PROFILE

Personal Information

Name	:Santosh M. Muranal
Date of Birth	: 21-07-1979
Marital Status	: Married
Language Known	: English, Hindi and Kannada
Email id	: <u>murnal.santosh@gmail.com</u>
Phone Number	: +919886673000



Education qualification

- PhD Civil Engineering, VTU Belgaum, Karnataka, 2015
- M.Tech. Structural Engineering, VTU Belgaum, Karnataka, 2006, Score 77.65 %
- B. E Civil Engineering, Karnataka University Dharawad, Karnataka, 2001, Score 73.79 %

Professional experience

Teaching Experience

- Principal, Amruta Institute of Engineering and Management, Bengaluru from 10 May 2022 till date
- Professor and HoD, Amruta Institute of Engineering and Management, Bengaluru 01 Feb 2021 to 10 May 2022
- Professor, Global Academy of Technology, Bengaluru, from 21 Jan 2019 to 27 Jan 2021
- Professor, Basaveshwara Engineering College, Bagalkot, Karnataka, Aug 2017 19 Jan 2019
- Associate Professor, Basaveshwara Engineering College, Bagalkot, Karnataka, April 2014 to Aug 17
- Assistant Professor, Basaveshwara Engineering College, Bagalkot, Karnataka, India, Nov 2009 to March2014
- Lecturer, Global Academy of Technology, Bangalore, India, June-2007 Oct. 2009
- Lecturer, SECAB Institute of Engineering Technology, Bijapur, India, Aug. 2005 June2007

Industry Experience

• Site Engineer, Goutham Constructions, Bangalore, Nov. 2001 – April 2003

Research activities

Doctoral research

Year	: November 2015
Title	: Experimental Investigation on reactive powder concrete

Research supervisor: Dr. R. B. Khadiranaikar, Basaveshwara engineering college, BagalkotUniversity: Visveswaraya Technological University, Belgaum, India

Post graduation thesis: Study on the Performance of Rice Husk Ash in Concrete

Research projects

- Principal Investigator, Study on the properties of Reactive Powder Concrete, VTU, Belgaum, India, Dec 2010 to Nov. 2014, Grant received - Rs. 10.25 Lakhs, Completed
- Co-investigator, Durability Assessment and Damage Prediction of New and Alternative Pre-Cast Railway Concrete Sleepers, VTU Research Grant Scheme 2021, Rs. 15,00,000 sanctioned

Contribution to teaching activity

- 1. Design of Curriculum Syllabus framing for PG courses
- Preparation of resource material including books, reading materials, laboratory manuals for laboratories – Computer aided drawing (CAD), Structural Engineering Lab, concrete & highway lab, Technical workshops

Subjects taught at UG/PG level

PG Structural Engineering: Special Concretes, Dynamics of Structures, Earthquake resistant design of structures, Design of Bridges, Construction Management

UG Civil Engineering: Engineering Mechanics, Structural Analysis I & II, Design of RC structures I & II, Pre stressed Concrete Structures, Concrete and Highway material testing laboratory, CAD laboratory

Area of proficiency

High strength and high performance concrete:

Good knowledge on mix design and production of high strength concrete and reactive powder concrete. Familiar with the laboratory investigation carried to evaluate mechanical and durability characteristics of high strength concrete (HSC) and high performance concrete (HPC). Able to interpret the SEM images for microstructure characteristics of concrete specimens. Versatile with the use of soft tools used for statistical analysis of experimental data. Interested in developing the stress-block parameters for high strength concrete. Worked on production of porous concrete and light weight aggregate concrete.

Design of concrete structures:

Fair proficiency with the use of software used for the analysis and design of concrete structures. Interested to work on design of building or bridge elements using high strength concrete.

Research interest

- 1. Reactive powder concrete
- 2. Mechanical and durability characteristics of HSC and HPC
- 3. Microstructure analysis of concrete
- 4. Earthquake resistant design of structures

Thesis Guided

PhD (Civil Engineering)

- 03(Currently guiding)

S.No	Name	USN	Year of Registration	Status
1	Uma shankaryaligar	2BA17PCA07	19 June 2017	Comprehensive viva-voce completed
2	Vinodkrihna M.Savadi	2BA17PCA03	17 June 2017	Comprehensive viva-voce completed
3	Bhagyalaxmi Sindagi	1GA19PCV01	17-Jun-2019	Course work completed
4	Girish P	1AR20PCV01	2020	Course work under progress
5	Vinayak Hosur	1AR20PCV02	2020	Course work under progress

