence of Large-Scale Circulation Patterns: Rio Grande and Texas, **Ph.D.** Thesis, Texas A & M University, College Station, Texas.
41. Kim, Zooho, M.S., in Biological & Agricultural Engineering with Major in Soil & Water Conservation Engineering, May 2013, Assessment of Long-Term Riverbed Change Due to the Operation of a Series of Gates, **M.S.** Thesis, Texas A & M University, College Station, Texas.
42. Li, Chao, Ph.D., in Biological & Agricultural Engineering with Major in Soil & Water Conservation Engineering, May 2013, Stochastic Simulation Methods For Precipitation and Streamflow Time Series, **Ph.D.** Thesis, Texas A & M University, College Station, Texas.
43. Rajasekhar, Deepthi, Ph.D., in Biological & Agricultural Engineering with Major in Soil & Water Conservation Engineering, December 2014, Integrated Drought Modeling for Texas Under Climate Change Impact With Implications for Water Resources Planning, **Ph.D.** Thesis, Texas A & M University, College Station, Texas.
44. Da Silva, Yuri Jacques Agra Bezerra, **D.Sc.** in Soil Science, November 2014, Heavy Metals in Water, Suspended Sediments, and Bedload in Pojuca River, Brazil, D.Sc. thesis, Federal Rural University of Pernambuco, Recife, Brazil.
45. Dagbegnon C. Sohoulade Djebou, Ph.D., in Biological & Agricultural Engineering with

Major in Soil & Water Conservation Engineering, May 2015, Seasonal Precipitation Variability and its Impact on Vegetation Dynamics Under Climate Change and Aridity Spectra of the Southwest United States Ecosystems, **Ph.D.** Thesis, Texas A & M University, College Station, Texas.

46. Yildirim, Gokhan, M.S., In Biological & Agricultural Engineering With Major In Soil & Water Conservation Engineering, May 2015, Spatial Drought Risk Assessment Using Standardized Precipitation Index and Effective Drought Index: Edwards Aquifer Region, **M.S.** Thesis, Texas A&M University, College Station, Texas.

47. Huijuan Cui, Ph.D., in Watershed Management and Hydrologic Science with Major in Hydrologic Science, May 2015, Entropy Theory for Monthly Streamflow Forecasting, **Ph.D.** Thesis, Texas A & M University, College Station, Texas.

48. Yalcin, Zehra, M.Eng., in Biological & Agricultural Engineering with Major in Soil & Water Conservation Engineering, December 2015, Intern Experience at Diyarbakir Water Sewage Administration, Inc., **M.Eng.** Project Report, Texas A & M University, College Station, Texas.

49. Ma, Ming, Ph.D., in Hydrology and Water Resources, December 2015, Improvement and Application of Palmer Drought Indices for Drought Characterization, **Ph.D.** Thesis, Hohai University, Nanjing, China. Co-Advisor: Professor Liliang Ren.

50. Tong, Xin, Ph.D., in Hydrology and Water Resources, May, 2016, Vegetation Cover estimation and Biomass Simulation in Horqin Sandy Land Using Ground-Based Hyperspectral Remote Sensing, **Ph.D.** Thesis, Inner Mongolia Agricultural University, Hohhot, Inner Mongolia, China. Co-Advisor: Professor Tingxi Liu.

51. Junior, Silvio Fernando Alves Xavier, Ph.D., in Biometry and Applied Statistics, March 2016, Study of Trend Analysis and Sample Entropy of Precipitation in Paraiba, Brazil, **Ph.D.** Thesis, Federal Rural University of Pernambuco, Recife, Brazil. Co-advisors: Drs. Tatijana Stosic and Carlos Antonio Costa dos Santos.

52. Singh, Abhishek, M.S., in Biological and Agricultural Engineering, December 2016, Computation of Probable Maximum Precipitation and its Uncertainty, **M.S.** Thesis, Texas A&M University, College Station, Texas.

53. Bhatia, Nikhil, M.S., in Hydrologic Science and Watershed Management, August 2017, Variations in Climatic Regimes of Texas: An Assessment of Wet Seasons, Climatic Cycles, and Extreme Precipitation Events, **M.S.** Thesis, Texas A&M University, College Station, Texas.

54. Rawat, Kanishk, M. Eng., in Biological and Agricultural Engineering, December 2017, Improving Sanitation Standards and Weight Capability for Power Packaging, M.Eng. Project, Texas A&M University, College Station, Texas.

55. Kanwal, Sanjay, M. Eng., in Biological and Agricultural Engineering, December 2018,

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3. Guest Editor, Special Issue of Irrigation Science on **Advances in Surface Irrigation**, Vol. 15, No. 2/3, 1994.

4. Guest Editor, Special Issue of Hydrology, **Journal of IAHR on Hydrology and Water Resources**, Vol. XVII, No. 1 & 2, 1994.

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51. Khedun, C.P., and Singh, V.P, Review of Water Resources: Science and Society, by George M Hornberger & Debra Perrone, George M Hornberger & Debra Perrone. **Journal of Hydrologic Engineering**, ASCE, Vol. 25, No. 11, pp. 07520002-1 to 2, 2020.

52. Khedun, C.P., and Singh, V.P, Review of Statistical Analysis of Hydrologic Variables: Methods and Applications. Edited by Ramesh V. Teegavarapu, Jose D. Salas, and Jerry R. Tedinger, ASCE Press, Reston, Virginia, **Journal of Hydrologic Engineering**, ASCE, Vol., in press, 2021.

6.10 Technical Publications and Reports: [72 Reports]

1. Singh, V.P. and Birsoy, Y.K., Studies on Rainfall-Runoff Modeling: 1. Estimation of Mean Areal Rainfall. **WRI Report** No. 061, p. 70, New Mexico Water Resources Research Institute, New Mexico State University, Las Cruces, New Mexico, 1975.

2. Singh, V.P., Studies on Rainfall-Runoff Modeling: 2. A Distributed Kinematic Wave Model of Watershed Surface Runoff. **WRI Report** No. 065, p. 154, New Mexico Water Resources Research Institute, New Mexico State University, Las Cruces, New Mexico, 1976.

3. Singh, V.P., Studies on Rainfall-Runoff Modeling: 3. Converging Overland Flow. **WRI Report** No. 073, p. 290, New Mexico Water Resources Research Institute, New Mexico State University, Las Cruces, New Mexico, 1976.

4. Shelburne, K.L. and Singh, V.P., Studies on Rainfall-Runoff Modeling: 4. Estimation of Parameters of Two Mathematical Models of Surface Runoff. **WRI Report** No. 076, p. 96, New Mexico Water Resources Research Institute, New Mexico State University, Las Cruces, New Mexico, 1976.

5. Singh, V.P., Studies on Rainfall-Runoff Modeling: 5. A Uniformly Non-Linear Hydrologic Cascade Model. **WRI Report** No. 078, p. 47, New Mexico Water Resources Research Institute, New Mexico State University, Las Cruces, New Mexico, 1976.

6. Lansford, R.R., et al, Demonstration of Irrigation Return Flow Salinity Control in the Upper Rio Grande. **WRI Report** No. 070, p. 121, New Mexico Water Resources Research Institute, New Mexico State University, Las Cruces, New Mexico, 1976.

7. Singh, V.P. and Birsoy, Y.K., Studies on Rainfall-Runoff Modeling: 6. A Statistical Analysis of Rainfall-Runoff Relationship. **WRRRI Report** No. 081, p. 47, New Mexico Water Resources Research Institute, New Mexico State University, Las Cruces, New Mexico, 1976.
8. Buapeng, S. and Singh, V.P., Studies on Rainfall-Runoff Modeling: 7. A Non-linear Hydrologic Cascade. **WRRRI Report** No. 087, p. 68, New Mexico Water Resources Research Institute, New Mexico State University, Las Cruces, New Mexico, 1977.
9. Singh, V.P., Studies on Rainfall-Runoff Modeling: 8. Comparison of Models. **WRRRI Report** No. 91, p. 82, New Mexico Water Resources Research Institute, New Mexico State University, Las Cruces, New Mexico, 1977.
10. Singh, V.P., A Systematic Evaluation of Urban Runoff Models. **Technical Report** MSSU-EIRS-CE79-3, 75 p., Engineering and Industrial Research Station, Mississippi State University, Mississippi State, Mississippi, 1979.
11. Singh, V.P. and McCann, R.C., A Mathematical Study of General Hydrologic System Model. **Technical Report** MSSU-EIRS-CE-80-1, 85 p., Engineering and Industrial Research Station, Mississippi State University, Mississippi State, Mississippi, September 1979.
12. Singh, V.P. and McCann, R.C., A Study of the Muskingum Method of Flood Routing. **Technical Report** MSSU-EIRS-CE-80-2, 71 p., Engineering and Industrial Research Station, Mississippi State University, Mississippi State, Mississippi, 1980.
13. Singh, V.P. and Agiralioglu, N., A Mathematical Study of Diverging Flow: 1. Analytical Solutions. **Technical Report** MSSU-EIRS-CE-80-3, 175 p., Engineering and Industrial Research Station, Mississippi State University, Mississippi State, Mississippi, 1980.
14. Agiralioglu, N. and Singh, V.P., A Mathematical Study of Diverging Flow: 2. Numerical Solutions and Application. **Technical Report** MSSU-EIRS-CE-80-4, 95 p., Engineering and Industrial Research Station, Mississippi State University, Mississippi State, Mississippi, 1980.
15. Singh, V.P. and Baniukiewicz, A., A Study of Some Empirical Methods of Determining the Unit Hydrograph. **Interim Report** No. 1, 176 p., Water Resources Research Institute, Mississippi State University, Mississippi State, Mississippi, 1981.
16. Chen, B.J., McCann, R.C. and Singh, V.P., Numerical Solutions to the Kinematic Model of Surface Irrigation. **Technical Report** MSSU-EIRS-CE-81-1, 40 p., Engineering and Industrial Research Station, Mississippi State University, Mississippi State, Mississippi, 1981.
17. Singh, V.P., Mathematical Models of Water Yield. **Interim Report** No. 2, 60 p., Water Resources Research Institute, Mississippi State University, Mississippi State, Mississippi, 1981

18. Panu, U.S. and Singh, V.P., Basin Lag. **Technical Report** MSSU-EIRS-CE-81-4, 64 p., Engineering and Industrial Research Station, Mississippi State University, Mississippi State, Mississippi, 1981.
19. Singh, V.P., editor, **Pre-Symposium Proceedings** - International Symposium on Rainfall-Runoff Modeling. Science and Education Administration, U.S. Department of Agriculture, 369 pp., 1981.
20. Singh, V.P., A Mathematical Study of Erosion from Upland Areas. **Technical Report** WRR1, 195 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1983.
21. Singh, V.P. and Ram, R.S., Some Aspects of the Hydraulics of Border Irrigation. **Technical Report** WRR2, 81 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1983.
22. Singh, V.P. and Chen, V.J., The Relationship between Storm Runoff and Sediment Yield. **Technical Report** WRR3, 382 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1983.
23. Singh, V.P. and Sherman, B., A Kinematic Study of Surface Irrigation: Mathematical Solutions. **Technical Report** WRR4, 76 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1983.
24. Ram, R.S., Singh, V.P. and Prasad, S.N., Mathematical Modeling of Surface Irrigation. **Technical Report** WRR5, 302 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1983.
25. Singh, V.P., Prasad, S.N. and Ubertini, L., A Continuum Mechanics Approach to Streamflow Modeling. **Technical Completion Report**, 49 p., Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, Louisiana, 1983.
26. Singh, V.P., A Geomorphic Approach to Hydrograph Synthesis with Potential for Application to Ungaged Watersheds. **Technical Completion Report**, 101 p., Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, Louisiana, 1983.
27. Hill, M.M., Singh, V.P. and Aminian, H., A Computerized Data Base for Hydrologic Modeling of the Amite River Basin, Louisiana, **Tech. Rep.** 64 p., Remote Sensing and Image Processing Laboratory, Louisiana State University, Baton Rouge, Louisiana, 1984.
28. Singh, V.P., Mathematical Models for Ungaged Watersheds with Potential for Quantifying the Effect of Land Use Changes in Streamflow. **Technical Completion Report**, 143 p., Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, Louisiana, 1984.

29. Singh, V.P., Singh, K. and Rajagopal, A. K., Application of the Principle of Maximum Entropy (POME) to Hydrologic Frequency Analysis, **Completion Report** 06, 144 p., Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, Louisiana, 1985.
30. Singh, V.P., editor, **Pre-Symposium Proceedings** - International Symposium on Flood Frequency and Risk Analyses. Louisiana State University, Baton Rouge, Louisiana, 1986.
31. Jain, D. and Singh, V.P., An Evaluation of Some Empirical Methods for Flood Frequency Analysis: 1. Analysis and Validation. **Completion Report**, Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, Louisiana, 1986.
32. Jain, D. and Singh, V.P., An Evaluation of Some Empirical Methods for Flood Frequency Analysis: 2. Data and Computer Programs. **Completion Report**, Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, Louisiana, 1986.
33. Singh, V.P. and Krstanovic, P.F., Design of Rainfall Networks Using Entropy. **Completion Report**, Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, Louisiana, 1986.
34. Singh, V.P. and Krstanovic, P.F., A Multivariate Stochastic Flood Analysis Using Entropy. **Completion Report**, Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, Louisiana, 1986.
35. Jain, S. K. and Singh, V.P., Evaluation of Infiltration Models in Border Irrigation. **Technical Report** WRR6, 160 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1987.
36. Singh, V.P. and Yu, F.X., A Farm Irrigation System (FIS) Model. **Technical Report** WRR7, 177 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1987.
37. Arora, K. and Singh, V.P., A Comparative Evaluation of the Estimators of Commonly used Flood Frequency Models: 1. Monte Carlo Simulation. **Completion Report**, Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, Louisiana, 1987.
38. Arora, K. and Singh, V.P., A Comparative Evaluation of the Estimators of Commonly used Flood Frequency Models: 2. Computer Programs. **Completion Report**, Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, Louisiana, 1987.
39. Krstanovic, P.F., Singh, V.P., Application of Entropy Theory to Multivariate Hydrologic Analysis, Vol. 1. **Technical Report** WRR8, 269 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1988.

40. Krstanovic, P.F. and Singh, V.P., Application of Entropy Theory to Multivariate Hydrologic Analysis, Vol. 2. **Technical Report WRR9**, pp. 271-557, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1988.
41. Krstanovic, P.F. and Singh, V.P., Application of Entropy Theory to Multivariate Hydrologic Analysis, Vol. 3, Selected Computer Programs. **Technical Report WRR10**, 234 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1989.
42. Singh, V.P. and Li, Z., Some Perspectives on Mathematical Modeling for Deformation Behavior of Concrete Dams. **Technical Report WRR11**, 59 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1989.
43. Yu, F.X. and Singh, V.P., Simulation of Surface Irrigation Systems. **Technical Report WRR12**, 244 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1989.
44. Singh, V.P., A Quasi-Conceptual Linear Model for Synthesis of Direct Runoff, with Potential for Application to Ungaged Basins. **Miscellaneous Paper EL-79-6**, **Military Hydrology Report 17**, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi, 1989.
45. Singh, V.P. and Scarlatos, P.D., Breach Erosion of Earthfill Dams and Flood Routing: BEED Model. **Miscellaneous Paper EL-79-6**, **Military Hydrology Report 14**, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi, 1989.
46. Singh, V.P., Cruise, J.F. and Ma, M., A Comparative Evaluation of the Estimators of Two Distributions by Monte Carlo Method. **Technical Report WRR13**, 126 p., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1989.
47. Singh, V.P., Hydraulic Considerations for Water Resources Modeling. **V.U.B.-Hydrologie 17**, 280 pp., Vrije Universiteit Brussel, Brussels, Belgium, 1990.
48. Harmancioglu, N.B. and Singh, V.P., Design of Water Quality Networks. **Technical Report WRR14**, 63 pp., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1990.
49. Li, Z. and Singh, V.P., Statistical Modeling for Dam Behavior. **Technical Report No. 15**, 28 pp., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1990.
50. Seemanpalli, S.V. and Singh, V.P., Earth Dam Breach Analysis Using Variational Calculus. **Technical Report No. 16**, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1990.

51. Naghavi, B., Singh, V.P. and Yu, F.X., 1991. LADOTD 24-hour Rainfall Frequency Maps and I-D-F Curves. **LTRC Report No. 236**, Louisiana Transportation Research Center, Baton Rouge, Louisiana, 157, p., 1991.
52. Singh, V.P., Errors in Kinematic Wave and Diffusion Wave Approximations for Space-Independent Flows: 1. Cases 1 to 9. **Technical Report WRR17**, 155 pp., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.
53. Singh, V.P., Errors in Kinematic Wave and Diffusion Wave Approximations for Space-Independent Flows: 1. Cases 10 to 19. **Technical Report WRR18**, pp. 156 to 329, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.
54. Wang, S.X. and Singh, V.P., Sampling Variance of a Design Event due to Plotting Positions. **Technical Report WRR 19**, 44 pp., Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.
55. Singh, V.P. and Aravamuthan, V., Errors in Kinematic and Diffusion Wave Approximations for Time-Independent Flows: 1. Cases 1 to 6. **Technical Report WRR20**, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.
56. Singh, V.P. and Aravamuthan, V., Errors in Kinematic and Diffusion Wave Approximations for Time-Independent Flows: 2. Cases 7 to 13. **Technical Report WRR21**, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.
57. Singh, V.P. and Aravamuthan, V., Errors in Kinematic and Diffusion Wave Approximations for Time-Independent Flows: 3. Cases 14 to 19. **Technical Report WRR22**, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.
58. Wang, S.X. and Singh, V.P., Frequency Analysis for Hydrological Samples with Zero Events. **Technical Report WRR23**, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.
59. Guo, H. and Singh, V.P., A Comparative Evaluation of Estimators of Extreme-Value Type III Distribution by Monte Carlo Simulation. **Technical Report WRR24**, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.
60. Guo, H. and Singh, V.P., A Comparative Evaluation of Estimators of Pareto Distribution by Monte Carlo Simulation. **Technical Report WRR25**, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.

61. Guo, H. and Singh, V.P., A Comparative Evaluation of Estimators of Log-Logistic Distribution by Monte Carlo Simulation. **Technical Report WRR26**, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.
62. Guo, H. and Singh, V.P., A Comparative Evaluation of Estimators of Two-Component Extreme-Value Distribution by Monte Carlo Simulation. **Technical Report WRR27**, Water Resources Program, Department of Civil Engineering, Louisiana State University, Baton Rouge, Louisiana, 1992.
63. Chandra, S., Singh, V.P., Haque, M.E., Jain, M.K. and Kumar, R., WAHS Model Application to Indian Catchments. **Report, National Institute of Hydrology**, Roorkee, India, 1993.
64. Singh, V.P. and Cruise, J.F., Quantifying the Effect of I-49 on Flooding at the Messenger Farms, Natchitoches Parish, Louisiana. **Technical Report** Water Resources Program, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana, 1993.
65. Thiam, E.H.I. and Singh, V.P., Rainfall-Runoff-Salinity Relation for the Casamance River Basin, Southern Senegal, West Africa. **Technical Report WRR 29**, 66 pp., Water Resources Program, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana, 1996.
66. Sherif, M.M. and Singh, V.P., Groundwater Development and Sustainability in the Nile Delta Aquifer. **Technical Report WRR 30**, Water Resources Program, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana, 1997.
67. Harmancioglu, N.B., Alpaslan, M.N., Whitfield, P., Singh, V.P., Literathy, P., Mikhailov, N. and Fiorentino, M. Assessment of Water Quality Monitoring Networks-Design and Redesign. **Final Report to NATO**, Brussels, Belgium, 1998..
68. Bobba, A. G., Singh, V.P. and Jeffries, D.S., Modeling the Impact of Climate Change on a Sub-arctic Watershed in Newfoundland, Canada. **NWRI Contribution No. 99-052**, National Water Research Institute, Environment Canada, Burlington, Ontario, Canada, 1999.
69. Singh, V.P., Kinematic Wave Modeling of Overland Flow Due to Moving Storms. **Technical Report WRR 31**, Water Resources Program, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana, 2000.
70. Singh, V.P., Kinematic Wave Modeling of Pollutant Transport by Overland Flow. **Technical Report WRR 32**, Water Resources Program, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana, 2000.

71. Rajsekhar, D., Singh, V.P. and Mishra, A.K., Drought Atlas for the State of Texas for Durations from 3 Months to 36 Months and Return Periods from 5 Years to 100 Years. **Technical Report TR-474**, Texas Water Resources Research Institute, Texas A&M University, College Station, Texas, 2015.

72. Rajsekhar, D. and Singh, V.P., Drought Hazard and Vulnerability Maps for Texas. **Technical Report TR-475**, Texas Water Resources Research Institute, Texas A&M University, College Station, Texas, 2015.

7. HONORS, AWARDS AND RECOGNITION: [Honorary Doctorates: 3; Awards and Honors: 99; Membership in International Academies: 11; Biographical Citations: 20; Distinguished Memberships: 5; Fellowships: 8; and Memberships: 18]

7.1 Honorary Doctorates: [3]

1. **Honorary Ph.D. in Environmental and Territorial Engineering**, given by the University of Basilicata, Potenza, Italy, December 2006.
2. **Honorary Dr. Eng. (Doctorate in Engineering)**, given by the University of Waterloo, Waterloo, Canada, June 2010.
3. **Honorary Doctor of Science (D.Sc.)**, given by the University of Guelph, Guelph, Canada, June 2014.

7.2 Awards and Honors: [99 Awards]

1. **College merit** awarded by Pant College of Technology for 1965-66.
2. **College merit** awarded by Pant College of Technology for 1966-67.
3. **Scholarship award** for scholastic achievement given by Pant College of Technology during 1966-67.
4. **CBIP certificate of merit** for outstanding paper published in the year 1979 in Irrigation and Power.
5. **U.S. - India Exchange Scientist Award** for the year 1980-81
6. **Best Research Paper Award**, for publishing a paper adjudged to be the best paper published in 1986 in Hydrology - Journal of the Indian Association of Hydrologists.
7. **VII I.H.D. Endowment Lecture Award**, Anna University, Madras, India, October, 1987
8. **Book Award** given by College of Engineering for the book entitled, Hydrologic Systems, Vol. 1, Rainfall-Runoff Modeling, 480 p., Prentice Hall, Inc., 1988.
9. **Book Award** given by College of Engineering for the book entitled, Hydrologic Systems, Vol. 2, Watershed Modeling, 320 p., Prentice Hall, Inc., 1989.
10. **Researcher of the Year Award**, given by Department of Civil Engineering, Louisiana State University, for 1989-90.
11. **Book Award** given by College of Engineering for the book entitled, Elementary Hydrology, 973 p., Prentice Hall, Inc., 1992.
12. **Service Award**, given by Louisiana State University, 1992.
13. **Citation for Distinguished Service**, given by National Research Council of Italy, 1995.

14. **Book Award** given by College of Engineering for the book entitled Dam Breach Modeling Technology, 242 p., Kluwer Academic Publishers, 1996.
15. **Book Award** given by College of Engineering for the book entitled, Kinematic Wave Modeling in Water Resources: Surface Water Hydrology, 1399 p., John Wiley, 1996.
16. **Service Award**, given by Louisiana State University, 1996.
17. **Teacher of the Year Award**, given by Department of Civil and Environmental Engineering, for 1995-1996.
18. **Research Fellow Award**, given by the American Biographical Institute, 1997.
19. **Outstanding Book Award** for 1996-97 given by Indian Society of Agricultural Engineers.
20. **J. William Fulbright Scholar Award** given by the Austrian-American Educational Commission for Lecturing in Austria during 1997-98.
21. **Book Award** given by College of Engineering for the book entitled, Kinematic Wave Modeling in Water Resources: Environmental Hydrology, 830 pp., John Wiley, 1997.
22. **International Man of the Year Award**, given by International Biographical Centre, Cambridge, England, 1997.
23. **20 th Century Award for Achievement**, given by International Biographical Centre, Cambridge, England, 1997.
24. **Book Award** given by College of Engineering for the book entitled, Entropy-Based Parameter Estimation in Hydrology, 380 pp., Kluwer Academic Publishers, Boston, 1998.
25. **Book Award** given by College of Engineering for the book entitled, Water Quality Monitoring Network Design, Kluwer Academic Publishers, 290 pp., Boston, 1999.
26. **Distinguished Faculty Award** given by Louisiana State University, Baton Rouge, Louisiana, April 1999.
27. **The Brij Mohan Distinguished Professor Award** given by School of Social Work, Louisiana State University, Baton Rouge, Louisiana, May 1999.
28. **Achievement in Academia Award** given by Colorado State University Dean's Council, College of Engineering, October, 1999.
29. **James M. Todd Technological Medal** given by Louisiana Engineering Society, February, 2000.
30. **The 2001 Honor Alumnus Colorado State University College of Engineering Award**, April 2001.
31. **Certificate of Appreciation for Dedicated and Outstanding Service**, American Institute of Hydrology, 2001.
32. **Book Award** given by College of Engineering for the book entitled, Snow and Glacier Hydrology, 742 pp., Kluwer Academic Publishers, Boston, 2001.
33. **Arid Lands Hydraulic Engineering Award**, given by American Society of Civil Engineers, 2002.
34. **Certificate of Appreciation**, given by American Institute of Hydrology, Minneapolis, 2002.
35. **Diamond Jubilee Lecture Award**, National Geophysical Research Institute, Hyderabad, India, 2002.
36. **Distinguished Research Master Award**, given by Louisiana State University, 2003.
37. **Book Award** given by College of Engineering for the book entitled, Water Resources Systems Planning and Management, 858 pp., Elsevier, New York, 2003
38. **Book Award** given by College of Engineering for the book entitled, Soil Conservation Service Curve Number (SCS-CN) Methodology, 513 pp., Kluwer Academic Publishers, Boston, 2003.

39. **Inaugural Silver Jubilee Lecture Award**, National Institute of Hydrology, Roorkee, India, 2004.
40. **Inaugural Lecture**, Short Term Course on System Analysis Techniques and Computer Applications in Water Resources Management, January 5-20, 2004, Indian institute of Technology, Roorkee, India.
41. **Certificate of Appreciation**, for Keynote Lecture at National Congress on Professional Education and Practice, University of the Americas, Cholula, Puebla, Mexico, March, 2004.
42. **Outstanding Faculty Service Award**, given by College of Engineering, LSU, 2004.
43. **Visiting Distinguished Professorship Award**, Mexican Academy of Science, Mexico, 2004.
44. **Sir Mokshagundam Visvesvaraya Memorial Lecture Award**, November 2004, G.B. Pant University of Agriculture and Technology, Pantnagar, India.
45. **Advisory Professorship**, Hohai University, Nanjing, China, 2005.
46. **2004 Faculty Achievement Award**, given by Department of Civil & Environ. Engineering.
47. **Ven Te Chow Award**, given by American Society of Civil Engineers, 2005.
48. **Beyer Distinguished Lecture**, University of Houston, Houston, Texas, 2005.
49. **William A. and Joyce R. Bell Excellence Fund for Civil Engineering Lecture Award**, Western Kentucky University, Bowling Green, Kentucky, May 2006.
50. **Ray K. Linsley Award**, given by American Institute of Hydrology, Atlanta, 2006.
51. **Inaugural Sigma Xi Distinguished Lecture**, University of Texas at Brownsville, Texas, September, 2006.
52. **Dale D. Meredith Lecture**, Department of Civil, Structural and Environmental Engineering, State University of New York-University at Buffalo, November, 2006.
53. **Honorary Diplomat**, American Academy of Water Resources Engineers, Reston, Virginia, October 2008.
54. **Bharat Gaurav Award**, given by India International Fellowship Society, New Delhi, India, January 2009.
55. **Gold Medal**, given by Korean Society of Civil Engineers, 2009.
56. **Founder's Award**, American Institute of Hydrology, October 2009.
57. **Richard R. Torrens Award**, American Society of Civil Engineers, October 2009.
58. **Certificate of Appreciation**, Delta Phi Omega Sorority, Inc., Texas A & M University, College Station, Texas, April, 2010.
59. **Norman Medal**, American Society of Civil Engineers, May 2010
60. **Convocation Speaker**, 100th Convocation, University of Waterloo, June 19, 2010.
61. **Honorary Member**, American Water Resources Association, July 2010.
62. **Honorary Professor**, Sichuan University, Sichuan, China, April 2010.
63. **14th Indian Geological Congress Lecture Award**, Indian School of Mines, Dhanbad, India, February 15, 2011.
64. **2012 Texas A&M University Bush Excellence Award for Faculty in International Research**, April 18, 2012.
65. **Hydrology Days Lecture Award-2013**, Colorado State University and AGU, Fort Collins, Colorado, March 2013.
66. **University Distinguished Professor Award**, September 2013, Texas A&M University, College Station, Texas.
67. **2013 Lifetime Achievement Award**, Environmental and Water Resources Institute, American Society of Civil Engineers, May 2013.

