

# CURRICULUM VITAE

## PERSONAL INFORMATION

### CHANDAN MYSORE CHANDRASHEKAR



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Sex Male | Date of birth 09-March-1990 | Nationality Indian

## EDUCATION AND TRAINING

January 2017 – Till date

Ph.D (Pursuing), RCG School of Infrastructure Design and Management.

College / University

**Indian Institute of Technology, Kharagpur, West Bengal, India.**

Research Interests

- Urbanization and urban sprawl analysis using Geo-spatial data
- Urban sustainability transitions and modelling
- Urban infrastructure data mining
- Artificial intelligence and machine learning applications to land use modelling

August 2013 – July 2015

Master of Technology in Remote sensing and GIS

CGPA: 7.94

College / University

National Institute of Technology Karnataka, Surathkal, India.

(10 Scale)

Principal subjects covered

- Remote sensing and photogrammetry, GIS, Surface water hydrology, Satellite digital image analysis, Advanced GIS and Database management

August 2007 – June 2011

Bachelor of Engineering in Civil Engineering

CGPA: 8.12

College / University

The National Institute of Engineering, Mysore, Karnataka, India.

(10 Scale)

Principal subjects covered

- Strength of Materials, Surveying, Transportation Engg, Geotechnical Engg., Hydrology and Water resource Engg., Environmental Engg., Concrete technology and Engineering Mathematics

## WORK EXPERIENCE

July 2015 – December 2016

Assistant Professor

The National Institute of Engineering, Mysore, Karnataka, India.

Principal subjects taught

- Surveying, Remote sensing and GIS, Environmental Science, Highway Engineering and Railway Engineering

July 2011 - August 2012

Management Trainee

Sobha Developers Limited, Devarabisanahalli, Bellandur post, Bangalore – 560103, India.

Sector

High rise residential apartments

## PERSONAL SKILLS

Mother tongue

Kannada

Other Languages

English, Hindi and Deutsch (Goethe Zertifikate A1 Oktober 2015)

Organisational skills

- Member of the organizing committee (Details in **Annexure – 2**):
  - a) AICTE QIP short term course on Free & Open Source Geospatial Technologies (FOSS4G)
  - b) QIP short term course on Remote sensing, GIS and Image Processing using FOSS for Urban Planning.

- c) Global Initiative of Academic Networks (GIAN) course on Land Cover and Land Use Changes and their Impacts on Climate.
- d) Free and open source software for geospatial technologies (FOSS4G) for urban environment applications.
- Good organisational skills gained as member of Builders Association of India (BAI) and college annual fest committee during both under-graduate and post-graduate, responsible for various technical and cultural events.
- Active member of IEEE, GRSS and Computational Intelligence Society (Member No. 93277989)
- Life member of Indian Society of Remote Sensing (Member No. L-4774)
- Student member of Indian Meteorological Society (Member No. SM-06/2018)

#### Computer skills

- GIS Applications and modelling: R, ArcGIS, Open jump, Geoserver, Quantum GIS and Idrisi.
- Remote sensing and image processing applications: Erdas Imagine, eCognition, Grass GIS
- Programming: C, HTML, CSS, Java; Other Software: Auto Cadd, Solid Edge

#### ACADEMIA

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##### Journals

- **Chandan, M. C.**, Nimish, G. & Bharath, H.A. (2020). Analysing spatial patterns and trend of future urban expansion using SLEUTH. *Spatial Information Research*, 28(1), 11–23. <https://doi.org/10.1007/s41324-019-00262-4>
- Bharath, H.A., **Chandan, M. C.**, & Nimish, G. (2019). Assessing land surface temperature and land use change through spatio-temporal analysis: A case study of select major cities of India. *Arabian Journal of Geosciences*, 12(11). <https://doi.org/10.1007/s12517-019-4547-1> Impact Factor: 0.86
- Bharath, H. A., **Chandan, M. C.**, Vinay, S., & Ramachandra, T. V. (2018). Modelling urban dynamics in rapidly urbanising Indian cities. *The Egyptian Journal of Remote Sensing and Space Science*, 21(3), 201–210. <https://doi.org/10.1016/j.ejrs.2017.08.002> Cite Score: 4.89
- Bharath, H. A., Vinay, S., **Chandan, M. C.**, Gouri, B. A., & Ramachandra, T. V. (2018). Green to gray: Silicon Valley of India. *Journal of Environmental Management*, 206, 1287–1295. <https://doi.org/10.1016/j.jenvman.2017.06.072> Impact Factor: 4.005
- Bharath, H.A., **Chandan, M.C.**, Vinay, S., & Ramachandra, T.V., (2017). Modelling the growth of two rapidly urbanizing Indian Cities. *Indian Journal of Geomatics*, 11(2), 28-46.
- Bharath, H.A., **Chandan, M.C.**, Vinay, S., & Ramachandra, T.V., (2017). Intra and Inter Spatio-Temporal Patterns of Urbanisation in Indian Megacities, *International Journal of Imaging and Robotics*, 17(2), 28-39.

