

T.Vijaya Kumar

Civil Engineering

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Qualifications

B.E, M.E, PhD

Areas of Interest

Environmental Engineering, Fluid Mechanics & Hydraulics, sustainable development and Climate change.

Details of Qualification

1. PhD (Fluid Mechanics) IIT Delhi 2016.
2. M.E (Environmental Engineering) GCT Coimbatore 1995.
3. B.E (Civil Engineering) Madurai Kamraj University 1992.

Experience

1. 02.12.2020 to till date Professor
2. 02.12.2016 to 01.12.2020 Associate Professor
3. 02.12.2008 to 01.12.2016 Assistant Professor
4. 30.11.1998 to 01.12.2008 Lecturer, DTTE. Govt of NCT of Delhi
5. 25.8.1995 to 23.11.1998 Lecturer, N. I College of Engineering, TN.

Achievements

1. Member, 24th Indian Scientific Expedition to Antarctica
2. Best Project Guide 2009 DTTE, Delhi

3. Fellow of the Academy of Environmental Biology by The Academy of Environmental Biology December 2020
4. Heartful Educator Award 2021, Heartful Campus, Heartfulness Education Trust.

List of Publication(selected)

1. A comprehensive review of urban vegetation as a Nature-based Solution for sustainable management of particulate matter in ambient air Environmental Science and Pollution Research 26480-26496 Environmental Science and Pollution Research Springer Berlin Heidelberg (2024)
2. Assessment of air quality benefits of vegetation in an urban-industrial region of India by integrating air monitoring with i-Tree Eco model CLEAN–Soil, Air, Water 2300198 (2024)
3. Measurement of Heavy Metals Content in Suspended Sediment of Ganges River Using Atomic Absorption Spectrometry Springer India (2024)
4. Enrichment of heavy metals in suspended solid particles of Ganga River 4th International conference on Computational Experimental methods in Mechanical Engineering ICCEMME-2023 (9th and 10th February)
5. Computational Analysis of vertical Jetfires using different Turbulence models First International conference on Advanced materials, Manufacturing and Industrial Engineering 2023. AMMIE 2023 (23rd and 24th March 2023) VIT Chennai
6. Analysis and pollution assessment of heavy metals in suspended solids of the middle stretch of river Ganga between Kanpur to Prayagraj, U.P., India, Indian Academy of Sciences Sådhanå (2023) 48:257
7. Halophilic Alkaline Protease Enzyme on Biodegradation of Contaminants in Raw Textile Effluent, IJEP 42(2): 142-148 : Vol. 42 Issue. 2, February 2022
8. Heavy metals concentrations and risk assessment in the sediment of Ganga River between Kanpur and Prayagraj, U.P., India , Indian Academy of Sciences Sådhanå (2022) 47:195
9. Algebraic growth in turbulent shear flows, P. K. Sen, Srinivas V. Veeravalli, T. Vijaya Kumar and S Hegde ,AIP Conference Proceedings 2121, 160001 (2019) .
10. Ecosystem services by wetlands for polluted water treatment, Padma Vasudevan, P. K. Sen, R. K. Srivastava, Mamata Tandon, Shriram Hegde, T Vijaya Kumar and Philp Davies. AIP Conference Proceedings 2121,

160002(2019).