68. **Guest Professor**, Wuhan University, Wuhan, China, 2013.
69. **Certificate of Appreciation for Outstanding Editorial Leadership as Editor-in-Chief**, Journal of Hydrologic Engineering, American Society of Civil Engineers, 2013.
70. **Convocation Speaker**, 50th Anniversary Convocation, University of Guelph, June 10, 2014.
71. **Professor R.J. Garde Lifetime Achievement Award**, The Indian Society for Hydraulics, December 2014.
72. **Best Forum Article Award**, given by ASCE-EWRI's Journal of Hydrologic Engineering, 2015.
73. **Distinguished Achievement Award in Research**, Texas A&M University, 2015.
74. **G.V. Loganathan Distinguished Lecture**, Virginia Tech, Blacksburg, Virginia, April 10, 2015.
75. **Distinguished Member**, American Society of Civil Engineers, 2015.
76. **Crystal Drop Award**, International Water Resources Association, 2015.
77. **IASWCLifetime Achievement Award**, Indian Association of Soil and Water Conservationists, 2016.
78. **Sigma Xi Outstanding Distinguished Scientist Award**, 2016.
79. **USCID/Merriam Improved Irrigation Award**, 2016.
80. **Jiangsu Provincial Friendship Award, China**, 2016
81. **Outstanding Alumnus of College of Technology Award**, G.B. Pant University of Agriculture & Technology, Pantnagar, India, November 2016.
82. **Outstanding Alumnus Award**, G.B. Pant University of Agriculture & Technology, Pantnagar, India, November 2016.
83. **Distinguished Scientist Award**, Chinese Academy of Science President's International Fellowship Initiative (PIFI), Beijing, China, 2017.
84. **ADS/Hancor Soil and Water Engineering Award**, American Society of Agricultural and Biological Engineers, 2017.
85. **Ven Te Chow Memorial Lecture and Award**, International Water Resources Association, 2017.
86. **Medal of Achievement**, University of Guelph, Guelph, Canada, 2017.
87. **Lifetime Achievement Award**, G.B. Pant University of Agriculture & Technology, Pantnagar, India, November 2017.
88. **A 2017 Clarivate Analytics Highly Cited Researcher**, Web of Science, 2017.
89. **Best Paper Award (or Jalavigyan Pruskar)**, given by Indian Society of Hydraulics (IHS) for a paper published in IHS Journal of Hydraulic Engineering, 2018.
90. **Distinguished Professor**, China Three Gorges University, Yichang, China, 2019.
91. **Honorary Professor**, Beijing Normal University, Beijing, China, 2019.
92. **Distinguished Fellow**, Association of Global Groundwater Scientists, 2019.
93. **Bharat Singh Endowment Lecture in Hydrology Award**, given by Indian Institute of Technology Roorkee, India, 2020.
94. **Royce J. Tipton Award**, given by American Society of Civil Engineers, 2020.
95. **A 2020 Clarivate Analytics Highly Cited Researcher**, Web of Science, 2020.
96. **Opal Leadership Award for Education**, ASCE, 2021.
97. **Best Technical Note Award**, Journal of Hydrologic Engineering, ASCE, 2021.
98. **Honorary Member Award**, International Water Resources Association, 2021.
99. **Lifetime Achievement Award-2019**, Indian Water Resources Society, Roorkee, India, 2021.

100.**Dr. K.G. Tejwani Memorial Lecture Award**, Indian Association of Soil and Water Conservationists, Dehradun, Uttarakhand, September 23, 2021.

7.3 Membership in International/National Science Academies: [12 Memberships]

1. **Academician**, Georgia Fazisi Academy, Republic of Georgia, 1997-present.
2. **Member**, Russian Academy of Water Management, 2002-present.
3. **Fellow**, Georgian Academy of Sciences, Republic of Georgia, 2002-present.
4. **Member (Foreign)**, Mexican Academy of Engineering, Mexico, 2003-present.
5. **Member (Foreign)**, Mexican Academy of Sciences, Mexico, 2003-present.
6. **Member (Foreign)**, Engineering Academy of the Czech Republic, 2004-present.
7. **Member (Foreign)**, Polish Academy of Sciences, 2005-present.
8. **Member**, Russian Academy of Ecological Sciences, 2006-present.
9. **Member**, Portuguese Academy of Engineering, 2007-present.
10. **Fellow (Foreign)**, National Academy of Agricultural Sciences (India), 2008-present.
11. **Member**, EU Academy of Science, 2019-present.
12. **Member**, European Academy of Science and Arts, 2021-present.

7.4 Professional Memberships

Distinguished/Honorary Membership:[5 distinguished memberships]

1. **Distinguished Member**, American Society of Civil Engineers, 2015-present.
2. **Honorary Member**, American Water Resources Association, 2010-present.
3. **Distinguished Fellow**, Association of Global Groundwater Scientists, 2019-present
4. **Honorary Member**, International Water Resources Association, 2021-present
5. **Honorary Member**, Watershed Management Society of Iran, January 2017-present

Fellowship: [8 Fellowships]

1. **Fellow**, American Society of Civil Engineers, 1994-present.
2. **Fellow**, American Water Resources Association, 1986-present.
3. **Fellow**, Indian Association of Hydrologists, 1990-present.
4. **Fellow**, Institution of Engineers (India), 1986-present.
5. **Fellow**, Indian Water Resources Society, 1995- present.
6. **Fellow**, Indian Society of Agricultural Engineers, since 1999.
7. **Fellow**, Indian Association of Soil and Water Conservationists, 2007-present.
8. **Fellow**, Environmental & Water Resources Institute, ASCE, May 2013-present.

Member: [18 Societies or Associations]

1. **Member (Life)**, American Geophysical Union, 1972-present

2. **Member**, American Society of Agricultural Engineers, 1970-1974, 2012-present
3. **Member**, American Society of Civil Engineers, 1976-1994
4. **Member**, Canadian Society of Agricultural Engineers, 1968-1977
5. **Member**, Colorado State University Alumni Association, 1974-present
6. **Member (Life)**, Indian Society of Agricultural Engineers, 1976-1999
7. **Member (Life)**, Indian Association of Soil and Water Conservationists, 1986-2007
8. **Member (Life)**, Indian Water Resources Society, 1980-present
9. **Member**, International Association for Hydraulic Research, 1980-present
10. **Member**, International Association of Hydrological Sciences, 1974-present
11. **Member (Life)**, Sigma Xi, 1974-present
12. **Member (Life)**, The University of Guelph Alumni Association, 1974-present
13. **Member (Life)**, U.S. Committee of the International Commission on Irrigation and Drainage, 1985-present
14. **Member**, British Hydrological Society, 1999-present
15. **Member**, Hazard Forum, The Institution of Engineers, Great Britain, 1999-present
16. **Member**, World Association for Sedimentation and Erosion Research, 2005-present
17. **Member**, International Water Resources Association, 2012-present
18. **Member (Life)**, 4A (Alumni Almamater Advancement Association), G.B. Pant University of Agriculture and Technology, Pantnagar, India, 2016-present.

7.5 Biographical Citations: [20 Citations]

1. Included in **Who's Who in the South and Southwest**, Vol. 17, 1981-82.
2. Included in **Who's Who in Technology Today**, 1981-82.
3. Included in **Personalities of South**, 1981-82.
4. Included in **Directory of Distinguished Americans**, 1985-86.
5. Included in **2,000 Notable Americans**, 1984-85.
6. Included in **International Directory of Distinguished Leaders**, 1987-88.
7. Included in **Personalities of America**, 1998.
8. Included in **Who's Who in Asian Americans**, 1995
9. Included in **American Men and Women of Science**, 1997.
10. Included in **Who's Who in Science and Technology**, 4th edition, 1998-99.
11. Included in **International Who's Who of Professionals**, 1997.
12. Included in **Who's Who in Science and Engineering**, 1998.
13. Included in **26th Edition of Directory of International Biography**, 1998.
14. Included in **Five Thousand Personalities of the World**, 1998.
15. Included in **America's Registry of Outstanding Professionals**, 2002.
16. Included in **WHO'S WHO in Engineering Education**, 2002.
17. Included in **WHO'S WHO**, 2002.
18. Included in **WHO'S WHO in the World**, 2002.
19. Included in **WHO'S WHO in Computational Science and Engineering**, 2005.
20. Included in **WHO'S WHO in Finance and Business**, 2005-07.

8. EDITORSHIPS AND REFEREESHIPS: [36 journal editorial boards and 6 book editorial boards]

8.1 Appointment to Editorial Boards of Journals: [37 Journal editorial boards]

1. Editor-in-Chief, **Journal of Hydrologic Engineering**, ASCE, July 2004 - 2012.
2. Editor-in-Chief, **Water Science and Engineering**, 2008-2013.
3. Editor-in-Chief, **Journal of Ground Water Research**, 2012-present.
4. Editor-in-Chief, **Open Agriculture**, 2015-2019.
5. Editor-in-Chief, **Journal of Agricultural Research**, 2016-2019.
6. Member of the Editorial Board, **Hydrology**, Journal of the IAHR, from January 1980 to present.
7. Advisory Editor, **Irrigation Science**, from January 1988 to present.
8. Member of the Editorial Board, **Hydrological Processes**, from June 1994 to present.
9. Member, Editorial Board, **International Journal of Sediment Research**, January 2001-present.
10. Member, Editorial Board, **Acta Geophysica**, 2001- present.
11. Member, Editorial Board, **Jacobs Journal of Hydrology**, 2105-present.
12. Member, Editorial Board, **Austin Journal of Hydrology**, 2105-present.
13. Member, Editorial Board, **Hydrology**, 2015-present.
14. Member, Editorial Board, **Austin Journal of Irrigation**, 2015-present.
15. Member, Editorial Board, **Environmental and Social Psychology**, 2015-present.
16. Member, Editorial Board, **Korean Journal of Civil Engineering**, 2006-present.
17. Member, International Advisory Board, **Emirates Journal for Engineering Research**, 2007-present.
18. Member, Editorial Board, **The Open Civil Engineering Journal**, 2007-present.
19. Member, Editorial Board, **Journal on Environmental Exposure and Health**, 2007-present.

20. Member, International Advisory Board, **Journal of Hydro-environment Research**, Elsevier, 2008-present.
21. Member, Editorial Board, **International Journal of Hydrology Science and Technology**, Elsevier, 2009-present.
22. Member, Editorial Board, **International Journal of Natural Resources and Marine Sciences**, AICTC, 2009-present.
23. Member, Editorial Board, **Central European Journal of Engineering**, 2010-present.
24. Member, Editorial Board, **Journal of Flood Engineering**, 2009-present.
25. Member, International Advisory Board, **ISH Journal of Hydraulic Engineering**, 2010-present.
26. Member, Advisory Editorial Board, **E-Journal on Water, Wastewater and Isotope Hydrology**, 2012-present.
27. Associate Editor, **Research Journal of Environmental Sciences**, 2017-present
27. Member, Editorial Board, **e-Journal of Land and Water**, 2005-2104.
28. Honorary Member of the Editorial Board, **Hydroelectric Energy**, from January 1986 to December 1992.
29. Member of the Editorial Board, **Water Resources Management**, from January 1986 to present.
30. Member of the Editorial Board, **Natural Hazards**, from January 1987 to December 1991.
31. Member of the Editorial Board, **Stochastic Environmental and Risk Analysis** (Formerly **Stochastic Hydrology and Hydraulics**), from January 1987 to 2014.
32. Member of the Editorial Board, **Agricultural Water Management**, from January 1988 to 1992.
33. Associate Editor, **Journal of Hydrologic Engineering**, ASCE, July 1995 - 2004.
34. Associate Editor, **Water Engineering and Research**, International Journal of KWRA, 2000-2008.
35. Member, Editorial Board, **Environmental Fluid Mechanics**, 2000-2010.

36. Advisory Editor, New Global Development: International Journal of Comparative Social Welfare, 2001-2104.

37. Member, Editoria Board, Frontiers in Engineering and Built Environment (FEBE), 2021-present

8.2 Appointment to Editorial Boards of Books: [6 Boards]

1. **Editor-in-Chief**, Water Science and Technology Library Book Series, **Springer** (Previously **Kluwer Academic Publishers**), Dordrecht, The Netherlands, from March 1991 to present.

2. **Editor-in-Chief**, Global Water Resources, **Springer**, Dordrecht, The Netherlands, 2016-present.

3. **Member**, National Board of Advisors, **American Biographical Institute**, Raleigh, North Carolina, from January 1982 to 2005.

4. **Member** of the Advisory Editorial Board, Water Science and Technology Library Book Series, **Kluwer Academic Publishers Group**, Dordrecht, The Netherlands, from January 1988 to March 1991.

5. **Member**, Editorial Board, Geophysical and Environmental Mechanics, **Springer**, Bonn, Germany, 2006-present.

6. **Member**, Editorial Board, Advances in Water Security, **Springer**, Bonn, Germany, 2014-present.

9. KEYNOTE, DISTINGUISHED, AND INVITED LECTURES: [128 Keynote and Distinguished Lectures, Lectures at 30 short courses, and 302 Invited Seminars]

9.1 Keynote and DistingusiehdLctures: [127 Keynote Speeches]

1. **Keynote Speaker**, Session on Hydrologic Modeling, International Symposium on Hydrology of Mountainous Watersheds held November 4-6, 1982, at the University of Roorkee, Roorkee, India.

2. **Felicitation Speaker**, Regional Workshop on Scientific Methods of Collection and Documentation of Hydrometeorologic Data for Surface Water Studies held May 28-29, 1983, at the Center for Water Resources Development and Management (CWRDM), Calicut, Kerala, India.

3. **Keynote Speaker**, Session on the User Requirements of Hydrometeorologic Data, Regional Workshop on Scientific Methods of Collection and Documentation of Hydrometeorologic Data for Surface Water Studies held May 28-29, 1983, at CWRDM, Calicut, Kerala, India.

4. **Keynote Speaker**, Session on Processing and Publication of Hydrometeorologic Data, Regional Workshop on Scientific Methods of Collection and Documentation of Hydrometeorologic Data for Surface Water Studies held May 28-29, 1983, at CWRDM, Calicut, Kerala, India.

5. **Keynote Speaker**, Session on Flood Control by Artificial Reservoirs, International Conference on Water Resources in Mountainous Areas, held August 27 - September 1, 1990, at Swiss Federal Institute of Technology, Lausanne, Switzerland.
6. **Keynote Speaker**, Session on Perspectives on Entropy and Energy Dissipation in Water Resources, International Conference on Entropy and Energy Dissipation in Water Resources, held June 26-28, 1991, in Maratea, Italy.
7. **Keynote Speaker**, International Conference on Environmental Management: Geo-Water and Engineering Aspects, University of Wollongong, Wollongong, Australia, February 1992.
8. **Keynote Speaker**, Biennial International Conference of IAHR-African Division on From Floods to Drought, Sun City, South Africa, August 4-7, 1996.
9. **Panelist**, NATO Advanced Research Workshop on Integrated Approach to Environmental Data Management Systems, September 16-22, 1996, Izmir, Turkey.
10. **Keynote Speaker**, International Symposium on Emerging Trends in Hydrology, September 25-27, 1997, University of Roorkee, Roorkee, India.
11. **Panelist**, Session on Future Directions in Hydrology, International Symposium on Emerging Trends in Hydrology, September 25-27, 1998, University of Roorkee, Roorkee, India.
12. **Keynote Speaker**, Session on Environmental Hazards, International Conference on Hydrology in a Changing Environment, July 5-11, 1998, University of Exeter, Exeter, England.
13. **Inaugural Speaker**, Workshop on Groundwater Resources Planning and Management, July 27, 1998, Bhopal, M.P., India.
14. **Keynote Speaker**, Workshop on Ground Water Resources Planning and Management, July 27, 1998, Bhopal, M.P., India.
15. **Keynote Speaker**, International Symposium on Environmental Engineering and Health Sciences: A Joint Effort for the XXI Century, October 26-30, 1998, Cholula, Mexico.
16. **Inaugural Speaker**, International Symposium on Water, Environment, Ecology, Socio-economic and Health Engineering, October 18-21, 1999, in Seoul, South Korea.
17. **Banquet Speaker**, International Symposium on Water, Environment, Ecology, Socio-economic and Health Engineering, October 18-21, 1999, Seoul, South Korea.
18. **Keynote Speaker**, Session on Stochastic Hydrology, The Eight International Symposium on Stochastic Hydraulics, July 25-28, 2000, Beijing, P. R. China.

19. **Citationist**, The R. K. Linsley Award, National Conference on Atmospheric, Surface and Subsurface Water and Interaction, American Institute of hydrology, Research Triangle Park, North Carolina, November, 2000.
20. **Keynote Speaker**, Session on Health and Technology, Workshop on Environmental Health and Technology, November 2000, Rio de Janeiro, Brazil.
21. **Keynote Speaker**, Uncertainty in Environmental Analysis, NATO-ARW on Integrated Technologies for Environmental Monitoring and Information Production, September 2001, Marmaris, Turkey.
22. **Keynote Speaker**, Hydrologic Modeling, International Conference on Civil Engineering, Indian Institute of Science, Bangalore, India, July, 2001.
23. **Citationist**, The R. K. Linsley Award, International Conference on Hydrologic Science: Challenges for the 21st Century, American Institute of Hydrology, St. Paul/Minneapolis, Minnesota, October, 2001.
24. **Keynote Speaker**, Entropy Theory in Environmental and Water Resources Modelling, International Conference on Advances in Civil Engineering, Indian Institute of Technology, Kharagpur, India, January, 2002.
25. **Keynote Speaker**, Toward Unification in Water Resources Research, Italian Hydraulic Conference, University of Basilicata, Potenza, Italy, October 2002.
26. **Keynote Speaker**, Integrated Watershed Management For Flood Mitigation, International Conference on Water-Related Hazards, Kolkata, India, December, 2002.
27. **Inaugural Speaker**, Water-related Disasters, International Conference on Water-Related Hazards, Kolkata, India, December, 2002.
28. **Keynote Speaker**, Integrated Watershed Management Education for 21st Century, International Conference on Watershed Management, Hyderabad, India, December, 2002.
29. **Inaugural Speaker**, System Analysis Techniques and Computer Applications in Water Resources Management, Short Term Course, IIT Roorkee, Roorkee, India, January, 2004.
30. **Keynote Speaker**, Flow Routing: Some Recent Developments, International Conference on River Flow 2004, IAHR, Naples, Italy, June, 2004.
31. **Keynote Speaker**, Applications of Fluid Mechanics in Hydrology and Environmental Engineering, 4th International Conference on Fluid Mechanics, held July 20-23, 2004, in Dalian, China.

32. **Keynote Speaker**, Stochastic Dependence Modeling in Environmental Hydrology, International Conference on Hydraulic Engineering: Research and Practice, held October 25-28, 2004, in Roorkee, India.
33. Hydrologic Modeling, **Mexican Academy of Engineering**, Mexico City, Mexico, March 2004.
34. Unification of Theories in Water Resources Research, **Mexican Academy of Sciences**, University of the Americas, Cholula, Mexico, March 2004.
35. **Keynote Speaker**, Multivariate Stochastic Hydrologic Analysis, International Workshop on Watershed Management in Dry Areas: Challenges and Opportunities, held January 4-6, 2005, in Djerba, Tunisia.
36. **Keynote Speaker**, Republic Day-26th of January, Hindu Vedic Center, Baton Rouge, January 23, 2005.
37. **Keynote Speaker**, Kinematic Wave theory of Bed Form Movement in Alluvial channels. International Conference on Research Methodology in Hydrology, held October 30-November 1, 2005, in Nanjing, China.
38. I-D-F Curves for Urban Drainage Design Using the Copula Method. **University of Houston**, Houston, Texas, April 29, 2005.
39. Perspectives in Water Resources: Chow Lecture, **ASCE-EWRI Congress**, May, 2005, Anchorage, Alaska.
40. Hydrologic Contributions of Professor A.R. Rao, Celebrations at Retirement of Professor A.R. Rao, **Purdue University**, May 2006.
41. The 2006 Flooding in New Orleans: Causes and Consequences. **Western Kentucky University**, Bowling Green, Kentucky, June 2006.
42. The 2006 Flooding in New Orleans. **University of Texas at Brownsville**, Texas, September 2006.
43. What Caused the 2006 Flooding in New Orleans? **State University of New York-University at Buffalo**, Buffalo, New York, November 2006.
44. **Invited Speaker**, Hydraulic Geometry, European Geophysical Union Annual Meeting, Vienna, Austria March, 2006.
45. **Keynote Speaker**, Copula Method for Deriving Joint Probability Distributions in Water Resources Engineering. International Conference on Hydrological Sciences for Water Resources Management in the Asian Developing World, held June 8-10, 2006, in Guangzhou, China.

46. **Keynote Speaker**, Derivation of Joint Probability Distributions in Water Resources Engineering Using the Copula method. Seminar on Waste Resources Technologies & Management through Innovation, held June 6, 2006, in Hong Kong, China.
47. **Keynote Speaker**, Multivariate Stochastic Analysis in Water and Environmental Engineering. 100th (Centennial) International Conference of American Society of Agricultural & Biological Engineers, Minneapolis, Minnesota, June 17-21, 2007, 2007.
48. **Keynote Speaker**, Groundwater: Issues, Challenges and Opportunities. International Conference on Groundwater Dynamics and Climate Change, held March 18-21, 2008, in Jaipur, Rajasthan, China.
49. **Keynote Speaker**, Trends in Rainfall, Temperature, Evaporation and Streamflow. Climate Change 2008, held April 28-30, 2008, Austin, Texas.
50. **Panelist**, Climate Change 2008, held April 28-30, 2008, Austin, Texas.
51. **Keynote Speaker**, Trends in Rainfall in Texas, Conference on Hydrological Modeling and Land Surface Parameterization in EMS Context, September 1, 2008, University of Oslo, Oslo, Norway.
52. **Invited (Keynote) Speaker**, Integrated Water Resources Management, HydroChange 08, held October 1-3, 2008, Tokyo, Japan.
53. **Keynote Speaker**, Mathematical Modeling of Watershed Hydrology, International Workshop on Advanced Typhoon and Flood Research, December 18-19, 2008, Taipei, Taiwan.
54. **Keynote Speaker**, Will We Have Enough Water in the Decades Ahead?, Indo-UK Workshop on Water Resources Management under Environmental and Climate Change, Indian Institute of Technology, Roorkee, India, September 12-13, 2009.
55. **Keynote Speaker**, Entropy Theory for Hydrologic Modeling, International Symposium on Hydrologic Modeling, Beijing Normal University, Beijing, China, October, 19-20, 2009.
56. **Keynote Speaker**, Hydrologic Modeling Using Entropy, International Workshop on Changes in Surface and Groundwater in the Tarim River Basin, Xi'an, China, November 22-26, 2009.
57. **Keynote Speaker**, Asha and its Activities, Banquet, Delta, Phi Omega Sorority, Inc., College Station, Texas, April 2010.
58. **Keynote Speaker**, Hydrologic Synthesis Using Entropy Theory, International Conference on Advances in Statistical Hydrology, Taormina, Italy, May 2010.

59. **Panel Speaker**, Technical Contributions of Professor V. Yevjevich, International Conference on Advances in Statistical Hydrology, Taormina, Italy, May 2010.
60. **Keynote Speaker**, Rainfall Patterns in Texas, International Conference on Precipitation-2010, University of Coimbra, Portugal, June, 2010.
61. **Keynote Speaker**, Hydrologic Modeling Using Entropy, International Seminar on Water Resources and the Environment, National Agricultural University La Molina, Lima, Peru, August, 2010.
62. **Keynote Speaker**, Water, Environment, Energy and Population Rise: Implications for Environmental Sustainability under Climate Change, International Conference on Sustainable Water Management-2010, Mehran University of Engineering & Technology, Jamshoro, Pakistan, September, 2010.
63. **Keynote Speaker**, Water, Environment, Energy, Population and Climate Change: Implications for Sustainability, 5th International Symposium on IWRM and 3rd International Symposium on Methodology in Hydrology, Hohai University, Nanjing, China, November 19-21, 2010.
64. **Keynote Speaker**, Large Watershed Modeling: Issues for Consideration, Inception Workshop on Mathematical Modeling on River Brahmaputra with Emphasis on Climate Change, Indian Institute of Technology, Guwahati, India, 1-31 to 2-1-2011.
65. **Keynote Speaker**, Large Scale Hydrologic Modeling: A Perspective, Inception Workshop on Mathematical Modeling on River Brahmaputra with Emphasis on Climate Change, Indian Institute of Technology, Guwahati, India, 1-31 to 2-1-2011.
66. **Keynote Speaker**, Drinking Water: Problems and Perspective, **National Conference on Groundwater for Drinking: Issues and Options**, Banaras Hindu University, Varanasi, India, February 11-13, 2011.
67. **Keynote Speaker**, A General Frequency Distribution for Annual Rainfall Maxima, **International Conference on Sustainable Water Resources Management and Climate Change Adaptation**, National Institute of Technology, Durgapur, India, February 17-19, 2011.
68. **Keynote Speaker**, A look at Droughts around the Globe in the 20th Century, **Symposium on Data-Driven Approaches to Droughts (DDAD2011)**, Purdue University, West Lafayette, India, June 21-22, 2011.
69. **Keynote Speaker**, Future challenges in the Assessment and management of water resources in the monsoon climatic countries like India due to climatic variation, **Fourth International Conference on Ground Water**, Yadava College of Arts and Science, Madurai, India, September 26-31, 2011.

70. **Keynote Speaker**, Urban Ecosystems: Problems and Perspectives, **International Conference on Environmentally Sustainable Urban Ecosystems (ENSURE)**, Indian Institute of Technology Guwahati, Assam, India, February 24-27, 2012.
71. **Keynote Speaker**, Urban Hydrology: Theory and Practice, **International Conference on Environmentally Sustainable Urban Ecosystems (ENSURE)**, Indian Institute of Technology Guwahati, Assam, India, February 24-27, 2012.
72. **Plenary Speaker**, Engineering Agricultural Systems for Food Security under Climate Change, **The 46th Annual Convention of ISAE and International Symposium on Grain Storage**, G.B. Pant University of Agriculture and Technology, February 26-29, 2012.
73. **Keynote Speaker**, Groundwater: Where We are and Where We Go from Here, **Fifth International Groundwater Conference (IGWC-2012)**, Maulana Azad College of Arts, Science and Commerce, Aurangabad, India, December 18-21, 2012.
74. **Keynote Speaker**, Water Security under Climate Change, **International Perspective on Water Resources and the Environment (IPWE-13)**, Izmir, Turkey, January 7-9, 2013.
75. **Plenary Speaker**, Water Quantity and Quality Management and Climate Change, **International Perspective on Water Resources and the Environment (IPWE-13)**, Izmir, Turkey, January 7-9, 2013.
76. **Keynote Speaker**, Reservoir Operation in the United States, **Workshop on Reservoir Operation and Water Resources**, held February 3-9, 2013, National Institute of Hydrology, Roorkee, India, 2013.
77. **Invited Speaker**, Entropy-based One Dimensional and two Dimensional Velocity Distributions and Their Application, **Gerald and Lillian Orlob International Symposium on Theoretical Hydrology**, University of California, Davis, California, August 5-6, 2013.
78. **Invited Speaker**, Engineering Water Security under Climate Variability and Change, **35th IAHR World Congress**, Chengdu, China, September 8-13, 2013.
79. **Keynote Speaker**, FlorisaMelone: A Personal Reflection, **FlorisaMelone Memorial Conference**, Assisi, Italy, October 10-11, 2013.
80. **Keynote Speaker**, Hydrologic Modeling Using Entropy, **33rd International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering (MaxEnt 2013)**, held December 15-20, 2013, Canberra, Australia.
81. **Invited Speaker** Ven Te Chow: An Outstanding Scholar, at Session on Chow's Personality, Symposium on Commemorating Chow at **World Environmental & Water Resources Congress** held June 1-5, 2014, at Portland, Oregon, USA.

