

Education

IITB – Monash Research Academy, Mumbai, India

From Jul. 2016

Doctor of Philosophy (**Ph.D.**) (On-going)

- Thesis title: Towards Soil Moisture Retrieval using P-band Radiometer Observations.
- Advisor: Prof. Y. S. Rao (IITB) & Prof. Jeff Walker (Monash University)
- CPI: 10.0/10.0

National Institute of Technology Karnataka, Surathkal, India

Jul. 2014–Jun. 2016

Master of Technology (**M.Tech**) in Remote Sensing & GIS

- Thesis title: Coastal Inundation Study using Support Vector Machine (SVM) in Remote Sensing.
- Advisors: Prof. G. S. Dwarakish
- CPI: 9.86/10.0

PSG College of Technology, Coimbatore, Tamil Nadu, India

Jul. 2010–May. 2014

Bachelor of Engineering (**B.E**) in Civil Engineering

- Thesis title: Utilization of Recycled Carpet Waste as Soil Reinforcement.
- Advisor: Prof. Palani Kumar (PSG Tech) & Prof. An-Jui-Li (Deakin University)
- CPI: 9.60 /10

SanJose Matriculation Higher Secondary School, Mettupalayam, India

Jun. 2008–Mar. 2010

- Higher Secondary – Class 12 || TamilNadu State board
- Marks: 97.16%

SanJose Matriculation Higher Secondary School, Mettupalayam, India

Jun. 2007–Mar. 2008

- Matriculation – Class 10 || TamilNadu State board
- Marks: 91.80%

Internships/ Study Exchange

Monash University, Clayton, Australia

Aug. 2017–Jan. 2019

Postgraduate Researcher:

- Visited as a part of the joint Ph.D. program through IITB-Monash Research Academy.

Indian Institute of Remote Sensing, Dehradun, Uttarakhand, India

May 2015 – Jul. 2015

Student Intern:

- Supervisor: Dr. Manu Mehta, Scientist - SE
- Topic: Annual and Seasonal variation of Aerosol Index using OMI data.

Deakin University, Waurndponds, Australia

Feb. 2014 – Jun. 2014

Semester Exchange:

- Supervisor: Prof. An-Jui-Li
- Topic: Utilization of Recycled Carpet Waste as Soil Reinforcement.

Teaching Experience

- Demonstrator** ● ENG1021: Spatial Communication in Engineering, Semester 2 2018, Monash University, Australia
- Demonstrator** ● Year 8 Challenge, Faculty of Engineering, Monash University, Australia
- Tutor** ● ENE1621: Introduction to Environmental Engineering, Semester 1 2018, Monash University, Australia
- TA** ● GNR647: Microwave Remote Sensing, IITBombay in Semester 2016-2017, India
- TA** ● RS703: Remote Sensing lab, NITK Surathkal in Semester 2015-2016, India

Research Interests

- Passive Microwave Remote Sensing Applications || Radiometers || Soil Moisture
- Image processing || ANN || Support Vector Machine
- Geology || Geoinformatics || Hydrology || Environmental Engineering

Technical Skill

- Programming Skill: MATLAB || R || HTML
- Software and Tools: ArcGIS || QGIS || ERDAS Imagine || ENVI || GRASS
- Drafting and Design Tools: AutoCAD || Revit Architecture || STAAD.Pro

Workshops Attended

- Field Experiences in Microwave Remote Sensing for Agricultural Hydrology conducted by Consortium of Universities for the Advancement of Hydrologic Science **CUAHSI** during April 24-27, 2018 at **University of Florida, USA**.
- **RS & GIS Applications in Water Resource Management**: An Online Course conducted by Indian Institute of Remote Sensing from May 22 to 09 June 2017.
- **Free and Open Source Geospatial Technologies FOSS4G**: Conducted at Indian Institute of Science, Bangalore during April 2015.
- **Computational Methods in Engineering using Matlab**: Conducted at IIT Gandhinagar during December 2014.

Awards and Achievements

- Granted **Ph. D. scholarship** from IITB - Monash Research Academy during 2016 - 2020.
- Received **Vice-Chancellor's International Inter-Campus PhD Travel Grant** for visiting Monash University, Australia in September-October 2019.
- Secured **Second place** in Three Minute Thesis Talk (3MT) at International Geoscience and Remote Sensing Symposium (IGARSS) 2019, Yokohama, Japan.
- **Best Oral Presentation** in Postgraduate conference 2018 conducted by Civil Engineering Dept., Monash University at Engineers Australia, Melbourne.
- Secured **First place** in Research Photography competition in Postgraduate conference 2018 conducted by Civil Engineering Dept., Monash University at Engineers Australia, Melbourne.
- Secured **People's Choice Award** in Research Photography competition in Postgraduate conference 2018 conducted by Civil Engineering Dept., Monash University at Engineers Australia, Melbourne.
- **Runner up** in Three Minute Thesis Talk (3MT) 2018 conducted at Department of Civil Engineering, Monash University, Australia.
- **Best CPI award** for scoring 10 CPI in IITB- Monash Research Academy, Mumbai, India
- Granted **M.Tech Assistantship** from Ministry of Human Resource Development, Govt. of India (New Delhi, India) 2014 – 2016.
- Best outgoing Student of College - **KOORATHALWAAR AWARD** during 2013-2014 at PSG College of

Technology, Coimbatore, India.

