CURRICULUM VITAE

DR.DRISYA.J

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Google scholar: https://scholar.google.co.in/citations?user=GaC0GiEAAAAJ&hl=en

Permanent Address:
Orayampurath house,
M44-SNRRA,
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Koorkenchery.P.O,
Thrissur, Kerala, India
PIN-680007
Mob : 9496347097

Personal Data:

Date of Birth : 14/03/1986

Sex : Female

Father : O.P.Jayakumar

Nationality : Indian

Marital Status : Married

Mother Tongue : Malayalam

Languages Known: English, Malayalam, Hindi

Hobbies : Learning softwares, Travelling, Cooking

Passport number :T2571172
Date of issue :06/12/2019
Date of expiry :05/12/2029
Indian Driving License Holder
Husband : Satheesh K.S
(Royal Court, Bahrain)

Objective

- Post Doctoral Research Fellow in Arabian Gulf University, Bahrain
- AI and Geospatial expert in Water Management

Education

- Undergoing post-doctoral research
- Ph.D
- Master of Technology
- Bachelor of Technology

Skills

- Excellent organizational and communication skills
- Good Interpersonal skills.
- Willingness to learn and determined.
- Extreme dedication.
- Active in social networking

Strength :-

My strength is Self-Confidence and willingness to perform the things in organized manner

Academic Experiences and Excellences

- Participated in the Sramadhan initiative as part of community service programme
- Attended a National seminar on “Food Security Through Innovations in Entrepreneurship Development”
- Attended Energy Environment Study Camp “Thejas-2008”
- Got District 1st in Power Quiz Competition conducted by KSEB Officers Association
- Got 1st in seminar competition held in various places

Training

- One week Faculty Development Programme on **Climate and Landuse Change Impacts on Water Resources** by NIT Calicut
- One week training course in **Advanced Hydraulic Modelling** conducted by Deltaic Regional Centre, Kakinada, Andhra Pradesh
- Three days training programme on **3D- Groundwater Flow and Contaminant Transport Modelling** in NIT Calicut
- One week international Summer Course on **Land use Land cover Change Modelling and Prediction in SLEUTH** by Prof Keith Clarke organized by GIAN programme, Ministry of Human Resource Development, India in MNIT Jaipur, Rajasthan
- One week Faculty Development Programme in **GIS and Remote Sensing** in NIT Calicut
- One day workshop on **Research Writing: Technical and Language aspects** by Dept of Mechanical Engineering and school of Management Studies, NIT Calicut
- One month Intensive Training on **Agricultural Tractor and Mechanization at Farm Machinery Training and Testing Institute**, Andhra Pradesh, Ministry of Agriculture, Government of India.
- One month Training Programme in preparation of databases in Post Harvest technology at **Central Institute of Post Harvest Engineering & Technology**, Ludhiana, Punjab
- Attended two days training programme on "Landscape designing and Microirrigation"
- Twenty one days Practical Training at **Central Soil and Water Research and Training Institute, Udagamandalam**

Academic Projects

- **Determination of Hydraulic Conductivity Based On Grain Size Distribution (Bachelor's Thesis)**

  Used prediction models for the estimation and compared with the existing laboratory methods.

  Two models were selected for predicting the hydraulic conductivity using grain size distribution namely, Kozeny Carman model and Alyamani and Sen model. Kozeny Carman model was based on average particle diameter and porosity of which particle diameter was determined by Kozeny graphical method. Alyamani and Sen model was based on normal plot of grain size distribution which uses X intercept and grain size corresponding to particular percentages.

- **Parameter estimation of clay loam soils by inverse modeling techniques in HYDRUS-2D (Master's Thesis)**

  - Established a field trial (drip irrigation experiment) with data loggers installed.
  - The collected moisture content data was analyzed and interpreted suitably.
  - Simulated soil water flow numerical models using HYDRUS 2D and compared with the field experiment.

- Optimized soil hydraulic parameters by inverse modeling approach in HYDRUS 2D

❖ **Development of Spatial Decision Support System for Watershed Management (Ph. D research topic)**

Developing interactive computer systems under a Geographic Information System to support a user or a group of users in achieving a higher effectiveness of decision making while solving a semi-structured spatial decision problem in a water stressed watershed.