82. **Keynote Speaker**, Entropy Theory for Frequency Analysis of Hydrometeorological Extremes, **International Conference on Hydrometeorological Extremes**, held November 11-15, 2014, at the University of the Americas, Puebla-Cholula, Mexico.
83. **Keynote Speaker**, Water, Environment, Energy and Food (WEEF) Nexus, 19th International Conference HYDRO 2014 on Hydraulics, Water, Resources, Coastal And Environmental Engineering, December 18-20, 2014, NIT Bhopal, India.
84. **Inaugural Speaker**, Water, Environment, Energy and Food (WEEF) Nexus, 19th International Conference HYDRO 2014 on Hydraulics, Water, Resources, Coastal And Environmental Engineering, December 18-20, 2014, Bhopal, India.
85. **Keynote Speaker**, Entropy Theory for Frequency Analysis of Hydrometeorological Extremes, International Conference on Decision Support Systems for Disasters and Their Mitigation, December 28-30, 2014, Durgapur, India.
86. **Inaugural Speaker**, International Conference on Decision Support Systems for Hydrometeorological Disasters and their Mitigation, December 28-30, 2014, Durgapur, India.
87. **Valedictory Speaker**, International Conference on Decision Support Systems for Hydrometeorological Disasters and their Mitigation, December 28-30, 2014, Durgapur, India.
88. **Inaugural Function Speaker**, Connecting the Dots: A Unifying Theory for Water Engineering, XV World Water Congress, International Water Resources Association, held May 25-28, 2105, Edinburgh, Scotland.
89. **Keynote Speaker**, Entropy Theory for Streamflow Simulation, EWRA 9th World Congress on Water Resources Management in a Changing World: Challenges and Opportunities, held June 10-13, 2015, Istanbul, Turkey.
90. **Keynote Speaker**, A Unifying Theory for Modeling in Hydraulic Engineering, 20th International Conference HYDRO 2015 on Hydraulics, Water, Resources, Coastal And Environmental Engineering, December 17-19, 2015, IIT Roorkee, India.
91. **Inaugural Speaker**, International Conference on Managing Ravines for Food & Livelihood Security, March 7-10, 2016, Gwalior, India.
92. **Keynote Speaker**, Challenges in the Assessment and Management of Water Resources, International Conference on Water, Environment, Energy and Society (IC-WEES-2016), March 15-18, 2016, AISECT University, Bhopal, India.
93. **Inaugural Speaker**, International Conference on Water, Environment, Energy and Society (IC-WEES-2016), March 15-18, 2016, AISECT University, Bhopal, India.
94. **Keynote Speaker**, Tsallis Entropy Theory for Hydraulic Modeling, IAHR/USUD

International Symposium on Hydraulic Structures, June 26-30, 2016, Portland, Oregon, USA.

95. **Keynote Speaker**, Kinematic Wave Theory for Overland Flow, 2016 CY Water Summer Meeting, August, Beijing, China.

96. **Invited Speaker**, Entropy Theory for Hydrologic Modeling. International Workshop on Land Surface Multi-spheres Processes of Tibetan Plateau, held August 8-10, 2016, Xiniug, Qinghai, China.

97. **Keynote Speaker**, Tsallis Entropy Theory for Hydrologic Modeling, International Statistical Hydrology Symposium held September 25-27, 2016, Quebec City, Quebec, Canada.

98. **Invited Speaker**, Water: How Secure Are We? Global Water Meet 2016, University of Agricultural Sciences, Dharwad, India, October 24-26, 2016.

99. **Keynote Speaker**, Re-engineering Engineering Education, International Conference on Engineering Education and Research (ICEER), held November 21-24, 2016, Western Sydney University, Parramatta Campus, Sydney, Australia.

100. **Keynote/Plenary Speaker**, Storage, Convection, Advection, Diffusion, and Dispersion: How are They Related? International Conference on Applications of Fluid Mechanics, Indian Institute of Technology (ISM), Dhanwad, India, December 19-21, 2016.

101. **Distinguished Lecture**, Connecting Dots: A Unifying Theory for Modeling in Water Engineering, Texas A&M University, College Station, March 21, 2017.

102. **Keynote Speaker**, Theory of Frequency Distributions in Water Engineering. International Conference on Sustainable Technologies for Intelligent Water Management, Indian Institute of Technology Roorkee, India, February 16-19, 2018.

103. **Keynote Speaker**, Copula-Entropy Theory for Multivariate Stochastic Analysis in Environmental and Water Resources Engineering, International Conference on Water Resources and Environment Research, Nanjing, China, June 14-18, 2019.

104. **Keynote Speaker**, Hydrology: Problems, Challenges and Opportunities, Roorkee Water Conclave 2020, Indian Institute of Technology Roorkee, India, February 26-29, 2020.

105. **Keynote Lecture**, Bharat Singh Endowment Lecture, Indian Institute of Technology Roorkee, India, February 24, 2020.

106. **Keynote Lecture**, Entropy Theory and its Applications in Hydrologic Engineering, Webinar, G.B. Pant University of Agriculture & Technology, Pantnagar, India, May 2020.

107. **Keynote Lecture**, Water Resources Management and Challenges in India, Webinar, Central University of Haryana, Mahendragarh, India, June 2020.

108. **Keynote Lecture**,Hydrology: Problems, Challenges, and Opportunities,Webinar, D. Y. Patil College of Engineering, Akurdi, Pune, India, June, 2020.
109. **Keynote Lecture**,Challenges in Flood Management,Webinar, Indian Institute of Technology Roorkee, India, September 22, 2020.
110. **Ven Te Chow Distinguished Seminar, Keynote Lecture**,Kinematic Wave Theory of Overland Flow,, University of Illinois, Urbana-Champaign, Illinois, October 9, 2020.
111. **Keynote Lecture**,World Water Resources,University of the Americas, Puel-aCholoual, Mexico, October, 2020.
112. **Royce J. Tipton Award Lecture**, Irrigated Agriculture for Food Security, American Society of Civil Engineers, Environmmetal and Water Resources Research Institute, October 2020.
- 113.**Keynote Lecture**,Hydrologic Challenges in Flood Management,UDLAP-University of the Americas, Puebla-Cholula, Mexico,Webinar,November 2020.
114. **Keynote Lecture**,Hydrologic Challenges,UDLAP-University of the Americas, Puebla-Cholula, Mexico,Webinar,November 2020.
115. **Keynote Lecture**,Flood Management: Issues and Challenges, VebleoWebinar at International Conference on Materials Science, Engineering and Technology, November 2020.
116. **Inaugural Address**, International Workshop on Applications of Remote Sensing and GIS in Water Resources, Bhopal, India, December 2020.
117. **Valedictory Address**, International Workshop on Applications of Remote Sensing and GIS in Water Resources, Bhopal, India, December 2020.
- 118.**Valedictory Address**, STTP Online Workshop on Research methods and Technical Writing, Dr. S. & S.S. Gandhi Engineering College, Surat, India, December 2020
119. **Keynote Lecture**,Paradigm Shift in HydrologiocModleing, International Conference on Advances in Civil and Architectural Engineering, Dayanand Sagar College of Engineering, Bangalore, India, December 2020.
120. **Keynote Lecture**,Sediment Yield Modeling,Modares University, Iran, Webinar, January 2021.
121. **Inaugural Address** at International Conference (Online) on Recent Advances in Civil Engineering for Sustainable Development (RACESD- 2021), February 13-14, 2021, Bhopal, India.

122. **Keynote Lecture**, Unification in Water Engineering, at International Conference (Online) on Recent Advances in Civil Engineering for Sustainable Development (RACESD- 2021), February 13-14, 2021, Bhopal, India.

123. **Keynote Lecture**, How Water Secure are We under Climate Change? at International e-Conference on Water Source Sustainability, June 18-20, 2021, Indian Institute of Technology Roorkee, India.

124. **Keynote Lecture**, Re-engineering Engineering Education, at Faculty Development Program: Water Resources System Planning, Management and development for the Water Scarce Area, at Birla Institute of Technology and Science, Sindri, Jharkhand, India, June 26-30, 2021.

125. **Keynote Lecture**, Irrigated Agriculture for Food Security, International Agriculture Innovation Conference, Singapore, July, 2021.

126. **Keynote Lecture**, Urban Hydrology: Problems, Challenges and Opportunities, at Workshop on Urban Hydrology, held at G.B. Pant University of Agriculture and Technology, Pantnagar, India, July-August, 2021.

127. **Invited Lecture**, Bioengineering for River Bank Erosion Control. Brahmaputra Board, Guwahati, Assam, India, August 13, 2021.

128. **Dr. K.G. Tejwani Memorial Lecture**, Indian Association of Soil and Water Conservationists, Dehradun, India, September 23, 2021.

9.2 Guest Lectureship: [Lecturer at 30 courses]

1. Guest Lecturer at the **First International Advanced Course on Water Resources Management: Water for Health, Water for Food, and Water for Energy**, held February 27 to July 27, 1984, at the Center for International Studies, Villa La Colombella, Perugia, **Italy**; delivered six lectures on (a) nonlinear basin response modeling, and (b) ungaged basin response modeling.

2. Guest Lecturer at the **Second International Advanced Course on Water Resources Management: Water for Health, Water for Food, and Water for Energy**, held January 15 to June 15, 1985, at the Center for International Studies, Italian University for Foreigners, Villa La Colombella, Perugia, **Italy**; delivered three lectures on (a) preliminary considerations for hydrologic modeling, (b) derivation of unit hydrographs, and (c) volumetric rainfall-runoff relationship.

3. Guest Lecturer at the **Short-Term Specialized Course on Runoff Computation for Ungaged and Data Deficient Basins**, held October 11-24, 1987, at Center for Water Resources Studies, Patna University, Patna, **India**; delivered 18 lectures on Hydrology of Runoff from Ungaged Basins, and prepared notes over 600 pages.

4. Guest Lecturer at the **Short Course on Flood Frequency and Time Series Analysis**, held June 28 to July 1, 1988, at the UniversitiKebangsaan Malaysia, UKM Bangi, Selangor, **Malaysia**; delivered lectures for 8 hours, and prepared notes over 100 pages.
5. Guest Lecturer at the **Institute on Runoff Processes and Morphological Evolution**, held May 16-20, 1990, at the University of Basilicata, Potenza, **Italy**; delivered 6 lectures for 12 hours and prepared notes over 100 pages.
6. Guest Lecturer at the **Institute on Hydrologic and Geologic Risks** held May-June 1992 at the University of Geneva, Geneva, **Switzerland**, in cooperation with the United Nations University, Tokyo, Japan; delivered 14 one-hour lectures on hydrologic risk.
7. Guest Lecturer at the **Institute on Entropy-Based Hydrologic Modeling**, held May 29 - June 5, 1994, at the University of Basilicata at Potenza, **Italy**; delivered 8 two-hour lectures.
8. Guest Lecturer at the **International Course on Water Resources Management and Planning** held April 18 - May 30, 1994, at Lund University, Lund, **Sweden**; delivered 4 two-hour lectures.
9. Guest Lecturer at the **Short Course on Hydrologic Models**, held July 18-21, 1994, at the University of Witwatersrand, Johannesburg, **South Africa**; delivered 7 two-hour lectures and prepared notes over 100 pages.
10. Guest Lecturer at the **Graduate Course on Urban Drainage and Hydrologic Models**, held July 29-August 3, 1996, at University of the Witwatersrand, Johannesburg, **South Africa**; delivered 7 two-hour lectures and prepared notes over 100 pages.
11. Guest Lecturer at the **Graduate Course on Operation and Management of Irrigation Systems**, held July 16-21, 1997, at Water Resources Development Training Centre, University of Roorkee, Roorkee, **India**; delivered 6 two-hour lectures and prepared notes over 150 pages.
12. Guest Lecturer at the **Graduate Course on Principles of Irrigation**, held July 22-August 15, 1997, at Water Resources Development Training Centre, University of Roorkee, Roorkee, **India**; delivered 15 two-hour lectures and prepared notes over 200 pages.
13. Guest Lecturer at the **Graduate Course on Planning and Design of Irrigation Systems**, held July 16-August 15, 1997, at Water Resources Development Training Centre, University of Roorkee, Rookee, **India**; delivered 8 two-hour lectures and prepared notes over 150 pages.
14. Guest Lecturer at the **Graduate Course on Modelling in Hydrology**, held May 11-29, 1998, at the Institute for Hydrodynamics, Hydraulics and Hydrology, University of Technology, Graz, **Austria**.
15. Guest Lecturer at the **Graduate Course on Computer Models in Hydrology**, held June 8-18, 1998, at the Institute of Hydraulics, Hydrology and Water Resources, University of Technology, Vienna, **Austria**.

16. Guest Lecturer at the **Graduate Course on Hydrologic Modelling**, held July 13-23, 1998, at the Institute of Hydraulics, Hydrology and Water Resources, University of Technology, Vienna, **Austria**.
17. Guest Lecturer at **Workshop on Environmental Technologies and Public Health**, held November 20-22, 2000, at Escola Nacional de Saude Publica-Fiocruz, Rio de Janeiro, Brazil..
18. Guest lecturer at **Advanced Training Course on New Technologies for Flood Disaster Mitigation**, Flood Control and Drought Relief Engineering Research Center, Ministry of Water Resources, September 2001, Beijing, China.
19. Guest Lecturer at **Short Course on Risk and Reliability Analysis in Environmental and Water Resources**, December 2001, Nanayang Technological University, Nanayang, Singapore.
20. Guest Lecturer at **Short Course on Land Surface Hydrological Processes in Relation to Water resources Management and Extreme Weather events (Droughts and Floods)**, December 2002, MCR HRD Institute-Mahadevan International Center, Hyderabad, India, December, 2002.
21. Guest Lecturer at **Short Term Course on System Analysis Techniques and Computer Applications in Water Resources Management**, January 2004, Indian Institute of Technology Roorkee, Roorkee, India.
22. Guest Lecturer at **Short Term Course on Hydrologic Modeling Using Kinematic Wave Theory**, August 2010, National Agricultural University la Molina, Lima., Peru.
23. Guest Lecturer for **Course on Environmental Modeling**, January 2012, Technical University of Munich, Germany.
24. Guest Lecturer for **Course on Subsurface Flow Processes**, January 2012, Technical University of Munich, Germany.
25. Guest Lecturer at Summer **Course on Hydrologic Modeling and Climate Change**, July 1-11, 2014, Indian Institute of Technology Kharagpur, India.
26. Guest Lecturer at **STTP (Science and Technology Transfer Program)**, December 8-12, 2014, S.V. National Institute of Technology, Surat, Gujarat, India.
27. Guest Lecturer for Course on **Entropy Theory in Water Science and Sedimentology**, April 9-15, 2016, Departamento De GeologiaEscuela De Posgrado, Universidad Nacional Del Sur, Bahia Blanca, Argentina.
28. Guest Lecturer at GIAN **Course on Hydrologic Modeling and Climate Change**, December 5-16, 2016, G.B. Pant University of Agriculture & Technology, Pantnagar, India.

29. Guest Lecturer for Course on **Entropy Applications in Water Engineering**, January 21-31, 2017, Department of Statistics and Information Sciences, Federal Rural University of Pernambuco, Brazil.

30. Guest Lecturer at GIAN **Course on Integrated Biochemical and Hydrologic Modeling**, April 9-14, 2018, National Institute of Technology, Jamshedpur, India

9.3 Invited Lectures or Seminars: [302 Seminars]

The following invited seminars/lectures were given:

1. A Nonlinear Kinematic Wave Model, Colorado State University, Fort Collins, **Colorado**, May 1974.
2. Hydrodynamic Modeling of Watershed Runoff, New Mexico Institute of Mining and Technology, Socorro, **New Mexico**, May 1974.
3. A Glimpse of American Education, S.M.D.D.I. College, Naglavishnu, Agra, U.P., **India**, December 1974.
4. A Comparison of American and Indian Education Systems, S.R.A.K.H.S. School, Kagarol, Agra, U.P., **India**, January 1975.
5. Some Mathematical Problems in Water Resources, New Mexico Institute of Mining and Technology, Socorro, **New Mexico**, May 1976.
6. A Survey of Runoff Technology, The George Washington University, **Washington, DC**, October 1976.
7. Dynamics of Surface Runoff, The University of Iowa, Iowa City, **Iowa**, May 1977.
8. A Survey of Physically Based Hydrologic Models, Mississippi State University, Mississippi State, **Mississippi**, June 1978.
9. On Hydrologic Transport Processes, Cleveland State University, Cleveland, **Ohio**, June 1978.
10. Free Boundary Problems in Water Resource Engineering, U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, **Mississippi**, October 1978.
11. Transport of Pollutants in Natural Watersheds, Mississippi State University, Mississippi State, **Mississippi**, November 1979.
12. The U.S.A. to an Alien, Tantpur I. College, Tantpur, Agra, U.P., **India**, December 1979.

13. A Hydrodynamic Investigation of Watershed Runoff, U.P. Irrigation Research Institute, Roorkee, U.P., **India**, December 1979.
14. Perspective on American Education, S.M.D.D.I. College, Naglavishnu, Agra, U.P., **India**, December 1979.
15. Systems Approach to Environmental and Water Resources Problems, National Cheng-Kung University, Tainan, Taiwan, **Republic of China**, May 1980.
16. Mathematical Modeling of Watershed Response, U.S. Department of Agriculture, Sedimentation Laboratory, Oxford, **Mississippi**, June 1980.
17. Mathematical Models in Water Resources, Indian Institute of Technology, Kharagpur, **India**, November 1980.
18. Mathematical Models for Transport of Mine Effluents, Central Mine Planning and Design Institute Limited, Ranchi, Bihar, **India**, November 1980.
19. Mathematical Models for Agricultural Water Utilization, Water Technology Center, Indian Agricultural Research Institute, New Delhi, **India**, December 1980.
20. Modeling in Hydrology, Bihar College of Engineering, Patna, Bihar, **India**, December 1980.
21. Application of Mathematics in Water Resources, Pant College of Technology, G. B. Pant University of Agriculture and Technology, Pantnagar, U.P., **India**, December 1980.
22. Mathematical Study of Water and Sediment Movement in Upland Areas, Louisiana State University, Baton Rouge, **Louisiana**, February, 1981.
23. An Overview of Models for Transport of Water and Sediment, Universita Di Firenze, Firenze, **Italy**, May 1982.
24. Physically Based Models of Rainfall-Runoff Relation, Universita Di Firenze, Firenze, **Italy**, May 1982.
25. Conceptual and Physically Based Models of Flood Routing, Universita Di Firenze, Firenze, **Italy**, May 1982.
26. Application of Mathematical Hydrologic Models to Ungaged Watersheds and Other Environments, Universita Di Firenze, Firenze, **Italy**, May 1982.
27. Physically Based Models of Erosion and Sediment, Universita Di Firenze, Firenze, **Italy**, May 1982.

28. Spatially Lumped and Empirical Models of Erosion and Sediment, Universita Di Firenze, Firenze, **Italy**, May 1982.
29. Systems Approach to Hydrologic Modeling, University of Wollongong, Wollongong, New South Wales, **Australia**, June 1982.
30. Physically Based Approaches to Hydrologic Modeling, University of Wollongong, Wollongong, New South Wales, **Australia**, June 1982.
31. Systems Approach to Basin Response, University of Wollongong, Wollongong, New South Wales, **Australia**, July 1982.
32. Physically Based Approach to Basin Response, University of Wollongong, Wollongong, New South Wales, **Australia**, July 1982.
33. Physical Approach to Hydrologic Modeling, University of Wollongong, Wollongong, New South Wales, **Australia**, July 1982.
34. Systems Approach to Hydrologic Modeling, University of Wollongong, Wollongong, New South Wales, **Australia**, July 1982.
35. Free Boundary Problems in Flow of Water over Porous Media, Department of Mathematics, Louisiana State University, Baton Rouge, **Louisiana**, September 1982.
36. Scientific Methods of Collection and Documentation of Hydrometeorologic Data for Surface Water Studies, Center for Water Resources Development and Management, Calicut, Kerala, **India**, May 28, 1983.
37. Data for Hydrologic Studies, Center for Water Resources Development and Management, Calicut, Kerala, **India**, May 28, 1983.
38. Processing and Dissemination of Hydrometeorologic Data for Water Resources Studies in the United States, Center for Water Resources Development and Management, Calicut, Kerala, **India**, May 29, 1983.
39. Application of Hydrologic Modeling to Water Resources Planning and Management, Bihar College of Engineering, Patna, Bihar, **India**, December 20, 1983.
40. Streamflow Modeling for Ungaged Basins, U.S. Army Engineer Waterways Experiment Station, Vicksburg, **Mississippi**, October, 1983.
41. Hydrologic Simulation of the Amite River Basin, Louisiana, Water Resources Interest Forum, Louisiana State University, Baton Rouge, **Louisiana**, February 21, 1984.

42. Preliminary Considerations for Conceptual Hydrologic Modeling, UniversitaItaliana Per Stranieri, Villa La Colombella, Perugia, **Italy**, May 1984.
43. Elements of Conceptual Hydrologic Modeling, UniversitaItaliana Per Stranieri, Villa La Colombella, Perugia, **Italy**, May 1984.
44. Conceptual Hydrologic Modeling, UniversitaItaliana Per Stranieri, Villa La Colombella, Perugia, **Italy**, May 1984.
45. Conceptual Models for Ungaged Basins, UniversitaItaliana Per Stranieri, Villa La Colombella, Perugia, **Italy**, May 1984.
46. Nonlinear Conceptual Models, UniversitaItaliana Per Stranieri, Villa La Colombella, Perugia, **Italy**, May 1984.
47. A Hydrologic Model for Data-Scarce Basins, Indian Institute of Technology, New Delhi, **India**, September 1984.
48. Evolution of Breach during Dam Failures, Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station, Vicksburg, **Mississippi**, October 5, 1984.
49. An Integrated and Interdisciplinary Approach to Hydrologic Modeling, Center for Water Resources Development and Management, Kerala, **India**, December 1984.
50. A Survey of Hydrologic Research at Louisiana State University, National Institute of Hydrology, Roorkee, **India**, May 1985.
51. Applications of Information Theory in Water Resources, Institution of Engineers, University of Roorkee, Roorkee, **India**, May 1985.
52. Preliminary Considerations for Hydrologic Modeling, UniversitaItaliana Per Stranieri, Villa La Columbella, Perugia, **Italy**, June 1985.
53. Derivation of Instantaneous and Finite Period Unit Hydrographs, UniversitaItaliana Per Stranieri, Villa La Columbella, Perugia, **Italy**, June 1985.
54. Volumetric Rainfall-Runoff Relationship, UniversitaItaliana Per Stranieri, Villa La Columbella, Perugia, **Italy**, June 1985.
55. Application of Geomorphology to Hydrologic Modeling for Ungaged Basins, The University of New South Wales, Sydney, **Australia**, August 1985.
56. Hydrologic Modeling Using Geomorphologic Parameters, National Institute of Hydrology, Roorkee, **India**, July 1986.

57. Applications of Entropy in Hydrology, National Institute of Hydrology, Roorkee, **India**, July 1986.
58. Dam Breach Modeling, Engineering and Research Center, U.S. Bureau of Reclamation, Denver, **Colorado**, September, 1987.
59. Current Research Trends in Hydrology, Center of Water Resources Studies, Bihar College of Engineering, Patna, **India**, December 1987.
60. Hydrologic Modeling Using Entropy, Guindy College of Engineering, Anna University, Madras, **India**, October, 1987.
61. Hydrologic Modeling using Geomorphology, Indian Institute of Science, Bangalore, **India**, November, 1987.
62. A Multivariate Stochastic Analysis of Streamflow Using Entropy, Louisiana Water Resources Research Institute, Louisiana State University, Baton Rouge, **Louisiana**, November, 1987.
63. A Hydrodynamic Approach to Water Resources Modeling, Vrije Universiteit Brussel, Brussels, **Belgium**, March, 1988.
64. Equations of Hydraulics, Vrije Universiteit Brussel, Brussels, **Belgium**, March 1988.
65. Geometric Representation, Vrije Universiteit Brussel, Brussels, **Belgium**, March 1988.
66. Linearization of Hydraulic Equations, Vrije Universiteit Brussel, Brussels, **Belgium**, March 1988.
67. Wave Propagation, Vrije Universiteit Brussel, Brussels, **Belgium**, March 1988.
68. Kinematic Wave Theory, Vrije Universiteit Brussel, Brussels, **Belgium**, March 1988.
69. Kinematic Wave Modeling of Watershed Runoff, Vrije Universiteit Brussel, Brussels, **Belgium**, March 1988.
70. Kinematic Wave Modeling of Soil Erosion, Vrije Universiteit Brussel, Brussels, **Belgium**, March 1988.
71. Kinematic Wave Modeling of Flow over Porous Beds, Vrije Universiteit Brussel, Brussels, **Belgium**, March 1988.
72. Application of Entropy in Hydrology, Wageningen Agricultural University, Wageningen, **The Netherlands**, April 1988.

73. Overland Flow Modeling, Wagennigen Agricultural University, Wageningen, **The Netherlands**, April 1988.
74. Subsurface Flow Modeling, Wagennigen Agricultural University, Wageningen, **The Netherlands**, April 1988.
75. Some Perspectives on Entropy, KatholiekeUniversiteit Leuven, Leuven, **Belgium**, May 1988.
76. Modern Concepts in Hydrology, Ecole Polytechnique Federale de Lausanne, Institut D'Hydraulique et D'Energie, Lausanne, **Switzerland**, May 1988.
77. Entropy: Application and Potential in Water Resources, Asian Institute of Technology, Bangkok, **Thailand**, July 1988.
78. Some Aspects of Probabilistic Modeling Using Entropy, Center for Water Resources Development and Management, Calicut, Kerala, **India**, July 1988.
79. Illustrative Examples for Application of Entropy in Hydrology, Land and Water Management, Aurangabad, Maharashtra, **India**, July 1988.
80. Entropy in Engineering, Annual Day Celebrations, The Institution of Engineers, Panjim, Goa, **India**, July 1988.
81. Application of Entropy to Network Design, National Institute of Oceanography, Panjim, Goa, **India**, July 1988.
82. Hydrologic Modeling Using Entropy, UniversitaDegliStudi Della Basilicata, Potenza, **Italy**, December 1988.
83. Infiltration Modeling Using Systems Approach, National Institute of Hydrology, Roorkee, **India**, June 1989.
84. A Geomorphological Approach to Hydrologic Modeling, National Institute of Hydrology, Roorkee, **India**, June 1989.
85. Application of Entropy Theory in Hydrology and Water Resources, Central Designs Organization, Department of Water Resources, Gandhi Nagar, Gujarat, **India**, July 1989.
86. Role of Information Theory in Hydrologic Modeling, Bangladesh Centre for Advanced Studies, Dhaka, **Bangladesh**, July 1989.
87. Probable Maximum Precipitation (PMP) and Probable Maximum Flood (PMF), Swiss Federal Institute of Technology, Lausanne, **Switzerland**, June 1990.

88. Probable Maximum Flood (PMF) for Design of Hydraulic Works, Swiss Federal Institute of Technology, Lausanne, **Switzerland**, June 1990.
89. Entropy in Hydrology and Water Resources, Department of Civil Engineering, University of Roorkee, Roorkee, **India**, July, 1991.
90. Perspectives on Entropy Applications in Water Resources, Post-Graduate College, Ambhah, Morena, **India**, August 1991.
91. Accuracy of Flood Discharge Determinations, Swiss Federal Institute of Technology, Lausanne, **Switzerland**, June 1992.
92. Hydrologic Modeling of Ungaged Watersheds, Swiss Federal Institute of Technology, Lausanne, **Switzerland**, June 1992.
93. Concept of PMP and PMF and Application of the Methods of their Computation in the United States, Federal Water Management Board, Berne, **Switzerland**, August 1992.
94. Accuracy of Hydrodynamic Models of Free Surface Flows, University of Roorkee, Water Resources Development and Training Center, Roorkee, **India**, August, 1992.
95. Errors of Hydrodynamic Approximations for Modeling Free Surface Flows, Dokuz Eylul University, Izmir, **Turkey**, October, 1992.
96. Quantification of Errors in Kinematic-Wave and Diffusion-Wave Approximations for Modeling Surface Flows, Swiss Federal Institute of Technology, Zurich, **Switzerland**, July, 1992.
97. Water Quality Monitoring Networking in the United States, University of Central Queensland, Rockhampton, **Australia**, February, 1993.
98. Water Resources Program at Louisiana State University, U.S. Army Engineer Waterways Experiment Station, Vicksburg, **Mississippi**, March, 1993.
99. Water Quality Modeling, University of Basilicata at Potenza, **Italy**, May 1993.
100. Local Scour, University of Basilicata at Potenza, **Italy**, May 1993.
101. Hydrodynamic Modeling of Solute Transport Processes, University of Basilicata at Potenza, **Italy**, May 1993.
102. Entropy-Based Scour Modeling, University of Basilicata at Potenza, **Italy**, May 1993.
103. Groundwater Modeling and Research, Kuwait Institute of Scientific Research (KISR), **Kuwait**, December 1993.

