

FACULTY PROFILE



Name of Teaching Staff / RMK ID	Dr. Binu Sukumar / T0579		
Designation	Professor & Head		
Department	Civil Engineering		
Date of Joining the Institution	05.02.2007		
Qualifications	B.Tech in Civil Engineering	M.Tech in Civil Engineering	Ph.D in Civil Engineering
Total Experience	Overall: Teaching: 29 Years Industrial: 3.5 Years	in RMK: 14 Years & 6 Months	
Nature of Association (Regular/Contract/Adjunct)	Regular		
Papers Published in Journal	Overall: 30	After Joining RMK: 27	
List of Papers Published	<p>1. P Joyson Silva, R Vignesh, Binu Sukumar, Nithish Kumar, (2023), "Adaptive Traffic Signal Timer for A Signal in Chennai Metropolitan City Using Python and OpenCV" Indian Journal of Science and Technology, 16(13): 1007-1013. https://doi.org/10.17485/IJST/v16i13.2131</p> <p>2. R Aishwarya, A Hemamathi, Sukumar Binu, V Suvetha, (2023), "Investigation and Indexing of Eco-Toxic Metals in the groundwater Around the Kodungaiyur Dumpsite", Indian Journal of Science and Technology, 16(13): 998-1006. https://doi.org/10.17485/IJST/v16i13.1405</p> <p>3. Binu Sukumar, S Aslam, N Karthikeyan, P Rajesh (2023), "A Hybrid BCMPO Technique for Optimal Scheduling of Electric Vehicles Aggregator under Market Price Uncertainty", IETE Journal of Research, DOI: 10.1080/03772063.2023.2177756.</p> <p>4. Binu Sukumar, Abirami G, Hari Priya S, Mozafar Hamid (2023), "A Comparative study on the design of Pre-Engineered Building with Indian and American Codes" Indian Journal of Science and Technology Vol.16 Issue 4 pp 239-248. DOI: 10.17485/IJST/v16i4.1980</p> <p>5. Binu Sukumar, A Balaji, D Lakshmi, G Karthikeyan, S Sobitha, V Mohanavel (2022), "A Real-Time Detection Method Non-Metallic Threats from Restored Image using Blended Image Network,</p>		

Proceedings of the the Third International Conference on Smart Electronics and Communication (ICOSEC) DVD Part Number CFP22V90-DVD, ISBN: 978-1-6654-9763-3, 2022 IEEE Transactions, pp1545-1552

6. A Hemamathi, **Binu Sukumar**, and R.B. Hambrish Guru Chantrakant, (2022), "Numerical Analysis of RCC Beam Using ABAQUS", IOP Conf. Series: Earth and Environmental Science, 1084 (2022) 012077, doi:10.1088/1755-1315/1084/1/012077

7. Joyson Silva P, Samba Siva Rao T, **Binu Sukumar**, Kabilan M (2022), "Microsimulation Modeling of Traffic Congestion at Signal Intersection of Thirumangalam Chennai Metrocity" Indian Journal of Science and Technology 15(29): 1429-1439.

8. M Usha Rani, **Binu Sukumar**, A. Hemamathi, (2021), "Analysis of Plane Truss using C Programme", Journal of Applied Science and Computation, Volume VIII, Issue XII December/2021, PP 16-22.

9. P Ramshankar, **Binu Sukumar**, S. Kishore Kumar, V Karan Kumar and C Karthick (2021), "Experimental Investigation on Sound Absorption Property of a Panel Board using Maize Stem", ICAPSM 2021- Journal of Physics: Conference Series, doi: 10.1088/1742-6596/2070/1/012219. **(Scopus Indexed)**

10. Joyson Silva P, **Binu Sukumar**, R Periyasamy, Siva Rahul M, Salman Ahmed, Santhosh R and Sajin Raj S (2021), "Experimental Study on Strengthening of Concrete Cylinders Using GFRP Sheets with Boron Carbide- Epoxy Composite", ICAPSM 2021- Journal of Physics: Conference Series, doi: 10.1088/1742-6596/2070/1/012182. **(Scopus Indexed)**