❖ **Modelling the Impacts of Climate Change on Freshwater Resources (Post Doctoral Research)**

Investigations on the land subsidence, precipitation changes, suitability of rainwater harvesting locations and optimization of wellfield operations using MODFLOW coupled pymoo networks

Academia

Year	Institution	Course	University	Marks
2024-2025	Arabian Gulf University	Post Doctoral Research	Arabian Gulf University	-
2013-2021	National Institute of Technology, Calicut	PhD in Water Resources Engineering	National Institute of Technology, Calicut	85%
2010-2012	Agricultural Engineering College and Research Institute, Coimbatore	Master of Technology in Soil and Water Conservation Engineering	Tamil Nadu Agricultural University	86.7%
2004 – 2009	Kelappaji College of Agricultural Engineering and Technology, Tavanur	Bachelor of Technology in Agricultural Engineering	Kerala Agricultural University	83%
2002 – 2004	G.H.S.S Cherpu	Plus-2	Kerala Higher Secondary Board	78%
2002	Sacred Heart Convent Girls Higher Secondary	SSLC	Board of Public Examinations	92%

Awards/Ranks

❖ **INSPIRE SENIOUR RESEARCH FELLOW** by Department of Science and Technology, India

❖ Qualified **National Eligibility Test** conducted by Indian Council of Agricultural Research, December 2013

❖ **First rank** holder during post graduation in Soil Water Conservation Engineering from Tamil Nadu Agricultural University, Coimbatore

❖ **45th rank** in ICAR-PG Examination conducted at All India Level in 2009

Modelling Proficiency

❖ Python and R programming platforms

❖ Machine learning models

- ❖ Proficiency in the use of distributed hydrological models like HYDRUS 2D, WEAP, MODFLOW, QSWAT

Experiences

Organization	Designation	Time Period	From	To	Nature of duty
Kerala Land Development Corporation	Assistant Project Engineer	Still continuing	05.06.2018	Till date	Execution of civil and allied construction activities in the Kole land
Kerala Agricultural University	Research Associate	6 months	11.6.2013	16.12.2013	Software development for drip irrigation design, Handling training sessions for farmers and students
International water management institute, Hyderabad	Intern	5 months	17.12.2012	31.05.2013	Hydrological modeling for three cities
Krishi Vigyan Kendra	Expert Faculty	4 months	16.8.2012	14.12.2012	Farmers club training
Centre for Water Resources and Development, Calicut	Junior Research Fellow	11 months and 13 days	28.8.2009	10.8.2010	Data collection, documentation and analysis in a DST funded project
Local Self Government	Accredited Engineer	3 months	27.5.2009	27.8.2009	Carrying out different projects in MNREGA

LM 10834- Life member of Indian Society of Agricultural Engineers

Contribution to the field of specialization

- ✓ Demonstrated the utility of parameter estimation process successfully for surface drip irrigation using HYDRUS 2D
- ✓ Aimed for irrigation engineers to design efficiently the fertigation scheduling minimizing the leaching losses.
- ✓ Involved in a software deployment team in KAU. The design software helps in the easy design of drip irrigation layout
- ✓ Aimed for academia's, technicians and farmers
- ✓ Developed future water scenarios for the three metropolitan cities with special view of increasing urbanization
- ✓ Aimed for urban planners and other Government organizations
- ✓ Application of artificial intelligence and machine learning models for managing the water resources

Publications

1. Drisya J and Sathish Kumar D (2016) Comparison of digitally delineated stream networks from different spaceborne digital elevation models in two terrain conditions: A case study based on two watersheds in South India", ***Arabian Journal of Geosciences***, **(SCI indexed)** https://doi.org/10.1007/s12517-016-2726-x