104. A Perspective on Hydrologic Science, University of Basilicata at Potenza, **Italy**, May 1994.
105. Entropy Theory, University of Basilicata at Potenza, **Italy**, May 1994.
106. Entropy-Based Hydrologic Modeling, University of Basilicata at Potenza, **Italy**, June 1994.
107. Design of Hydrologic Networks, University of Basilicata at Potenza, **Italy**, June 1994.
108. Entropy-Based Hydrologic Network Design, University of Basilicata at Potenza, **Italy**, June 1994.
109. Univariate Streamflow Forecasting Using Entropy, University of Basilicata at Potenza, **Italy**, June 1994.
110. Bivariate Streamflow Forecasting Using Entropy, University of Basilicata at Potenza, **Italy**, June 1994.
111. Environmental and Ecologically Sound Water Resources Management, Lund University, Lund, **Sweden**, May, 1994.
112. Watershed Management, Lund University, Lund, **Sweden**, May, 1994.
113. Hydrologic Modeling, Lund University, Lund, **Sweden**, May, 1994.
114. Erosion Modeling, Lund University, Lund, **Sweden**, May, 1994.
115. Pollutant Modeling, Lund University, Lund, **Sweden**, May, 1994.
116. Water Resources: Where Do We Go from Here?, Lund University, Lund, **Sweden**, May, 1994.
117. Kinematic-Wave Models in Hydrology, The University of Witswatersrand, Johannesburg, **South Africa**, July 1994.
118. HEC 1 Model: Theory, The University of Witswatersrand, Johannesburg, **South Africa**, July 1994.
119. HEC 1 Model: Application, The University of Witswatersrand, Johannesburg, **South Africa**, July 1994.
120. HEC 2: Theory, The University of Witswatersrand, Johannesburg, **South Africa**, July 1994.
121. HEC 2: Application, The University of Witswatersrand, Johannesburg, **South Africa**, July 1994.

122. HEC 3, The University of Witswatersrand, Johannesburg, **South Africa**, July 1994.
123. Dam Breach Modeling, The University of Witswatersrand, Johannesburg, **South Africa**, July 1994.
124. Analytical Dam Breach Models, The University of Witswatersrand, Johannesburg, **South Africa**, July 1994.
125. Kinematic-Wave Modeling - General, Department of Water Resources Engineering, Lund University, Lund, **Sweden**, August, 1994.
126. Kinematic Wave Theory, Department of Water Resources Engineering, Lund University, Lund **Sweden**, August, 1994.
127. Overland Flow Modeling: Analytical Solutions, Department of Water Resources Engineering, Lund University, Lund, **Sweden**, August, 1994.
128. Overland Flow Modeling: Numerical Solutions, Department of Water Resources Engineering, Lund University, Lund, **Sweden**, August, 1994.
129. Is Nature Kinematic? A Discussion of Hydrologic Problems, Technical University of Denmark, Lyngby, **Denmark**, August, 1994.
130. Flood Routing, Department of Water Resources Engineering, Lund University, Lund, **Sweden**, September, 1994.
131. Movement of Soil Moisture, Department of Water Resources Engineering, Lund University, Lund, **Sweden**, September, 1994.
132. Physically-Based Modeling, Department of Water Resources Engineering, Lund University, Lund, **Sweden**, September, 1994.
133. Kinematic Hydrology, Institute of Earth Sciences, Uppsala University, Uppsala, **Sweden**, September, 1994.
134. Basic Concepts and Principles of Physically Based Modeling in Hydrology, Department of Water Resources Engineering, Lulea University of Technology, Lulea, **Sweden**, September, 1994.
135. Engineering, Lulea University of Technology, Lulea, **Sweden**, September 1994.
136. Rainfall-Runoff Modeling Using Kinematic Wave Theory, Department of Water Resources Engineering, Lulea University of Technology, Lulea, **Sweden**, September 1994.

137. Flow Routing Using Kinematic Wave Theory, Department of Water Resources Engineering, Lulea University of Technology, Lulea, **Sweden**, September, 1994.
138. Physically Based Hydrologic Modeling, Swiss-Federal Institute of Technology, Zurich, **Switzerland**, November 1994.
139. Kinematic Wave Theory and its Application in Geophysics, Swiss-Federal Institute of Technology, Zurich, **Switzerland**, November 1994.
140. Issues and Problems in Global Hydrology, National Institute of Hydrology, Roorkee, **India**, November, 1994.
141. Research and Current Trends in Hydrology, National Institute of Hydrology, Roorkee, **India**, March, 1995.
142. Parameter Estimation and Error Analysis, Swiss-Federal Institute of Technology, Lausanne, **Switzerland**, July, 1995.
143. Rainfall-Runoff Modeling, Swiss-Federal Institute of Technology, Zurich, **Switzerland**, 1995.
144. Flood Wave Propagation, Swiss-Federal Institute of Technology, Zurich, **Switzerland**, 1995.
145. The Use of Entropy in Hydrology and Water Resources, Central Queensland University, Rockhampton, Queensland, **Australia**, March 1996.
146. Continuum Approach to Hydrologic modeling, Climate Impact Research Institute, Potsdam, **Germany**, June, 1996.
147. Coupling Dynamics of Moving Storms with Dynamics of Watershed Runoff, Centre for Water Resources Development and Management, Calicut, Kerala, **India**, June, 1996.
148. Modeling Surface Runoff with Moving Storms, M.P. Land and Water Management Institute, Bhopal, M.P., **India**, June, 1996.
149. Effect of Storm Movement on Surface Runoff, Centre for Water Resources Studies, Patna University, Patna, Bihar, **India**, June, 1996.
150. Kinematic Wave Modeling of Surface Runoff under Moving Storms: Effect of Direction, Institute of Geography, Swiss-Federal Institute of Technology, Zurich, **Switzerland**, May 1997.

151. Kinematic Wave Modeling of Surface Runoff under Moving Storms: Effect of Direction and Duration, Institute of Geography, Swiss-Federal Institute of Technology, Zurich, **Switzerland**, May 1997.
152. Kinematic Wave Modeling of Surface Runoff under Moving Storms: Infiltration Included, Institute of Geography, Swiss-Federal Institute of Technology, Zurich, **Switzerland**, May 1997.
153. The Role of Kinematics in Environmental and Water Resources, Institute of Geography, Swiss-Federal Institute of Technology, Zurich, **Switzerland**, May 1997.
154. Hydrological Modeling under Moving Storms: Impervious Surfaces, Department of Environmental Engineering and Physics, University of Basilicata at Potenza, **Italy**, May 1997.
155. Hydrological Modeling under Moving storms: Pervious Surfaces, Department of Environmental Engineering and Physics, University of Basilicata at Potenza, **Italy**, May 1997.
156. Modeling of River Water Quality: Basic Concepts, Department of Environmental Engineering and Physics, University of Basilicata at Potenza, **Italy**, May 1997.
157. Modeling of River Water Quality: Moving Storms, Department of Environmental Engineering and Physics, University of Basilicata at Potenza, **Italy**, May 1997.
158. Entropy and its Application in Water Resources, Water Resources Development Training Centre, University of Roorkee, Roorkee, **India**, August 1997.
159. Application of Hydrodynamical Wave Theory in Environmental and Water Sciences, Department of Civil Engineering, University of Roorkee, Roorkee, **India**, August 1997.
160. What is Hydrology?, National University of Seoul, Seoul, **South Korea**, December 1997.
161. Hydrology: Perspectives and Issues, Korean Society of Civil Engineers, Pusan Branch, Pusan, **South Korea**, December 1997.
162. Hydrology: Problems and Directions, Department of Gyeongbuk National University, Taegu, **South Korea**, December, 1997.
163. Engineering Hydrology, Korean Society of Civil Engineers, Taegu Branch, Taegu, **South Korea**, December 1997.
164. Hydrology: Perspectives, Department of Civil Engineering, Korea University, Seoul, **South Korea**, January, 1998.

165. Hydrology: Future Trends, Department of Civil Engineering, Hanyang University, Seoul, **South Korea**, January 1998.
166. Hydrology: Rural Development, Rural Development Corporation, Seoul, **South Korea**, January 1998.
167. A Systems Theory for Analysis and Synthesis of Social Systems, School of Social Work, Louisiana State University, Baton Rouge, **Louisiana**, March 1998.
168. Advances in Water Resources, University of Coimbra, Coimbra, **Portugal**, June 1998.
169. Perspectives in Water Resources Research, Technical University of Prague, Praha, **Czech Republic**, June 1998.
170. Entropy and Regional Frequency Analysis, Technical University of Bratislava, Bratislava, **Slovakia**, June 1998.
171. Kinematic Wave Modeling for Irrigation and River Engineering, Water Resources Development Training Center, University of Roorkee, Roorkee, U.P., **India**, July 1998.
172. Use of Entropy Concept in Water Resources Engineering, Water Resources Development Training Center, University of Roorkee, Roorkee, U.P., **India**, July 1998.
173. Advances in Hydrology, National Institute of Hydrology, Roorkee, U.P., **India**, July 1998.
174. Overland Flow Revisited, Purdue University, **West Lafayette, Indiana**, April, 1999.
175. Entropy Theory and its Application in Water Resources and Environmental Systems, Colorado State University, **Fort Collins, Colorado**, June, 1999.
176. The Use of Entropy Theory in Hydrology and Water Resources, U. S. Bureau of Reclamation, **Denver, Colorado**, June, 1999.
177. Advances in Hydrology, University of Roorkee, **Roorkee, India**, August, 1999.
178. Role of Hydrology in Environmental and Ecological Management, Kyungsan University, **Kyungsan, South Korea**, October, 1999.
179. Hydrologic Modeling for Water Resources Planning and Management, Ministry of Water Resources and Construction, **Jakarta, Indonesia**, October, 1999.
180. Theory of Bureaucracy and Social Development, School of Social Work, Louisiana State University, **Baton Rouge, Louisiana**, March, 2000.

181. Computer Applications in Environmental and water Resources, Symposium on Celebrating the Success of Computer Science Graduates, Louisiana State University, **Baton Rouge, Louisiana**, April, 2000.
182. Daily Stream Flow Simulation, University of Perugia, **Perugia, Italy**, May, 2000.
183. Hydraulic Geometry, University of Perugia, **Perugia, Italy**, May, 2000.
184. Theories of Hydraulic Geometry, University of Bologna, **Bologna, Italy**, May, 2000.
185. Theoretical Approaches to Hydraulic Geometry, University of Florence, **Florence, Italy**, May, 2000.
186. Application of Hydraulic Geometry to River Training Works, University of Rome, **Rome, Italy**, May, 2000.
187. Hydraulic Geometry and River Stability, University of Basilicata, **Potenza, Italy**, May, 2000.
188. Water Resources Research at Louisiana State University, Shihezi University, **Shihezi, P. R. China**, July 2000.
189. Hydrologic Modeling for Water Resources Project Design, Ministry of Water Resources, **Urmuqi, Xinjinag Province, P. R. China**, July 2000.
190. Hydrology and flooding, Natural Disasters Course, Department of Civil and Environmental Engineering CEBA Building, October 2000, **LSU, Baton Rouge, La.**
191. Hydrology and flooding, Natural Disasters Course, Department of Civil and Environmental Engineering CEBA Building, October 2000, **LSU, Baton Rouge, La.**
192. Wave Theory for Modeling Civil and Environmental Engineering Systems, Graduate Seminar Course, Department of Civil and Environmental Engineering, CEBA building, **LSU, Baton Rouge, LA**, September 2000.
193. Groundwater: Perspectives and Problems. Kuwait Institute for Scientific Research, Safat, **Kuwait**, January 2001.
194. Watershed Modeling, Nanyang Technological University, Nanyang, **Singapore**, September 2001.
195. Water Resources: Excess, Deficit, Problems and Perspectives, Nanyang Technological University, Nanyang, **Singapore**, September, 2001.

196. Mathematical Models of Watershed Hydrology, Tsinghua University, Beijing, **China**, September 2001.
197. Mathematical Modeling in Hydrology, University of Technology, **Malaysia**, September 2001.
198. Diversity and Global Conflict, School of Social Work, **Louisiana State University**, Baton Rouge, Louisiana, October 2001.
199. Advances in Watershed Modeling, Ministry of Irrigation and Drainage, Southeast Asia Water Resources and Hydrology Center for Humid tropics, Kuala Lumpur, **Malaysia**, December 2001.
200. Groundwater Modeling: Problems and Perspectives, **National Geophysical Research Institute**, Hyderabad, India, December 2002.
201. Groundwater Modeling, **Jawaharlal Nehru Technological University**, Hyderabad, India, December 2002.
202. Application of Entropy Theory in Water Resources, **Indian Institute of Technology**, Roorkee, India, December 2002.
203. Risk Methodology, **Indian Institute of Technology**, Roorkee, India, July, 2003.
204. Watershed Management in Water Scarce Regions, **Central Institute of Soil Science**, December 2003, Bhopal, India.
205. Health, Science and Engineering, **S.R. Institute of Medical Sciences, Information Technology and Management**, Agra, India, January 2004.
206. Meeting Water Scarcity and Role of Education, **National Institute of Technology**, Kuruchhetra, India, January 2004.
207. Hydrologic Modeling, **Mexican Academy of Engineering**, Mexico City, Mexico, March 2004.
208. Unification of Theories in Water Resources Research, **Mexican Academy of Sciences**, University of the Americas, Cholula, Mexico, March 2004.
209. Mathematical Modeling of Watershed Hydrology, **University of Guelph**, Canada, May 2004.
210. Rainfall Frequency Analysis Using the Copula Method, **Montreal Ecole Polytechnique**, Canada, May 2004.

211. The Impulse Response Functions as Probability Distribution Functions, **University of Quebec**, Canada, May 2004.
212. Hydraulic Geometry, **University of Basilicata**, Potenza, Italy, June 2004.
213. Flow in Open Channels: Recent Advances, Institute of Mechanics, **Chinese Academy of Sciences**, Beijing, China, July, 2004.
214. Fluid Mechanics in Environmental Science and engineering, **Dalian University of Technology**, Dalian, China, July 2004.
215. A Profile of Louisiana State University, **Hohai University**, Nanjing, China, July 2004.
216. Watershed Hydrology Modeling, **Hohai University**, Nanjing, China, July 2004.
217. Stochastic Dependence Modeling in Hydrology, **G.P. Pant University of Agriculture and Technology**, Pantnagar, India, November 1, 2004.
218. Hydrology, Hydraulics, Water Resources and Environmental Engineering, **G.P. Pant University of Agriculture and Technology**, Pantnagar, India, November 1, 2004.
219. Water Engineering: Regional Issues and Challenges for the Next Decade, **Texas A&M University**, College Station, Texas, January 31, 2005.
220. I-D-F Curves for Urban Drainage Design Using the Copula Method. **University of Houston**, Houston, Texas, April 29, 2005.
221. Perspectives in Water Resources: Chow Lecture, **ASCE-EWRI Congress**, May, 2005, Anchorage, Alaska.
222. I-D-F Curves Using the Archimedean Frank Copula. **Utah State University**, September 2005, Logan, Utah.
223. A Review of Flood Frequency Methods and Some Emerging Techniques. **U.S. Bureau of Reclamation**, September 2005, Denver, Colorado.
224. Kinematic Wave theory of Bed Forms in Alluvial channels. **Institute of Mechanics, Chinese Academy of Sciences**, October 25, 2005, Beijing, China.
225. A Perspective on Water Resources, **Indian Institute of Technology**, Bombay, Powai, Mumbai, February, 2006.
226. Hydrologic Contributions of Professor A.R. Rao, Celebrations at Retirement of Professor A.R. Rao, **Purdue University**, May 2006.

227. The 2006 Flooding in New Orleans: Causes and Consequences. **Western Kentucky University**, Bowling Green, Kentucky, June 2006.
228. The 2006 Flooding in New Orleans. **University of Texas at Brownsville**, Texas, September 2006.
229. What Caused the 2006 Flooding in New Orleans? **State University of New York-University at Buffalo**, Buffalo, New York, November 2006.
230. Composite Risk Analysis, **M.P. University of Agriculture and Technology**, Udaipur, Rajasthan, India, December 2006.
231. Risk Analysis in Engineering, **Institution of Engineers**, Udaipur, Rajasthan, India, December 2006.
232. Water, Environment, Engineering, Religion and Society, **University of Basilicata**, Potenza, Italy, December 2006.
233. The 2005 New Orleans Flood Disaster: Causes and Consequences, **Dayanand College of Engineering**, Bangalore, India, March 2007.
234. Multivariate Stochastic Analysis using the Copula Theory, **Indian Institute of Science**, Bangalore, India, March 2007.
235. Soil and Water Engineering Research at Texas A & M University, **University of Oslo**, Oslo, Norway, June, 2007.
236. Hydrology of Urban and Peri-Urban Landscapes, **University of Western Sydney**, Richmond, Australia, February, 2008.
237. Water Resources: Opportunities and Challenges, **University of Western Sydney**, Penrith, Australia, February, 2008.
238. Water Resources: Opportunities and Challenges, **S.K. Agricultural University**, Dantiawada, Gujarat, India, March, 2008.
239. Engineering: Issues and Challenges. **Poornima College of Engineering**, Jaipur, Rajasthan, India, March 2008.
240. Hydrology of Urban and Urbanizing Areas, **National Institute of Technology**, Kurukshetra Haryana, India, March, 2008.
241. Water Resources: Issues, Challenges and Opportunities, **Texas A&M University**, Kingsville, Texas, April 2008.

242. Entropy Theory and its Application in Environmental and Water Resources Engineering, **University of Guelph**, Guelph, Canada, June 2008.
243. Multivariate Stochastic Analysis, **Hohai University**, Nanjing, People's Republic of China, June 2008.
244. Uncertainty and Reliability Analysis, **Hohai University**, Nanjing, People's Republic of China, June 2008.
245. Distributed Modeling, **Hohai University**, Nanjing, People's Republic of China, June 2008
246. Watershed Management, **Chinese Academy of Sciences**, Beijing, People's Republic of China, Beijing, June 2008.
247. Community and Race Relations: Indian Perspective, **City Council**, Lake Charles, Louisiana, November 2008.
248. Entropy Theory and its Applications in Environmental and Water Resources, **National Taiwan University**, Taipei, Taiwan, December 2008.
249. Climate Change and Hydrometeorologic Trends in Texas, **National Central University**, Taipei, Taiwan, December 2008.
250. Water: What is the Question? National Academy of Engineering regional Workshop, **Texas A&M University**, April, 2009.
251. Theory of Infiltration Based on Entropy, **University of Perugia**, Perugia, Italy, June 2009.
252. Soil Moisture Modeling Using Entropy, CNR-IRPI, **Institute of Hydrogeological Protection Research**, Perugia, Italy, June 2009.
253. Entropy Theory for Infiltration, **University of Western Sydney**, Hawkesbury Campus, Australia, July 2009.
254. Entropy Theory for Hydrologic Modeling, Chinese Academy of Sciences, Institute of Geographical Research, Beijing, China, July 2009.
255. Entropy Theory for Environmental and Hydrologic Modeling, **Hohai University**, Nanjing, People's Republic of China, July 2009.
256. Entropy Theory for Infiltration Modeling, **Hohai University**, Nanjing, People's Republic of China, July 2009.
257. Entropy Theory for Soil Moisture Modeling, **Hohai University**, Nanjing, People's Republic of China, July 2009.

258. Water Resources Program at Texas A & M University, **Amman**, Jordan, March, 2010.
259. Climate Change and Water Resources in India at **Texas A&M University**, College Station, October, 2010.
260. Water Resources and Climate Change at **University of North Dakota**, Grand Forks, North Dakota, October, 2010.
261. Challenges, Opportunities and New Directions in Hydrology and Water Resources at **North Dakota State University**, Fargo, North Dakota, October, 2010.
262. Challenges and Opportunities in Water Resources at **UNESCO-IHE**, Delft, The Netherlands, November, 2010.
263. Water, Environment, Energy, and Population Rise: Implications under Climate Change. **Korean Water Corporation**, Korea, June 2011.
264. Water Resources under Climate Change. **Korean Institute of Construction Technology**, Gyeonggi-Do, Korea, June 2011.
265. Hydrologic Modeling Using Entropy Theory, **Sichuan University**, Chengdu, China, July 2011.
266. Major Droughts in the World in the 20th Century, **Sun Yat-sen University**, Guangzhou, China, July 2011.
267. Hydrologic Modeling Using Entropy, **Indian Institute of Technology**, Roorkee, India, September 30, 2011.
268. Water, Energy and Food Security Nexus under Climate Change, Department of Civil Engineering, **National Institute of Technology**, Kurukshetra Haryana, India, March, 2012.
269. Ecohydrology: Problems and Challenges, Department of Civil Engineering, **G.B. Pant University of Agriculture and Technology**, Pantnagar, India, February 2012.
270. Food Security under Climate Change, Brace Centre for Water Resources Management **McGill University**, Montreal, Canada, April, 2012.
271. Water Resources Management and Climate Change, **College of Engineering and Technology**, Bhopal, December 14, 2012, India.
272. Hydrology, Water Resources, and Climate Change. Patel Group of Colleges, **College of Engineering**, Bhopal, December 24, 2012, India.

273. 1-D and 2-D Velocity Distributions in Open Channels Using Entropy Theory, College of Water Resources and Hydropower Engineering, **Northwest A&F University**, Yanglin, China, June 2013.
274. Hydrologic Modeling Using Entropy Theory, College of Water Resources and Hydropower Engineering, **Northwest A&F University**, Yanglin, China, June 2013.
275. Entropy Theory-based Hydrologic Modeling, College of Hydrology and Water Resources **Hohai University**, Nanjing, China, June 2013.
276. Derivation of Velocity Distributions in Open Channels by Entropy Theory, College of Water Resources and Information Technology, **Huazhong University of Science and Technology**, Wuhan, China, June 2013.
277. Entropy-based Hydrologic Modeling, College of Water Resources & Hydropower Engineering, **Wuhan University**, Nanjing, China, June 2013.
278. Application of Entropy Theory to Hydrologic Modeling, College of Water Resources and Hydropower Engineering, **China Three Gorges University**, Yichang, China, June 2013.
279. Hydrologic Modeling Using Systems Approach, **Rural Federal University of Pernambuco**, Recife, Brazil, July, 2013.
280. Hydrologic Modeling Using Entropy Theory, **Rural Federal University of Pernambuco**, Recife, Brazil, July, 2013.
281. Role of Hydrology in Environmental and Ecosystem Modeling, **Rural Federal University of Pernambuco**, Recife, Brazil, July, 2013.
282. Droughts: Characterization and Modeling, **Hohai University**, Nanjing, September, 2013.
283. Droughts in World in the 20th Century: A Reexamination. **Hohai University**, Nanjing, September, 2013.
284. Application of Entropy Theory in Hydrology and Hydraulics. **Sun Yat-San University**, Guangzhou, China, September 2013.
285. Water, Environment, Energy and Food Nexus. **University of Guelph**, Guelph, Canada, June 2014.
286. Hydrologic Modeling Using Entropy Theory, **Lamar University**, Beaumont, Texas, July 2014.
287. Entropy Theory and its Application in Hydrology. **Prairie View A&M University**, Prairie View, October, 2014.

288. Frequency Analysis Using Entropy Theory, December, 2014, **S.V. National Institute of Technology**, Surat, Gujarat, India.
289. Connecting the Dots: A Unifying Theory for Hydrologic Modeling, **Virginia Polytechnic Institute and State University**, Blacksburg, Virginia, April, 2015.
290. Entropy-Based Modeling in Water Engineering, **Sun Yat Sen University**, Guangzhou, China, July, 2015.
291. Entropy Theory for Hydrologic Modeling, **Chinese Academy of Sciences**, Institute of Geography, Beijing, China, July 2015.
292. Water Resources Assessment under Climate Change, **Shrishakti Institute of Engineering and Technology (SIET)**, Coimbatore, Tamilnadu, India, December 2015.
293. How Much Water Do We have and How Much Do We Need? **University of Petroleum and Energy Studies (UPES)**, Dehradun, Uttarakhand, India, December 2015.
294. Water Engineering Research in BAEN, **Inner Mongolia Agricultural University**, Hohhot, China, January 2016.
295. Kinematic Wave Theory for Surface Runoff Modeling, **Northwestern A&F University**, Yangling, Xian, China, August, 2016.
296. Tsallis Entropy Theory for Hydrologic Modeling. **Northwestern A&F University**, Yangling, Xian, China, August, 2016.
297. Tsallis Entropy Theory for Water Resources Modeling. **Federal Rural University of Pernambuco**, Recife, Brazil, January, 2017.
298. Water-Energy-Food Nexus under Climate Change, **Beijing Normal University**, Beijing, China, March, 2017.
299. Generalized Frequency Distributions for Hydrometeorological Analysis, **Northwest A&F University**, Yangling, Xian, China, March 2017.
300. Hydrometeorological Analysis Using a Generalized Frequency Distribution Framework, **Hohai University**, Nanjing, China, March 2017.
301. Water-Food-Energy Nexus under Climate Change, Department of Horticulture, **Texas A&M University**, College Station, March, 2017.
302. Theory of Frequency Distributions. **Inner Mongolia Agricultural University**, Hohhot, Inner Mongolia, China, July 2018.

303. Hydrologic Modeling Using Entropy Theory, Department of Civil Engineering, **University of Manitoba**, Winnipeg, Canada, February 2019.
304. Entropy Theory and its Application in Hydrology, **Beijing Normal University**, Beijing, China, June 2019.
305. Watershed Hydrologic Modeling, **China Three Gorges University**, Yichang, China, June 2019.
306. Hydrologic Problems and Challenges, **China Three Gorges University**, Yichang, China, June 2019.
307. Hydrologic Modeling Using Entropy Theory, **China Three Gorges University**, Yichang, China, June 2019.
308. Writing a Manuscript, **China Three Gorges University**, Yichang, China, June 2019.
309. Kinematic Wave Theory of Overland Flow, **Huazhong University of Science and Technology**, Wuhan, China, June 2019.
310. **Water Resources Development and Management in India**, National Institute of Hydrology, Roorkee, India, February 2020.

10. ORGANIZATION OF CONFERENCES:[Organized 26 conferences; chaired 94sessions at national/international conferences; and assisted in 104 conferences]

10.1 Organization of Conferences and Symposia: [26 Conferences]

1. **Director**, International Symposium on Rainfall-Runoff Modeling held May 18-21, 1981, at Mississippi State University, Mississippi State, Mississippi.
2. **Director**, International Symposium on Flood Frequency and Risk Analyses held May 14-17, 1986, at Louisiana State University, Baton Rouge, Louisiana.
3. **Chairman**, International Conference on Entropy and Energy Dissipation in Water Resources held June 25-27, 1991, at Maratea, Italy.
4. **Organizer**, National Seminar on Irrigation Water Management, held August 31 to September 2, 1992, in New Delhi, India, 1992.
5. **Organizer**, International Conference on Stochastic and Statistical Methods in Hydrology and Environmental Engineering, held June 21-23, 1993, in Waterloo, Canada.
6. **Chairman**, International Conference on Hydrology and Water Resources, held December 20-23, 1993, in New Delhi, India.

7. **Organizer**, NATO Advanced Research Workshop on Integrated Approach to Environmental Data Management Systems, September 16-20, 1996, Izmir, Turkey.
8. **Co-Convener**, Theme 4 on Hydrology of Environmental Hazards, International Symposium on Hydrology in a Changing Environment, July 6-10, 1998, Exeter, United Kingdom.
9. **Co-Chairman**, International Conference on Water, Environment, Ecology, Socio-economic and Health Engineering, October 19-21, 1999, Seoul, Korea.
10. **Organizer**, NATO Advanced Research Workshop on Integrated Technologies for Environmental Monitoring and Information Production, September 10-14, 2001, Marmaris, Turkey.
11. **Chairman**, International Technical and Scientific Committee, International Conference on Water Resources Management in Arid Regions, March 23-27, 2001, Kuwait.
12. **Chairman**, International Conference on water and Environment, December 15-18, 2003, Bhopal, India.
13. **Organizer**, The International Electronic Conference on Natural and Anthropogenic Catastrophes, May, 2004, Tbilisi State University, Republic of Georgia.
14. **Co-Organizer**, Session on Modeling Persistence in Solute Transport in Streams and Rivers, AGU Fall Meeting, December 13-17, 2004, San Francisco, California.
15. **Chairman**, Scientific Committee, International Groundwater Conference, February 1-4, 2006, Jawaharlal Nehru University, New Delhi, India.
16. **Chairman**, International Conference on Challenges in Coastal Hydrology and Water Quality, May 21-24, 2006, Baton Rouge, Louisiana.
17. **Co-Chairman**, International Conference on Water, Environment, Energy and Society (WEES), January 12-16, 2009, New Delhi, India.
18. **Co-Convener**, Symposium on Integrated Water Resources Management, HydroChnage2008, October 1-3, 2008, Kyoto Japan.
19. **Co-Convener**, Symposium on Surface water-Groundwater Interactions, International Association of Hydrological Sciences and International Association of Hydrogeologists Joint Assembly, September 2009, Hyderabad, India.
20. **Chairman**, Scientific Steering Committee, 5th International Symposium on IWRM and 3rd International Symposium on Methodology in Hydrology, November 19-21, 2010, Hohai University, Nanjing, China.

