

Nithyapriya Boopathi

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Education

- 2016-
Current **Doctor of Philosophy (Pursuing)**, *IITB-Monash Research Academy*, CSRE, IITBombay, India
& Civil Engineering, Monash University, Australia..
10/10
- 2014-2016 **Master of Technology in Remote Sensing and GIS**, *National Institute of Technology Karnataka*, Surathkal, Karnataka.
9.86/10
- 2010-2014 **Bachelor of Engineering in Civil Engineering**, *PSG College of Technology*, Affiliated to Anna University, Coimbatore.
9.60/10
- 2008-2010 **Higher Secondary- Class 12**, *SanJose Matriculation Higher Secondary School*, TamilNadu Stateboard, Mettupalayam.
97.16%
- 2006-2008 **Matriculation - Class 10**, *SanJose Matriculation Higher Secondary School*, TamilNadu Matriculation Board, Mettupalayam.
91.80%

Ph.D. Research Area

- Topic Towards Soil Moisture Retrieval using P-band Radiometer Observations
Supervisor Prof. Jeff Walker, Monash University; Prof. Y.S. Rao, CSRE, IIT Bombay
Description Quest for a new technique for deeper Soil Moisture information.

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, Sem 1 2018, Monash University, Australia
TA GNR647: Microwave Remote Sensing, IITBombay in Semester 2016-2017, India
TA Remote Sensing and GIS lab, NITK Surathkal in Semester 2015-2016, India

Grants & Honours

- 1 Granted **Ph. D. scholarship** from IITB - Monash Research Academy during 2016 - 2020
- 2 Received **Vice-Chancellor's International Inter-Campus PhD Travel Grant** for visiting Monash University, Australia in September-October 2019
- 3 Secured **Second place** in Three Minute Thesis Talk (3MT) at International Geoscience and Remote Sensing Symposium (IGARSS) 2019, Yokohama, Japan.
- 4 **Best Oral Presentation** in Postgraduate conference 2018 conducted by Civil Engineering Dept., Monash University at Engineers Australia, Melbourne
- 5 Secured **First place** in Research Photography competition in Postgraduate conference 2018 conducted by Civil Engineering Dept., Monash University at Engineers Australia, Melbourne
- 6 Secured **People's Choice Award** in Research Photography competition in Postgraduate conference 2018 conducted by Civil Engineering Dept., Monash University at Engineers Australia, Melbourne

- 7 **Runner up** in Three Minute Thesis Talk (3MT) 2018 conducted at Department of Civil Engineering, Monash University, Australia
- 8 **Best CPI award** for scoring 10 CPI in IITB- Monash Research Academy, Mumbai, India
- 9 Granted **M.Tech Assistantship** from Ministry of Human Resource Development, Govt. of India (New Delhi, India) 2014 - 2016
- 10 **Best outgoing Student of College - KOORATHALWAAR AWARD** during 2013-2014 at PSG College of Technology, Coimbatore, India
- 11 **Best outgoing Student of Civil Engineering** in 2014 Tech day at PSG College of Technology, Coimbatore, India
- 12 **Best NSS Volunteer** for the Academic year 2012-2013 at PSG college of Technology, India

--- M.Tech. Project

Topic *Coastal Inundation Study using Support Vector Machine(SVM)in Remote Sensing*
 Supervisor Prof. Dwarakish, NITK Surathkal
 Description This project aimed to determine probable areas prone to inundation along the Mangaluru Coast using Remote Sensing dataset and SVM technique.

--- M.Tech. Internship

Organization **Indian Institute of Remote Sensing, Dehradun, Uttarakhand, India**
 Topic *Annual and Seasonal variation of Aerosol Index using OMI data*
 Supervisor Manu Mehta, Scientist - E, IIRS, Dehradun.
 Description This study attempted to study the distribution of Aerosols predominantly over the Indian region during pre-monsoon, monsoon, post-monsoon and winter seasons (2005 - 2014) using OMI datasets

--- B.E Project

Organization **Deakin University, Waurponds, Australia**
 Topic *Utilization of Recycled Carpet Waste as Soil Reinforcement*
 Supervisor Prof. Palanikumar (PSG Tech) and Prof. An-Jui-Li (Deakin University)

