

## **CURRICULUM VITAE**

Name Dr. K. Varija  
Address: Associate Professor  
Dept. of Applied Mechanics  
NITK, Srinivasanagar-575025

Telephone Office:(0824)2474000 Extn:3305; Residence (0824)2474305  
Email:variya.nitk@gmail.com

### **Education**

B.E.,Civil Engineering, SJCE,Mysore.  
M.Tech., Hydraulics and Water Resources Engineering, NITK, Surathkal.  
Ph.D, Water Resources Engineering, IISc.,Bengaluru.

### **Areas of specialization**

Surface water hydrology, Irrigation Engineering, Fluid Mechanics, Hydraulics

### **Professional Experience**

Lecturer : 1992  
Senior Lecturer : 1998  
Assistant Professor : 2006  
Associate Professor : 2009

### **Courses taught**

#### **UG level**

Engineering Mechanics  
Mechanics of Materials  
Mechanics of fluids

#### **PG level**

Surface water Hydrology  
Irrigation Engineering  
Applied Hydrodynamics  
Water Power Engineering  
Design of Hydraulic structures  
River Engineering and Sediment Transport(REST)

### **Scholarship awarded :**

Deputed to IISc, Bengaluru for PhD program under QIP, GOI

### **Visit to Foreign country**

Nanyang Technological University, Singapore, 2009

### **Research Supervision**

#### **Phd completed**

1. Characterization of soil hydraulic properties in the Pavanje river basin, Karnataka, India.” Shwetha 2014

#### **On-going**

1. Soil moisture estimation using VIC model -Mohaideen
2. Climate change impact on hydrological processes- Anjali
3. RS and GIS applications in water resources – Pandu

### **INTERNATIONAL JOURNAL PAPERS**

1. Shwetha P and K. Varija, On the soil water retention function for some coastal soils of Karnataka, India, *International Journal of Earth Sciences and Engineering*, 2012, Vol. 5, No. 5, P.P. 1220-1228.
2. P. Shwetha and K. Varija, Soil water retention prediction from pedotransfer functions for some Indian Soils, *Archives of Agronomy and Soil Science*, 2013, Vol. 59, No. 11, P.P 1529-1543.
3. P. Shwetha and K. Varija, Study on soil moisture retention function for the Indian forested hillslope soils, *Journal of Geo Engineering*, 2013, Vol. 8, No. 1, P.P. 11-18.
4. Varija and Sukanya(2015) “Comparison of different RET methods at different climatic conditions”*i-manager ‘s journal on civil Engineering*.
5. Amruth and Varija(2016)”Comparing the variation of stream flow in gauged Basin using satellite imagery with regard to climate in land use pattern”*International Journal of Mechanical and Civil Engineering*.
6. Amruth and Varija(2016) Analysing the change in Landuse Landcover pattern of Pavanje River Basin in Dakshina Kannada District of Western Ghats in India and its Effect on the streamflow of Pavanje River. *International Journal of Earth Sciences & Engineering -IJEE* (Accepted and will be published in March 2017 issue)

### **PAPERS PUBLISHED IN INTERNATIONAL CONFERENCE PROCEEDINGS**

1. **Dr. K. Varija**, "Soil moisture redistribution under rainfall, irrigation and evapotranspiration" Advances in materials and techniques for Infrastructure development (AMTID-2011, 28-30 September 2011, NIT, Calicut.
2. P. Shwetha and **K. Varija**, Study of saturated hydraulic conductivity for sandy loam and loamy sand textured Indian soils, Proceedings of HYDRO 2013 International, 4-6 Dec, IIT Madras, Chennai, India.
3. Nimiya and **Varija** (2014) Performance comparison of ANN and conceptual model in estimating runoff: a case study in Pavanje catchment, Karnataka, India." International conference on Advance trends in Engineering and technology (ICATET-2014) Arya college, Surath.
4. Sukanya and **Varija** (2014) Comparison of Reference Evapotranspiration estimation Method in humid climate, International conference on Advance trends in Engineering and technology (ICATET-2014) Arya college, Surath.
5. Shwetha P and **Varija K** "Soil water retention curve from saturated hydraulic conductivity for sandy loam and loamy sand textured soils" International Conference on Water Resources, Coastal and Ocean Engineering [ICWRCOE'15], to be organised by Department of Applied Mechanics and Hydraulics, during 12th – 14th March 2015.
6. Amruth and **Varija** "On quantifying the effect of land use and land cover change in Pavanje River Basin and its effect in Pavanje River" International conference HYDRO 2015, IIT Roorkee.

#### **PAPERS PUBLISHED IN NATIONAL CONFERENCE PROCEEDINGS**

1. P Shwetha and **K Varija**, Estimation of the soil moisture retention curve in coastal Karnataka using pedotransfer function, Proceedings of Indian Geotechnical Conference, IGC-2011, published by Indian geotechnical society, Kochi, India.
2. P Shwetha and **K Varija**, Applying pedotransfer function to assess soil water retention characteristics and their spatial variability in coastal area of Karnataka, Proceedings of Geometrix'12, published by centre of studies in resource engineering, IIT Bombay, India.
3. Shwetha P and **Varija K**, On The development of pedotransfer functions for estimating the soil water retention curve, Proceedings of National conference on

Contemporary Civil Engineering Research and Practices, CCERP 2012, published by Civil engineering department, MIT, Manipal, India.