PG (Structural Engineering) - 32

UG Civil Engineering - 10

Publications

- 1. Muranal, S. M., and Khadiranaikar, R. B. (2022). "Flexural capacity of reactive powder concrete", The Indian Concrete Journal, Vol. 96, No. 9, pp. 34-40
- Bhagyalaxmi Sindagi, Dr. Santosh M Muranal, Dr. R. B. Khadiranaikar, Perspective and Performance based Concrete Mix Design: A Review, Design Engineering, Vol 2021: Issue 09, December 2021, pp.1307-1316, <u>http://www</u>.thedesignengineering.com /index.php /DE / article/view/7081
- Kirankumar T., Santosh M. Muranal, *The effective cross frame geometry and spacing for* economy in curved steel-I-girder bridge, i-Manager's Journal on Structural Engineering, Vol.7, No.4, De-Feb 2019, pp. 35-42
- Sudhindra Yeri, Kambli S. A., Santosh Muranal, Behavior of Long Carbon Fiber Reinforced Concrete Column to Explosive Loading, i-Manager's Journal on Structural Engineering, Vol.7, No.3, Sept-Nov 2018, pp. 12-19
- Akshata P. and S. M. Muranal, Seismic performance of buried pipelines under different soil conditions, Journal of Institution of Engineers India Series A. Springer, doi.org/10.1007/s40030-018-0321-8, 24th Aug. 2018
- Pattar A. N., Muranal S. M., *P-Delta effect on multi-storey buildings, i-Manager's Journal on* Structural Engineering, Vol. 6, No.3, Sept-Nov 2017, pp. 08-18

- 7. Muranal S. M., Khadiranaikar R. B., *Stress-strain behavior of reactive powder concrete*, Journal of Structural Engineering, Vol. 42, No.6, Feb-March 2016, pp. 579-588
- 8. Muranal S. M., Khadiranaikar R. B., *Quantification of Hydration Products in Reactive Powder Concrete (RPC)*, Indian Concrete Journal, Vol. 89, No. 8, August 2015, pp. 64-72
- Nageshkumar, Muranal S. M., Khadiranaikar R. B., Awati M. M., Flexural Behavior of High-Performance Concrete Beams using Finite Element Analysis, Journal of Structural Engineering, Vol. 42, No. 2, June - July 2015, pp. 78-86
- Uma Shankaryaligar, Muranal S. M., Khadiranaikar R. B., *Flexural fatigue strength of reactive powder concrete under repeated cyclic loading*, International Journal for scientific research and development, Vol. 2, Issue 12, February 2015, pp. 513-517
- Srinivas C. Halemani, Muranal S. M., *Study of the Properties of Concrete Containing Copper Slag as a Fine Aggregate*, International Journal of Engineering Research & Technology, Vol. 4 Issue 02, February-2015, pp. 32-35
- 12. Praveen Patil, Muranal S. M., *Study on the properties of pervious concrete*, International Journal of Engineering Research and Technology, Vol.3, Issue 5, May 2014, pp. 819-822
- Muranal S. M., Khadiranaikar R. B., *Study onthe Durability Characteristics Of Reactive Powder Concrete*, International Journal of Structural and Civil Engineering Research, Vol. 2, No. 3, May 2014, pp. 45-56
- Muranal S. M., Khadiranaikar R. B., Factors Affecting the Strength of Reactive Powder Concrete (RPC), International Journal of Civil Engineering and Technology, Vol. 3, Issue 2, July- December 2012, pp. 455-464

Papers presented in conference

- Santosh M Muranal, Dr. R. B. Khadiranaikar, Flexural strength and toughness index of reactive powder concrete, International Conference on Advances in Construction Technology and Management – 2021, College of Engineering Pune, India, March 11-12, 2021
- R. Harugoppa, S. M. Muranal, Design requirement for floating column under seismic forces, 2019 Pacific Conference on Earthquake Engineering, New Zealand Society for Earthquake Engineering, 4-6 April. SkyCity, Auckland, New Zealand, 2019
- Patil P., Muranal S. M. Khadiranaikar R. B., Aggregate size and void content effect on the characteristics of pervious concrete, International Conference on Sustainable Construction and Building Materials (ICSCBM 2018), NITK, Surathkal, 18-22 June 2018
- Muranal S. M., Khadiranaikar R. B., Mix proportioning and microstructure of Reactive Powder Concrete, International Conference on 'Sustainability Challenges & Advances in Concrete, Technology', Department of Civil Engineering, PSG College of Technology, Coimbatore, INDIA, 2,3,4 May 2012
- 5. Khadiranaikar R. B. Muranal S. M., Behavior of High Performance Concrete under Repeated Compressive Loading, UKIERI Concrete Congress 2013 – Innovations in Concrete

Construction, Dr. B. R. Ambedkar Institute of Technology Jalandhar, Punjab, India, 5-8 March 2013