- 11.** Stability of weak confined wake behind a cylinder in fully developed turbulent channel flow, Science direct Procedia Engineering 105(2015) 359-367.
- 12.** Comparison of Scour around different shapes of Groynes in Open Channel T Vijaya Kumar, Devesh Tyagi, Lokesh Aggarwal, Munendra Kumar, International Journal of Recent Trends in Engineering & Research 4(3),382-392
- 13.** Comparison of Scour around different shapes of Groynes in Open Channel T Vijaya Kumar, Devesh Tyagi, Lokesh Aggarwal, Munendra Kumar, International Journal of Recent Trends in Engineering & Research 4(3),382-392
- 14.** Comparison of Scour around different shapes of Groynes in Open Channel T Vijaya Kumar, Devesh Tyagi, Lokesh Aggarwal, Munendra Kumar, International Journal of Recent Trends in Engineering & Research 4(3),382-392
- 15.** Estimation and Comparison of Depth of Scouring Around Straight Partially Submerged Impermeable Groynes Aligned at Different Angles, T Vijaya Kumar, Lokesh Aggarwal, International Journal of Water Resources Engineering4(1),17-32
- 16.** Experimental Study on Scour Around T-Head Groynes in Open Channel T Vijaya Kumar, Devesh Tyagi, International Journal of Water Resource Engineering4 (1),33-39.

Faculty Development Program Attended

1. Health, Human Values, ethics and Empowerment 13-18 April 2018 DTU TEQIP III
2. Developing Competencies to enhance performance 06-10 June 2019, TEQIP III
3. 03 days workshop on NAAC-SSR /NBA-SAR filling and Preparedness for Assessment 21-23 May 2018 organised by Engineering Staff College of India

4. AICTE-ATAL Online FDP on Leadership Excellence for Academic Development 12-16 July 2021.
5. Yoga for Unity and wellbeing, 100 days of Yoga Program, March 14 to June 21. By Heartfulness Institute.
6. Attended one week ATAL (AICTE) FDP on Leadership Excellence in Academic development at NIT, Surathkal held during 12-16th July 2021.
7. Attended 3 days workshop at IIT Khargpur 12-14 May 2022 on Teaching and practice of Happiness (including Lab visit)
8. Attended Two weeks Capacity Building Program for University Incubator by PUM Netherlands expert from 20/11/2023 to 30/11/2023 at DTU.
9. Participated a Workshop on Technical Education in Bharatiya Languages in Context of NEP 2020: Application of Anuvadini 26th February 2024 at DTU.
10. Participated 3 day workshop on Nurturing Happiness in Academia 15-17 January 2024 IIT Kharagpur.
11. Attended Distinguished Speaker session on 16th October 2024 at DTU by Mr Mahesh Joshi
12. Participated in Engineers Day 2024 celebrations on 17th September 2024 at DTU.
13. Member in MOU between DTU and Ramakrishna Mission on 7th September 2024.
14. Attended Distinguished Speaker session on 29th August 2024 at DTU by Dr Ravi Bhushan Grover
15. Attended a workshop on Skill Development and Atmanirbhar Bharat in context of NEP 2020.
16. Attended seminar on Stress management with ancient Bharatiya wisdom on 4th April 2024 at DTU
17. Attended a workshop on Relevance of Ancient Technology in Modern times in context of NEP 2020 on 5th April 2024

Administrative Assignments

1. DRC Member Dept of Civil Engg DTU (since December 2018)
2. PhD Coordinator, Dept of Civil Engg DTU (since January 2019)
3. BTech Project Coordinator, Dept of Civil Engineering (July 2017 to June 2023)
4. Head, Centre for value based Education (since April 2018)
5. Additional Director, Equal Opportunity Cell (November 2018 to July 2023)
6. Coordinator, Centre of Excellence for the Science of Happiness (Since

September 2021)

7. University Coordinator, AICTE-SIP(Since2019)

Country Visited

Visited Antarctica as a member,24thIndianScientificExpedition

Others

1. Member of Core screening committee ENGIFEST 2018
2. Environmental Expert for Environmental Cell of East Delhi Municipal Corporation since November 2017.
3. Departmental Library Committee member Since December 2017
4. Coordinator, Registration and Orientation Programme of B.Tech First Semester on 2nd August 2017
5. Overall Coordination Committee member, Orientation cum Induction Training Program of Newly admitted First semester UG students 2-6 August 2019
6. Faculty Advisor
Elixir, The Health Society of DTU Since March2018
STEP. DTU
7. Internal Auditor, ISO9001:20015, DTU Since May2018
8. Chief Vigilance Officer (Since January 2023)
9. Screening committee member , Grant of MACP to erstwhile DCE Employees
10. Chairman, Central purchase (furniture) Committee
11. Coordination committee member, NAAC,NBA, ISO, Academic Audit
12. Member , University level Anti ragging committee.