##### Book chapters

- Ramachandra, T. V., Bharath, H. A., Vinay, S., & Chandan, M. C. (2020). Simulation and Modelling the Urban Dynamics in Bangalore. In: Rukmana, D. (Ed.) *The Routledge Handbook of Planning Megacities in the Global South*. New York: Routledge. <https://doi.org/10.4324/9781003038160>
  - **Chandan, M. C.**, Bharath, H. A., & Ramachandra, T. V. (2020). Four book chapters\*. In: Bharath, H. A., & Ramachandra, T. V. (Eds.) *Urban Growth Patterns in India: Spatial Analysis for Sustainable Development*, first edition. Boca Raton, FL: CRC Press.
- \*Chapter – 1: Landscape Dynamics - An Introduction, pp. 01-17.  
 Chapter – 3: Land Use and Land Cover Dynamics - Synthesis of Spatio-Temporal Patterns, pp. 39-59.  
 Chapter – 4: Spatial Metrics - Tool for Understanding Spatial Patterns of Land Use and Land Cover Dynamics, pp. 61-79.  
 Chapter – 5: Land Use Modelling - Future Research, Directions and Planning, pp. 81-105.

- Bharath, H. A., **Chandan, M. C.**, Vinay, S., & Ramachandra, T. V. (2018). Urbanization in India: Patterns, Visualization of Cities, and Greenhouse Gas Inventory for Developing an Urban Observatory. In: Weng, Q., Quattrochi, D. & Gamba, P. (eds) *Urban remote sensing*, second edition. Boca Raton, FL: CRC Press: 151-171.

#### Conference papers/Proceedings

20 (Details of conference are attached separately in **annexure - 1**)

#### Honours, awards and achievements

- Land Use/Cover Changes, Environment and Emissions in South/Southeast Asia – An International Regional Science Meeting: Invited to attend meeting and young researchers training and present poster as a part of the NASA LULC Change program in-conjunction with South/Southeast Asia Research Initiative and collaboration with several international partners including NIES Japan, GOCF-GOLD, GEOGLAM, NASA SERVIR, University of Maryland College Park USA, held at the Universiti Teknologi Malaysia, Johor Bahru, Johor, Malaysia, July 22-27, 2019.
- Awarded **full travel grant** from IIT Kharagpur to present research paper at 16th International Conference – CUPUM, Wuhan, China (2019) and Fall Meeting, AGU, Washington, D.C, USA (2018).
- Awarded a **full travel grant** from CSIR to conduct an invited workshop titled “Land use change modelling using cellular automata based SLEUTH” in FOSS4G Asia conference, University of Moratuwa, Sri Lanka during 2-5 December, 2018.
- “**Sahyadri Ecologist Award**” for research paper presentation co-authored by Dr. Bharath H. A. in LAKE Conference, Moodbidri, Organised by CES, IISc and Alva's institute of engineering and technology, during 22-25 November, 2018.
- “**Best Paper Award**” in the International Symposium on Water Urbanism and Infrastructure Development in Eco-Sensitive Zones, held on 6-7 January 2017, Kolkata.
- Qualified as “**Lead Trainer**” for supervisor structure (Level-6) conducted by construction skill development council of India (CSDCI) and certified by national skill development corporation (NSDC) – July 2016.
- Awarded grade “A” in a three credit course “Environment Management” conducted by CCE, IISc during September – December 2014.
- Received a **fellowship** for pursuing post-graduation education and doctoral research by the Ministry of Human Resource Development, Govt. of India.
- Qualified and secured rank in graduate aptitude test in engineering (GATE) - 2013.

#### Poster /Presentations / Lectures

- Bharath, H. A., **Chandan, M. C.**, Nimish, G. and Prakash, P. S. (2018). Modelling and Characterizing Urban Growth Pattern in Silicon Valley: Establishing a Relationship with LST and Building Footprint, Abstract [NH43B-2989] poster presented at 2018 Fall Meeting, AGU, Washington, D.C., 10-14 December, 2018.
- **Chandan, M. C.**, Sudeep, V. B., Bharath, H. A. (2018). Exploring Spatial Trends of Urban Growth and Modelling the Change of Land Use in Varanasi: A Case of Spiritual Capital of India. Poster presented at National Symposium on Sustainable Cities: Planning & Designing for Green Urban Mobility, IIT-Kharagpur: 1-3 November, 2018.
- **Chandan, M. C.**, Aishwarya, N., Bharath H. A. (2017). Multi-Temporal Urban Growth Characterization Using Geospatial Technologies. Poster presented at Asian Conference on Remote Sensing, New Delhi, India: October 23-27, 2017.
- Delivered a talk on “Urban issues in Chennai- A remote sensing approach to address urbanisation and its effects on surrounding environment with the help of land use and land cover analysis accompanied by spatial metrics” organized by CiSTUP, IISc in February 2015.