11. A. Hemamathi, Sanjith Murugavel, **Binu Sukumar**, M Usha Rani (2021), "Numerical Investigation of Precast Grouted Sleeve Connection under Cyclic Loading Using ABAQUS", ICAPSM 2021- Journal of Physics: Conference Series, doi: 10.1088/1742-6596/2070/1/012178 **(Scopus Indexed)**

12. R G Dhilip Kumar, **Binu Sukumar**, A. Hemamathi, P Ramshankar and Sharanya Balki (2021), "Experimental Investigation on Ferrocement Slab Using Partial Replacement of Cement by Ceramic Powder", ICAPSM 2021- Journal of Physics: Conference Series, doi:

10.1088/1742-6596/2070/1/012195. **(Scopus Indexed)**

13. Binu Sukumar, R.Aframariam, Anuja.S, Buwnaswari.S, Durgadevi.D (2021) "An Experimental Investigation on Glass Reinforced Polymer as a formwork material", IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE) e-ISSN: 2278-1684,p-ISSN: 2320-334X, Volume 18, Issue 3 Ser. II (May–June 2021), PP 01-12 www.iosrjournals.org

14. A Hemamathi, J. Lakshmanan, **Binu Sukumar**, M. Usharani, published a paper titled "Development of nylon and ABS based binding strips- an alternate to binding wires" Materials Today: Proceedings 43 (2021) 1856–1864 **(Scopus Indexed)**

15. Binu Sukumar, Joyson Silva P, Dhilip Kumar R G, published a paper titled "Effect of slab opening in seismic resistance of structure" Test Engineering and Management, **March 2020. (Scopus Indexed)**

16. Ramshankar P, **Binu Sukumar**, Joyson Silva P, Dhilip Kumar R G, published a paper titled "Mechanical properties of Structural light weight concrete (SLWC) and economical perspective of using SLWC in construction" Test Engineering and Management, **March 2020. (Scopus Indexed)**

17. Joyson Silva P, Dhilip Kumar R G, **Binu Sukumar**, and Ram Shankar P (2019) "Effect of Wind and Earthquake Loading on Telecommunication Tower" International Journal of Innovative Technology and Exploring Engineering (IJITEE), Volume-9 Issue-1S, **November 2019. (Scopus Indexed)**

18. A. Hemamathi, **Binu Sukumar** and S. Kokila (2017) "Comparative study on strength characteristics of Geo grid and Ferro cement panel", International Journal of Civil Engineering (SSRG-IJCE), Volume 4 Issue 7-July 2017, pp. 11-17.

19. Binu Sukumar, Joyson Silva P and Sherin V (2017), "Permeation Properties of Self – Compacting Concrete Using High Volume Fly Ash", International Journal of Civil Engineering (SSRG-IJCE), Volume 4 Issue 5 May 2017, pp. 1-4.

20. Binu Sukumar, A. Hemamathi, S.Kokila and C. Hanish (2016) "A Comparative Study on Non-Linear Analysis of Frame with and

without Structural Wall System", SSRG International Journal of Civil Engineering (SSRG - IJCE), Volume 3 Issue 3, March 2016, pp. 42-47.

21. Binu Sukumar, Joyson Silva P (2016), "Durability Characteristics of Self-Compacting Concrete Containing Low Calcium Fly Ash", International Journal of Advance Engineering and Research Development (IJAERD), Vol.3, Issue .1, January 2016, pp. 137-142

22. Binu Sukumar, Joyson Silva P (2016), "Effect of Polymeric Admixtures on Self-Compacting Concrete", International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET), Vol.5, Issue .1, January 2016, pp. 660-665.

23. Binu Sukumar, Sudhakar S (2015), "Studies on Stabilization of Expansive Soil Using Cement and Flyash", International Journal of Advances in Engineering Research (IJAER) 2015, Vol. No. 10, Issue No. VI, December, pp. 70-77.

24. Binu Sukumar, Usha Rani M, Joyson Silva P (2015), "Micro-Structural Characteristics of Self-Compacting Concrete with High Volume Fly Ash", International Journal of Applied Engineering Research, Volume 10, Number 4 (2015) pp. 10265-10277. **(Scopus Indexed)**

25. Binu Sukumar, Usha Rani M, Joyson Silva P (2015), "Replacement of River Sand by Crusher Dust in Self Compacting Concrete", International Journal of Applied Engineering Research, Volume 10, Number 4 (2015) pp. 10201-10210

26. M. Usha Rani, Binu Sukumar and Martina Jenifer (2015), 'Studies on Mechanical Properties of Fly Ash and Bagasse Ash as a Cementitious Material in Concrete', International Journal of Applied Engineering Research, Volume 10, Number 12 (2015) pp. 28729-28740.