Workshop/Faculty Development Program Organized

1. Workshop on Professional Excellence through Values, Meditation and Self Management July 26, 2019
2. TEQIP III Sponsored One week Faculty Development Programme on Earth quake Resistant Design of Structures 27-31 May 2019
3. Faculty Development Program on Ethics and Values in Technical education in context of National education Policy 2020 April 15-19, 2021

4. Faculty Development Program on Leadership Mastery through self Management 19-23 July, 2021.
5. Organized a one day expert lecture on Gross National Happiness on 2/3/2022 at Edusat hall of DTU for the benefit of students and faculty members by Dr Saamdu Chetri Visiting Professor at IIT Kharagpur & Director at GNH Center.
6. Organized an Interactive session of Dr S S Rekhi , CEO R Systems on teaching science and practice of happiness with Honourable VC and other seniormost faculty members and Deans of DTU at Pragyan hall DTU on 4/5/2022.
7. Organised a session on yoga cum meditation for the benefit of all especially for women and different abled persons on 3/6/22 at Edusat Room DTU through equal opportunity cell.
8. Organized a five days online FDP on “ Leadership Mastery through Self Management” during 19-23 July 2021.

Outside University

1. Invited Talk, International Level Symposium at Maria College of Engg and Tech T.N on 7th March 2008
2. Expert Lecture on Stress Management during ATAL FDP at Abdul Rahman Institute of Science and Technology 7-11 December 2020.
3. Expert Lecture, AICTE Sponsored short term Training on Moral Values and Ethics in Professional Education November 1-6 2019 at Deenbandhu Chhotu Ram University of Science and Technology , Sonapat, Haryana.
4. Yoga for Balanced life on 21 June 2020 online Lecture on International Yoga day at Arunachala College of Engineering , T.N.
5. National Webinar on Climate Change and Waste water Management on 11.6.2020 (Online) Pioneer Kumarswamy College, Nagercoil T.N
6. National Webinar on Domestic Wastewater Treatment Technologies(Online) 17.6.2020 Stella Marys College of Engineering T.N.
7. Expert Lecture, ATAL FDP on Leadership Excellence in Academic development 12-16 July 2021 by NITK Suratkhal, Karnataka
8. Motivational Lecture for the medical students of Osmania Medical College Hyderabad and Govt. Medical College Siddipet (online)on Balancing life 26 August 2021
9. Expert Lecture on Inner connect during Leadership Conclave during 5-7 September 2021 Maharaja sriram Chandra Bhanjadeo University, Orissa

10. Organized a one day workshop on Mind Lab Experimentation on 29/9/2022 at DTU for the benefit of faculty members of DTU.
11. Delivered a Lecture on **Meditation a tool for stress management** ATAL (AICTE) FDP on **3D Printing in Industry 4.0** organised by School of Mechanical Science of B S Abdur Rahman Crescent Institute of Science & Technology from **5th to 16th December, 2022 in Blended Mode.**
12. Delivered a Lecture on *Time and Stress Management* ATAL (AICTE) FDP **“Electric Vehicle Technology: Challenges & Infrastructure,”** at Dept of Electrical Engineering DTU during December 12, 2022 to December 23, 2022 .
13. Resource Person in ATAL Academy during 6/12/21 to 10/12/21 at University college of Engineering, Nagercoil.
14. Distinguished Resource person FDP , Personal & Academic Excellence and Sustainability – A Heartfulness Approach February 05-09, 2024 at Galgotias University, Greater Noida, U.P.
15. Resource person Technical Training Programme : Attachment of DANICS Probationers 11-29 September 2023.
16. Resource Person “ Life skill Development Programme on Holistic Development of Self through Heartfulness Practices” 8th June 2024 at Arunachala College of Engineering T N.
17. Chief Guest, 14th Graduation Day 2020 Udaya School of Engineering, T.N
18. Resource person Technical Training Programme : Attachment of DANICS Probationers 20 August-6 September 2024.
19. Organized a session “ Meditation for Body Mind and spirit” 12th March 2024 at DTU Speaker Mr Jim Rose (USA)