21. **Chairman**, Scientific Committee, International Groundwater Conference (IGWC)-2012, December 18-21, 2012, Aurangabad, India.
22. **Chairman**, Scientific Committee, International Groundwater Conference (IGWC)-2016, February 8-11, 2016, Chennai, India.
23. **Chairman**, International Conference on Water, Environment, Energy and Society (WEES), March 15-18, 2016, AISECT University, Bhopal, India.
24. **Co-Organizer**, Hydrology Sessions, 13th International Meeting on Statistical Climatology, June 6-10, 2016, Canmore, Canada.
25. **Chairman**, Scientific Committee, International Groundwater Conference (IGWC)-2017, December 11-13, 2017, New Delhi, India.
26. **Chairman**, International Advisory Committee, International Conference on Sustainable Technologies for Intelligent Water Management, February 16-19, 2018, Roorkee, India.

10.2 Session Chairman/Panelist: [96 Sessions]

1. **Chairman**, Session on Erosion and Sedimentation, **International Conference on Water Resources Development** held May 12-14, 1980, in Taipei, Taiwan, Republic of China.
2. **Chairman**, Session on Surface and Watershed Hydrology, **Fourth Congress of the Asian and Pacific Division of the International Association for Hydraulic Research on Water Resources Development** held September 11-13, 1984, in Chiang Mai, Thailand.
3. **Chairman**, Session on Surface and Stochastic Hydrology, **Fourth Congress of the Asian and Pacific Division of the International Association for Hydraulic Research on Water Resources Development** held September 11-13, 1984, in Chiang Mai, Thailand.
4. **Chairman**, Session on Physically Based Hydrologic Models, **International Workshop on Operational Applications of Mathematical Models (Surface Water) in Developing Countries** held February 26 - March 1, 1985, at Indian Institute of Technology, New Delhi, India.
5. **Moderator**, Session II on Sources of Contamination and Remediation in **Seminar on Ground Water Contamination**, February 27, 1986, Baton Rouge, Louisiana.
6. **Chairman**, Session on Entropy in Flood Frequency Analysis, **International Symposium on Flood Frequency and Risk Analyses** to be held May 14-17, 1986, at Louisiana State University, Baton Rouge, Louisiana.
7. **Chairman**, Session on Irrigation and Infiltration, **International Conference on Infiltration Development and Application** held January 5-9, 1987, in Honolulu, Hawaii.

8. **Chairman**, Session on Flood Frequency, **ASCE National Symposium on Engineering Hydrology**, held August 2-7, 1987, in Williamsburg, Virginia.
9. **Chairman**, Session on Flood Frequency Analysis, **International Seminar on Hydrology of Extremes (Floods and Low Flows)**, held December 1-3, 1988, at Roorkee, India.
10. **Panelist**, Panel Discussion on Professional Issues in Water Resources Engineering, **18th National Conference on Water Resources, Planning and Management, ASCE**, held May 20-22, in New Orleans, Louisiana, 1991.
11. **Panelist**, Panel Discussion on Irrigation Water Management, **National Seminar on Irrigation Water Management** held August 31 to September 2, 1992, in New Delhi, India.
12. **Chairman**, Session on Hydrology and Water Resources, **International Conference on Environmental Management: Geo-Water and Engineering Aspects**, February 7-11, 1993, University of Wollongong, Wollongong, Australia.
13. **Panelist**, Emerging Issues Forum on Natural Hazards: Uncertainties and Risks, **International Conference on Environmental Management: Geo-Water and Engineering Aspects**, February 7-11, 1993, University of Wollongong, Wollongong, Australia.
14. **Chairman**, Session I on Entropy, **International Conference on Stochastic and Statistical Methods in Hydrology and Environmental Engineering**, June 21-23, 1993, University of Waterloo, Waterloo, Canada.
15. **Chairman**, Session II on Entropy, **International Conference on Stochastic and Statistical Methods in Hydrology and Environmental Engineering**, June 21-23, 1993, University of Waterloo, Waterloo, Canada.
16. **Chairman**, Session on Subsurface Diffusion and Dispersion, **International Conference on Stochastic and Statistical Methods in Hydrology and Environmental Engineering**, June 21-23, 1993, University of Waterloo, Waterloo, Canada.
17. **Chairman**, Session I on Network Design, **NATO Advanced Research Workshop on Integrated Approach to Environmental Data Management Systems**, September 16-22, 1996, Izmir, Turkey.
18. **Chairman**, Session I on Environmental Hazards, **International Conference on Hydrology in a Changing Environment**, July 5-11, 1998, University of Exeter, Exeter, England.
19. **Chairman**, Session II on Environmental Hazards, **International Conference on Hydrology in a Changing Environment**, July 5-11, 1998, University of Exeter, Exeter, England.

20. **Moderator**, Discussion on Specific Local Problems on Groundwater and Preparation of Action Plan, **Workshop on Ground Water Resources Planning and Management**, July 27, 1998, Bhopal, M.P., India.
21. **Chairman**, Session on Environmental Health, International Symposium on Environmental Engineering and Health Sciences: A Joint Effort for the XXI Century, October 26-30, 1998, Cholula, Mexico.
22. **Chairman**, Session on Hydrologic Modeling, **International Symposium on Water, Environment, Ecology, Socio-economic and Health Engineering**, October 18-21, 1999, in Seoul, South Korea.
23. **Chairman**, Session on Stochastic Hydrology, **The Eight International Symposium on Stochastic Hydraulics**, July 25-28, 2000, Beijing, P. R. China.
24. **Chair**, Student Paper Competition Award, **National Conference on Atmospheric, Surface and Subsurface Water and Interaction**, American Institute of hydrology, Research Triangle Park, North Carolina, November, 2000.
25. **Chair**, Session on Health and Technology, **Workshop on Environmental Health and Technology**, November 2000, Rio de Janeiro, Brazil.
26. **Chair**, Session on Environmental Modeling, **NATO-ARW Workshop on Integrated Technologies for Environmental Monitoring and Information Production**, September 2001, Marmaris, Turkey.
27. **Chair**, Session on Hydraulics of Rivers, Water Works and Machinery, **XXIX IAHR Congress**, September 2001, Beijing, China.
28. **Chair**, Session on Stochastic Hydrology, **International Conference on Advances in Civil Engineering**, Indian Institute of Technology, January 2002. Kharagpur, India.
29. **Chair**, Session on Seawater Intrusion, **International Conference on Water Resources Management in Arid regions**, March 23-27, 2002, Kuwait City, Kuwait.
30. **Chair**, Session on Seepage and Groundwater Studies, **International Conference on Water Resources Management in Arid regions**, March 23-27, 2002, Kuwait City, Kuwait.
31. **Chair**, Poster Session, **International Conference on Water Resources Management in Arid Regions**, March 23-27, 2002, Kuwait City, Kuwait.
32. **Co-Chair**, Session on Recommendations for Water Resources Management in Arid Regions, **International Conference on Water Resources Management in Arid regions**, March 23-27, 2002, Kuwait City, Kuwait.

33. **Chair**, Session on Uncertainty Estimates for Data, Parameters and Results, **Second Federal Interagency Hydrologic Modeling Conference**, July 28-August 1, 2002, Las Vegas, U. S. A.
34. **Chair**, Session on Hydrologic Hazards Modeling, **International Conference on Water Related Disasters**, December 5-6, 2002, Kolkata, India.
35. **Panelist**, Panel Discussion on Hydrology and Watershed Management Education in 21st Century, **International Conference on Hydrology and Watershed Management**, held December 18-20, 2003, in Hyderabad, India.
36. **Chair**, Panel Discussion on State of Hydrology, **International Conference on Water and Environment-2003**, December 15-18, 2003, Bhopal, India.
37. **Chair**, Session 2 of **River Flow 2004**, June 23-25, 2004, Naples, Italy.
38. **Chair**, Session on Hydrodynamics, **4th International Conference on Fluid Mechanics**, July 20-23, 2004, Dalian, China.
39. **Chair**, Session on Environmental Hydrology, **International Conference on Hydraulic Engineering: Theory and Practice**, October 25-28, 2004, Roorkee, India.
40. **Chair**, Discussion Group, Advances in Hydrologic Research, **International Workshop on Watershed Management in Dry Areas: Challenges and Opportunities**, January 4-6, 2005, Djerba, Tunisia.
41. **Chair**, Session on Hydrologic Modeling, **International Conference on Research Methodology in Hydrology**, Hohai University, Nanjing, October 30-November, 2005, Naging, China.
42. **Chair**, Session on Urban Water Management-Integrated Approach, **XXII IWRA World Congress on Water for Sustainable Development-Towards Innovative Solutions**, November 22-26, 2005, New Delhi, India.
43. **Chair**, Session on Water and Environment, **Second International Conference on Groundwater (IGC-2006)**, February 1-4, 2006, New Delhi, India.
44. **Chair**, Session on Isotope Studies in Hydrology, **ASCE-EWRI International Conference on An International Perspective on Environmental and Water Resources**, December 17-20, 2006, New Delhi, India.
45. **Chair**, Session on River Basin Management, **ASCE-EWRI International Conference on An International Perspective on Environmental and Water Resources**, December 17-20, 2006, New Delhi, India.

46. Chair, Session on Groundwater Simulation, **International Conference on Groundwater Dynamics and Climate Change**, March 17-21, 2008, Jaipur, Rajasthan, India.
47. Chair, Session on Water Resources Management, **HydroChange 08**, October 1-3, 2008, Tokyo, Japan.
48. Chair, Panel Discussion on Hydrology and Water Resources Management, **International Conference on Water, Environment, Energy and Society-WEES-09**, January 12-16, 2009, New Delhi, India.
49. Chair, Inaugural Session **Indo-UK Workshop on Water Resources Management under Environmental and Climate Change**, Indian Institute of Technology, Roorkee, India, September 12-13, 2009.
50. Chair, Session on Watershed Modeling, **International Symposium on Hydrologic Modeling**, Beijing Normal University, Beijing, China, October, 19-20, 2009.
51. Chair, Session on Surface and Ground Waters, Water Usage and Water Demand: Historical, Present State and Future Tendency, **International Workshop on Changes in Surface and Ground water in the Tarim River Basin**, November 22-26, 2009, Xi'an, China.
52. Chair, Session on Trends in Precipitation, **International Precipitation Conference**, Coimbra, Portugal, June 23-25, 2010.
53. Chair, Session on Hydrologic Modeling, **5th International Symposium on IWRM and 3rd International Symposium on Methodology in Hydrology**, November 19-21, 2010, Hohai University, Nanjing, China.
54. Chair, Session on Groundwater Quality, **National Conference on Groundwater for Drinking: Issues and Options**, Varanasi, India, February 11-13, 2011.
55. Chair, Valedictory Session on Formulation of Recommendations, **National Conference on Groundwater for Drinking: Issues and Options**, Varanasi, India, February 11-13, 2011.
56. Chair, Session on Application of Emerging Techniques in Water Sector, **International Conference on Sustainable Water Resources Management and Climate Change Adaptation**, Durgapur, India, February 17-19, 2011.
57. Chair, Session on Application of RS & GIS in Water Resources Assessment, **Fourth International Groundwater Conference**, Yadava College of Arts and Sciences, Madurai, India, September 27-30, 2011.
58. Chair, Session on Recharge Process and Artificial Recharge Mechanism, **Fourth International Groundwater Conference**, Yadava College of Arts and Sciences, Madurai, India, September 27-30, 2011.

59. Chair, Session on Water Resources Development and Management, **International Perspectives on Water Resources & the Environment 2012 (IPWE 2012)**, ASCE-EWRI, January 4-7, 2012, Marrakech, Morocco.
60. Chair, Session on Water Quality Analysis and Modeling, **International Conference on Environmentally Sustainable Urban Ecosystems (ENSURE)**, Indian Institute of Technology Guwahati, India, February 24-27, 2012.
61. Chair, Session on Hydroclimate and Hydrologic Modeling, **2012 World Environmental and Water Resources Congress**, Albuquerque, May 20-23, 2012.
62. Chair, Session I: On Perspectives, Problems and Solutions in Solving Groundwater Resource Assessment. Fracture Flow Modeling and Groundwater Management Due to Various Constraints, **International Ground Water Conference (IGWC-2012)**, December 18-21, 2012, Aurangabad, India.
63. Chair, Session II: on Perspectives, Problems and Solutions in Solving Groundwater Resource Assessment. Fracture Flow Modeling and Groundwater Management Due to Various Constraints, **International Ground Water Conference (IGWC-2012)**, December 18-21, 2012, Aurangabad, India.
64. Chair, Valedictory Session, **Workshop on Reservoir Operation**, February 3-9, 2013, National Institute of Hydrology, Roorkee, India.
65. Chair, Session on Modeling Projections of Climate Change at Regional Scale, **2013 World Environmental and Water Resources Congress**, Cincinnati, May 20-23, 2013.
66. Chair, Session on Integrated Hydrologic Modeling, **Gerald and Lillian Orlob International Symposium on Theoretical Hydrology**, University of California, Davis, California, August 5-6, 2013.
67. Chair, Session 2 on Hydrologic and Hydraulic Modeling, **35th IAHR World Congress**, Chengdu, China, September 8-13, 2013.
68. Chair, Session 4 on Maximum Entropy Analysis of Flow Networks, **33rd International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering**, held December 15-20, 2013, Canberra, Australia.
69. Chair, Session on Modeling Projections of Climate Change at Regional Scale 1 at 2014 Hydro-Climate Symposium Modeling Climate Change at **World Environmental & Water Resources Congress** held June 1-5, 2014, at Portland, Oregon.
70. Chair, Session on Chow's Effect on Related Fields at Commemorating Chow at **World Environmental & Water Resources Congress** held June 1-5, 2014, at Portland, Oregon.

71. Chair, Session on Climate Change at **International Conference on HYDRO 2014 on Hydraulics, Water Resources, and Coastal and Environmental Engineering** held December 18-20, 2014, Bhopal, India.
72. Chair, Session on Hydrometeorological Extremes at **International Conference on Decision Support Systems for Disasters and their Prediction and Mitigation** held December 28-30, 2014, Durgapur, India.
73. Chair, Session on Disaster Mitigation at **International Conference on Decision Support Systems for Disasters and their Prediction and Mitigation** held December 28-30, 2014, Durgapur, India.
74. Chair, Session on Human Impact of Disasters at **International Conference on Decision Support Systems for Disasters and their Prediction and Mitigation** held December 28-30, 2014, Durgapur, India.
75. Panelist, Session on Discussion on Disasters at **International Conference on Decision Support Systems for Disasters and their Prediction and Mitigation** held December 28-30, 2014, Durgapur, India.
76. Moderator, Session on Modeling Projections of Climate Change at Regional Scale, **2015 World Environmental and Water Resources Congress**, Austin, May 17-21, 2015.
77. Chair, Session 4 on Hydrologic and Hydraulic Modeling, **EWRA 9th World Congress on Water Resources Management in a Changing World: Challenges and Opportunities**, held June 10-13, 2015, Istanbul, Turkey.
78. Chair, Session 5 on Hydrologic and Hydraulic Modeling, **EWRA 9th World Congress on Water Resources Management in a Changing World: Challenges and Opportunities**, held June 10-13, 2015, Istanbul, Turkey.
79. Chair, Session on Hydrologic Modeling at **International Conference on HYDRO 2015 on Hydraulics, Water Resources, and Coastal and Environmental Engineering** held December 17-19, 2015, IIT Roorkee, India.
80. Chair, Session on Environmental Modeling at **International Conference on Water, Environment, Energy and Society** held March 15-18, 2016, AISECT University, Bhopal, India.
81. Chair, Session on Natural Disasters at **International Conference on Water, Environment, Energy and Society** held March 15-18, 2016, AISECT University, Bhopal, India.
82. Moderator, Session on Climate Change and Hydrologic Uncertainties, **2016 World Environmental and Water Resources Congress**, West Palm Beach, May 21-26, 2016.

83. Moderator, Session on Hydrologic Modeling and Climate Change, **2016 World Environmental and Water Resources Congress**, West Palm Beach, May 21-26, 2016.
84. Chair, Extreme Value Theory and its Applications, **The 13th International Meeting on Statistical Climatology**, held June 6-10, Canmore, Canada.
85. Chair, Water Security and the Science Agenda, **Gerald and Lillian Olob Second International Symposium on Theoretical Hydrology**, held June 20-21, 2016, at University of California, Davis, California, USA.
86. Chair, Risk and Management, **IAHR/USSD International Symposium on Hydraulic Structures**, held June 26-30, 2016, in Portland, Oregon, USA.
87. Chair, Technical Session 5: CoP 22-Way Ahead, **Global Water Meet 2016**, held October 24-26, 2016, University of Agricultural Sciences, Dharwad, India.
88. Chair, Technical Session on Computational Modeling, **International Conference on Applications of Fluid Dynamics**, Indian Institute of Technology (ISM), Dhnabad, India, December 18-21, 2016.
89. Chair, Technical Session on Environment, Health and Climate, **International Conference on Sustainable Technologies for Intelligent Water Management**, Indian Institute of Technology Roorkee, India, February 16-19, 2018.
90. Chair, Technical Poster Session on Environment, Health and Climate, **International Conference on Sustainable Technologies for Intelligent Water Management**, Indian Institute of Technology Roorkee, India, February 16-19, 2018.
91. Chair, Session on Modeling Projections of Climate Change at Regional Scale, **2018 World Environmental and Water Resources Congress**, Minneapolis, June 3-7, 2018.
92. Chair, Session on Impact of Changing Climate on Hydrologic Design Standards, **2019 World Environmental and Water Resources Congress**, Pittsburgh, May 19-23, 2019.
93. Chair, Session on State of Art Risk and Uncertainty Analysis, **2019 World Environmental and Water Resources Congress**, Pittsburgh, May 19-23, 2019.
94. Chair, Panel on Advancing New Methods for the Treatment of Climate Change and Extreme Events, **2019 World Environmental and Water Resources Congress**, Pittsburgh, May 19-23, 2019.
95. Chair, Plenary Session III on Hydrologic Modeling and Climate Change, **Roorkee Water Conclave 2020**, Indian Institute of Technology Roorkee, India, February 26-29, 2020.

96. Chair, Panel on Advancing New Methods for the Treatment of Climate Change and Extreme Events, **2021 World Environmental and Water Resources Congress**, June 8-10, 2021.

10.3 Assistance in Organization of Conferences: [106 Conferences]

1. **Member**, Steering Committee, Ground Water Contamination in Louisiana: Issues and Answers, February 27, 1986, Baton Rouge, Louisiana.
2. **Member**, Organizing Committee, International Conference on Infiltration Development and Application, January 5-9, 1987, The University of Hawaii at Manoa, Honolulu, Hawaii.
3. **Member**, Advisory Committee, International Ground Water Conference, June 22-26, 1987, Kuala Lumpur, Malaysia.
4. **Member**, Advisory Committee, VI IWRA Congress on Water Resources, held May 29 - June 3, 1988, in Ottawa, Canada.
5. **Member**, International Programme Committee, Symposium on Water Resource Systems Application, June 1990, Winnipeg, Manitoba, Canada.
6. **Member**, Drafting Committee, International Seminar on Hydrology of Extremes (Floods and Low Flows), held December 1-3, 1988, at Roorkee, India.
7. **Member** Advisory Committee, International Ground Water Conference, June 25-29, 1990, Kota Bharu, Kelantan, Malaysia.
8. **Member**, Scientific Committee, European Conference on Advances in Water Resources Technology, held March 20-23, 1991, in Athens, Greece.
9. **Member**, Scientific Committee, International Conference on Entropy and Energy Dissipation in Water Resources, held June 26-28, 1991, in Maratea, Italy.
10. **Member**, Organizing Committee, International Conference on Entropy and Energy Dissipation in Water Resources, held June 26-28, 1991, in Maratea, Italy.
11. **Member**, International Advisory Committee, International Conference on Environmental Management: Geo-Water and Engineering Aspects, held February 8-11, 1993, in Wollongong, New South Wales, Australia.
12. **Member**, Organizing Committee, International Conference on Management of Drinking Water Resources, Dindugal, Tamilnadu, India, October, 1997.
13. **Member**, International Advisory Committee, International Symposium on Emerging Trends in Hydrology, September 25-27, 1997, University of Roorkee, Roorkee, U.P.India.

14. **Member**, International Advisory Committee, International Symposium on Environmental Engineering and Health Sciences: A Joint Effort for the XXI Century, December 7-11, 1997, Cholula, Mexico.
15. **Member**, International Advisory Committee, Second International Conference on Environmental Management (ICEM2), February 10-13, 1998, University of Wollongong, New South Wales, Australia.
16. **Member**, International Scientific Committee, Second International Conference on Water Resources and Environment Research, July 6-8, 1999, Brisbane, Australia.
17. **Member**, International Technical Committee, Civil and Environmental Engineering Conference: New Frontiers and Challenges, November 8-12, 1999, Asian Institute of Technology, Bangkok, Thailand.
18. **Member**, International Advisory Committee, International Conference on Integrated Water Resources Management for Sustainable Development, December 19-21, 2000, National Institute of Hydrology, Roorkee, India.
19. **Member**, International Scientific Advisory Committee, International Conference on Civil Engineering, July 23-25, 2001, Indian Institute of Science, Bangalore, India.
20. **Member**, Directorate, World Congress on Disaster Reduction, August 19-24, 2001, Washington, D.C.
21. **Member**, Technical Committee, International Conference on Water-Millennium Rethinking and Challenges, December 10-12, 2001, Bhopal, India.
22. **Member**, International Advisory Committee, International Conference on Hydrology and Water Resources, December 18-20, 2001, New Delhi, India.
23. **Member**, Advisory Committee, International Conference on Advances in Civil Engineering, January 3-5, 2002, Indian Institute of Technology, Kharagpur, India.
24. **Advisor**, Federal Interagency Hydrologic Modeling Conference, July 28-August 1, 2002, Las Vegas, U.S.A.
25. **Member**, International Advisory Committee, International Conference on Hydrology and Watershed Management, December 18-20, 2002, Hyderabad, India.
26. **Member**, International Advisory Committee, International Conference on Water and Wastewater Perspectives of Developing Countries, December 11-13, 2002, New Delhi, India.
27. **Member**, International Advisory Committee, International Conference on Flood Defence, September 2002, Beijing, China.

28. **Member**, Editorial Board, CIVIL-COMP 2003: The Ninth International Conference on Civil and Structural Engineering Computing, September 2-4, 2003, The Netherlands.
29. **Member**, International Advisory Committee, National Conference on Integrated Sustainable Water Resources Planning and Management, October 11-12, 2003, Pilani, India.
30. **Member**, International Advisory Committee, International Conference on Hydrology and Watershed Management, December 18-20, 2003, Hyderabad, India.
31. **Member**, Technical Advisory Committee, International Conference on Advanced Modeling Techniques for Sustainable Management of Water Resources, January 28-30, 2004, Warangal, India.
32. **Member**, International Board of Advisors and Technical Committee, International Conference on Managing Seismic Risk in Developing Countries, January 17-19, 2004, Bhopal, India.
33. **Member**, International Advisory Committee, International Conference on Hydraulic Engineering Research and Practice (ICON-HERP-2004), October 26-28, 2004, Indian Institute of Technology Roorkee, Roorkee, Uttaranchal, India.
34. **Member**, Organizing Committee, International Electronic Conference on Natural and Anthropogenic Catastrophies, May 2004, Tbilisi, Georgia.
35. **Member**, International Advisory Committee, International Conference on Environmental Fluid Dynamics, March 3-5, 2004, Indian Institute of Technology, Guwahati, Assam, India.
36. **Member**, International Advisory Committee, International Conference on Hydrological Perspectives for Sustainable development, February 23-25, 2005, Indian Institute of Technology Roorkee, Roorkee, Uttaranchal, India.
37. **Member**, Academic Committee, International Symposium on Methodologies in Hydrology, October 1-November 2, 2005, Nanjing, China.

38. **Member**, International Organizing Committee, International Symposium on Recent Advances in Water Resources Development and Management, November 23-25, 2005, Indian Institute of Technology, Roorkee, India.
39. **Member**, International Advisory Committee, International Conference on Hydrology and Watershed Management, December 5-8, 2006, Jawaharlal Technological University, Hyderabad, India.
40. **Member**, International Advisory Committee, International Conference on Civil Engineering in the New Millennium, January 11-14, 2007, Bengal Engineering and Science University, Shibpur, Howrah, India.
41. **Member**, International Scientific Committee (ISC) for 9th International Conference on Fluid Control, Measurements, and Visualization (FLUCOME), September 16-19, Tallahassee, Florida.
42. **Member**, Advisory Committee, 1st National Conference on Civil Engineering: Advancement and Challenges (CEAC 2007), March 9-10, 2007, M.M. Engineering College, Mullana, Ambala, Haryana, India.
43. **Member**, Advisory Committee, International Conference on Groundwater Dynamics and Climate Change, March 18-21, 2008, Rajasthan University, Jaipur, Rajasthan, India.
44. **Advisor**, International Conference on Energy and Environment, 2009, National Institute of Technology, Kurukshetra, India.
45. **Member**, International Symposium of IAHS-PUB and the 2nd International Symposium of China-PUB: Hydrological Modeling and Integrated Water Resources Management in Ungauged Mountainous Watersheds, November 7-9, 2008, Chengdu, China.
46. **Member**, International Conference on Water, Environment and Health Sciences: The Challenges of the Climate Change (ICWEHS), April 13-17, 2009, at the Universities of the Americas, Pueblo-Cholula, Mexico.
47. **Member**, International Advisory Committee, Indo-UK Workshop on Water Resources Management under Environmental and Climate Change, Indian Institute of Technology, Roorkee, India, September 12-13, 2009.
48. **Member**, International Advisory Committee, International Symposium on Hydrologic Modeling, Beijing Normal University, Beijing, China, October, 19-20, 2009.
49. **Member**, International Advisory Committee, International Workshop on Changes in Surface and Ground Water in the Tarim River Basin, November 22-26, 2009, Xi'an, China.
50. **Member**, Advisory Committee, 3rd International Perspective on Current and Future State of Water Resources & the Environment, January 4-6, 2010, IIT Madras, India.

51. **Member**, Advisory Committee, International Conference on Rivers, February 18-21, 2010, Hoshanghabad, M.P., India.
52. **Member**, Scientific Advisory Committee, Water2010-Hydrology, Hydraulics and water resources in an Uncertain Environment, July 5-7, 2010, Quebec City, Canada.
53. **Member**, Advisory Committee, International Conference-IMMM 2010, January 14-16, 2010, Trivandrum, India.
54. **Member**, International Advisory Committee, 3rd International Conference on Hydrology & Watershed Management, February 3-6, 2010, Hyderabad, India.
55. **Member**, International Advisory Committee, International Precipitation Conference, June 23-26, 2010, Coimbra, Portugal.
56. **Member**, International Advisory Committee, International Conference on Materials, Mechanics and Management (IMMM), January 14-16, 2010, Trivandrum, Kerala, India.
57. **Member**, International Advisory Committee, International Conference on Modeling and Simulation of Diffusive Processes and Applications (ICMSDPA-12), October 9-12, 2012, BHU, Varanasi, India.
58. **Member**, Scientific Committee, The Fifth International Conference on Water Resources and Sustainable Development (CIRED2013), February 24-25, 2013, The National High School of Hydraulics, Blida, Algeria.
59. **Member**, International Advisory Committee, International Conference on Environmentally Sustainable Urban Ecosystems (ENSURE 2012), February 24-26, 2012, Guwahati, India.
60. **Member**, Advisory Committee, International Perspectives on Water Resources & the Environment 2012 (IPWE 2012), ASCE-EWRI, January 4-7, 2012, Marrakech, Morocco.
61. **Member**, Scientific Advisory Committee, Hydro-2012"conference on Hydraulics, Water Resources, Coastal Engineering and Environmental Engineering, held December 7-8, 2012, Indian Institute of technology Bombay, Powai, Mumbai, India.
62. **Member**, Advisory Committee, International Conference on Integrated Water, Wastewater and isotope Hydrology, Jnanabharathi, Bangalore University, Bangalore, India, 2012.
63. **Member**, Advisory Committee, International Meet on Impact of Climate Change on Water Resources Development and Management, Karunya University, Coimbatore, India, 2012.
64. **Member**, International Advisory Board, National Conference on Emerging Trends in Engineering and Technology (NCETET-2014) to be held 30th March 2014 at Shri Ummed Singh Bhati College of Engineering and Management, Abu Road, Rajasthan, India.

