Dr. Yogesh Iyer Murthy

Assistant Professor(SG)

Education: B.E (Civil), M.E. (Structural Engineering), Ph.D.

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Areas of Interest: Concrete containing alternate materials, Mg alloys application to structural engineering, Corrosion, Fiber Reinforced Composites, Alloy Phase Diagrams

Brief Profile:

Dr.YogeshIyer Murthy completed his PhD from Jaypee University of Engineering and Technology, Guna in 2021. The focus of his PhD work was on corrosion mitigation of reinforced concrete structures using Magnesium alloys as sacrificial anodes. He did hisM.E. (Structural Engineering) from SGSITS, Indore with his thesis on transient dynamics of laminated fiber reinforced composite plates using quadrilateral flat facet shell elements in the year 2010. He did his B.E. (Civil Engineering) from Dayanandasagar College of Engineering, Bangaluru in 2002 with honors.

He has worked with L&T ECC as Sr. Bridge Engineer (Chennai Division) on a State Highway Project (TNRSP-03). He has served Mandsaur Institute of Technology, Mandsaur from 2007-08, and IPS Academy, Indore in various capacities for 8 years. During this tenure he was also handling IEDC funded research projects worth Rs. 13 Lacs.During 2012-2014, he worked as research assistant at the thermodynamics of materials group (TMG), Department of Mechanical and Industrial Engineering, Concordia University, Montreal, Canada, where he was working on the ternary phase diagrams of Mg alloys using diffusion couple technique. He is conversant with the use of Scanning Electron Microscopy, Inductively Coupled Plasma and X-Ray Diffractometer.

He has worked with L&T ECC as Sr. Bridge Engineer (Chennai Division) on a State Highway Project (TNRSP-03). He has five years of industrial experience before coming into the academics. He has served Mandsaur Institute of Technology, Mandsaur from 2007-08, and IPS Academy, Indore in various capacities for 8 years. During this tenure he was also handling IEDC funded research projects worth Rs. 13 Lacs.During 2012-2014, he worked as research assistant at the thermodynamics of materials group (TMG), Department of Mechanical and Industrial Engineering, Concordia University, Montreal, Canada, where he was working on the ternary phase diagrams of Mg alloys using diffusion couple technique. He is conversant with the use of Scanning Electron Microscopy, Inductively Coupled Plasma and X-Ray Diffractometer.

He has five years of industrial, fourteen years of teaching and two and a half years of international R&D exposure. He has guided several undergraduate and graduate students for their research based project works. He has published several research papers in referred Journals and conferences at International and National level including SCI and Scopus indexed journals.

Ph.D. Supervisions:

- Mr. K.N.Katare (173D001), "Use of Incinerated Biomedical Waste Ash in Concrete" . (Ongoing)

- Ms.Garima Rawat (193D001), "Studies on Chloride Diffusivity using alternate materials" . (Ongoing)
- Ms. Shikha Pandey (203D002), "Cathodic Protection of RCC Structures" . (Ongoing)
- Mr. AshutoshShishodiya (213D002), "Use of Coal Bottom Ash in Concrete" . (Ongoing)

Awards and Accolades:
i. Research Scholarship from Natural Science and Engineering Research Council of Canada (NSERC) for two years.
ii. Chartered Engineer
iii. Corporate Member of Institution of Engineers
iv. International Association of Engineers

Patents Published:
I. Lime-molasses based building material for non-structural applications
II. Sacrificial Anodes For Corrosion Mitigation Of RCC Structures using Mg-Ca-Nd alloys (Patent Application Number 201821043949)
III. Sacrificial Anodes For Corrosion Mitigation Of RCC Structures using Mg- Ca-Y alloys (Patent Application Number 201821043948)

Publication@JUET

Publication details google profile link

Journals:

1. Katare K.N, Murthy Y.I., and Samaiya N., "Strength and Durability Aspects of Concrete using Incinerated Biomedical Waste Ash," Environmental Engineering Research. Vol.28, Issue 2, 2023, pp 1-10 [IF:3.932] [SCIE]