- **Best outgoing Student of Civil Engineering** in 2014 Tech day at PSG College of Technology, Coimbatore, India
- **Best NSS Volunteer** for the Academic year 2012-2013 at PSG college of Technology, India.

Invited Presentations / Seminars/ Talks

- (T1) Delivered lecture on "Application of Remote Sensing in Soil and Groundwater Contamination Assessment" in the One Week Online Short-Term Training Programme (STTP) organized by Department of Civil Engineering, Sri Krishna College of Engineering and Technology, Coimbatore from 27th June - 1st August 2020 (Series I), 3rd August - 8th August 2020 (Series II) and 7th September to 12th September 2020 (Series III).
- (T2) Delivered invited talk on "The path to be travelled - The way it evolves" conducted by Civil Engineering Association (CEA) of PSG college of Technology on 27th August, 2018.

Publications

Peer-review journals:

- (J1) Xiaoji Shen, Jeffrey P. Walker, Nan Ye, Xiaoling Wu, **Nithyapriya Boopathi**, In-Young Yeo, Linlin Zhang and Liujun Zhu. (2020) "Soil Moisture Retrieval Depth of P- and L-Band Radiometry: Predictions and Observations." IEEE Transactions on Geoscience and Remote Sensing, 59, 6814-6822. (DOI: <https://doi.org/10.1109/TGRS.2020.3026384>)
- (J2) Dwarakish, G.S. and **Nithyapriya, B.** (2016). "Application of soft computing techniques in coastal study-A review." Journal of Ocean Engineering and Science, Elsevier, 1(4), pp.247-255. (DOI: <https://doi.org/10.1016/j.joes.2016.06.004>)

Book chapter:

- (B1) Suhura, S., **Nithyapriya, B.**, Reddy, L.R., Philipose, N., Manisha, M. and Dwarakish, G.S., (2018). "Coastal Land Use/Land Cover and Shoreline Studies for Dakshina Kannada Coast, Karnataka, India." In Water Resources Management, Springer, Singapore, pp. 269-281. (DOI: https://doi.org/10.1007/978-981-10-5711-3_19)

International/ National Conference:

- (C1) **Nithyapriya Boopathi**, Nan Ye, Xiaoling Wu, Jeffrey P. Walker, Xiaoji Shen, Y.S. Rao, Thomas J. Jackson, Yann Kerr, Edward Kim, Andrew McGrath and In-Young Yeo. "Preliminary Model for Soil Moisture Retrieval Using P-Band Radiometer Observations." International Geo-science and Remote Sensing Symposium (IGARSS) 2020, 26 Sept - 02 Oct, Waikoloa, Hawaii. (Virtual Symposium). (DOI: <https://doi.org/10.1109/IGARSS39084.2020.9323793>)
- (C2) Nan Ye, Xiaoling Wu, Jeffrey Walker, **Nithyapriya Boopathi**, Liujun Zhu, Xiaoji Shen, Thomas J. Jackson, **Yann Kerr**, Edward Kim, Andrew McGrath, In-Young Yeo, and Ivan Pop Stefanija. "Air-borne P-Band Passive Microwave Remote Sensing: Preliminary Results." 38th International Geoscience and Remote Sensing Symposium (IGARSS) 2019, 28 July - 01 August, Yokohama, Japan.
- (C3) **Nithyapriya Boopathi**, Nan Ye, Xiaoling Wu, Jeffrey P. Walker, Y.S. Rao, Thomas J. Jackson, Yann Kerr, Edward Kim, Andrew McGrath and In-Young Yeo. "Ground-Based Remote Sensing of Soil Moisture Using Lower Frequency Microwave Radiometers." 2019 URSI Asia-Pacific Radio Science Conference (APRSC), 09-15 March, New Delhi, India. (DOI: <https://doi.org/10.23919/URSIAP-RASC.2019.8738311>)
- (C4) **Nithyapriya Boopathi**, Nan Ye, Xiaoling Wu, Jeffrey P. Walker, Y.S. Rao, Thomas J. Jackson, Yann Kerr, Edward Kim, Andrew McGrath and In-Young Yeo. "Towards Soil Moisture Retrieval using Tower-Based Radiometer Observations." 38th International Geoscience and Remote Sensing Symposium (IGARSS) 2018, 22-27 July, Valencia, Spain. (DOI: <https://doi.org/10.1109/IGARSS.2018.8518979>)
- (C5) **Nithyapriya Boopathi**, Jeff Walker, Y.S. Rao, Nan Ye, Xiaoling Wu, Xiaoji Shen. "Towards Soil Moisture Retrieval using P-band Radiometer Observations." Postgraduate conference 2018 conducted by Civil Engineering Dept., Monash University at Engineers Australia, Melbourne. **[Bagged Best Presentation award]**
- (C6) Nan Ye, Xiaoling Wu, Jeffrey Walker, **Nithyapriya Boopathi**, Thomas J. Jackson, Yann Kerr, Edward