2. Drisya J and Sathish Kumar D (2017) Automated Calibration of a Two Dimensional Overland Flow Model by Estimating Mannings Roughness Coefficient using Genetic Algorithm, ***Journal of Hydroinformatics***, (**SCI indexed**) **.** https://doi.org/10.2166/hydro.2017.110
3. Thendiyath Roshni, Nandini Kumari, Remesan Renji, Jayakumar Drisya (2017) Gamma Test coupled Wavelet Neural Network for improved Statistical Downscaling of Land Surface Temperature, ***Advances in Environmental Research, An International Journal, (ESCI,)***Vol 6, Number 4 pp 265-279 https://doi.org/10.12989/aer.2017.6.4.265
4. Thendiyath Roshni, Madan K. Jha, Jayakumar Drisya (2018) Neural network modeling for groundwater-level forecasting in coastal aquifers, ***Neural Computing and applications*** **(SCI indexed)** 32, 12737–12754 (2020). https://doi.org/10.1007/s00521-020-04722-z
5. Drisya J, Roshni Thendiyath, Sathishkumar D (2021) Hydrological Drought Assessment through Stream Flow Forecasting using Wavelet Enabled Artificial Neural Networks***, Environmental Development and Sustainability , SCI indexed*** 23, 3653–3672 (2021). https://doi.org/10.1007/s10668-020-00737-7
6. Drisya J and Sathish Kumar D (2022) Evaluation of the drought management measures in a semi-arid agricultural watershed. ***Environ Dev Sustain.*** https://doi.org/10.1007/s10668-021-02079-4, ***SCI indexed***
7. Drisya Jayakumar; Adel Bouhoula; Waleed Khalil Al-Zubari (2024), Unlocking the Potential of Artificial Intelligence for Sustainable Water Management Focusing Operational Applications, ***Water,*** https://doi.org/10.3390/w16223328, Scopus, SCIE indexed
8. Drisya, J., Al-Zubari, W. (2025) Investigating the Future Precipitation Changes Over the Kingdom of Bahrain Using CMIP6 Projections. ***Earth Systems Environment,*** https://doi.org/10.1007/s41748-025-00578-2, Springer publications
9. Thendiyath Roshni, Pijush Samui, Jayakumar Drisya (2018) Operational usage of machine learning models, ***Indian Journal of Geo-marine Sciences***, (SCI indexed)
10. Thendiyath Roshni, Jayakumar Drisya (2021) GIS based drought assessment in climate change context-A case study for Sone Command in Bihar ***Journal of Institution of Engineers India Series A***

International Conferences

1. Drisya J and Visalakshy K.P (2014) Application of WEAP in Water Resources Engineering, International symposium on Integrated Water Resources Management (IWRM 2014) at CWRDM on 19-21 February 2014
2. Drisya J and and Sathishkumar D (2014). Rainfall probability analysis and prediction of threshold minimum for initiation of landslides". Proceedings of 19th HYDRO 2014 International Conference, on Hydraulics, Water resources and Environmental Engineering18-20 December, MANIT Bhopal.
3. Roshni Thendiyath, ManiRanjan Kumar, Shashi Ranjan Kumar, Drisya Jayakumar (2016) Assessment of Future Water Demand in Lower Mahi Sub-basin using Water Evaluation and Planning Model International Perspective on Water Resources and the Environment Conference, China

4. Drisya J and Sathish Kumar D (2016) Extending open source GIS support to estimate crop water needs of a watershed 21st HYDRO 2016 International Conference, on Hydraulics, Water resources and Environmental Engineering, Pune

National Conferences

1. Drisya J, Ashil V. S, Haritha V.P and Rose Antony (2012) Predicting the coefficient of permeability of soils based on grain size analysis Proceedings of International Ground Water Conference, Aurangabad December 18-21, 2012, Aurangabad, Maharashtra
2. Visalakshy K.P, Sureshkumar P.K and Drisya J (2013) Water harvesting measures and its design persepectives, Conference held in Water and Land Management Training and Research Institute(WALAMTRI), RajendraNagar
3. Drisya J and Sathish Kumar D (2015) Applicability of Spatial Decision Support System (SDSS) in Water Resources Management, Proceedings of National Conference on Technological Innovations for Sustainable Infrastructure, 13-14 March 2015, NIT Calicut

Book Chapter

1. Drisya Jayakumar, Sathish Kumar D and Thendiyath Roshni. "Spatiotemporal Variability of Soil Moisture and Drought Estimation Using a Distributed Hydro**logical Model."** Integrating Disaster Science and Management. 2018. 451-460 (Elsevier publications) https://doi.org/10.1016/B978-0-12-812056-9.00027-0

References

1. Dr.Roshni.T
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I hereby declare that the above-furnished details are true to the best of my knowledge.

Place: Tavanur Yours faithfully,

Date: 20.06.2025 Drisya.J