

Curriculum Vitae

Dr. P. Raja Sekhar

**Professor, Department of Civil Engineering,
University College of Engineering, Osmania University, Hyderabad.**

#Telangana State Best Teacher Awardee for the year 2022

#Member of Telangana State Committee on Dam Safety (SCDS)

Expert Member of Hon'ble Justice PC Ghosh Commission of Inquiry

Member of Telangana Water Land & Trees Authority (TGWALTA)

Interests/Skills in: Ground Water Development and Management, Environmental Engineering, Studies on Pollutant Movement in Porous Media, Design of experimental setup, Flood Forecasting Studies.

Major Academic Qualifications

- **Ph.D. candidate in Water Resources Engineering** (March 2011)
Indian Institute of Technology Bombay (IIT Bombay), India
Research on: 'Model Studies on Pollutant Movement in Porous Media'
Supervisors: **Dr. T. I. Eldho**, Professor, Department of Civil Engg. IIT Bombay and
Dr. B. V. S. Viswanadham, Professor, Department of Civil Engg. IIT Bombay
- **Master of Engineering** in Civil Engineering (Major: Hydro mechanics and Water Management) (July 1999)
University College of Engineering, Osmania University, Hyderabad.
Research on: 'Sedimentation Analysis – A case study on Srisailem Reservoir'
Worked with: **Prof. Syed Bahauddin**, Professor, Department of Civil Engineering, University College of Engineering, Osmania University, Hyderabad.
Grade: **First Class with distinction**
- **Bachelor of Engineering** in Civil Engineering (July 1990)
Osmania University, Hyderabad.
Grade: **First Class with distinction**

Publications

In Refereed Journals:

1. Revanth Mamidala, Rekha Rani Kollu, Rajasekhar Pasula (2022), "Model Response to Temporal Variation of Input Data and Simulation Period: A study on Sabari River basin", under review.

International Journals:

1. Rangineni Pallavi, K.Rekha Rani, Kulkarni Shashikanth, P.Rajasekhar, & Hiteshri Shastri (2022), "Intricate Flood Flow Advancement Modelling in the Krishna river sub basin, India", ISH Journal of Hydraulic Engineering.

International Conferences:

1. Sandeep Nerella, Muske Srujan Teja, P.Rajasekhar, "Development of Flood Forecasting Model for Godavari sub-basin using MIKE11", International Conference on Innovative Trends in Civil Engineering for Sustainable Development(ITCSD-2019).
2. Revanth Mamidala, Raja Sekhar Pasula, "Hydrologic Modelling of Godavari sub-basin using HEC-HMS", International Virtual Conference on Innovative Trends in Hydrological and Environmental Systems (ITHES-2021).
3. M.Vineeth, M.Sadhana, K.Naveen & P.Rajasekhar, "Land Use and Land Cover Analysis of a City over a Development Period", International Virtual Conference on Innovative Trends in Hydrological and Environmental Systems (ITHES-2021).
4. Bhukya Ramakrishna, P.Rajasekhar, Chatlapally Ramesh & Illutam Udaykumar(18-20, December 2019), "Mathematical based Approach for Flow Characteristics in Godavari Sub-basin", 24th Hydro 2019, International Conference, Osmania University, Hyderabad, India.

Computer Skills

- Software Package: MIKE 11, HEC RAS, HEC HMS, MODFLOW, Origin 7.0, Surfer.

Major Thesis

Ph.D. Thesis: 'Model Studies on Pollutant Movement in Porous Media'

- The pollutant migration through soil is a major problem and there is a growing concern regarding the contamination of the groundwater system by toxic substances, which are, or being, stored in landfills and lagoons. The present study addresses this issue. Since the movement of pollutant through relatively impermeable soils is quite slow, the time required for severe contamination of the surrounding ground water may range from several years. The design of these disposal sites should require consideration of the likely contamination of the surrounding ground water system in both the short and long term. Many times, it is difficult to trace the leakage of pollutant and estimating or producing a physical evidence of rate of movement of pollutant in the soil medium. Hence, in the study, the movement of pollutant through a soil medium is being simulated by using a 1-g and N-g, a centrifuge modeling technique in equivalent prototype times. A simple, cost effective and non-destructive testing methodology is being tried to assess the concentration levels of pollutant with time and different levels within the soil medium.
- In this study an attempt has been made to develop resistivity probes and an experimental setup capable of simulating the field conditions concerned with the migration of pollutant through the porous media. The porous media chosen for the present study is commercially available clean uniformly graded sand; while Sodium Chloride solution has been considered as the pollutant. For the continuous monitoring of pollutant transport, miniature resistivity platinum wire probes and a multiplexing system capable of reading the concentration values in terms of voltage drop without the interference of the adjacent probes have been developed. Also, the movement of the pollutant was monitored with a digital camera, through the transparent wall of the plexiglass container. Model tests pertaining to pollutant movement in soils were conducted to simulate spill from a leaking underground storage tank, and the subsequent subsurface migration of the pollutant. The developed probes have been found to be very effective to continuously monitor the pollutant movement in the porous media. Further, it is shown that the concentration of the pollutant within the soil will reach a peak value at a specified time and will then decrease with subsequent time. The magnitude of this peak concentration and the peaking time depends on the hydrogeological conditions and the ratio of the concentration of the solute in one phase to the concentration of the solute in the other.

Work Experience in Academia

- **Assistant Professor**, (Jul 1997-July 2007)
Department of Civil Engg., University College of Engg., Osmania University, Hyderabad
- **Associate Professor**, (July 2007- February 2014)
Department of Civil Engg., University College of Engg., Osmania University, Hyderabad
- **Professor**, (February 2014 – Present)
Department of Civil Engg., University College of Engg., Osmania University, Hyderabad
- **Head** (July 2022-August 2024), **Department of Civil Engineering, University College of engineering, Osmania University, Hyderabad**

Other Activities

- **Co-Convener, TS PGECET 2022**
- **Coordinator, TS PGECET 2021**
- **Member TSPSC-Syllabus Revision and Confidential Work**
- **Chairperson Board of Studies, Department of Civil Engineering, Osmania University.**
- Worked as **Joint Director (PG)**, Exam Cell, University College of Engg. OU.
- Worked as **Officer-in-Charge**, Alumni Association, University College of Engg. OU.
- Worked as **Department Convener** for M.E Admissions for three consecutive years.
- Actively involved in the departmental administration as **Departmental committee member** and **Member Purchase Committee** for three years.
- Worked as **Time Table In charge** in the department for five years.
- **Examiner** for M.E, B.E thesis, dissertations, reports at various stages.
- **Faculty Advisor** for M.E (Hydro-Mechanics and Water Management)
- **Actively involved** in conducting the QIP-Short Term Courses (QIP-STC) with the supervisors in the Department of Civil Engineering at IIT Bombay.
- **Actively participated** in the QIP-Research Scholar's Forum as an officer bearer at IIT Bombay (2005-2006)

References

- **Prof. D. Ravinder**
Former Vice-Chancellor
Osmania University
Hyderabad
- **Prof. P. Laxminarayana**
Former Registrar,
Osmania University
Hyderabad

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Prof. P.Raja Sekhar