- Kim, Andrew McGrath, In-Young Yeo, and Mahta Moghaddam. "Towards Multi-frequency Soil Moisture Retrieval using P- and L- band Passive Microwave Sensing Technology." 38th International Geoscience and Remote Sensing Symposium (IGARSS) 2018,22-27 July, Valencia, Spain. (DOI: <https://doi.org/10.1109/IGARSS.2018.8519266>)
- (C7) Nan Ye, Jeffrey Walker, **Nithyapriya Boopathi**, Xiaoling Wu, In-Young Ye, Tom Jackson, Yann Kerr, Ed Kim, Andrew McGrath and Rao Y.S. "P-band Passive Microwave Sensing of Soil Moisture: Preliminary Results." MICRORAD 2018: 15th Specialist meeting, 27-30 March 2018, Cambridge, USA.
- (C8) **Nithyapriya B.**, Thiruvengadam P. and Rao Y.S. "Soil Moisture Pattern over India using SMOS and SMAP Data Products." National Symposium on Recent Advances in Remote Sensing and GIS with Special Emphasis on Mountain Ecosystems, December 7 - 9, 2016, Dehradun, India.
- (C9) Dwarakish G.S., Tilak L.N., Uday Kumar and **Nithyapriya B.** "Flood Risk Assessment: A Review." Proceedings of Proceedings Volume Of National Conference On Advanced Trends in Civil Engineering and Sustainable Development [ATCESD -16], 26-27 February 2016, MITE, Moodbidri, India.
- (C10) Manu Mehta and **Nithyapriya B.** "Annual and Seasonal variation of Aerosol Index over Indian region A study using Aura OMI data." Proceedings of National Symposium on Geomatics for Digital India & Annual Conventions of ISG & ISRS; 16-18 December 2015, JKLU, Jaipur, India.
- (C11) Ganasri B.P., Nujuma Nazimudhin, **Nithyapriya B.**, Fasnamol T.M., Dwarakish G.S., "Application of Neural Network model for LU/LC classification of satellite images of Nethravathi river basin." Proceedings of National Conference on Geospatial Information and Technology Advancement (GITA-2K15), 16-17 October 2015, SMVITM, Udupi, India.

Extra-curricular activities

- Completed **108 SURYANAMASKAR CHALLENGE** on International Yoga day, 21 June 2019, conducted by Yogastha, IIT Bombay.
- Skydived over GREAT OCEAN ROAD with **Sky Dive Australia** on 02 April 2018.
- Served as jury for **Indian Science & Engineering Fair (INSEF)** at Pilikula regional science centre, Mangalore.
- Served as **Joint Secretary** and **Secretary** of **NSS** at PSG College of Technology during 2011-2013 and organised several camps in the adopted villages.
- Member of **Ball badminton team** at PSG College of Technology and have won Zonal level tournaments.
- Participated in **literary** competitions and bagged awards at PSG College of Technology.
- Executive member of **Women in Development** council at PSG College of Technology during 2012-2013.

References

Prof. Y. S. Rao, Microwave Remote Sensing Lab (MRSLab),
Centre of Studies in Resources Engineering (CSRE), IIT Bombay, India - 400076.
E-mail: ysrao@csre.iitb.ac.in; ysrao33@gmail.com

Prof. Jeff Walker, Department of Civil Engineering,
Monash University, Clayton - 3800, Australia.
E-mail: jeff.walker@monash.edu

Prof. G. S. Dwarakish, Department of Water Resources and Ocean Engineering,
National Institute of Technology Karnataka, Surathkal - 575025, India.
Email: dwaraki.gs@gmail.com, dwaraki@nitk.ac.in

Declaration

I hereby declare that all the details furnished above are true to the best of my knowledge and belief. Adaptation to any kind of situation is indeed my strength. I do my works with full involvement. I enjoy working as a team and to head the team as an efficient leader. I prefer to be true to myself, even at the hazard of incurring the ridicule of others, rather than to be false.