--- Technical Expertise

Prog. Skill MATLAB || R || HTML
 Software and Tools ArcGIS || QGIS || ERDAS Imagine || ENVI || GRASS || AutoCAD || Revit Architecture || STAAD.Pro

--- Invited Talks

- 1 Delivered lecture on "**Application of Remote Sensing in Soil and Groundwater Contamination Assessment**" in the One Week **Online Short Term Training programme** 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).
- 2 Delivered a talk on "**The path to be travelled - The way it evolves**" conducted by Civil Engineering Association (CEA) of **PSG college of Technology** on August 27, 2018

--- Workshops Attended

- 1 Workshop on **Automation of Image Processing and Analysis using Cloud Infrastructure** conducted by **IIT Bombay** in partnership with **Zeiss** during April 10 - 11, 2019
- 2 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**

- 3 **Radar Workshop 2017** conducted by Selex ES, A Finmeccanica Company on Nov 8-9, 2017 at Monash University, Australia
- 4 Refresher Course in **METEO-60 dx Hardware and Rainbow software Application** conducted by Selex ES, Gematronik Weather Radar Systems (Germany) at Water Lab, Monash University, Australia.
- 5 **Use R for learning Analytics:** Conducted by CDAC Mumbai and organized by IDP in Educational Technology at VMCC, IITBombay during 23 to 25 March 2017
- 6 **RS & GIS Applications in Water Resource Management:** An Online Course conducted by Indian Institute of Remote Sensing from May 22 to 09 June 2017
- 7 **Free and Open Source Geospatial Technologies FOSS4G:** Conducted at Indian Institute of Science, Bangalore during April 2015
- 8 **Computational Methods in Engineering using Matlab:** Conducted at IIT Gandhinagar during December 2014

Publications

- Conference 1 **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 Geoscience and Remote Sensing Symposium (IGARSS) 2020, 26 Sept - 02 Oct, Waikoloa, Hawaii (Virtual Symposium). 10.1109/IGARSS39084.2020.9323793
- 2 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 PopStefanija. **Airborne P-Band Passive Microwave Remote Sensing: Preliminary Results.** International Geoscience and Remote Sensing Symposium (IGARSS) 2019, 28 July - 01 August, Yokohama, Japan.
 - 3 **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.
 - 4 **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.** International Geoscience and Remote Sensing Symposium (IGARSS) 2018, 22-27 July, Valencia, Spain. 10.1109/IGARSS.2018.8518979
 - 5 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.**, International Geoscience and Remote Sensing Symposium (IGARSS) 2018, 22-27 July, Valencia, Spain. 10.1109/IGARSS.2018.8519266
 - 6 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: 15 th Specialist meeting, 27-30 March 2018, Cambridge, USA.
 - 7 **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.
 - 8 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.

- 9 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.
 - 10 Ganasri B P , Nujuma Nazimudhin , **Nithyapriya B** , Fasnamol T M and 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.
 - 11 **Nithyapriya Boopathi**, Jeff Walker, Y.S. Rao, Nan Ye, Xiaoling Wu, Xiaoji Shen. **Towards Soil Moisture Retrieval using P-band Radiometer Observations**, in Postgraduate conference 2018 conducted by Civil Engineering Dept., Monash University at Engineers Australia, Melbourne.
- Journal 1 Xiaoji Shen, Jeffrey P. Walker, Nan Ye, Xiaoling Wu, **Nithyapriya Boopathi**, In-Young Yeo, Linlin Zhang and LiuJun Zhu . **Soil Moisture Retrieval Depth of P- and L-Band Radiometry: Predictions and Observations.** IEEE Transactions on Geoscience and Remote Sensing. 10.1109/TGRS.2020.3026384
- 2 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. https://doi.org/10.1007/978-981-10-5711-3_19
 - 3 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. <https://doi.org/10.1016/j.joes.2016.06.004>

Research Interests

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

Extra Curricular Activities

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

Declaration

I, Nithyapriya Boopathi, declare that the information furnished above is 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.

Nithyapriya Boopathi,
Mumbai, October 2021.