Memberships in academic societies

- 1. Life Member, Indian Concrete Institute LM.No. 11795
- 2. Life Member, Indian Society of Structural Engineers M-1520
- 3. Life Member, Indian Association of Computational Mechanics
- 4. Life Member, Indian Association of Structural Engineering
- 5. Member, National Information Center of Earthquake Engineering, IIT Kanpur, India

Reviewer Assignments

- 1. Member, Editorial Board of i-Manager's Journal on Structural Engineering
- 2. Case Studies in Construction Materials Elsevier
- 3. International Journal of Engineering and Technology –Science Publishing Corporation
- 4. Iranian Journal of Science and Technology, Transactions of Civil Engineering, Springer
- 5. Journal of Molecular and Engineering Materials World Scientific

Resource person in workshops/orientation program

- Resource person, AICTE sponsored one week online ATAL FDP on "Advances in Construction Techniques" from 3rd to 7th January-2022 organized by BLDEA's V.P Dr. P.G. Halakatti College of Engineering and Technology, Vijayapur-Karnataka. 04-01-2022
- Guest speaker, Writing Outcome for project and Rubrics for project evaluation, AICTE-ISTE sponsored National level online FDP held during 15/04/2021 to 20/04/2021, organized by Government Polytechnic, Bagalkot
- Lecture delivered on "Quality Control Processes" at ISTE approved one week STTP on "Material Testing, Inspection and Quality Control in Civil Engineering" at Annasaheb Dange College of Engineering and Technology, ASHTA, Maharashtra on 26-12-2018
- Resource person for 2 days workshop on "NBA-SAR preparation" conducted at Rajkiya Engineering College, Bijnor, Uttar Pradesh, 18-19 August 2018
- Resource person for one weak workshop (AICTE and ISTE sponsored) on "Sustainable materials used in construction" conducted at Dr. D. Y. Patil Institute of Engineering, Management and Research, Pune, 11-15 June 2018
- Lecture delivered on "Ideas, Innovation and Startups" for students of Idea Club at BEC, Bagalkot, 27th April 2018
- Resource person for 2 days workshop on "Outcome Based Education" conducted at Rajkiya Engineering College, Bijnor, Uttar Pradesh, 23-24 March 2018
- Lecture delivered on "Mineral Admixtures used in Concrete" at Continuing Education Program (CEP) for Engineers at BEC, Bagalkot, 1st Dec. 2017

- Lecture delivered on "Blended cement for durable construction" for engineers and contractors organized by UltraTech Cements at Jamakhandi, Karnataka, 22nd Sept 2016
- Lecture delivered on "Special Concretes" at Continuing Education Program (CEP) for Engineers at BEC, Bagalkot, 19th Sept. 2016
- Lecture delivered on Modern Construction Techniques using new concretes at One week ISTE-STTP on Advances in Construction technique, BLDEA's Dr.PGH College of Engg. & Technology, Bijapur, 09 February 2016
- 12. Lecture delivered on "Special concretes" at Continuing Education Program, Basaveshwara Engineering College, Bagalkot, 12 August 2010

Program organized (Seminar/Workshops, etc.)

- Coordinator, e-Learning module on design of RCC structures and ICT based program on Repair and Maintenance of Building in collaboration with NITTTR Chandigarh at BEC, Bagalkot, 22-26 August 2016
- Coordinator, Continuing Education Program (CEP) on Special Concrete, Sponsored by KRS Engineering Staff College, Mysore, 05-09 January 2015
- Coordinator, Intellectual Property Rights (IPR) in Technical domain, Sponsored by Visvesvaraya Trade Promotion Center, Govt. of Karnataka Organization, Bangalore, 05-12-2014
- Coordinator, National Program for Capacity Building of Engineers in Earthquake Risk Management (NCPBEERM), Sponsored by Ministry of Home Affairs, New Delhi, 22-26 Feb. 2010

Details of professional training undergone

- "Role of Faculty in Implementation of NEP" Bharatiya Shikshan Mandal and Niti Aayog Organized A Webinar In Collaboration With Basaveshwar Engineering College (Autonomous), Bagalkot, 20-02-2021
- "Strategic Civil Infrastructure" 5-days online FDP, AICTE Training and Learning (ATAL) Academy, Dr. S & S.S Ghandhy Government Engineering College, Surat, 23-11-2020 to 27-11-2020
- 3. "Introduction to public speaking" 5-Week program, MOOC from the University of Washington and offered through Coursera, July-Aug 2020
- "Urban concrete- Challenges and solutions", Technical webinar delivered by Er. Shivaram B Bagade, Head-Construction Chemicals, BASF, Singapore, SIT, Tumkur 25-07-2020
- "Role of IQAC in institutes of higher education, one day webinar", organised by BLDEA's vachana Pitamaha Dr. PG Halakatti College of Engineering and Technology, Vijayapur, Karnataka, 22-06-2020