27. M. Usha Rani and Binu Sukumar (2015), "Investigation on Structural Behaviour of R.C.Columns Subjected To Steel Corrosion Under Loading", International Journal of Applied Engineering Research, Volume 10, Number 9 (2015) pp. 22663-22676.

28. Binu Sukumar, Ra. B. Depaa (2013), "Self-Healing of

	<p>Mechanically-Loaded Concrete With Ground Granulated Blast Furnace Slag”, International Journal of Engineering Research & Technology (IJERT), Vol. 2 Issue 6, 2013, pp 511-515.</p> <p>29. Binu Sukumar, Nagamani K. and Srinivasa Raghavan R. (2008), “Evaluation of strength at the early ages of self-compacting concrete with high volume fly ash”, International Journal, Construction and Building Materials, Elsevier publication, Vol 22/7 -2008, pp 1394-1401. [Impact Factor: 2.421, Citation: 183, h-Index: 3, i10-Index: 2] (Scopus, WoS & SCI Indexed)</p> <p>30. Binu Sukumar, Nagamani K., Srinivasa Raghavan R., and Chandrasekaran E (2005), ‘Study on the replacement of fine aggregate (river sand) by quarry dust in Self-Compacting Concrete’, Journal of New Building Material and Construction World, Vol. II, Issue 5, pp. 186-197.</p>	
<p>Papers Presented in Conferences (Scopus / WoS indexed only)</p>	Overall: 12	After Joining RMK: 02
<p>Ph.Ds / Projects Guided</p>	Ph.Ds Guided: nil	Student Projects Guided: 50
<p>Books Published :</p>	<p>Count: 07</p> <ol style="list-style-type: none"> 1. “Strength of Materials- Volume II” published by Yes Dee Publishing Pvt. Ltd. with ISBN- 978-93-88005-41-8 during January 2020. 2. “Engineering Geology” published by Charulatha Publications with ISBN-13: 978-93-89051-34-6 during July 2019. 3. “Railways, Airport & Harbour Engineering” published by Charulatha Publications with ISBN- 978-93-88335-44-7 during January 2019. 4. “Strength of Materials- Volume I” published by Yes Dee Publishing Pvt. Ltd. with ISBN- 978-93-88005-02-9 during June 2018. 5. “Railways, Airport & Harbour Engineering” published by Charulatha Publications during January 2018. 6. “Mechanics of Solids” published by Yes Dee Publishing Pvt. Ltd. with ISBN- 978-93-80381-67-1 during July 2017. 7. “Strength of Materials” published by Magnus Publication with ISBN- 13-978-81-932009-1-9 during January 2016. 	

Patents	Published Count: Published: 07	Granted Count: 1
	<p>1. Binu Sukumar and A Hemamathi, “A Portable Pressure Measuring Device to Monitor Lateral Pressure of Fresh Concrete on Formwork”, Application No. 202241047403 dated 19/08/2022 published on 26/08/2022 and granted on 23.03.2023- Patent No. 427404.</p> <p>2. Kanniyappan S P, Binu Sukumar, Pranoj D.M, Mohana Krishnan A, Ruben chakravarthy B, “Smart Movable Hydraulic Powered Wall”, Application No. 202141029947 dated 03/07/2021 published on 06.01.2023.</p> <p>3. Samba Siva Rao, P Joyson Silva, Binu Sukumar, “Semi Automated Seed Sowing Machine”, Application No. 202041044199 dated 10/10/2020 published on 11/11/2022.</p> <p>4. Binu Sukumar, Hemamathi A, M.Yashwantha Kumar, P.Vijay Bhagavathi, “Building Block from Plastic Waste using 3D Printing Technology, Application No. 202241063496 dated 07/11/2022 published on 18/11/2022.</p> <p>5. Pranoj D.M, Aravind S, Binu Sukumar, “3D Print Surface Smoothing by Mechanical Smoothing Multi-Axis Probe”, Application No. 202141058739 dated 16/12/2021 published on 04/02/2022.</p> <p>6. Arul Shankar B, Dhananjayan G K, Binu Sukumar, “Alloy Based Binding Wire to Prevent Corrosion”, Application No. 202141058742 dated 16/12/2021 published on 04/02/2022.</p> <p>7. V Saran Kumar, Binu Sukumar, P Ramshankar, Valluru Narendra Naidu, P Ragul Kumar R Ramkrishnan, “Ready Mix Paint and RMP Dispenser”, Application No. 201841049956 dated 31/12/2018 published on 03/07/2020.</p> <p>8. V Saran Kumar, Binu Sukumar, P Ramshankar, “Water pump Monitoring System”, Application No. 202041044199 dated 10/10/2020 published on 11/11/2022</p>	
Professional Memberships	Count: 05	
	1. Life Member of Indian Concrete Institute (ICI) - LM 9774 (Life	