- Delivered talk to Engineering graduate trainees at Larsen and Toubro, C-TEA Mysore campus on the topics: Global positioning systems-A civil engineer's perspective, Basics and advances in foundation and Surveying practices for civil engineering: December 2015 – October 2016.

#### Courses/ Projects Assisted

- **Assisted in developing modules 1-5 and 10-12 (video lectures by Mr.Chandan) for a web based course (Course Title: Geographic Information Systems)** contributed by the faculty of Indian Institute of Technology for an e-learning initiative called “National Programme on Technology Enhanced Learning (NPTEL)” funded by MHRD, Government of India, as a “Teaching Assistant” to Dr. Bharath H Aithal, RCGSIDM, IIT Kharagpur. Details are available in <https://swayam.gov.in>
- Details of projects and events are attached separately in **annexure - 2**

#### Academic Projects

- Post-Graduate major project “Modelling spatial and temporal patterns of urban growth in metropolitan cities of India”. Dissertation work carried out at Indian Institute of Science-Bengaluru. Study mainly focused on understanding and modelling urbanisation pattern of two fastest growing metropolitan cities of India with an integrated modelling technique consisting fuzzy-AHP, CA-Markov and multi criteria evaluation.
- Post-Graduate minor project “Addressing water scarcity problem in NITK campus”. Results suggested a self-sustainable solution by utilizing rainwater to the maximum and constructing an artificial recharge structure.
- Successfully completed Under-Graduate major project “Soil Moisture Curve using Pressure plate extractor” at Indian Institute of Technology - Roorkee. Primary aim of the project was to find out retention parameters from pressure plate instrument using Van-Genuchten parameters.

#### Seminars / Workshops

- Participated in three-day hands-on training session on use of remote sensing and GIS for land cover/land use change applications including atmospheric impact studies. Organized by NASA-SARI and University of Technology Malaysia, Johor Bahru, Malaysia, 25-27 July, 2019.
- Nimish, G., *Chandan, M. C.*, Bharath., H.A., (2018). Monitoring and modelling of spatiotemporal change in land use and understanding its impact on land surface temperature. In proceedings of International Workshop on Biodiversity & Climate Change, Kharagpur: 24-27 February 2018.
- Participated in workshop on “Imaging Science for Art Conservation and Archaeology”, Organized by Nottingham Trent University, Curtin University and IIT Kharagpur on 11-12 December 2017.
- Participated in international workshop on “Big Data for Better Governance”, jointly organised by IIT-Kharagpur and British Deputy High Commission Kolkata on 28-29 November 2017.
- Attended a hands-on training workshop on “MATLAB”, conducted by Department of Mechanical Engg., NIE, Mysore, funded by TEQIP-II on 10-11 November 2016.
- Participated in one-day training programme on “ISRO Satellite Remote Sensing Based Societal Applications on the Web”, conducted by Department of Civil Engg., NIE, Mysore and RRSC-ISRO, funded by TEQIP-II on 27 October 2016.
- Attended “International Workshop on Remote Sensing Image Analysis”, conducted by DST and IIT-Bombay on 16-18 April 2016.
- Actively participated in “Workshop on Mega-regional development and environmental change in India and China”, conducted at IISc in May 2015.
- Attended a five-day training workshop on “Western ghats biodiversity” using free and open source software for Geospatial technology (FOSS4G) conducted by Indian Institute of Science and OSGEO-India in February 2014.

- Successfully completed GIS training program on “Introduction to ArcGIS desktop” conducted by ESRI-India, December 2013.
- Attended a two-day workshop on “Geo-informatics for water and coastal engineering” sponsored by TEQIP-II, September 2013.

#### Reviewer

- Journal of Environmental Management
- International Journal of Remote Sensing
- Journal of Cleaner Production
- Kybernetes
- Geo-spatial Information Science
- Asian Geographer


#### References

- **Dr. Bharath H. Aithal,**  
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Indian Institute of Technology Kharagpur 721302, India.  
Phone: +91-3222-284944. Email: bharath@infra.iitkgp.ac.in
- **Dr. T. V. Ramachandra,**  
Energy & Wetlands Research Group, Centre for Ecological Sciences,  
Indian Institute of Science, Bangalore 560012. India.  
Phone: +91-80-22933099. Email: tvr@iisc.ac.in

#### Research sites

 [Google Scholar](#) h-index: 5

 [Research Gate](#) Score: 10.47

 [ORCID](#) (0000-0003-4022-9654)

 [Publons](#) h-index: 3

[SCOPUS](#) h-index: 3 (Author ID: 57194203975)