

JOSE GEORGE, *Research Associate I, ICCS Kottayam*

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CAREER SUMMARY

After obtaining my PhD in Water Resources Engineering from IIT Palakkad, I began working as a Research Associate at the Institute for Climate Change Studies Kottayam, in August 2023. My focus is to improve our comprehension of the possible consequences of climate change on local water systems. At my present post, I have exhibited expertise in doing research and analysing data, coupled with a strong commitment to discovering innovative solutions for addressing regional scale climate change issues. I have also demonstrated ability to effectively collaborate with various teams and effectively communicate research findings through written publications and oral presentations. I am committed to making substantial contributions to the advancement of a sustainable future via scientific inquiry and innovation.

WORK EXPERIENCE

Research Associate, KSCSTE- Institute for Climate Change Studies Kottayam **August 2023 - Present**

As a Research Associate at ICCS, I have been involved in setting up a hydrological model for the Bharathapuzha catchment. This involved gaining proficiency in fine-tuning the SWAT hydrological model, particularly in reservoir parameterization and crop management selections. Furthermore, I had the opportunity to showcase a segment of this work at the 36th Kerala Science Congress held in Kasaragod. I was also able to develop a real-time forecast product for the Bharathapuzha basin using python to force the SWAT model for the catchment using bias corrected GEFS forecast product. This work also included a stakeholder workshop, where I presented the real-time forecast product to farmers who depend on the river for their agricultural water needs. During my tenure at ICCS, I have also begun using cloud-based high performance computing tools like Jupyter notebook and Google Colab. I was also able to work on my management skills by being part of the organising committee for multiple workshops and technical sessions. At present, I am working on developing a comprehensive model for the “Greater Pamba” catchment in Kerala as part of a world bank project in collaboration with the Irrigation Department of Kerala.

EDUCATION

Ph.D. from Indian Institute of Technology Palakkad, Palakkad **2018 - Dec 2023**
Regional Scale Climate Change Impact Assessment: Efforts to Reduce and Quantify the Predictive Uncertainty

MTech. from National Institute of Technology Karnataka, Surathkal **2015 - July 2017**
Water Resources Engineering and Management **CGPA: 8.47**

BTech. from Rajiv Gandhi Institute of Technology, Pampady, Kottayam **2010 - May 2014**
Civil Engineering **CGPA: 7.45**

AWARDS/RECOGNITIONS

- Btech Project “Compact biofilter and rootzone unit for waste treatment “, was Selected as the “Best Civil Engineering project” at SRISHTI 2014, AICTE-IPS sponsored all Kerala technical project exhibition and competition
- Gate Qualified 2014 [Score 429], 2017 [Score 400]

WORKSHOPS ORGANISED

- Three-day workshop on “Decoding Climate Change: From Modelling to Machine Learning”, 2-4 September 2024, at NIRT Kottayam

- Three-day workshop on “Bridging the Knowledge Gap: Workshop on the Theory of Climate Change”, 1-3 November 2023, at RRI Kottayam
- One day consultation workshop on “Climate Change and Agricultural livelihoods: Adapting for Tomorrow”, 10th May 2024, at IRTC Palakkad
- State level workshop on “Towards a Healthy, Sustainable, and Climate Resilient Community”, 3rd June 2024, MG University Kottayam
- First stage of Rural Innovators’ Meet 2023 (RIM2023), 30th November 2023 at Orest Bhavan Kottayam

WORKSHOPS ATTENDED

- 36th Kerala Science Congress, 8-11 February 2024 at Govt College Kasaragod
- GIAN course on “Improved Climate Change Adaptation Strategies in Water Resources”, 12-16 November 2018 at IIT Kharagpur
- TEQIP-II Sponsored workshop on “Past, Present and Future Scenario of Marine Structures”, 20th February 2017 at NITK Surathkal
- TEQIP-II Sponsored workshop on “Computational Marine Hydrodynamics”, 19-20 January 2017 at NITK Surathkal
- Five-day workshop on “Rainfall Runoff Modelling [SWAT and MODFLOW]”, 26-30 September 2016 at NITK Surathkal

