CURRICULUM VITAE

DR AKSHAY ANIL THAKARE
N-31/A-1/26/9, Vijay Nagar, New CIDCO,
Nashik, Maharashtra, India - 422009
Date of birth: October 06, 1992
Mobile no.: +91 9673142521 / +91 7709306009
Email: akshay009thakare@gmail.com
Profiles: ResearchGate, ORCID ID, LinkedIn, and Google Scholar

ACADEMIC & RESEARCH QUALIFICATIONS

Ph. D.* (Civil Engineering)	Indian Institute of Technology Indore, Madhya Pradesh CGPA: 8.02/10.00 (course work)	2017-2022
M. E. (Structural Engineering)	Savitribai Phule Pune University K. K. Wagh Institute of Engineering Education and Research, Nashik, Maharashtra. CGPA: 8.07/10.00	2014-2016
B. E. (Civil Engineering)	Savitribai Phule Pune University K. K. Wagh Institute of Engineering Education and Research, Nashik, Maharashtra. Percentage: 69.74/100.00 (Distinction)	2011-2014
Diploma (Civil Engineering)	Maharashtra State Board of Technical Education Guru Gobind Singh Polytechnic, Nashik, Maharashtra Percentage: 84.84/100.00 (Distinction)	2008-2011

*Ph. D. Details

Thesis title : Performance Assessment of Rubberized Self-compacting Cementitious Mixes

Guide : Prof Sandeep Chaudhary, Professor, Department of Civil Engineering, Indian Institute of Technology Indore, Indore, Madhya Pradesh (MP)

Laboratory : Civil Engineering Materials Laboratory, Department of Civil Engineering, IIT Indore, Indore, Madhya Pradesh (MP)

WORK EXPERIENCE

- Working as an Assistant Professor in the Department of Civil Engineering, Matoshri College of Engineering and Research Centre, Nashik, Maharashtra from August 2022 onwards.
- Worked as a Teaching Assistant in the Department of Civil Engineering, Indian Institute of Technology Indore, Indore, Madhya Pradesh from December 2017 to April 2022 (**4.5 years**).
- Worked as an Assistant Professor in the Department of Civil Engineering, Matoshri College of Engineering and Research Centre, Nashik, Maharashtra from December 2015 to December 2017 (**2 years**).

COURSES ASSISTED & TAUGHT

- **Assistant Professor:** Formwork and Plumbing Engineering
- **Teaching Assistantship (during PhD):** Solid Mechanics, Solid Mechanics Lab, Structural Mechanics-I, Geodesy-I, Geodesy-I Lab, Structural Mechanics-II, Design of Structures-I (R.C.C. structures), and Design Lab-I (R.C.C. structures)
- **Assistant Professor:** Structural Design III (RCC structures), Estimating & Costing, and Plumbing Engineering

TECHNICAL SKILLS

Developing cementitious mixes: Preparation and testing of mix design of self-compacting concrete as per EFNARC 2005, IS 10262-2019, and ACI 237R-07 and normally compacted concrete as per IS 10262-2019.

Developing sustainable construction materials: Upcycling waste tyre rubber in cementitious mixes (mortar and concrete), bi-layered rubberized concrete tiles, upcycling industrial waste powders (brick, concrete, and marble powder) and fly ash in self-compacting mortar, self-healing composites containing rubber fibre as a bacteria carrier, functionally-graded ferrocement composites, and waste powder based coloured mortar composites.

Concrete and mortar performance assessment: Examining fresh properties, i.e., flowing ability, passing ability, filling-ability tests; mechanical properties under static and impact load conditions; durability under freeze-thaw, elevated temperature, acidic environmental conditions, and water resistivity; non-destructive tests, i.e., ultrasonic pulse velocity, rebound hammer, rebar locator, and air permeability.

Rheological properties of sustainable cementitious mixes: Performing rotational rheometry test at various shear rates for evaluating static and dynamic yield stress, viscosity, and thixotropic behaviour of fresh state composites (grout and mortar).

Microstructural examinations: Conducting optical microscopy, scanning electron microscopy (SEM), energy dispersive X-ray (EDX) spectroscopy, Raman spectroscopy, X-ray diffraction (XRD) spectroscopy.

Culturing of microorganism: Preparing broth media, inoculation of the bacteria, gram-staining, and zone of inhibition test of various bacteria, i.e., *Escherichia coli* (non-pathogenic culture), *Bacillus Subtilis* and *Bacillus Sphaericus* (pathogenic cultures).

Computer skills: Hands-on practice on various computer tools, i.e., AutoCAD, STAAD.Pro, ETABS, X'pert Highscore, OriginLab Pro, draw.io, and MS Office.