Consultancy Projects

1. Principal Investigator, Providing third party quality assurance inspection services for the work C/O 520 Two BHK, 250 Three BHK & 294 EWS houses Pocket 14, Sector A1 to A4 Narela Project cost 311 Crores.
2. Member ,Providing third party quality assurance inspection services for the work C/O 750 Two BHK, 325 Three BHK & 412 EWS houses Pocket 3, Sector A1 to A4 Narela Project cost 505 Crores.

List Of MTech Thesis Guided (Since 2017)

1. Study On Optimization of Transition in Venturiflume For Variouswidth ratios (2023)
2. Role of Urban Green Infrastructure (UGI) in reduction of Urban Heat Island (UHI) Effect (2022)
3. Development of flood Forecasting System for Delhi City(2023)
4. Analysis of sediment deposition of *Brahmani* River by Neural network and Multiple Linear Regression (2021)
5. Critical Analysis of Water Quality of Wetland at *Keoladeo National Park*, Bharatpur, Rajasthan (2021)
6. Cost Analysis of Centralized versus Decentralized Wastewater Treatment Plant at *Anand Gram* Delhi.(2021)
7. Simulation of Urban drainage system in *Said Ul Ajaib*, NewDelhi using GIS. (2021)
8. Characteristics and Hydrological modeling of Mahanadi Basin(2020)
9. Flow Characteristics of Non-Prismatic Compound Channel usingCFD(2020)
10. Estimation of sediment yield of a Catchment using USLE with Arc GIS Mapping (2020)
11. Estimation of trap efficiency of *Rihand* reservoir Using ANN Modeling(2019)
12. Siltation studies of Reservoirs (2019)
13. Estimation of total volume of sediments in *Salaulim* Reservoir using ANN Model (2019)
14. Morphological Evolution of *Kosi* River(2019)
15. Study of scouring using different configuration of L-shaped Groynes in Open channels (2018)
16. Estimation of depth of scouring around permeable and impermeable Groynes and their comparison (2018)
17. Flow Analysis in Scour hole around bridge pier using ANSYS FLUENT (2017)
18. Flow Analysis in Compound channel flow using ANSYS(2017)

PhD Thesis

1. Awarded

Development of strategies for mitigation of Urban Flooding (September 2024)

2. Submitted

Assessment of Heavy metal Pollution in Ganga River From Kanpur to Prayagraj Stretch , India (September 2024)

3. On going (4 Nos)

Others

- (i) *MOU Has been signed between DTU and Rekhi Foundation for Centre of Excellence for the science of happiness in DTU (Supported by Rekhi Foundation)on 9/11/2021*
- (ii) *Prepared curriculum for “ Universal Human Values” and “ Leadership Mastery through self management” and got ithe same approved by Academic Council as Foundation elective courses.*
- (iii) Organized, Orientation cum Induction Program of newly admiited students of DTU during November 2022 at DTU.
- (iv) Participated in International Youth conference by AICTE at Kanha Shanti Vanam, Hyderabad during August 10-16 , 2022 along with sixty students.
- (v) Organized a seminar for PhD students on Excellence during 2022 .
- (vi) *Commendable Research Award 2022 , 2023, 2024 by DTU*
- (vii) Involved in Yoga , health and meditation for students and conducting weekly meditation ans stress management programs
- (viii) *Co-convener Orientation cum Induction Program 2023, 2024.*