- "Online workshop on Recent advances in Science and Technology of Concrete", Indian Institute of Technology Madras, Chennai, 02-05-2020
- SWAYAM-NPTEL Online Courses on "Advanced Topics in the Science and Technology of Concrete", IITM. Chennai, 27-01-2020 to 27-02-2020 (4 Week)
- 8. Workshop on "New model curriculum for PG course as per OBE", at BNMIT, Bengaluru conducted by VTU, Belgaum, 06 August 2018
- GIAN course on "Concrete: Microstructure Characterization" conducted at NITK, Surathkal, 18-22 June 2018
- Continuing Education andQuality Improvement Program on "End to End Innovation" at IITB, Mumbai by Tata Centre for Technology and Design from 19-23 February 2018
- International Symposium on "Emerging Technologies for sustainable development" at BEC, Bagalkot, under TEQIP-II, from 27-28 Feb 2017
- Management Capacity Enhancement Programme for Administrative Heads at IIM, Bengaluru, 23-25 Jan 2017
- Workshop on "Outcome Based Education", at BEC, Bagalkot organized under TEQIP-II on 18-12-2015
- 14. Faculty development program on pedagogy at IITM. Chennai, 16-18 July 2015
- Workshop on Structural Analysis programs ETABS and SAP2000 at IIT Kanpur, 16-19 March 2015
- 16. Workshop for faculty Structure repair and rehabilitation at IIT Hyderabad, 04-05 July 2014
- Faculty Development Program Earthquake Engineering at BLDEA's C.E.T, Bijapur, 12-16 March 2012
- CEP Short Term Course FEM application in Civil engineering at IITB, Mumbai, 16-20 August 2011
- 19. Concrete Panorama Deminar 2009 at UVCE Bangalore, 06-07 March 2009
- 20. Recent Developments in Design and Construction Technologies at ACCE India Bangalore center by Association of Consulting Civil Engineers, 18-20 January 2007
- Staff Development Program Maintenance of Concrete Highway and Road Safety Aspects at Basaveshwara Engineering College, Bagalkot, 30 Jan to 11 Feb. 2006
- 22. Restoration, Rehabilitation and Reliability of Structures at RVCE, Bangalore, 06 Dec. 2005
- 23. Quality Improvement Program- Structural dynamics at IISC, Bangalore, 17-21 Jan. 2005
- Regional workshop on Intellectual Rights at Basaveshwara Engineering College, Bagalkot, 16 April 2004

Establishment of laboratories

1. Associated with establishment of structural engineering laboratory - Purchase of Equipments and preparing laboratory manuals

- 2. Concrete and Highway laboratory Purchase of Equipments and preparing laboratory manuals
- 3. CAD Laboratory Purchase of softwares and preparing laboratory manuals

Administrative activities

- Internal Quality Assessment Cell (IQAC) Co-ordinator Global Academy of Technology Feb 2019 – Till date
- PG coordinator, Department of Civil Engineering, BEC, Bagalkot Nov 2009 Dec 2018
- 3. Member, Academic Council, BEC, Bagalkot
- 4. Member, Board of Studies, Department of Civil Engineering, BEC, Bagalkot
- 5. Department coordinator for National Board of Accreditation (NBA), BEC, Bagalkot
- 6. Department coordinator for Technical Education Quality Improvement Program [TEQIP]–II&III, BEC, Bagalkot

Contribution to professional/community development

Participation in extension activities

Rural development program- preparation of action plan for Suvarna Grama Yojana- villages 2006-07

Consultancy services involved

- 1. Material testing and third party inspection of Government works, BEC, Bagalkot, 2009-2016
- Inspection of construction activities, Regional Institute of Co-operative Management (RICM), Bangalore, 2008-09
- 3. Lake rejuvenation, Akshyayanagar, Bangalore, 2009
- 4. Water management, BMM ISPAT Hospet, Karnataka, 2008
- 5. Water management, Gouri Industries Gouribidanur, Karnataka, 2008
- 6. Water management, Jindal Steels Toranagal, Karnataka, 2008
- Third party inspection to Flood damage works, resource person to Jal Nirmal Yojana, preparation of action plan for Suvarna Grama Yojana, Bijapur district, Government Departments, Bijapur Karnataka, 2006-07

Rank/credential at college during under graduation

- 1. Second rank to the Institute during Bachelor of Engineering 2000-2001
- Received financial assistance from Karnataka state council for science and technology (KSCST), Bangalore for UG academic project titled "Laboratory Study on anti-stripping agents with different types of aggregates in bitumen concrete mix" 2000-2001

3. Presented paper on "Inception of BOT Highway Project Boon or Curse- An Indian experience" at South Indian level Technical seminar contest held at SIT, Tumkur, Karnataka, July 2000