2. Rawat G., Gandhi S. and Murthy Y.I., "A Critical Assessment of Nano Titanium Dioxide on Concrete Properties" , Gradvinar (Accepted)[IF:0.908] [SCIE]

3. Rawat G., Gandhi S. and Murthy Y.I., "Influence of Nano-TiO2 on the Chloride Diffusivity of Concrete, Emerging Materials Research(Accepted)[IF:1.795] [SCI-E]

4. Rawat G., Gandhi S. and Murthy Y.I., "Durability Aspects of Concrete Containing Nano Titanium Dioxide, ACI Materials,(Under- Review) [IF:1.802] [SCI]

5. Rawat G., Gandhi S. and Murthy Y.I., "Strength and rheological aspects of concrete containing nano-titanium dioxide" , Asian Journal of Civil Engineering. DOI : 10.1007/s42107-022-00476 [IF:1.830][SCOPUS]

6. MurthyY.I, Gandhi S. and Kumar A., "Comparative Study of Pure Mg and AZ91D as Sacrificial Anodes for Reinforced Cement Concrete Structures in Chloride Atmosphere" , Civil Engineering Journal, Vol.4, Issue 8, 2018, pp. 1750-59. [IF:2.081] [ESCI]

7. Murthy, Y. I., Gandhi, S., & Kumar, A. "Corrosion Prevention of Steel Reinforcement in 7.5% NaCl Solution using Pure Magnesium Anode" . IOP Conference Series: Materials Science and Engineering, Vol. 330, Issue. 1, 2018, pp. 012003. [IF:0.480] [SCOPUS]

8. Murthy, Y. I., Gandhi, S., & Kumar, A., "Synergic effect of cathodic protection and mineral admixture on the corrosion resistance of reinforcements in concrete" , IOP Conf. Series: Earth and Environmental Science, 796 (2021) 012005 IOP Publishing doi:10.1088/1755-1315/796/1/012005[IF:0.450] [SCOPUS]

Conferences

1. Murthy Y.I., Rawat G. and Bajpai S., Cathodic Protection of Steel Reinforcement using Pure Magnesium Anode, 5th International conference on Advancements in Engineering and Technology (ICAET-2017), 24-25 th March, 2017.

2. Murthy Y.I, Gandhi S. and Kumar A., Corrosion prevention of steel reinforcement in 7.5% NaCl solution using pure Magnesium anode, International Conference on Recent Advances in Materials, Mechanical and Civil Engineering, ICRAMMCE-2017, 1-3th June 2017.

3. Murthy Y.I, Gandhi S. and Kumar A., A critical Review on the use of sugarcane bagasse ash in cement mortar and concrete, Recent Development in Cement Composites, (RDCC-2018), 24-25th Aug. 2018.

4. Murthy Y.I and Prakash S., A critical literature review on Silica Fume as a building environmental assessment tool, Recent Development in Cement Composites, (RDCC 2018), 24-25th Aug. 2018.

5. Murthy Y.I, Gandhi S. and Kumar A., Corrosion Mitigation of Reinforcement in Concrete Using Magnesium Anodes, RSRI CRSE 2019: 2nd RSRI Conference on Recent trends in Science and Engineering at Human Resource Development Centre, Devi Ahilya Vishwa Vidyalaya, Indore, Madhya Pradesh during 27-28th Feb 2019.

Book Chapters:

1. Murthy Y.I., Agarwal A. and Pandey A. ―Recent Observations on the Characterization of Mill Scale for Potential Application in Construction Industry, Emerging Trends in Engineering Research and Technology, Vol. 10, pp. 46-52. DOI: 10.9734/bpi/etert/v10

2. Murthy Y.I. ―Artificial Neural Network modeling of slabs with AZ91D Sacrificial Anodes subjected to marine atmosphere, Applications of Computational Intelligence in Concrete Technology ACICT-21. (Accepted)