RESEARCH PUBLICATIONS

A total of six research articles published in various SCI journals, and one refereed conference article published are listed as follows:

1. **A. A. Thakare,** A. Singh, T. Gupta, and S. Chaudhary, "Effect of particle size of waste rubber fibre as fine aggregate in self-compacting concrete", Environmental Science and Pollution Research (2022)
   DOI: https://doi.org/10.1007/s11356-022-23488-6 **(IF: 5.190)**
2. **A. A. Thakare**, T. Gupta, R. Deewan, and S. Chaudhary, "Micro and macro-structural properties of waste tyre rubber fibre-reinforced bacterial self-healing mortar", Construction and Building Materials (2022)
   DOI: https://doi.org/10.1016/j.conbuildmat.2022.126459 **(Impact factor: 7.693)**
3. **A. A. Thakare**, S. Siddique, A. Singh, T. Gupta, and S. Chaudhary, "Effect of rubber fibre size fraction on static and impact behaviour of self-compacting concrete", Advances in Concrete Construction (2022)
   DOI: https://doi.org/10.12989/acc.2022.13.6.433 **(Impact factor: 2.518)**
4. **A. A. Thakare,** A. Singh, V. Gupta, S. Siddique, and S. Chaudhary, "Sustainable development of self-compacting cementitious mixes using waste originated fibers: A review", Resources, Conservation & Recycling (2021)
   DOI: https://doi.org/10.1016/j.resconrec.2020.105250 **(Impact factor: 13.716)**
5. **A. A. Thakare**, S. Siddique, S. N. Sarode, R. Deewan, V. Gupta, S. Gupta, S. Chaudhary, "A study on rheological properties of rubber fiber dosed self-compacting mortar", Construction and Building Materials (2020)
   DOI: https://doi.org/10.1016/j.conbuildmat.2020.120745 **(Impact factor: 7.693)**
6. S. Siddique, T. Gupta, **A. A. Thakare**, V. Gupta, S. Chaudhary, "Acid resistance of fine bone China ceramic aggregate concrete", European Journal of Environmental & Civil Engineering (2019)
   DOI: https://doi.org/10.1080/19648189.2019.1572543 **(Impact factor: 2.817)**
7. **A. A. Thakare**, K. V. Kothavade, P. D. Dhake, P. D. Jadhao, "Comparative experimental study on flexural behaviour of composite slab and RCC slab", In: International Journal of Research in Engineering and Technology (2016), pp. 291-295.
   DOI: https://doi.org/10.15623/ijret.2016.0532042

OTHER RESEARCH AND CONSULTANCY ACTIVITIES

Involvement in under-graduate projects:

- Development of concrete flooring tiles for improved impact absorption
- Development of sustainable fibre-reinforced self-compacting bacterial mortar
- Development of fibre-reinforced high-strength self-compacting concrete incorporating marble powder
- Study of freeze and thaw performance of rubber fibre incorporated concrete
- Assessment of field application of grout from rheology

Involvement in the post-graduate project:

- Structure and Raman spectroscopic studies of some construction materials

Some of the consultancy projects assisted:

- Field structural safety audit of railway bridge no. 10 on Gambhir river, Indore, MP
- Proof checking of structural designs and drawings of two blocks (Block G and H) of Golden Sand Apartments, Zirakpur, Punjab
- Proof checking of the structural designs and drawings of construction of dome-shaped storage sheds (350 m and 750 m long) inside C. J. area, Phase-I
- Proof checking of the structural designs and drawings of ROB (Location 704+798) for the Project Six laning of Anandapuram–Pendurthi-Anakapalli Section of NH-5
- Vetting of design and drawings of LPG bottling plant PEB sheds of Indian Oil Corporation Ltd (IOCL) at Bind (Gwalior, MP), Mandla (Jabalpur, MP), Agartala (Tripura), Gowindwal (Punjab) and Nagpur (Maharashtra)
- Design mix of M-20, M-25, and M-30 grade of concrete with OPC 43 grade cement (two-brands) for Kundaliya Irrigation Project- Left Bank
- Design Mix of M-25 Grade for the project Construction of Phase-A works at JNV-Agarmalwa, MP by IRCON Infrastructure & Services Limited

PROFESSIONAL AFFILIATIONS

Associate Member of the Institute of Engineers (India) and Association of Consulting Civil Engineers (India) - ACCE (I)

ABOUT CO-AUTHORS

- **Dr-Ing Amardeep Singh**, Department of Civil and Architectural Engineering, Changzhou Institute of Technology, Jiangsu, China.
- **Dr Salman Siddique**, Department of Civil Engineering, Center for Advanced Construction Materials, University of Texas at Arlington, Nedderman Hall, Arlington, TX 76010, U.S.A.
- **Dr Trilok Gupta**, Department of Civil Engineering, College of Technology and Engineering, Maharana Pratap University of Agriculture & Technology, Udaipur, India.
- **Dr Vivek Gupta,** Department of Civil Engineering, Thapar Institute of Engineering & Technology, Patiala, India.
- **Prof P. D. Dhake,** Department of Civil Engineering, K. K. Wagh Institute of Engineering Education and Research, Nashik, India.
- **Prof P. D. Jadhao,** Department of Civil Engineering, K. K. Wagh Institute of Engineering Education and Research, Nashik, India.