4. Shwetha P and **Varija K**, Estimation of soil water retention curve for forested hillslope soils, Proceedings of National Conference on Hydraulic and Water Resources, HYDRO 2012, published by Civil engineering department, IIT Bombay, India.
5. Sheethal V and **Dr. K. Varija**, Comparison of rainfall analysis using two methods for storm drainage design-A case study” Contemporary Civil Engineering Research and Practices, MIT-Manipal,2012
6. Rishinandan and **Dr. K Varija**, “Temporal variability of field measured infiltration rates on vegetative covers in NITK campus”Contemporary Civil Engineering Research and Practices, MIT-Manipal,2012.
7. Shaheen S. B.M and **Dr.K .Varija**,”Integrated waterbalance model for four selected river basins in Kerala” Contemporary Civi Engineering Research and Practices, MIT-Manipal,2012

### **M Tech Projects Guided**

Sl No	Title of Thesis	Co-Guide	Name of Student	Year
1	Possible impacts of landuse and climate changes of streamflow simulation of Gurupur river Basin.	Dr N Lakshman	Mrinalini	1996
2	Irrigation scheduling model for field crops.	Dr N Lakshman	K Rousseau	2002
3	Testing of soil water balance simulation model	-	Suman K	2004
4	Estimation of soil moisture in unsaturated zone and irrigation scheduling	-	Sunil Gurrupu	2005
5	Soil water intrusion and modelling	-	Saritha S Nair	2007
6	Rainfall prediction model for Bajpe station using Backpropagation algorithm in ANN	-	Indu Issac	2010
7	Estimation of runoff in ungauged basin- a regionalization approach	-	Pradeep Kumar M Hodlur	1201
<u>8</u>	Comparative analysis of runoff computation techniques in data scarce and sufficient conditions for storm water management- A case	-	Sheethal V	2012

	study in Mangalore region			
9	Model performance comparison study of two regional –runoff models for the selected four river basins in Kerala.	-	Shaheen S. B. M	2012
10	Temporal variability of field measured infiltration rates using double ring infiltrometer under different vegetative covers in NITK Campus	-	Rishinandan	2012
11	Spatial variation studies of soil hydraulic properties in a part of Pavanje river basin using Ordinary Criging Method	-	Hanzel H Fernadez	2013
12	Comparison of ANN, ANFIS and Regression method in evaluation the soil hydraulic properties	-	Suresh Digamber Kamble	2013
13	Projecting runoff for Netravathi basin under climate change scenario from GCM outputs	-	Sunil Basappa Itnal	2014
14	Comparison of reference evapotranspiration estimation methods in different climates	-	Sukanya J Nair	2014
15	Performance comparison of ANN and a Conceptual model in estimating runoff	-	Nimiya Baby	2014
16	Performance evaluation of reference evapotranspiration methods under different climatic conditions of Andhra Pradesh and Telangana states	-	Medum Jyothsna	2015
17	Ground water modelling in selected basins of Hard rock regions of Karnataka	Dr B K Purandara, NIH, Belgaum	Nikhil Ghodichore	2015
18	Application of Soil and Water Assessment Tool(SWAT) model for upper Cauvery basin	-	Y V Radhakrishnan	2015
19	Analysis and redesign water distribution system for Mangalore North	-	Darshana P	2016
20	Trend analysis and causality testing of meteorological variables for Rajasthan	-	Dokka Yagna Vamshi	2016

21	Soil erosion estimation for Netravathi river basin using RUSLE model integrated with RS and GIS		Fahima Shad V	2016
22	Climate change impact on stream flow	-	Jose	On-going
23	Streamflow estimation using SWAT model	-	Srelakshmi	On-going

### **Workshops attended**

1. Two-day workshop on “Hydrus” software in department of Civil Engg, IISc, Bengaluru during Feb 4-5, 2012.
2. Short term course on “Hydrus” in the department of Civil Engg, Bengaluru during Feb,6-10 2012.
3. One day workshop on “Workplace sensitization” NITK, under TEQIP on 22<sup>nd</sup> November 2013.
4. “Soil water networking, National workshop”, IIT Kharagpur, IITKaragpur & University of Sydney , 4-7 January 2015.
5. “Sustainable Operations management, Concepts and Models”at IIT Delhi, TEQIP-II, 4-6 June 2015.
6. One day workshop on “Past, Present and Future Scenarios in Water Resources, Coastal and Ocean Engineering “ at NITK, Surathkal on 11<sup>Th</sup> March 2015

### **Courses conducted**

- 1 “Water Distribution Systems” for PWD and irrigation engineers during 24<sup>th</sup> – 28<sup>th</sup> August 2015, sponsored by Engg staff college, KRS and organised by dept. of Applied Mechanics.
- 2 Delivered lecture on “Methods of Irrigation.” during 27<sup>th</sup>-31<sup>th</sup> July 2015, NITK, sponsored by Engg staff college, KRS and organised by dept. of Applied Mechanics.

### **Professional Memberships:**

- LM -Indian Society for Technical Education(ISTE)
- LM-Indian Society of Hydraulics (ISH)
- LM-Institution of Engineers(IE)

### **Responsibilities held**

#### **Institute Level**

Member, Grievance committee

Department Representative Member, TEQIP phase-II

Chairman, Complaints Committee.

Warden, Ladies Hostel, for two separate terms.

Member, Anti-ragging committee

Faculty adviser, INCIDENT committee

Treasurer, "SWARAM" National conference held in the department of Applied Mechanics in 2010

Secretary, Students' co-operative society.

**Department Level**

Secretary, DPGC/DRPC/

In-charge, Hydraulics Lab

Member, RPAC and DTAC

Member, PWEC

Incharge -Time-table

**Other information:**

Member, selection committee for Faculty Selection for the post of Assistant Professor under 4-Tier system in National Institute of Technology, Calicut during 18-22 June 2014.