65. **Member**, Scientific Committee, International Conference on Peri-Urban Landscapes: Water, Food Security and Environmental Security (Peri-Urban 2014), to be held July 2014, University of Western Sydney, Paramatta Campus, New South Wales, Australia.
66. **Member**, Scientific Committee, International Conference on Water Resources and Climate Change in Tunisia, to be held October 21-23, 2014, in Hammamet, Tunisia.
67. **Member**, International Advisory Board for the International Conference on Multidisciplinary Research & Practice (ICMRP-2014), to be held May 24-25, 2014, at AMA, Ahmedabad, India.
68. **Member**, International Scientific committee, International Conference on Hydrometeorological Risks and ClimateChange, to be held November 12-14, 2014, Cholula, Puebla, Mexico.
69. **Member**, HYDRO 2014, Technical Advisory Committee, to be held December 18-20, 2014, Bhopal, India.
70. **Member**, International Executive Committee, International Conference on Decision Support Systems for early Warning and Mitigation of Disasters (DSS-EWMD), to be held December 28-30, 2014, Durgapur, India.
71. **Member**, Technical Program Committee, 2015 International Conference on Management Science and Engineering (MSE 2015), to be held in Chengdu, Sichuan, China, December 25-27, 2015.
72. **Member**, HYDRO 2014, Technical Advisory Committee, to be held December 18-20, 2014, Bhopal, India.
73. **Member**, International Advisory Board, 2nd International Conference on Multidisciplinary Research & Practice (ICMRP-2015), to be held 2015, at AMA, Ahmedabad, Gujarat, India.
74. **Member**, Steering Committee, National Conference on Water and Sustainable Development, to be held in Brambe, Ranchi, India, January 8-9, 2016.
75. **Member**, International Advisory Committee, Recent Advances in Civil Engineering (RACE-16), to be held December 20-22, 2016, at SVNIT-Surat, Gujarat, India.
76. **Member**, Scientific Committee, World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium- WMCAUS 2016, to be held in Prague, Czech Republic, June 13-17, 2016.
77. **Member**, Technical Program Committee, 2016 Conference on Environmental Pollution and Public Health (EPPH 2016), to be held April 13-15, 2016 in Suzhou, China.

78. **Member**, Scientific Committee, International Conference on Applied Sciences, September, 27-30, 2016, Selcuk, Turkey.
79. **Member**, International Advisory board, 2nd International Conference on Research & Scientific Innovation (2ICRSI - 2016), July 24-27, 2016, Ahmedabad, India.
80. **Member**, 3rd International conference on Multidisciplinary Research & Practice (3ICMRP-2016), November 27-30, 2016, Ahmedabad, India.
81. **Member**, Organizing Committee, 2016 International Conference on Environmental Pollution and Public Health (EPPH 2016), April 13-15, 2016, Suzhou, China.
82. **Member**, International Scientific Committee of the 10th World Congress of EWRA on Water Resources and Environment "PantaRhei", 5-9 July 2017, Athens Greece.
83. **Member**, Technical Program Committee, 2nd Annual International Conference on Energy, Environmental & Sustainable Ecosystem Development [EESD2016], August 26-28, 2016, Kunming, Yunnan, China
84. **Member**, International scientific committee, The 2016 International Conference on Advances in Energy and Environment Research (ICAEER 2016), August 12-14, 2016, Guangzhou, China.
85. **Member**, International scientific committee, **International Conference on Applications of Fluid Dynamics**, Indian Institute of Technology (ISM), Dhanbad, India, December 18-21, 2016.
86. **Member**, Scientific Committee, Conference on Climate Change and Sustainable Development with a special Reference to India, August 2017, Madurai, India.
87. **Member**, International Advisory Committee, International Conference on "Sustainable Natural Resource Management: from Science to Practice (SNRMSP)" 12-13 January 2017, Banaras Hindu University (BHU), Varanasi, U.P., India.
88. **Member**, Scientific Committee, 38th World Congress of IAHR, to be held in Panama, 2019.
89. **Member**, International Advisory Committee, International Conference on "Modeling of Environmental and Water Resources Modeling" to be held March 24-26, 2017, Kanpur, India.
90. **Member**, Organizing Committee, 3rd World Congress on Climate Change and Global warming, to be held October 16-17, 2017, Dubai, UAE.
91. **Member**, Organizing Committee, Annual Congress on Soil Science, to be held December 4-5, 2017, Madrid, Spain.
92. **Member**, Organizing Committee, 1st International Conference on Natural Hazards and Disaster Management, to be held June 1-3, 2017, Osaka, Japan.

93. **Member**, International Advisory Committee, International Conference on "Modeling of Environmental and Water Resources Modeling" to be held March 24-26, 2017, Kanpur, India.
94. **Member**, International Advisory Committee, International Conference on **Sustainable Natural Resource Management: from Science to Practice (SNRMSP)**, 12-13 January 2017, Banaras Hindu University (BHU), Varanasi, U.P., India.
95. **Member**, International Advisory Committee, International Conference on Climate Change and Sustainable Development with Special Reference to India, to be held August, 2017, Madurai, India.
96. **Member**, Organizing Committee, International Summit on Sustainable Agricultural Engineering, September 14-15, 2017, San Antonio, USA.
97. **Member**, Organizing Committee, 3rd International Conference on Sustainable Agriculture Technologies (ICSAT 2017), Chiayi, Taiwan, November 24-26, 2017.
98. **Member**, Technical Advisory Committee, International; Conference on Innovative Techniques for Sustainable Earth & Environment, Coimbatore, India, December 11 -13, 2017
99. **Member**, Advisory Committee, International Conference on Water and Environmental Engineering (iCWEE 2017), Western Sydney University, Australia, November 20-22, 2017
100. **Member**, Forum Scientific Committee, 2nd International Forum of Water Security and Sustainable Development under Changing Environment, Nanjing, China, October 18-20, 2017.
101. **Chair**, International Advisory Committee, International Conference on Sustainable Technologies for Intelligent Water Management, Indian Institute of Technology Roorkee, India, February 16-19, 2018.
102. **Member**, International Advisory Board, 5th International Conference on Multidisciplinary Research & Practice (5ICMRP-2018), December 20-22, 2018, Ahmedabad, India.
103. **Member**, National Conference on Mathematical Modelling, November 23-25, 2018, Indian Institute of Technology Kharagpur, India.
104. **Coordinator of Environmental Geosciences**, 36th International Geological Congress 2-8 March, 2020, New Delhi, India.
105. **Member**, technical Committee, HYDRO 2018 International, December 19-21, 2018, Patna, India.
106. **Member**, Technical Program Committee (TPC), 2nd International Conference on Social Science, Public Health and Education, November 25-27, 2018, Sanya, China.

11. SERVICE TO PROFESSIONAL SOCIETIES: [held 15 offices and served on 20 national/international panels, 36 professional committees, 25 consulting Projects, and 4 community groups]

11.1 Offices Held at National/International Level: [15 Offices]

1. **President**, Louisiana Section, American Institute of Hydrology, from 1987 to 1992.
2. **Vice Chairman**, Crop Water Use Committee, U.S. Committee on ICID, 1988-1995.
3. **Vice President**, Indian Association of Hydrologists, January 1995-2000.
4. **Chairman**, Nomination Committee, American Institute of Hydrology, Fall 1996.
5. **Senior Vice President**, American Institute of Hydrology (AIH), 1999-2000.
6. **President**, American Institute of Hydrology, 2001-2003.
7. **Past President**, American Institute of Hydrology, 2003-2005.
8. **Secretary**, Watershed Council, American Society of Civil Engineers, 2012-2014.
9. **Vice Chair**, Watershed Council, American Society of Civil Engineers, 2014-2015.
10. **Chair**, Watershed Council, American Society of Civil Engineers, 2015-2018.
11. **Past Chair**, Watershed Council, American Society of Civil Engineers, 2018-2021.
11. **Member-Liaison**, Technical Executive Committee (ExCom), Environmental and Water Resources Institute, American Society of Civil Engineers, 2015-2018.
12. **Member**, Advisory Board, American Institute of Hydrology, Carbondale, Illinois, 2011-present.
13. **Member**, Executive Board, American Academy of Water Resources Engineers, Reston, Virginia, 2015-2018.
14. **Vice President**, Association of Global Groundwater Scientists (AGGS), 2016-2019.
15. **President-Elect**, American Academy of Water Resources Engineers, 2018-2019.
16. **President**, American Academy of Water Resources Engineers, 2019-2020.
17. **PastPresident**, American Academy of Water Resources Engineers, 2019-2020.

11.2 Membership on National/International Panels: [20 Panels]

- 1. Member**, Technical Panel, Technical Service Center, U.S. Bureau of Reclamation, Denver Federal Center, Denver, Colorado, 2000-2006.
- 2. Member**, Interagency Hydrologic Modeling Group, Denver Federal Center, U.S. Bureau of Reclamation, Denver, Colorado, 1999-2006.
- 3. Member**, Technical Panel, Department of Homeland Security, Division of Health Assessment and Consultation, Atlanta, Georgia, July 2003.
- 4. Member** of Review Panel, NAFTA, U.S. Department of Education, Washington, D.C., May, 2004.
- 5. Member**, Technical Panel, Agency for Toxic Substance and Disease Registry, Department of Homeland Security, Atlanta, Georgia, March 2005.
- 6. Member** of SFWMM Review Panel, South Florida Water Management District, West Palm Beach, Florida, September-October, 2005.
- 7. Member**, EPA-2007 Urban/Regional Planning Fellowships Panel, Silver Spring, Maryland, March 2007.
- 8. Member** of USGS-UC Davis-Willow Slough Scientific Advisory Committee, Davis, California, 2007-2009.
- 9. Member** of Review Panel, Kuwait Institute of Scientific Research, Kuwait, 2009.
- 10. Member** of SFWMM Review Panel, South Florida Water Management District, West Palm Beach, Florida, April-October, 2010.
- 11. Member** of Review Panel, Civilian Research Development Foundation, April 2010.
- 12. Member** of Review Panel, Program for International Research and Education (PIRE), National Science Foundation, May 2010.
- 13. Member** of Review Panel, Federal Emergency Management Administration, February-June, 2012.
- 14. Reviewer**, World Bank, for evaluation of National Institute of Hydrology, Roorkee, India, 2012-13.
- 15. Panel**, European Commission, Water Works-14, 2015.

16. **Member** of Review Panel, Department of Civil Engineering, Indian Institute of Technology Kanpur, Kanpur, India, 2014-2017.

17. **Member** of Review Panel, Department of Civil Engineering, Indian Institute of Technology Guwahati, Guwahati, India, 2014-2017.

18. **Chair**, FLOODNET Panel, National Science and Engineering Council of Canada, 2015-2020.

19. **Member**, Review Panel, CalEPA, 2018.

20. **Member**, Review Panel, NJWTP021717, Township of Wayne, Passaic County, New Jersey, 2019.

11.3 Membership on National Committees: [36 Committees]

1. **Member**, Committee on Precipitation, American Geophysical Union, from October, 1980 - September 1983.

2. **Corresponding Member**, Watershed Management Committee of the Irrigation and Drainage Division, American Society of Civil Engineers, since October 1, 1979.

3. **Corresponding Member**, Surface Water Hydrology Committee of the Hydraulics Division, American Society of Civil Engineers, from October 1, 1979 - September 30, 1982.

4. **Corresponding Member**, Task Committee on Quantifying Land Use Change Effects, American Society of Civil Engineers, from August, 1980 - July 1982.

5. **Corresponding Member**, Task Committee on Estimation of Runoff Time Characteristics, American Society of Civil Engineers, from August, 1980 - July 1982.

6. **Corresponding Member**, On-Farm Irrigation Committee of the Irrigation and Drainage Division, American Society of Civil Engineers, from March, 1981 - February 1984.

7. **Member**, Education Committee, Technical Council on Computer Practices, American Society of Civil Engineers, 1983-1988.

8. **Member**, Publications Committee, American Water Resources Association, from January 1983 - December 1985.

9. **Delegate**, University Council on Water Resources, 1984-1986.

10. **Control Member**, Task Committee on Infiltration Manual, Division of Irrigation and Drainage, American Society of Civil Engineers, Fall 1985-1988.

11. **Member**, Working Group on Modeling and Statistics, American Water Resources Association, 1984-1987.
12. **Member**, Working Group on Surface Hydrology, American Water Resources Association, 1984-1987.
13. **Member**, Publications Committee, American Institute of Hydrology, 1985-1988.
14. **Member**, Technical Council on Computer Practices, American Society of Civil Engineers, from 1987 to present.
15. **Member**, Surface Water Hydrology Committee, Division of Irrigation and Drainage, American Society of Civil Engineers, 1988 to 1993.
16. **Member**, Publications Committee, American Water Resources Association, from 1989 to 1996.
17. **Member**, Awards Committee, American Water Resources Association, from 1989 to present.
18. **Correspondent**, European Committee for Water Resources Management (ECOWARM), from January 1990 to 2002.
19. **Member**, Geographic Information Systems (GIS) Committee, American Water Resources Association, from 1990 to 1995.
20. **The United States Achievement Academy Nominator**, The Official National Collegiate Engineering Awards, Lexington, Kentucky, 1993-present.
21. **Member**, Surface Water Hydrology Committee, ASCE, 1998-present.
22. **Member**, Task Committee on Wetlands Hydrology, ASCE, 1998-present.
23. **Member**, On-Farm Irrigation Committee, ASCE, 1988-present.
24. **Member**, Evapotranspiration in Irrigation and Hydrology Committee, ASCE, 1998-present.
25. **Member**, Crop Water Use Committee, U.S. Committee on ICID, 1995-2000.
26. **Member**, Council on Natural Disaster Reduction, ASCE, 1998-2004.
27. **Member**, International Committee, AWRA, 2000-2004.
28. **Member**, Hydrology and Watershed Management, AWRA, 2000-2006.
29. **Member**, Education and Research Council, EWRI, ASCE-2005-present.

30. **Member**, Surface Water Hydrology Technical Committee, EWRI, ASCE, 2004-present.
31. **Member**, Groundwater Hydrology Technical Committee, EWRI, ASCE, 2004-present.
32. **Member**, Hydro-Climate Technical Committee, EWRI, ASCE, 2008-present.
33. **Member**, AAWRE Awards Committee, ASCE, 2013-2014.
33. **Member**, EWRI Subcommittee on Awards, ASCE, 2013-2104.
34. **Member**, AAWRE Eminence Committee, ASCE, 2016-2019.
35. **Member**, AAWRE Awards Committee, ASCE, 2018-2021.
36. **Member**, AAWRE International Committee, ASCE, 2018-2021.
37. **Member**, AAWRE Nominations Committee, ASCE, 2021-present.
38. **Member**, AAWRE By-Laws Committee, ASCE, 2021-present.

11.4 Service to Professional Community: [4 Groups]

1. **Organizer**, Water Resources Interest Group composed of those in Baton Rouge engaged in education, research or service related to water resource technology, Spring 1983-1985.
2. **Member**, Scientific Committee, UniversitaItaliana Per Stranieri, Perugia, Italy, Fall 1983-1985.
3. **Faculty Associate**, Intercollegiate Studies Institute, Inc., Montclair, California, from Fall 1987 to present.
4. **Member**, International Advisory Committee, Indo-Gulf Centre for Arid Regions Engineering 2014-present.

12. Consulting: [25 Consulting Projects]

Served as a consultant on the following projects/assignments:

1. **A Statistical Analysis of Water Quality Parameters:** October, 1974, Scientific and Environmental Engineering Consultants, Socorro, New Mexico.
2. **A Hydrologic Evaluation of Lake Serene-North Dam Safety MS 698, Lamar County, Mississippi, Pascagoula River Basin:** January, 1979, Kemp, Springer and Associates, Meridian, Mississippi.

3. **Geotechnical Evaluation of Damages to Waterproofing and Contamination of Stone Courses at Leveling Slab, Foundation for 4-story Office Tower, Soil and Pavement Laboratory Building (Phase II):** Waterways Experiment Station, Vicksburg, Mississippi, 1979, O. Rendon Co., Starkville, Mississippi.
4. **A Geomorphic Approach to Hydrograph Synthesis for Ungaged Watersheds:** 1981-82, Mississippi State University and Waterways Experiment Station, U.S. Army Corps of Engineers, Vicksburg, Mississippi.
5. **Assessment of Flooding Potential of the Woodland Heights Subdivision, Pineville, Louisiana:** February 1984, Gold, Little, Simon, Weems and Bruser, Alexandria, Louisiana.
6. **Determining the Effect of Potential Residential Development on Flood Peak of the Big Papio River:** June 1984, Omaha, Nebraska.
7. **Sensitivity of Flood Wave Parameters to Dam Breach Erosion Modeling Procedures:** May - August, 1985, Battelle, Research Triangle Park, North Carolina.
8. **Evaluation of an Invention: Flood Shield System:** for the Bureau of Standards, U.S. Department of Commerce, Gaithesburg, Maryland, July - August, 1987.
9. **Member, Board of Directors/Consultants,** Meta Planners and Management Consultants, Patna, India, 1986-1998.
10. **Evaluation of an Invention: Hydro-Cor, Coronarization of the Conventional Hydraulics Pressure Multiplier:** for National Institute of Standards and Technology, U.S. Department of Commerce, Gaithesburg, Maryland, July 1989.
11. **Saltwater Intrusion in Estuaries:** Southern University, Baton Rouge, Louisiana, on a Project funded by U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi, June, 1990.
12. **Hydrological Modeling Using Geomorphological Parameters:** Louis Berger International, Inc., for the U.S. Agency for International Development, Washington, D.C., 1991-1992.
13. **Quantifying the Effect of Highway Embankment:** Soileau and Associates for Louisiana Department of Transportation and Development, Rayne, Louisiana, 1991-1992.
14. **Water Quality Monitoring Network Design:** TUBITAK-Sponsored Project at Dokuz Eylul University, Bornova, Izmir, Turkey.
15. **Evaluation of an Invention: Fluid Flow Release Regulating Device:** for National Institute of Standards and Technology, U.S. Department of Commerce, Gaithesburg, Maryland, March 1993.

16. **Development of a Geomorphology-Based Hydrologic Model for Indian Catchments:** ISPAN for Camp Dresser and McKee and the U.S. Agency for International Development, Washington, D.C., July-August 1993.
17. **Literature Search on Stochastic Surface and Subsurface Flows with Particular Reference to Time Series and Maximum Entropy Methods:** Canada Centre for Inland Water Waters, National Water Research Institute, Burlington, Ontario, Canada, January-April 1995.
18. **Hydrologic Report for the Christiana Subdivision, St. Tammany Parish, Louisiana:** Ann Sobol and Associates for Residents in the Christiana Subdivision area, St. Tammany Parish, Louisiana, January-March, 1998.
19. **Development of Stage-Discharge Rating Curves for the Upper Mississippi River Reach,** Pyburn and Odum, Inc., Baton Rouge, Louisiana, November-December, 1998.
20. **World Bank-Funded Project: Orissa Water Resources Consolidation Project-Watershed Modeling,** Consortium for International development, Tucson, Arizona, and Sheladia Associates, Rockville, Maryland, July-August, 1999.
21. **World Bank-Funded Project: Orissa Water Resources Consolidation Project-Hydrologic Drought Modeling,** Consortium for International development, Tucson, Arizona, and Sheladia Associates, Rockville, Maryland, January, 2000.
22. **Multifractal Study of Precipitation in Mainland Portugal:** PRAXIS/P/ECM/12018/1998, Department of Civil Engineering, University of Coimbra, Coimbra, Portugal, 2001.
23. **The Influence of Storm Movement on Overland Flow:** POCTI/35661/MGS/2000, Department of Civil Engineering, University of Coimbra, Coimbra, Portugal, 2001.
24. **Hydrologic and Hydraulic Assessment of Flooding in the Beauchene Residential Development:** Stone, Pigman, Walther, Wittmann & Hutchinson, LLP, New Orleans, 2001.
25. **Hydrologic and Hydraulic Assessment of Flooding in the Oakdale Residential Development:** Sharp Henry Cerniglia Weaver & Hymel, 2002.

13. External Examinership and Refereeship: [144 Ph.D. dissertations]

13.1 External Examinership (144dissertations)

1. Served as an External Examiner for **Ph.D.** dissertation, **“Intercomparison of Real-Time Highflow Forecasting Models for Yamuna Catchment,”** submitted by A.K. Gosain to Indian Institute of Technology, New Delhi, India, June, 1984.

2. Served as an External Examiner for **Ph.D.** dissertation, “**A Two-Dimensional Finite Element Model for Dispersion (2D-FED) in Coastal Aquifers,**” submitted by M.M. Sherif to Irrigation and Hydraulics Department, Cairo University, Cairo, Egypt, June, 1987.
3. Served as an External Examiner for **Ph.D.** dissertation, “**Systems Study of Tank Irrigation,**” submitted by S. Ganapathi Mayya to Department of Civil Engineering, Indian Institute of Science, Bangalore, India, November, 1987.
4. Served as an External Examiner for **Ph.D.** dissertation, “**Entropy Based Redundancy Measures in Water Distribution Network Design,**” submitted by K. Awumah to Department of Civil Engineering, The University of Manitoba, Winnipeg, Canada, November, 1990.
5. Served as an External Examiner for **Ph.D.** dissertation, “**Modelling for Flood Flows,**” submitted by N.K. Goel to Department of Hydrology, University of Roorkee, Roorkee, India, December, 1990.
6. Served as an External Examiner for **Ph.D.** dissertation, “**Modeling Evapotranspiration through Regression Analysis with a New Approach to Investigation of Interrelations among Climatological Variables,**” submitted by R.S. Prasad, to Department of Electrical Engineering, Indian Institute of Technology, Kharagpur, India, 1993.
7. Served as an External Examiner for the **Ph.D.** dissertation “**Contribution A L'Estimation Des Crues Rares A L 'Aide MethodesDeterministes - Apport de la Description Geomorphologique pour la Simulation des Processus d' ecoulement,**” submitted by D.D. Berod to Department of Rural Engineering, Swiss-Federal Institute of Technology, Lausanne, Switzerland, December 1994.
8. Served as an External Examiner for the **Ph.D.** dissertation, “**Entropy Principles in Prediction of Water Quality Values at Discontinued Monitoring Stations,**” submitted by A.S. Kusmulyano to Department of Civil Engineering and Building, Central Queensland University, Rockhampton, Australia, January 1995.
9. Served as an External Examiner for the **Ph.D.** dissertation, “**Reliability Analysis of Water Distribution System,**” submitted by M.L. Kansal to Department of Civil Engineering, University of Delhi, Delhi, February, 1997.
10. Served as an External Examiner for the **Ph.D.** dissertation, “**Evaluation of Furrow Irrigation Models for South-East Australia,**” submitted by M.E. Baiat to School of Agriculture and Rural Development, University of Western Sydney, Richmond, Australia, October 1997.
11. Served as an External Examiner for the **Ph.D.** dissertation, “**Numerical Modeling of Contaminant Transport in Aquifer Systems,**” submitted by A.K. Mohamed to Department of Civil Engineering, Indian Institute of Technology, Powai, Mumbai, India, February 1998.

12. Served as an External Examiner for the **Ph.D.** dissertation, “**Regionalization of Flood Extremes Using Pattern Analysis,**” submitted by Ahmad Fakheri Fard to Department of Civil Engineering, Indian Institute of Technology, Delhi, India, July 1998.
13. Served as an External Examiner for the **Ph. D.** dissertation, “**Soil Erosion, Population Pressure and Conservation Strategies in the RiamKanan Catchment, Indonesia,**” submitted by Haji Moehansyah to Faculty of Environmental Management and Agriculture, University of Western Sydney, Hawkesbury, Richmond, Australia, September, 1998.
14. Served as External Examiner for the **Ph. D.** dissertation, “**Knowledge - Based Decision Support System for Agricultural Land Use Development of a Watershed,**” submitted by Nisar Ahmed, T.R., to Graduate Faculty, Indian Institute of Technology, Powai, Bombay, India, April, 1999.
15. Served as External Examiner for the **Ph. D.** dissertation, “**Some Studies on Hydrologic and Hydraulic Reliability Analysis in Water Problems,**” submitted by Sanjay Kumar, to the Faculty of Technology, University of Delhi, July, 1999.
16. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrological Modelling for Effective Management of a Small Watershed,**” submitted by M. P. Tripathi, to Indian Institute of Technology, Kharagpur, India, October, 1999.
17. Served as External Examiner for the **Ph. D.** dissertation, “**Surface Water and Groundwater Interaction Studies Using Isotope Techniques,**” submitted by R. P. Nachiappan to Graduate Faculty, University of Roorkee, Roorkee, India, March, 2001.
18. Served as External Examiner for the **Ph. D.** dissertation, “**Group-Based Estimation of Missing Hydrological Data,**” submitted by A. Elshorbagy to Graduate Faculty, University of Manitoba, Winnipeg, Manitoba, Canada, March, 2001.
19. Served as External Examiner for the **Ph. D.** dissertation, “**Simulation of Soil Moisture Regime and Yield in the Cropped Fields,**” submitted by R. K. Gupta to Graduate Faculty, Indian Institute of Technology, New Delhi, India, March, 2001.
20. Served as External Examiner for the **Ph. D.** dissertation, “**Impact of Urbanization on Flood Peak in a Drainage Basin,**” submitted by C. Yong to Graduate Faculty, Nanyang Technological University, Singapore, March, 2001.
21. Served as External Examiner for the **Ph. D.** dissertation, “**Higher-Order Unconditionally Stable Schemes for Simulation of Flow and Transport Processes in Water Bodies,**” submitted by Mukund R. Kulkarni to Graduate Faculty, Indian Institute of Technology, Bombay, India, February 2002.

22. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrological Studies for Small Watershed Using Distributed Parameter Models,**” submitted by Ramadhar Singh to Graduate Faculty, Indian Institute of Technology, Kharagpur, India, June 2002.
23. Served as External Examiner for the **Ph. D.** dissertation, “**Improved Crop Production Integrating GIS and Genetic Algorithms,**” submitted by Amor Valeriano M. Ines to Graduate Faculty, Asian Institute of Technology, Bangkok, Thailand, December, 2002.
24. Served as External Examiner for the **Ph. D.** dissertation, “**Analysis of Contaminant Transport in Groundwater Using Finite Element Method,**” submitted by C. Krishnaiah to Graduate Faculty, University of Pune, India, July 2002.
25. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrological Water Balance Modelling of a Treated Watershed,**” submitted by M. Nagdeve, to Indian Institute of Technology, Kharagpur, India, October, March 2004.
26. Served as External Examiner for the **Ph. D.** dissertation, “**Spatially Distributed Simulation of an Irrigation System,**” submitted by M. K. Goel, to Indian Institute of Technology, Roorkee, India, March, 2004.
27. Served as External Examiner for the **Ph. D.** dissertation, “**Design and Development of Soil Moisture Sensor and Computer Controlled Automated Irrigation System,**” submitted by A. Joshi, to Indian Institute of Technology, Kharagpur, India, October, May 2004.
28. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrological Data Interpolation Using Entropy,**” submitted by M. Ilunga, to University of the Witwatersrand, Johannesburg, South Africa, November 2004.
29. Served as External Examiner for the **Ph. D.** dissertation, “**Two-Dimensional Mixing of Conservative Pollutants in Open Channels,**” submitted by S. Singh, to Thapar Institute of Engineering and Technology, Patiala, India, November 2004.
30. Served as External Examiner for the **Ph. D.** dissertation, “**Stability Analysis of Levees,**” submitted by A.K. Singh, to Indian Institute of Technology, Roorkee, India, May 2005.
31. Served as External Examiner for the **Ph. D.** dissertation, “**Cooperative Water Resources Allocation among Competing Users,**” submitted by L. Wang, to University of Waterloo, Waterloo, Canada, December, 2005.
32. Served as External Examiner for the **Ph. D.** dissertation, “**Spatio-Temporal Neural Network and Time Series Approaches in Runoff and Sediment Yield Modelling,**” submitted by C. Ramesh, to Indian Institute of Technology, Mumbai, India, January 2006.

