

# Harikrishna Sukumaran

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## Education

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### National Institute of Technology, Rourkela

Master of Technology, Civil Engineering, CGPA : 9.21/10

Major : Water Resources Engineering

Odisha, India

Jul. 2017 – Jun. 2019

### Sona college of Technology, Salem

Bachelor of Engineering, Civil Engineering

Percentage : 82 %

Tamil Nadu, India

Aug. 2012 – Apr. 2016

### St. James Matriculation Higher Secondary School, Trichy

Higher Secondary Education - Matriculation

Percentage : 91.5 %

Tamil Nadu, India

Jun. 2011 – May. 2012

### Railway Mixed High School, Trichy

Secondary Education - Anglo Indian

Percentage : 93.2 %

Tamil Nadu, India

Mar. 2010

## Professional Experience

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### WSP Consultants Private India Limited, Bengaluru

Graduate Engineer – iCRC Water, United Kingdom

Karnataka, India

Jul. 2019 – Present

#### Sewer Capacity Assessment - Lichfield SMP Master

- **Uttoxeter road, Hill ridware** - Carried out sewer capacity assessment as a developer enquiry under three scenarios for a proposed residential development to understand the impact of foul flows upon the network ancillaries
- **Lichfield road, Stafford** - Carried out sewer capacity assessment as a developer enquiry for a proposed residential development to understand the impact of foul flows upon the network ancillaries and pumping stations

#### Northern Ireland Water Mains Rehabilitation Framework

- Performed back feed scenario checks for district metered area rezoning to minimize the customer interruption and analysed whether required level of service can be maintained when rehabilitation is carried out

#### High Speed 2 - Phase 2B, WP 70 – 73 Utilities

- Created spatial dataset for the client by georeferencing and digitising the service provider utility assets to understand what utilities the site workers are crossing/working over, thereby to plan service diversions

## Research Experience

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### Assessing the impact of Digital Elevation Models (DEMs) in hydrological modeling

[ [Thesis](#) ↗ ]

Thesis Supervisor : [Dr. Sanat Nalini Sahoo](#)

Aug. 2018 – Jun. 2019

- The research work attempted in addressing a pertinent science question off the “Twenty-three unsolved problems in Hydrology” ([Blösch et al. 2019](#)),

*How can we disentangle and reduce model/structural/input uncertainty in hydrological prediction?*

The work focused on one part of the question i.e., Input uncertainty. The research question was answered through a methodological framework development for DEM baseline scenario in quantifying the uncertainty resulting due to DEM in hydrological modeling.

## Publications

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1. **Harikrishna Sukumaran** and Sanat Nalini Sahoo, “Development of a methodological framework for DEM baseline scenario for quantifying DEM input uncertainty in hydrological modelling”, (*Under preparation*)
2. **Harikrishna Sukumaran** and Sanat Nalini Sahoo, “Error due to DEM sources in catchment area and river network using D8 algorithm”, HYDRO - 2018, *International conference on hydraulics, water resources and coastal engineering*, Dec. 19 – 21, 2018, National Institute of Technology - Patna, India

## Technical Skills

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- **Programming Languages** : Python, MATLAB and R
- **Hydrologic models** : Soil & Water Assessment Tool
- **Typesetting** : LaTeX, Microsoft Word
- **Graphics** : Inkscape and Adobe Photoshop
- **Hydraulic models** : Aquis, Infoworks ICM and Infoworks WS Pro
- **GIS** : QGIS, MapInfo Professional, ERDAS IMAGINE, ENVI and ArcGIS

## Workshop/Training courses

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- Attended Wiley Author workshop organised by Wiley in collaboration with NIT, Rourkela
- Successfully completed online certification courses “Data visualization using MATLAB, Land use land cover classification using ArcGIS, ERDAS imagine and ENVI software, Spatial analysis using ArcGIS and QGIS”

## Awards & Achievements

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|---|-------------|
| • Ministry of Human Resources Development of India Fellowship - Master's degree             | 2017        |
| • First prize - logo design for department of civil engineering, Sona College of Technology | 2016        |
| • Best Outgoing Student - undergraduate, Sona College of Technology                         | 2015 – 2016 |
| • Mr. Core - outstanding co-curricular and extra-curricular performance                     | 2015        |
| • First prize - logo design, IQ club - Sona College of Technology, Salem                    | 2015        |
| • Second prize - photography, Adhiyamaan Engineering College, Hosur                         | 2015        |
| • Second prize - photography, National Institute of Technology, Trichy                      | 2015        |
| • Semi finalist - group discussion tournament conducted by IQ club                          | 2015        |
| • Runner-up - badminton at Intracollege symposium, Sona College of Technology               | 2014        |
| • Runner-up - cricket tournament, higher secondary education                                | 2011        |
| • Four year course - Kalai Kaveri School of Fine Arts, Trichy                               | 2000 – 2004 |
| • First prize - district level drawing competition, Trichy                                  | 2000        |