PUBLICATIONS

Journals

- **George, J.** and Athira, P., 2024. Bayesian Framework for Uncertainty Quantification and Bias Correction of Projected Streamflow in Climate Change Impact Assessment. *Water Resources Management*, pp.1-18.
- **George, J.** and Athira, P., 2024. A model output statistic-based probabilistic approach for statistical downscaling of temperature. *Theoretical and Applied Climatology*, pp.1-20.
- **George, J.** and Athira, P., 2023. A Multi-stage stochastic approach for statistical downscaling of rainfall. *Water Resources Management*, 37(14), pp.5477-5492.
- **George, J.** and Athira, P., 2022. Process informed selection of climate models for climate change impact assessment in the Western Coast of India. *Theoretical and Applied Climatology*, 150(1), pp.805-828.
- **George, J.** and Athira, P., 2020. Long-term changes in climatic variables over the Bharathapuzha river basin, Kerala, India. *Theoretical and Applied Climatology*, 142(1), pp.269-286.

Conferences Presentations

- **George, J.** and Pavizham, A., 2024. A Graphical Representation of Climate Change Impacts with Associated Uncertainties (No. EGU24-9237). Copernicus Meetings.
- **George, J.**, Nizar, S., Gowri, R., Aiswarya, B.B., Bajish C.C., Sudheer K.P. Effect of Crop Management Practices on Water Balance Components in an Agricultural Catchment, 36th Kerala Science Congress 2024, February 2024.
- **George, J.**, Athira, P. Hierarchical Bayesian Approach for Post Processing of Projected Streamflow Data, AOGS2023, July 2023.
- **George, J.**, Athira, P. A Probabilistic Multi Stage Approach for Statistical Downscaling of Temperature Data. AGU Fall Meeting 2022. December 16, 2022., DOI: 10.22541/essoar.167388130.06387391/v1
- **George, J.**, Athira, P. A Multi-Stage Approach for Statistical Downscaling of Temperature. NCRI 2022, September 17, 2022
- **George, J.**, Athira, P. A Process Driven Downscaling Technique to Improve Confidence in Climate Projections. AGU Fall Meeting 2021. December 18, 2021. DOI: 10.1002/essoar.10509683.1
- **George, J.**, Athira, P. A Procedure to Reduce the Uncertainty in Regional-Scale Climate Change Impact Studies. AGU Fall Meeting 2020. December 14, 2020. DOI:10.1002/essoar.10505380.1
- **George, J.**, Athira, P. Long Term Trends in Climate Variables over the Bharathapuzha Catchment, Kerala, India. APHW International Conference 2019, IIT Roorkee November 23, 2019

- Nizar, S., **George, J.**, Aiswarya, B.B., Gowri, R., Bajish C.C., Sudheer K.P. A Comparative Analysis of Ground-Based and Satellite-Merged Data for Hydrological Modelling in India, ICFWR2024, January 2024
- Pillai, A.H.E., Priju, C.P., Chinchmol, S., Sruthi, D., **George, J.** Pumping Test Analysis for Two Typical Aquifers of a River Basin in the Midland Region of Northern Kerala, First Indian National Groundwater Conference (INGWC-2016), Centre for Water Resources, JNTU Hyderabad, October 2016

SKILLS

Proficient in: SWAT, MATLAB, ArcGIS, MS Office

Familiar with: QGIS, EPANET, HEC-HMS, Python

REFERENCES

Dr. Athira P.

Associate Professor

Civil Engineering,

Environmental Sciences and Sustainable Engineering Centre

Indian Institute of Technology Palakkad, India

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Prof. K.P. Sudheer

Professor, Indian Institute of Technology Madras,

Ex Officio Principal Secretary S&T Department, Kerala &

Executive Vice President KSCSTE

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