33. Served as External Examiner for the **Ph. D.** dissertation, “**Numerical Modelling for Water Network Analysis,**” submitted by A. M. M. Abd El Aal, to Alexandria University, Alexandria, Egypt, January, 2006.
34. Served as External Examiner for the **Ph. D.** dissertation, “**Study on Groundwater Recharge Characteristics at Reclaimed Land Site,**” submitted by Stephen Tan Boon Kean to Nanyang Technological University, Singapore, 2006.
35. Served as External Examiner for the **Ph. D.** dissertation, “**Breach Growth in Clay Dikes,**” submitted by Yonghui Zhu to Delft University of Technology, Delft, the Netherlands, 2006.
36. Served as External Examiner for the **Ph. D.** dissertation, “**Drought Characterization and Forecasting-A Hybrid Approach,**” submitted by Ashok Kumar Mishra to Indian Institute of Technology, Kharagpur, India, 2006.
37. Served as External Examiner for the **Ph. D.** dissertation, “**Development of Decision Support System for Water Resources Planning in a Watershed,**” submitted by Kishor Anil Dhore to Indian Institute of Technology, Roorkee, India, 2006.
38. Served as External Examiner for the **Ph. D.** dissertation, “**Groundwater Remediation Strategies Using FEM-GA Simulation Optimization Models,**” submitted by Mastan Vali Sharief Shaik to Indian Institute of Technology, Bombay, India, 2007.
39. Served as External Examiner for the **Ph. D.** dissertation, “**Simulation of Dam Break Hydraulics in Natural Flood Plain Topography,**” submitted by Mimi Das Saikia to Indian Institute of Technology, Guwahati, India, 2007.
40. Served as External Examiner for the **Ph. D.** dissertation, “**Variable Parameter Flood Routing Method for Hydrological Analyses of Ungaged Basins,**” submitted by Bhabagrahi Sahoo to Indian Institute of Technology, Roorkee, India, 2007.
41. Served as External Examiner for the **Ph. D.** dissertation, “**Efficient Operation of On-Farm Reservoir,**” submitted by Gupta Sanjeev Kumar Varinder to National Institute of Technology, Kurukshetra, India, 2007.
42. Served as External Examiner for the **Ph. D.** dissertation, “**Modeling of Rainfall Generated Runoff and Sediment Yield,**” submitted by Peushpendra Kumar Singh to Indian Institute of Technology, Roorkee, India, 2007.
43. Served as External Examiner for the **Ph. D.** dissertation, “**Optimal Monitoring Network Design for Contamination Detection and Sequential Characterization of Contaminant Plumes with Feedback Information Using Simulated Annealing and Linked Kriging ,**” submitted by Deepesh Singh to Indian Institute of Technology, Kanpur, India, 2008.

44. Served as External Examiner for the **Ph. D.** dissertation, “**Subsurface Barrier for Water Conservation in Lateritic Formations,**” submitted by Udaykumar G. to National Institute of Technology, Manglore, India, 2008.
45. Served as External Examiner for the **M.S.** thesis, “**Analyses of Urban Storm Water Quantity and Quality in Singapore,**” submitted by Tan Bee Ching to Nanyang Technological University, Singapore, 2008.
46. Served as External Examiner for the **Ph.D.** thesis, “**Integrated Hydro-Economic Equity Support Water Allocation Model: An Application to the Chao Phraya River Basin, Thailand,**” submitted by Leena Divakar to Asian Institute of Technology, Thailand, 2009.
47. Served as External Examiner for the **Ph. D.** dissertation, “**Seepage Analysis from Furrow Channels,**” submitted by P.P. Samal to Indian Institute of Technology, Roorkee, India, 2009.
48. Served as External Examiner for the **M.S.** thesis, “**Water Demand Forecasting In Umm Al-Qwain Using IWR-MAIN,**” submitted by Aysha Abdulla Al Mualla to United Arab Emirates University, Al In, UAE, 2009.
49. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrologic Regionalization for Flood Predictions in Ungaged Basins in Krishna basin, India,**” submitted by Manoj Mujumdar to National Institute of Technology, Surathkal, Karnatak, India, 2009.
50. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrological Modeling for Flood Flows,**” submitted by S. Sarkar to Indian Institute of Technology, Roorkee, India, 2009.
51. Served as External Examiner for the **Ph. D.** dissertation, “**Single Reservoir and Multi-Reservoir Inflow Prediction Using Artificial Intelligent,**” submitted by Alka Sunil Kote to Indian Institute of Technology, Bombay, India, 2010.
52. Served as External Examiner for the **Ph. D.** dissertation, “**Study on Bridge Pier Scour in Clay-Sand Mixed Cohesive Beds-An Experimental Approach,**” submitted by Susanta Chaudhari to Bengal Engineering and Science University, Shibpur, India, 2010.
53. Served as External Examiner for the **Ph. D.** dissertation, “**Overland Flow Modelling Using Approximate Convection-Diffusion Equations,**” submitted by K.R. Vitthal to Indian Institute of Technology, Roorkee, India, 2010.
54. Served as External Examiner for the **Ph. D.** dissertation, “**Crop Calendar Adjustment Study in Sathnapur Irrigation System,**” submitted by K. Ramakrishnan to Sastra University, Thanjavur, Tamilnadu, India, 2010.
55. Served as External Examiner for the **Ph. D.** dissertation, “**Optimisation of Monitoring Networks for Water Systems: Use of Information Theory, Value of Information and Public**

Participation,” submitted by J. L. Alfonso Segura to UNESCO-IHE, Institute for Water Education, Delft, The Netherlands, 2010.

56. Served as External Examiner for the **Ph. D.** dissertation, “**Engineering Approach to Design of Highly Porous Bunds as Rainwater Harvesting Structures-Hydrological and Hydraulic Studies,**” submitted by S.G. Joshi to Visvesvaraya Technological University, Belgaum, India, 2010.

57. Served as External Examiner for the **Ph. D.** dissertation, “**Rural to Urban Migration and Household Environmental Problems in Slums of Bangalore Metropolitan City,**” submitted by S. Gowda to Visvesvaraya Technological University, Belgaum, India, 2010.

58. Served as External Examiner for the **Ph. D.** dissertation, “**Studies on Evaluation of Groundwater Resources Using Geo-electrical Techniques in Some Parts of Alluvial and Hard Rock Areas of Eastern Uttar Pradesh,**” submitted by S.K. Singh to Banaras Hindu University, Varanasi, India, 2011.

59. Served as External Examiner for the **Ph. D.** dissertation, “**Reservoir Operation Considering Downstream Impact of a Hydroelectric Project,**” submitted by M. R. Ray to Indian Institute of Technology, Guwahati, India, 2011.

60. Served as External Examiner for the **Ph. D.** dissertation, “**2-D Depth Averaged Modelling for Curvilinear Braided Stretch of Brahmaputra River,**” submitted by M.P. Akhtar to Indian Institute of Technology, Roorkee, India, 2011.

61. Served as External Examiner for the **Ph. D.** dissertation, “**Optimal Ecological Management Practices for Controlling Sediment and Water Yield from a Hilly Urban System within Sustainable Limit,**” submitted by Banasri Sarma to Indian Institute of Technology, Guwahati, India, 2012.

62. Served as External Examiner for the **Ph. D.** dissertation, “**Investigations on Flow and Sediment Movement Effected by Waveform Structures,**” submitted by D.K. Paul to Jadavpur University, Kolkata, India, 2012.

63. Served as External Examiner for the **Ph. D.** dissertation, “**Planning for Optimal Water Resources Development of Transboundary Godavari Basin,**” submitted by D. Jhajharia to Indian Institute of Technology, Roorkee, India, 2012.

64. Served as External Examiner for the **Ph. D.** dissertation, “**Runoff Dynamics in Tank Catchments and Strategy for Tank Management-A Case Study from the Varada River Basin in Sub-Tropical Region of South India,**” submitted by Mrs. T.N. Bhagwat to National Institute of Technology Karnataka, Surathkal, India, 2012.

65. Served as External Examiner for the **Ph. D.** dissertation, “**Modeling the Influence of Storm Movement and Wind-Driven Rainfall on Overland Flow in Urban Areas,**” submitted by J.M.G.P. Isidoro to University of Coimbra, Coimbra, Portugal, 2012.
66. Served as External Examiner for the **Ph. D.** dissertation, “**Development of Indicators and Framework for Assessing River Health in Peri-Urban Landscapes: A Case Study of the Hawkesbury-Nepean River System,**” submitted by M.U.A. Pinto to University of Western Sydney, Penrith, New South Wales, Australia, 2012.
67. Served as External Examiner for the **Ph. D.** dissertation, “**Suitability of Subsurface Drip Irrigation for Sustainable Pasture Production in the Riverine Plain,**” submitted by L. Finger to The University of Melbourne, Melbourne, Victoria, Australia, 2013.
68. Served as External Examiner for the **Ph. D.** dissertation, “**Optimal Planning and Operation of a Water Transfer Link,**” submitted by M.K. Choudhary to Indian Institute of Technology, Roorkee, India, 2013.
69. Served as External Examiner for the **Ph. D.** dissertation, “**A Practically Viable Simplified Hydrodynamic Stage-Hydrograph Routing Method,**” submitted by H. Mohanty to Indian Institute of Technology, Roorkee, India, 2013.
70. Served as External Examiner for the **Ph. D.** dissertation, “**Climate Change Study on Hydrometeorological Variables on Different Spatio-temporal Scales,**” submitted by Darshana to Indian Institute of Technology, Roorkee, India, 2013.
71. Served as External Examiner for the **Ph. D.** dissertation, “**Study on Reactive Solute Transport Through Porous Media,**” submitted by Deepak Swami to Indian Institute of Technology, Roorkee, India, 2014.
72. Served as External Examiner for the **Ph. D.** dissertation, “**Drought Assessment, Impacts and Farmer’s Coping Mechanism in Balochistan,**” submitted by Mr. Muhammad Ashraf to Asian Institute of Technology, Bangkok, Thailand, 2014.
73. Served as External Examiner for the **Ph. D.** dissertation, “**A Unified Approach for Estimation of Runoff and Sediment Yield from Ungagged Catchments in Submountainous Area of North India,**” submitted by Mr. K.K. Gupta to PEC University of Technology, Chandigarh, India, 2014.
74. Served as External Examiner for the **Ph. D.** dissertation, “**Modelling of Soil Moisture Uptake by Plants in a Multi-layer Soil,**” submitted by Mr. Rohitashw Kumar to National Institute of Technology, Hamirpur, Himachal Pradesh, India, 2014.
75. Served as External Examiner for the **Ph. D.** dissertation, “**Objective Assessment of Indices and Vulnerability to Drought,**” submitted by Vinit Kumar Jain to Indian Institute of Technology, Roorkee, India, 2014.

76. Served as External Examiner for the **Ph. D.** dissertation, “**Two- and Three-Dimensional Analysis of Flow into Ditch Drains from a Poned Field**,” submitted by **Mr. Ratan Sarmah** to Indian Institute of Technology, Guwahati, India, 2014.
77. Served as External Examiner for the **Ph. D.** dissertation, “**Optimal Protection Measures for Controlling River Bank Erosion**,” submitted by **Mr. Hriday Mani Kalita** to Indian Institute of Technology, Guwahati, India, 2014.
78. Served as External Examiner for the **Ph. D.** dissertation, “**Streamflow Modeling and Impact of Climate Change**,” submitted by **Mr. Laxmi Narayan Thakural** to Indian Institute of Technology, Roorkee, India, 2014.
79. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrometeorological Approach for Probabilistic Soil Moisture Simulation Usng Climate Indices**,” submitted by **Mr. Sarit Kumar Das** to Indian Institute of Technology, Kharagpur, India, 2015.
80. Served as External Examiner for the **Ph. D.** dissertation, “**Aridity and Drought in a Non-stationary Climate**,” submitted by **Mr. Mohammad Amin Azadi Zarch** to University of New South Wales, Sydney, Australia, 2015.
81. Served as External Examiner for the **Ph. D.** dissertation, “**Study of Temporal Variation of Inflow to the Dams of Rajasthan State with Special Reference to Ramgarh and Bisalpur Dams**,” submitted by **Mr. Naveen Kumar Gupta** to Malviya National Institute of Technology, Jaipur, India, 2015.
82. Served as External Examiner for the **Ph. D.** dissertation, “**Design of Water Management System Using Embedded Systems and Soft Computing Techniques**,” submitted by **Mr. Hariom Goyal** to National Institute of Technology, Durgapur, India, 2015.
83. Served as External Examiner for the **Ph. D.** dissertation, “**Characterization and Hydroclimatic Prediction of Droughts in the Context of Changing Climate**,” submitted by **Ms. Kironmala Chand** to Indian Institute of Technology, Kharagpur, India, 2015.
84. Served as External Examiner for the **Ph. D.** dissertation, “**Optimal Planning and Operation of a Water Transfer link**,” submitted by **Mr. Mahendra Kumar Choudhary** to Indian Institute of Technology, Roorkee, India, 2015.
85. Served as External Examiner for the **Ph. D.** dissertation, “**Scour due to Some Hydraulic Structures in Non-Chesive Sediment Bed**,” submitted by **Mr. Mrinal Kanti Manik** to Indian Institute of Engineering Science and Technology, Shibpur, India, 2016.
86. Served as External Examiner for the **Ph. D.** dissertation, “**Exploring Influencing Factors to public Participation in Solid Waste Source-Separated Collection in China**,” submitted by **Mrs. Jing Mato** University of Manitoba, Winnipeg, Canada, 2016.

87. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrodynamics of Vegetative Cover with Downward Seepage,**” submitted by **Thokchom Bebina Devito** Indian Institute of Technology, Guwahati, India, 2016.
88. Served as External Examiner for the **Ph. D.** dissertation, “**Modelling Wetting Patterns in Various Soil Profiles under Drip Irrigation Systems Using Plain and Magnetized Water,**” submitted by Ahmed A.M. Al-Ogaidi to Universiti Putra Malaysia, Malaysia.
89. Served as External Examiner for the **Ph. D.** dissertation, “**Dynamics of Braided River Morphology Using Advanced Geo-spatial Technology and Modeling Techniques,**” submitted by **Amit Kumar Dubey** to Indian Institute of Technology, Guwahati, India, 2016.
90. Served as External Examiner for the **Ph. D.** dissertation, “**Change in Snow Cover Area and Flow Scenario of the Brahmaputra and Bubansiri Basins due to Climate Change,**” submitted by **Swapnali Barmanto** Indian Institute of Technology, Guwahati, India, 2016.
91. Served as External Examiner for the **Ph. D.** dissertation, “**Economic Analysis for Modernization of Kakrapar Right Bank Main Canal (India),**” submitted by **Batliwala Bipinchandra J.** to S.V. National Institute of Technology, Surat, India, 2016.
92. Served as External Examiner for the **Ph. D.** dissertation, “**Study of Sediment Extractor,**” submitted by **Bhupendra Kishore Singh** to National Institute of Technology, Kurushetra, India, 2016.
93. Served as External Examiner for the **Ph. D.** dissertation, “**Assessment of Land Use/Land Cover Change and Delineation of Water Harvesting Potential Zones in Arid/Semi-arid Regions of India**” submitted by Thakkar Ameer Das Kumar Das to Indian Institute of Technology Kharagpur, West Bengal, India, 2017.
94. Served as External Examiner for the **Ph. D.** dissertation, “**River Basin Planning of Subansiri River under Climate Change Scenarios,**” submitted by **Shivam** to Indian Institute of Technology, Guwahati, India, 2017.
95. Served as External Examiner for the **Ph. D.** Dissertation, “**Assessing the Hydrological Impacts of Climate and Land Use Change in India with Uncertainty,**” submitted by C.G. Madhusidhanan to Indian Institute of Technology Bombay, Mumbai, India, 2017.
96. Served as External Examiner for the **Ph. D.** Dissertation, “**A Coupled Flow and Solute Transport Model for Real-Time Monitoring of Conservative River Pollutants Using Remote Sensing Observations,**” submitted by **Ratnakar Swain** to Indian Institute of Technology Kharagpur, West Bengal, India, 2017.
97. Served as External Examiner for the **Ph. D.** Dissertation, “**Probabilistic Analysis of Flow Networks Using the Maximum Entropy Method,**” submitted by Mr. Steven Waldrip to

University of New South Wales Canberra, Australia, 2017.

98. Served as External Examiner for the **Ph. D.** dissertation, “**A 2-D Coupled Surface and Sub-surface Flow Model for River Flow Simulation with Piedmont Zone,**” submitted by **Sudarshan Patowary** to Indian Institute of Technology, Guwahati, India, 2017.

99. Served as External Examiner for the **Ph. D.** dissertation, “**Turbulence in Wave-Current Combined Flow,**” submitted by **Mr. Santosh Kuamr Singht** to Indian Institute of Engineering Science and Technology, Shibpur, India, 2017.

100. Served as External Examiner for the **Ph. D.** dissertation, “**Turbulence Statistics of Wave-Current Flow over Hemisphere,**” submitted by **Mr. Krishnendu Barmanto** Indian Institute of Engineering Science and Technology, Shibpur, India, 2018.

101. Served as External Examiner for the **Ph. D.** dissertation, “**Maximization of Conversion Efficiency for Offshore Wave Farms with the Help of Multicriteria Decision Making Method & Polynomial Neural Networks,**” submitted by **Soumya Ghosht** to National Institute of Technology, Agartala, India, 2018.

102. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrogeological Implication Framework for Sustainable Groundwater Extraction,**” submitted by **Mr. Noorellimia Binti Mat Toridito** Universiti Putra Malaysia, Serdang, Selangor, Darul Ehsan, Malaysia, 2018.

103. Served as External Examiner for the **Ph. D.** dissertation, “**Formulation and Validation of Hybrid Conceptual Models for Runoff Generation,**” submitted by **Ajay Ahirwanto** Indian Institute of Technology, Roorkee, India, 2018.

104. Served as External Examiner for the **Ph. D.** dissertation, “**Climate Change Impact and Water Resources Management of Blue Nile River Basin,**” submitted by **Tebikachew Betru Tarikuto** University of Alberta, Edmonton, Canada, 2018.

105. Served as External Examiner for the **Ph. D.** dissertation, “**Development of a Conceptual Hydrological Model for Various Ecosystems of India,**” submitted by **Pranesh Kumar Paulto** Indian Institute of Technology Karagpur, India, 2018.

106. Served as External Examiner for the **Ph. D.** dissertation, “**Uncertainty in Streamflow Simulation of the Upper Assiniboine River Basin,**” submitted by **Ameer Muhammadto** University of Manitoba, Winnipeg, Canada, 2018.

107. Served as External Examiner for the **Ph. D.** dissertation, “**Developing Data-Driven Fortecasting Models for Monsoon Floods in the Kosi River (India),**” submitted by **Mani Kumar** to Brial Institute of Technology, Ranchi, India, 2018.

108. Served as External Examiner for the **Ph. D.** dissertation, “**Spatial Decision Support System for Integrated Urban Water Management,**” submitted by **Satya Prakash Maurya** to

Indian Institute of Technology (BHU), Varanasi, India, 2018.

109. Served as External Examiner for the **Ph. D.** dissertation, “**Cross Boundary Water Conflict-A Study on River Ganga,**” submitted by **Suman Bera** to Vidyasagar University, Midnapur, India, 2018.

110. Served as External Examiner for the **Ph. D.** dissertation, “**Development of an Operational Inflow Forecasting System for tehri Dam,**” submitted by **Niraj Kumar Agrawal** to Indian Institute of Technology Roorkee, Roorkee, India, 2018.

111. Served as External Examiner for the **Ph. D.** dissertation, “**Application of maximum Entropy Principle to Open Channel Turbulent Flow,**” submitted by **Manotosh Kumbhakar** to Indian Institute of Technology Kharagpur, Kharagpur, India, 2019.

112. Served as External Examiner for the **Ph. D.** dissertation, “**A Study of Heat Transfer of Non-Newtonian Fluid in Porous Media,**” submitted by **Ramesh Yadav** to Dr. A.P.J. Abdul Kalam University, Lucknow, U.P., India, 2019.

113. Served as External Examiner for the **Ph. D.** dissertation, “**Dark Greywater Treatment by Filtration System and Treatment Selection by Using Soft Computing Tools (FMCDM & AHP),**” submitted by **Sharma Neelam Shantiprakash** to National Institute of Technology Surat, Surat, India, 2019.

114. Served as External Examiner for the **Ph. D.** dissertation, “**Occurrence, Distribution, Resilience of Soil Organic Carbon and its Dependence On Natural and Anthropogenic Factors,**” submitted by **Gilbert Hinget** to Indian Institute of Technology Guwahati, Guwahati, India, 2019.

115. Served as External Examiner for the **Ph. D.** dissertation, “**Applicability and Behavior of the Forchheimer and Wilkins Equations for the Velocity and Hydraulic Gradient Characteristics in Post-Laminar Flow Through Porous Media Subjected to Parallel and Convergent Boundaries,**” submitted by **Ashes Banerjee** to Indian Institute of Technology (ISM), Dhanbad, India, 2019.

116. Served as External Examiner for the **Ph. D.** dissertation, “**Framework for Developing Ensemble of GCMs and its Application in Climate Change Studies,**” submitted by **Titas Ganguly** to Indian Institute of Technology Roorkee, Roorkee, India, 2019.

117. Served as External Examiner for the **Ph. D.** dissertation, “**Assessment of the Resilience of Indian River Basins to Droughts under Climate Change Conditions,**” submitted by **Ashutosh Sharma** to Indian Institute of Technology Guwahati, Assam, India, 2019.

118. Served as External Examiner for the **Ph. D.** dissertation, “**Impact of Climate Change on Techno-Economical Performance of Small Scale Hydro Power Plant with the Help of New Multilevel Cognitive Decision Framework,**” submitted by **Priyanka Majumder** to Indian Institute of Technology Agartala, Agartala, India, 2019.

119. Served as External Examiner for the **Ph. D.** dissertation, “**Integrated Assessment of Hydroclimatic Variability Including Streamflow Modelling of a Climatically Heterogeneous Basin in India,**” submitted by Sharma Priyank Jagjivan to Indian Institute of Technology Surat, Surat, India, 2019.
120. Served as External Examiner for the **Ph. D.** dissertation, “**Understanding the Process-Response Mechanism of Hierarchical Nature in a Large Scale Braided River,**” submitted by Chembolu Vinayto Indian Institute of Technology Guwahati, Assam, India, 2019.
121. Served as External Examiner for the **Ph. D.** dissertation, “**Impact of Climate Variability and Change on Droughts over India,**” submitted by Vivek Gupta to Indian Institute of Technology Roorkee, Roorkee, India, 2020.
122. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrodynamic Modelling of Local Sea Level Rise and its Impact on Coastal Regions,**” submitted by Naren A to Indian Institute of Technology Kharagpur, West Bengal, India, 2020.
123. Served as External Examiner for the **Ph. D.** dissertation, “**An Indicator Group Based Framework for River Health Assessment,**” submitted by Sonali Saxena to Indian Institute of Technology (BHU), Varanasi, India, 2020.
124. Served as External Examiner for the **Ph. D.** dissertation, “**Management of Saltwater Intrusion in Coastal Aquifers: An Experimental and Numerical Investigation,**” submitted by Bhriyumani Sharmato Indian Institute of Technology Guwahati, Assam, India, 2020.
125. Served as External Examiner for the **Ph. D.** dissertation, “**Overburden and Flyash Mixed Disposal in Voids of Opencast Coal Mines and Its Impact on Water Quality,**” submitted by Saba Shirinto Indian Institute of Technology (BHU), Varanasi, India, 2020.
126. Served as External Examiner for the **Ph. D.** dissertation, “**Analysis of Land Use Capability Classification Using Remote Sensing and Gis Techniques in Kabini Command Area,**” submitted by M. Shivaswamyto Visvesvarya Technological University, Belgaum, India, 2020.
127. Served as External Examiner for the **Ph. D.** dissertation, “**Streambed Instabilities and Nature of Turbulence around Bridge Piers in a Dredged Channel,**” submitted by Abhijit Dilip Lade to Indian Institute of Technology Guwahati, Assam, India, 2020.
128. Served as External Examiner for the **Ph. D.** dissertation, “**Study of Soil Erosion and Deposition around an Island in a Natural Stream,**” submitted by Snigdhadip Ghoshto National Institute of Technology Durgapur, West Bengal India, 2020.
129. Served as External Examiner for the **Ph. D.** dissertation, “**Analysis and Modeling of Climate Change Impact on Hydrological Extreme Events across India,**” submitted by Mayank Suman to Indian Institute of Technology Kharagpur, West Bengal, India, 2020.

130. Served as External Examiner for the **Ph. D.** dissertation, “**An Integrated Study of Water Resources Management on Water Scarcity and Drought for a River Basin,**” submitted by J. Harshato Visvesvarya Technological University, Bengaluru, India, 2020.

131. Served as External Examiner for the **Ph. D.** dissertation, “**Impact Assessment of Urbanization on Flood Risk and Integrated Flood Management: A Case Study of Surat City and Surrounding Region,**” submitted by Waghwala Rupal Keyurto Indian Institute of Technology Surat, Surat, India, 2020.

132. Served as External Examiner for the **Ph. D.** dissertation, “**Understanding Hydrological Processes of Lesser Himalayan Hillslopes,**” submitted by Aliva Nanda to Indian Institute of Technology Roorkee, Uttarakhand, India, 2020.

133. Served as External Examiner for the **Ph. D.** dissertation, “**Optimal River Training with Cost Effective Groyne Series,**” submitted by Kaushik Bora to National Institute of Technology Meghalaya, India, 2020.

134. Served as External Examiner for the **Ph. D.** dissertation, “**Modelling Reservoir Sedimentation from Hydrographic Observations Using Hydrometric Data,**” submitted by Jabbar Yazad Cyrus to Indian Institute of Technology Surat, Surat, India, 2020.

135. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrological Modelling of the Transboundary Brahmaputra River for Strategic Water Management under Climate Change,**” submitted by Pulendra Dutta to Indian Institute of Technology Guwahati, Assam, India, 2020.

136. Served as External Examiner for the **Ph. D.** dissertation, “**Soil Wetting Pattern of Nanoporous Pipe for Subsurface Irrigation System Using Imaging Technique,**” submitted by Mr. Abdullahi Salisu, to Universiti Putra Malaysia, Malaysia, 2020.

137. Served as External Examiner for the **Ph. D.** dissertation, “**Modelling and Monitoring of Backscattering for Biophysical Parameter and Soil Moisture Retrieval Using Multi-sensor Satellite Data,**” submitted by Vijay Pratap Yadav to Indian Institute of Technology (BHU), Varanasi, India, 2020.

138. Served as External Examiner for the **Ph. D.** dissertation, “**Assessment of Land Surface Temperature Dynamics Over Urban Landscapes Using Satellite Imagery,**” submitted by Ruchi Balato Indian Institute of Technology (BHU), Varanasi, India, 2020.

139. Served as External Examiner for the **Ph. D.** dissertation, “**A Framework for Assessing the Ecological Sustainability of Waste Disposal Sites in Urban Areas,**” submitted by Shamim Aryampa to Western Sydney University, Sydney, Australia, 2021.

140. Served as External Examiner for the **Ph. D.** dissertation, “**Hydrological Demarcation of Alluvial Floodplains and Assessment of Basin Storage,**” submitted by Ankit Modi to Indian

Institute of Technology Kanpur, India, 2021.

141. Served as External Examiner for the **Ph. D.** dissertation, “Turbulence and Vortex Characterization at Flow Pier Interface in Scour Modelling,” submitted by Praveen Rathod to S.V. National Institute of Technology Surat, India, 2021.

142. Served as External Examiner for the **Ph. D.** dissertation, “**Climate Extreme Studies in Changing Climate over India,**” submitted by Bratiti Chowdhury to Indian Institute of Technology Roorkee, India, 2021.

143. Served as External Examiner for the **Ph. D.** dissertation, “**Wheat Yield Modeling for Pre-Harvest Forecasting,**” submitted by Anuj Kumar to Indian Institute of Technology Roorkee, India, 2021.

144. Served as External Examiner for the **Ph. D.** dissertation, “**A Study on Hemavathy Basin for Sustainable Management and Development of Water Resources,**” submitted by K. Balakrishna to Vesvesvraya Technological University, Belgaum, India, 2021.

13.2 Refereeship

Serving regularly as a peer reviewer for research proposals, journal articles and other technical contributions.

13.2.1 Research Proposals

1. Proposals submitted to **National Science Foundation, U.S. Geological Survey, Army Research Office, U.S. Department of Energy, U.S. Bureau of Reclamation, U.S. Department of Homeland Security,** and various state agencies in Louisiana and outside.

2. Proposals submitted to **National Research Council of Science and Engineering, Canada.**

3. Proposals submitted to **Australian Research Council, Canberra, Australia.**

13.2.2 Journal Articles and Technical Contributions

1. Technical contributions of the **U.S. Department of Agriculture,** and **U.S. Geological Survey.**

2. Papers submitted to (1) **Water Resources Research,** (2) **Journal of Hydrology,** (3) **Journal of American Water Resources Association,** (4) **ASCE Journal of Hydraulic Engineering,** (5) **ASCE Journal of Irrigation and Drainage Engineering,** (6) **ASCE Journal of Water Resources Planning and Management,** (7) **ASCE Journal of Environmental Engineering,** (8) **ASCE Journal of Hydrologic Engineering,** (9) **ASCE Journal of Geotechnical and Geoenvironmental Engineering,** (10) **Journal of Geophysical Research,** (11) **Advances in Water Resources,** (12) **Water Resources Management,** (13) **Stochastic Hydrology and Hydraulics,** (14) **Natural Hazards,** (15) **Hydrological Sciences Journal,** (16) **Transactions,**

IEEE - Geoscience and Remote Sensing Division, (17) Irrigation Science, (18) Transactions, American Society of Agricultural Engineers, (19) Agricultural Water Management, (20) Journal of King Saud University Engineering Sciences, (21) Annals of the Association of American Geographers, (22) Soil Science Society of America Journal, (23) Computational Statistics and Data Analysis, (24) Hydrology Journal, (25) Arab Gulf Journal of Scientific Research, (25) Computers and Geosciences, (27) Environmental Modelling and Software, (28) ASCE Conferences, (29) Journal of Environmental Economics, (30) Arabian Journal of Science and Engineering Research, and (31) California History.

3. Papers submitted to various **symposia** and **conferences**.

14. SERVICE ON UNIVERSITY COMMITTEES: [served on 20 TAMU Committees; 54 LSU-CE committees; 3 MSU-CE committees; 1 GWU committee; and 3 NMIT committees]

14.1 Texas A & M University (20 Committees)

1. **Member**, Search Committee for a Senior Level Position in Department of Civil & Environmental Engineering, 2006-2007.

2. **Member**, Awards Committee, Department of Biological & Agricultural Engineering, 2006-2007; 2012-present.

3. **Member**, Graduate Program and Recruiting, Department of Biological & Agricultural Engineering, 2006-present.

4. **Chair**, Graduate Curriculum Review, Department of Biological & Agricultural Engineering, 2006-2011.

5. **Chair**, Graduate Water Resources Course Development Committee, Department of Biological & Agricultural Engineering, 2007-2011.

6. **Member**, Executive Committee, FIN (Friends of India Network), 2009-present.

7. **Member**, TWRI Task Force, 2012.

8. **Member**, Awards Committee, College of Engineering, 2012-present.

9. **Member**, Think Tank, College of Engineering, 2012-present.

10. **Member**, Selection Committee for 2013 Bush Excellence Award, 2013-2014.

11. **Member**, Search Committee for Head of Department of Civil & Environmental Engineering, 2013-2014.

12. **Member**, Administrative Review Advisory Committee, Texas A&M University, 2013-2014.
13. **Member**, Distinguished Professor Screening Committee, College of Engineering, 2013-present.
14. **Member**, Distinguished Professor Screening Committee, College of Agriculture and Life Sciences, 2013-present.
15. **Member**, Graduate Program Committee, Department of Biological & Agricultural Engineering, 2013-present.
16. **Member**, Outstanding Distinguished Scientist Award Committee, Sigma Xi, 2016-present.
17. **Member**, Search Committee, Department of Biological & Agricultural Engineering, 2016-2017.
18. **Member**, Development Coordination Committee, Department of Biological & Agricultural Engineering, 2016-present.
19. **Member**, Recognition and Events Committee, Department of Biological & Agricultural Engineering, 2014-present.
20. **Member**, Regents Professor Selection Committee, Texas A&M University, 2019-2020.

14.2 Louisiana State University: [54 Committees]

1. **Chairman**, Ad Hoc Committee on Secretarial/Technical Services, Department of Civil Engineering, Fall 1981.
2. **Coordinator**, Ad Hoc Committee to Study Undergraduate Mathematics Requirements, Department of Civil Engineering, Spring 1983.
3. **Member**, Engineering Research Council, College of Engineering, since Fall 1982.
4. **Member**, Ecology Council, Louisiana State University, 1983-84.
5. **Member**, Faculty Senate International Education Committee, Louisiana State University, 1983-84.
6. **Member**, Promotion and Tenure Committee, Department of Civil Engineering, Fall 1983.
7. **Member**, Graduate Programs Committee, Department of Civil Engineering, since Spring 1984.

8. **Chairman**, Committee to Review Chairman of the Department of Civil Engineering, College of Engineering, Fall 1984.
9. **Member**, Promotion and Tenure Committee, Department of Civil Engineering, Fall 1984.
10. **Chairman**, Water Committee, Office of the Vice Chancellor for Research, Fall 1985.
11. **Member**, Promotion and Tenure Committee, Department of Civil Engineering, Fall 1985.
12. **Member**, Future Directions Committee, Department of Civil Engineering, Fall 1985 to 1987.
13. **Member**, Promotion and Tenure Committee, Department of Civil Engineering, Fall 1986.
14. **Chairman**, Future Directions Committee, Fall 1986.
15. **Member**, LWRRRI Advisory Board, 1986-87.
16. **Member**, Search Committee to fill Groundwater Position, Spring 1987.
17. **Chairman**, Committee to Review Chairman of the Department of Civil Engineering, College of Engineering, Fall 1988.
18. **Member**, Future Directions Committee, Department of Civil Engineering, since Fall 1988.
19. **Member**, LTRC Directorship Search Committee, Department of Civil Engineering, January-July, 1990.
20. **Chairman**, Promotion and Tenure Committee, Department of Civil Engineering, Fall 1990.
21. **Member**, Search Committee to fill Environmental Engineering Position, Spring 1991.
22. **Member**, Committee on Board of Regents Review of Graduate Programs in Engineering, Department of Civil Engineering, Fall 1992.
23. **Chairman**, Promotion and Tenure Committee, Department of Civil Engineering, Fall 1992.
24. **Member**, Undergraduate Curriculum Committee, Department of Civil Engineering, 1992-1993.
25. **Member**, Committee for Evaluation of Research Faculty, Department of Civil Engineering, 1993-94.
26. **Member**, ABET Committee, Department of Civil and Environmental Engineering, 1996-97.
27. **Member**, College of Engineering Policy Committee, 1996-present.

28. **Member**, Committee for Evaluation of Chairman of Department of Civil and Environmental Engineering, 1997-98.
29. **Chair**, Search Committee for Water Resources Position, Department of Civil and Environmental Engineering, Spring 1998.
30. **Member**, Promotion and Tenure Committee, Department of Civil and Environmental Engineering, Spring 1998.
31. **Member**, Graduate Programs Committee, Department of Civil and Environmental Engineering, 1998.
32. **Member**, Environmental Engineering Undergraduate Programs Committee, Department of Civil and Environmental Engineering, 1997-present.
33. **Member**, Undergraduate Programs Committee, Department of Civil and Environmental Engineering, 1998.
34. **Chair**, Civil and Environmental Engineering Scheduling Committee, Department of Civil and Environmental Engineering, 1998.
35. **Member**, Strategic Draft Committee, Department of Civil and Environmental Engineering, 1998-1999.
36. **Chairman**, Departmental Promotion and Tenure Criteria Draft Committee, 1998-1999.
37. **Member**, Departmental Subcommittee on Promotion and Tenure, 1998.
38. **Coordinator**, Faculty Affairs, Department of Civil and Environmental Engineering, 1999.
39. **Representative**, College Professors Committee for Promotion and Tenure, 1998-present.
40. **Member**, Committee for Promotion and Tenure for Department of Industrial and Manufacturing Systems Engineering 1999.
41. **Member**, Endowed Professorship Committee, College of Engineering, 2001-2002.
42. **Member**, The Singhal Endowment Fund Committee, Department of Philosophy, 1998-present.
43. **Parliamentarian**, The CE Space Committee, 2001.
44. **Member**, Awards Committee, 2001-2004.

45. **Member**, LWRI Vision Committee, 2002.
46. **Chair**, COE Professorship Award Committee, College of Engineering, 2002.
47. **Chair**, Faculty Search in Water Resources, Department of Civil and Environmental Engineering, 2002-2003.
48. **Member**, PS-69 Committee, Louisiana State University, 2003.
49. **Member**, Undergraduate Curriculum Committee, Department of Civil and Environmental Engineering, 2003-present.
50. **Member**, Family and Graduate Housing Task Force, LSU, 2003-2005.
51. **Member**, Promotion and Tenure Committee, Department of Civil and Environmental Engineering, fall 2003-2004.
52. **Member**, College Policy Committee, College of Engineering, 2004-present.
53. **Chairman**, Search Committee, Geotechnical Engineering Faculty Positions, Department of Civil and Environmental Engineering, 2004-05.
54. **Member**, Program Review Panel, Mathematics Department, fall 2004.

14.3 Mississippi State University: [3 Committees]

1. **Member**, Research and Development Operations Committee (RDOC), College of Engineering, Fall 1979-1981.
2. **Member**, Nuclear Waste Disposal Committee, Mississippi State University, for the year 1979-1980.
3. **Member**, India Student Association.

14.4 The George Washington University: [1 Committee]

1. **Senior Judge**, Science and Engineering Fair for High School Students, Rockwell, Maryland.

14.5 New Mexico Institute of Mining and Technology:[3 Committees]

1. **Member**, Faculty Senate Committee on Student Aid and Scholarship.
2. **Faculty Advisor and Member**, International Students Association.

3. **Senior Judge**, New Mexico Science and Engineering Fair for High School Students.

15. SPONSORED RESEARCH GRANT AWARDS

15.1 Texas A & M University: (10 Awards)

1. Preparing Underrepresented Scholars for Research Careers in Biological and Agricultural Engineering and Veterinary Medicine: This project was funded October 1, 2007 for a period of 4 years for approximately \$ **164,000** by **Cooperative State Research, Education, and Extension Service (CSREES)**, U.S. Department of Agriculture. The PIs and Co-PI on the project include: Kemanian Armen, Clyde Munster, Kenita Rogers, Manuel Pina, Patti Smith and Vijay P Singh.

2. Partnership between U.S. and Middle East Higher Education Institutions to Build capacity in Integrated International Resource Management Expertise: The project was funded November 1, 2008, for a period of two years for \$180,000 by **Cooperative State Research, Education, and Extension Service (CSREES)**, U.S. Department of Agriculture. The PIs are: R.H. Mohtar (PI), M.E.Barber, A.Gera, S.R. Grattan, R.Kanwar, A.Marei, M.Schweitzer, M.Shatanawi, A.Shaviv, V.P.Singh, A. Tamimi, and M. Walter.

3. India-AKI Project on Water Management and M.S. Sandwich Program: This project was funded November 1, 2006, for a period of two years for \$240,000 by **Agricultural Foreign Service**, U.S. Department of Agriculture. The PIs were: R.Kanwar (PI), R.H. Mohtar, V.P.Singh, P. Kalita, R. Lal, and M. Walter.

4. Hydrological Drought Characterization for Texas under Climate Change, with Implications for Water Resources Planning and Management (2009TX334G): The project was funded for \$235,148.00 by the **2009 NIWR/USGS National Competitive Grant Program** for a period of 3 years beginning with August 1, 2009.

5. Gathering and Disseminating GIS-based Hydrologic and Hydraulic Tools: This project was funded for \$20,000.00 by the **U.S. Bureau of Reclamation**, Denver, Colorado for a year and half beginning with May 2009.

6. IPA Assignment to Coastal and Hydraulic Laboratory, Engineer Research and development Center (ERDC), U.S. Army Corps of Engineers, Vicksburg, Mississippi, 7-1-2012 through 8-31, 2012, for 42,483.97.

7. IPA Assignment to Coastal and Hydraulic Laboratory, Engineer Research and development Center (ERDC), **U.S. Army Corps of Engineers**, Vicksburg, Mississippi, 7-25-2013 through 5-31, 2015, for 184,816.71.

8. A New Platform for Maximizing Irrigation Water Use Efficiency under Drought, Reduced Flows and Water Restrictions: This project was funded by **TAMALS, TAMEES and TAMALES**, Texas A&M University, for \$245,706.00 for a period from January 2014 to July

2015.

9. IPA Assignment to Coastal and Hydraulic Laboratory, Engineer Research and development Center (ERDC), **U.S. Army Corps of Engineers**, Vicksburg, Mississippi, 6-1-2015 through 3-31, 2017, for \$ 180,832.90.

10. The Use of Modeling, Monitoring and Smart Technologies for Sustainable Watershed Management in Bisha Watershed, Aseer Province, Saudi Arabia, project subcontracted with **King Khalid University**, March 1, 2020 through February 2023, for \$ 45,192.

15.2 Louisiana State University: [46 Awards]

1. Stochastic Modeling of Streamflow with a Physical Basis: This project was funded October 1, 1981 for **two years** for approximately **\$370,000** by **National Science Foundation** under the University - Industry Cooperative Program. The cooperating agencies include Dames and Moore, Inc., Washington, DC and the University of Mississippi. The LSU portion of funds is approximately **\$23,300** for the first year and **\$26,000** for the second year.

2. Free Boundary Problems in Water Resource Engineering: This project was funded by **National Science Foundation** for **10 months** starting on January 1, 1982, for approximately **\$ 10,755**.

3. A Physically Based Approach to Streamflow Synthesis for Ungaged Basins: This project was funded by **Office of Water Research and Technology, U.S. Department of Interior**, for 9 months starting on January 1, 1982, for approximately **\$16,920**.

4. A Hydrologic Analysis of the Amite River Basin, Louisiana: This project was funded January 1, 1983 for **one year** by **Department of Urban and Community Affairs, State of Louisiana**. The amount of funding is **\$51,466**, and the other principal investigator is Dr. J. M. Hill.

5. Quantifying the Effect of Land Use Changes on Streamflow with Particular Reference to Basins in Louisiana: This project was funded by **Office of Water Research and Technology, U.S. Department of Interior**, for **1 year** starting on June 1, 1983, for approximately **\$19,550**.

6. Experimental Set-up to Investigate Dynamic Interaction between Surface and Subsurface Flows: This project was funded June 1, 1984, for **18 months** by **National Science Foundation** for approximately **\$18,269**. The other principal investigator is Dr. T.H. Illangasekare.

7. Validation of a Physically Based Approach to Streamflow Synthesis: This project was funded August 15, 1984, for **3 years** by the **National Science Foundation** under the US-Italy Cooperative Science Program for **\$15,126**. The participating scientists from Italy are Professor Lucio Ubertini of the University of Perugia and Professor Luigi Natale of the University of Pavia.

8. Assessment of Uncertainty in Hydrologic Models for Flood Frequency Analysis: This project was funded by the **U.S. Department of Interior through Louisiana Water Resources Research Institute**, for **one year** starting on October 1, 1984, for approximately **\$19,000**.
9. Annual Cooperative Program for Louisiana Water Resources Research Institute: This project was funded by the **U.S. Department of Interior** through the Geological Survey, for **one year** starting October 1, 1984, for **\$115,000**; this money was used to support five water resources research projects through LWRRRI.
10. A Multivariate Stochastic Analysis of Flood Magnitude, Duration and Volume: This project was funded by the **U.S. Department of Interior through Louisiana Water Resources Research Institute**, for **one year** starting October 1, 1985, for **\$17,800**.
11. Annual Cooperative Program for Louisiana Water Resources Research Institute: This project was funded by the **U.S. Department of Interior** through the Geological Survey, for **one year** starting October 1, 1985, for **\$109,000**; this money was used to support five water resources research projects through LWRRRI.
12. International Symposium on Flood Frequency and Risk Analyses: This project was funded by the **Department of the Army**, U.S. Army Laboratory Command, Army Research Office for **one year** starting March 5, 1986, for **\$9,903**; the other principal investigator is Dr. T. H. Illangasekare.
13. A Multivariate Stochastic Analysis of Flood Magnitude, Duration and Volume: This project was funded by the **U.S. Department of Interior**, Geological Survey, through the Louisiana Water Resources Research Institute, for **one year** starting September 1, 1986, for **\$38,000**.
14. International Symposium on Flood Frequency and Risk Analyses: This project was funded by the **National Science Foundation** for **one year** starting April 1, 1986, for **\$8,713**.
15. Annual Cooperative Program for Louisiana Water Resources Research Institute: This project was funded by the **U.S. Department of Interior**, Geological Survey, for **one year** starting September 1, 1986, for **\$115,000**; this money was used to support five water resources research projects through LWRRRI.
16. International Symposium on Flood Frequency and Risk Analysis: This project was funded by **Woodward Clyde Consultants**, Baton Rouge, Louisiana, for **one year** starting in April 1986, for **\$500**.
17. International Symposium on Flood Frequency and Risk Analysis: This project was funded by Geological Survey, **U.S. Department of Interior**, for **one year** starting in May 1986, for **\$2,000**.

18. LADOTD 24-hour Rainfall Frequency Maps: This project was funded by the **Louisiana Transportation Research Center**, Louisiana Department of Transportation and Development, for **\$56,500** for **two years** starting with August 15, 1989.
19. Hydroclimatic Regionalization of Flooding Variability: A Combined Climatic-Stochastic Approach: This project was in cooperation with Drs. K. K. Hirschboeck, R. A. Muller and J.F. Cruise, and was funded by the **U.S. Geological Survey** for **\$323,043** for a period of **3 years** starting with August 15, 1989.
20. A Continuum Model for Streamflow Synthesis: This project was funded by the **Department of Army**, Army Research Office, for **\$280,029**, for a period of **3 years** starting with November 1, 1989. The project was in cooperation with Dr. E.S. Joseph of Southern University.
21. Enhancement of Subsurface Environment Research Laboratory: This project is in cooperation with Drs. D. Roy and D.D. Adrian, and was funded by the **Louisiana Education Quality Support Fund (LEQSF)** - Enhancement Program, for **\$200,000** for a period of **one year** beginning July 1, 1991.
22. Enhancement of Subsurface Environment Research Laboratory: This project is in cooperation with Drs. D. Roy, D.D. Adrian, W.D. Constant, and K.T. Valsaraj, and was funded by the **Louisiana Education Quality Support Fund (LEQSF)** - Enhancement Program, for **\$100,000** for a period of **one year** beginning with July 1, 1992.
23. Standards Evaluation for Diked Wetlands Non-Point Discharges of Sugar Factory Wastewater to Receiving Waters: This project is in cooperation with Drs. D.D. Adrian and K. Ro, and was funded by the **Louisiana Water Resources Research Institute** for **\$18,000.00** (Federal Funds) and **\$36,000.00** Non-Federal Funds for a period of **one year** beginning with October 1, 1995.
24. River Diversion Feasibility Study: This project was funded by the **Louisiana Universities Marine Consortium (LUMCON)** for **\$2,500** for a period of **10 months** beginning with June 20, 1995.
25. Assessment of Water Quality Monitoring Networks - Design and Redesign: This project is in cooperation with Drs. N.B. Harmancioglu, M.N. Alpaslan, P. Whitfield, M. Fiorentino, P. Literathy, and N. Mikhailov by the **North Atlantic Treaty Organization (NATO)** for **BF800,000.00** for a period of **2 years** beginning with October 1, 1995.
26. Integrated Approach to Environmental Data Management Systems: Advanced Research Workshop September 16-20, 1996, in Izmir, Turkey. This project is funded in cooperation with Drs. N.B. Harmancioglu, M.N. Alpaslan, and N. Mikhailov by the **North Atlantic Treaty Organization (NATO)** for **BF 1,200,000.00** for a period of **one year** beginning with December 1995.

27. Information Theory for Hydrologic Design of Transportation Systems. This project is funded in cooperation with Dr. D.D. Adrian by the **Louisiana Transportation Research Center** for **\$ 19,991** for a period of **one year** beginning with June 1, 1997.
28. Development of Hydrological Theory for Simulating Pollutant Removal in Constructed Wetlands. This project is funded in cooperation with Dr. D.D. Adrian by the **Louisiana Transportation Research Center** for \$ 19,991 for a period of **one year** beginning with June 1, 1997.
29. Cumulative Effects of Flood Induced Seepage on Piping Problems Associated with Levee Failures: Experimental and Field Investigations with Analytical Modeling for Risk Assessment. This project is funded in cooperation with Drs. D.D. Adrian and J. Pardue by the **U.S. Army Corps of Engineers Vicksburg District, Vicksburg, Mississippi**, for \$ 206,686 for a period of three years beginning with August 1, 1999.
30. Investigation of the Effect of the Direction, Spatial Coverage and Temporal Distribution of Rainfall on Watershed Flooding. This project is funded by **Louisiana Water Resources Research Institute** for \$ 20,850 (federal) and \$41,936 (non-federal) for a period of one year beginning with March 1, 2000.
31. Flood Damage Prevention Using Remotely Sensed Data and a Mesoscale Atmospheric Model. This project is in cooperation with Dr. V. Aravamuthan of Louisiana Water Resources Research Institute, and Dr. J. F. Cruise of the University of Alabama at Huntsville. It is funded by **NASA-Solid Earth and Natural Hazards Division** for a period of 3 years beginning with April 1, 2000. The LSU portion is \$ 110,000.
32. Hurricane Engineering: A Planet at Risk. This project is funded by **National Science Foundation** for \$ 500,000 for a period of three years beginning with July 1, 2000, and is in cooperation with Drs. M. Levitan, E. J. Macari, W.M. Moe, and B. Wolshon.
33. Integrated Technologies for Environmental Monitoring and Information Production. This project is funded by **NATO-Scientific and Environmental Affairs Division** for about \$32, 000 for a period of one and half years year beginning with January 1, 2000. It is in cooperation with Professor N. B. Harmancioglu of DokuzEylul University, Turkey; Dr. N.N. Mikhailov of National Oceanographic Data Centre of Russia; and Mr. P. Geerders of P. Geerders Consultancy, The Netherlands.
34. Flood Risk mapping of the New Orleans Area. This project is in cooperation with Dr. D.D. Adrian. It was funded by **Louisiana Water Resources Research Institute** for \$ 19,960 with a non-federal match of \$43559 for a period of one year beginning with March 1, 2002.
35. A Water Quality Decision Model for the Identification of Priority Sites for the Implementation of Best Management Practices to Maintain Dissolved Oxygen Levels in the Ouachitaq River Basin. This project was funded by **Louisiana Department of Environmental Quality** for about

\$654,000 for a period of 3 years beginning with January 15, 2002. It is in cooperation with Ms. E. Roider, Dr. D.D. Adrian, Dr. G. Hammitt, and Dr. J. Pardue.

36. Assessment and Remediation of Public Health Impacts due to Hurricanes and Major Flooding Events. This project was funded by **Millennium Trust Health Excellence Fund** for \$ 3,685,490 for a period of 5 years beginning with January 1, 2002. It is in cooperation with Drs. I. Van Heerden and 14 others.

37. Development of a Surface Water Quality, Management and Modeling Laboratory. This was funded by **Louisiana Board of Regents Enhancement Program (2001-2002, BOR Funds)** for \$117,540 with college Funds \$2,660 and match \$23,640 for a period of one year beginning with July 2001. It is in cooperation with Drs. K.A. Rusch and R.F. Malone.

38. The Marshland Upwelling System for Decentralized Wastewater Treatment: Transfer to Private Camps. This is funded by **NOAA through National SeaGrant Program** for \$ 204,604 with Federal Funds of \$ 102,121.00 and LSU match of \$ 53,922 for a period of two years beginning with October 1 2002. It is in cooperation with Dr. K.A. Rusch.

39. Modeling Impacts of Climate Change on Wetland Ecosystems. This is funded by **U. S. Environmental Protection Agency Experimental Program to Stimulate Competitive Research (EPSCoR)** for \$ 308,943 with Federal Funds of \$ 258,028 and LSU match of \$ 50,914 for a period of two years beginning with June 10, 2002. It is in cooperation with Drs. V. Aravamuthan, J.N. Suhayda, J. Ramanujam, D. Koppelman, G. Thiagarajan, and R.F. Twilley.

40. Development of a Student Exchange Program between Canada, Mexico and United States in Environmental Sciences and Engineering and Natural Hazards. This is funded by **U.S. Department of Education-North American Free Trade Agreement (NAFTA)** for \$203,999 for a period of four years beginning with September 1, 2003. It is in cooperation with Professor R.S. Govindaraju of Purdue University, with his portion as \$55,571.

41. Quantifying Hydrologic Impacts on Spatio-Temporal Variability of Stream Water Quality in Coastal Louisiana. This project is funded by **Louisiana Water Resources Research Institute** for \$ 19,925 with a non-federal match of \$39,850 for a period of one year beginning with March 1, 2004.

42. Hydrologic Impacts on Water Quality of Coastal Inland Streams in Southeast Louisiana. This project is funded by Office of Research and Graduate Studies, **Louisiana State University** for \$ 9,940 for a period of 7 months beginning with January 1, 2004.

43. Probabilistic Assessment of the Effectiveness of BMPs in Coastal Louisiana. This project is funded by **Louisiana Water Resources Research Institute** for \$ 16,500 with a non-federal match of \$33,500 for a period of one year beginning with March 1, 2005.

44. Saltwater Intrusion Management with Conjunctive Use of Surface Water and Groundwater. This project is funded by **Water Resources Research-National Competitive Grants Program**

of U.S. Geological Survey, for \$ 200,502 with a non-federal match of \$33,500 for a period of three years beginning with September 1, 2005.

45. International Symposium on Coastal Hydrology and Water Quality held May 21-24, 2006, in Baton Rouge, Louisiana. This project is in cooperation with Dr. Y.Jun Xu and funded by **BP** for \$75,000 for a period of 1 year.

46. International Symposium on Coastal Hydrology and Water Quality held May 21-24, 2006, in Baton Rouge, Louisiana. This project is in cooperation with Dr. Y.Jun Xu and is funded by **Shaw Group** for \$7,000 for a period of 1 year.

15.3 Mississippi State University: [8 Awards]

1. A Hydrodynamic Study of Surface Runoff: This project was funded by **National Science Foundation** for **one year** starting on March 1, 1979, for approximately **\$33,000**.

2. Free Boundary Problems in Water Resource Engineering: This project was funded by **National Science Foundation** for **two years** beginning with November 1, 1978, for approximately **\$140,000**.

3. Mathematical Models of Water Yield with Particular Reference to Mississippi Watersheds: This project was funded by Office of Water Research and Technology, **U.S. Department of Interior** for **three years** starting on October 1, 1979, for approximately **\$66,000**.

4. Stochastic Modeling of Streamflow with a Physical Basis: This project was funded by **National Science Foundation** for **three years** beginning with July 1, 1980, for approximately **\$100,000**.

5. International Symposium on Rainfall-Runoff Modeling: This project was funded by the **U.S. Department of Interior**, Office of Water Research and Technology for **15 months** beginning with July 1, 1980, for approximately **\$7,000**.

6. International Symposium on Rainfall-Runoff Modeling: This project was funded by the **Army Research Office**, U.S. Army Corps of Engineers for **12 months** beginning with January 1, 1981, for approximately **\$7,500**.

7. International Symposium on Rainfall-Runoff Modeling: This project was funded by the **United Nations Educational, Scientific and Cultural Organization**, Division of Water Resources for **12 months** beginning with January 1, 1980, for approximately **\$7,000**.

8. International Symposium on Rainfall-Runoff Modeling: This project was funded by **National Science Foundation** for **12 months** beginning with January 1, 1981 for approximately **\$30,000**.

15.4 The George Washington University: [2 Awards]

1. A Hydrodynamic Study of Surface Runoff: This project was funded by **National Science Foundation** for **two years** starting on August 1, 1977 for approximately **\$55,000**.
2. Free Boundary Problems in Water Resource Engineering; This project was funded by **National Science Foundation** for **two years** starting on September 1, 1978 for approximately **\$210,000**.

15.5 New Mexico Institute of Mining and Technology: [3 Awards]

1. A Systematic Investigation of Watershed Runoff: This project was funded by the Office of Water Research and Technology, **U.S. Department of Interior**, through New Mexico Water Resources Research Institute for **two years** beginning with July 1, 1975 for approximately **\$25,000**.
2. Geochemical and Hydrological Investigation of Groundwater Recharge in the Roswell Basin of New Mexico: This project was developed in collaboration with two other co-principal investigators, and was funded by the Office of Water Research and Technology, **U.S. Department of Interior**, through New Mexico Water Resources Research Institute, for **three years** starting on July 1, 1975, for approximately **\$70,000**.
3. Hydrodynamics of Surface Runoff: This project was developed in collaboration with two other co-principal investigators, and was funded by **National Science Foundation** for **two years** starting on January 1, 1977 for approximately **\$180,000**.

16. PUBLIC SERVICE: [9 Activities]

1. Founded **G.B. School** in 1994 at Naglavishnu in District Agra, U.P., **India**, in memory of his parents. The school imparts quality education to children in rural Agra. Has been **bearing all expenditures** involved in operation of the school, including the cost of building construction, staff salaries, furniture, maintenance, management of the school, and so on. The school now has four campuses: (1) Primary School (Grade 1-5), (2) Inter College (Grade 6-12), (3) Degree College (B.A., B.Sc., M.A., and M.Sc.); and (4) Industrial Training Center (Fitter and Electronics).
2. **Established FARA** (Foundation for Aggrandizement of Rural Areas), 1998.
3. **Established** a nursery for afforestation in rural India, 1997.
4. **Organized** Water Resources Interest Group composed of those in Baton Rouge engaged in education, research or service related to water resource technology, Spring 1983-1985.
5. **Member**, Scientific Committee, Universita Italiana Per Stranieri, Perugia, Italy, 1983-1985.
6. **Faculty Associate**, Intercollegiate Studies Institute, Inc., Montclair, California, 1987-2016.

7. **President**, the G.B. School Board of Management, Naglavishnu, Agra, India, since 1994.
8. **President**, FARA, since 1998.
9. **Member of Advisory Board**, P.J. Foundation, Jaipur, India, 2007-2018.