	<p>membership)</p> <ol style="list-style-type: none"> 2. Fellow of Institution of Engineers (IEI) - F-122567-3 (Life membership) 3. Life Member of India Indian Society for Technical Education (ISTE) - LM 53406 (Life membership) 4. Life Member of Institute for Exploring Advances in Engineering – IEAE2017703 (Life membership) 5. Life Member of Indian Society of System for Science and Engineering (ISSE) – LM06565 (Life membership)
Consultancy Projects Completed	Count: 100 (worth Rs. 7,00,000/-)
Awards Received	<p>Count: 12</p> <ol style="list-style-type: none"> 1. Received Global Iconic Excellence Award for Best Head of the Department by SIMATS during July 2022 2. Best Faculty Award by Cognizant during 2019-20 3. Best Students' chapter award from Institution of Engineers (India) – State Center March 2019 4. Academic Professional Icon Award from Institution of Engineers (India) on 28th October 2018 at Hotel Benz Park, Chennai. 5. Distinguished Faculty Award in Engineering for the contribution and achievement in the field of Civil Engineering from Venus International Foundation on 7th July 2018. 6. Best Administrator Award from Dr. Kalam Educational Trust during 12th May 2018. 7. AIRF Awards – 2017 for Excellence Teaching in Higher Education on 25.11.2017 by Arunai International Research Foundation. 8. Best Engineering college student's chapter award: Institution of Engineers (India) - for the year 2016-17 during Twenty-Fifth IEI Convocation and Technicians/Students Convention at Goa on 29.10.2017. 9. Research Excellence Award-2017 for the research publication on "Evaluation of Strength at Early ages of Self-Compacting Concrete with high volume flyash" IEAE (Institute for Exploring Advances in Engineering) – 10. Certificate of Appreciation from the Chairman, R.M.K. Engineering College for the Excellent Academic performance of Students and Achieving 100% result for the subject "Mechanics of Solids" in the Anna University Examination held during the year 2016-2017. 11. ICI (Chennai Centre)- Ultra Tech Award 2016 for Outstanding Student Chapter of Tamil Nadu as Professor &

	<p>Head, Department of Civil Engineering, RMK Engineering College during the Concrete Day celebration held on 7th September 2016.</p> <p>12. ICI (Chennai Centre)- Ultra Tech Award 2015 for Outstanding Student Chapter of Tamil Nadu as Professor & Head, Department of Civil Engineering, RMK Engineering College during the Concrete Day celebration held on 7th September 2015.</p>
<p>Research grants Received</p>	<ol style="list-style-type: none"> 1. Received the sanction order for a financial Grant of Rs. One Lakh from All India Council for Technical Education towards a project sanctioned under the Scheme for Promoting Interest, Creativity and Ethics among Students (SPICES) for the Financial Year 2022-23. Coordinator: Dr. BINU SUKUMAR. 2. Received a Grant of Rs. 27.2 Lakhs from DST under DDP scheme as Principal Investigator for a project titled, “Development of Digital Pressure Monitoring System Using Sensors” in collaboration with L&T Construction. 3. Received a Grant of Rs. 17.91 Lakhs from AICTE towards MODROB on Modernization of Strength of Materials lab to Advanced Structures Lab. 4. Established Centre of Excellence in Concrete and Formwork in Collaboration with L&T Construction, Chennai 5. Received a grant of Rs. 70,000/- from BRNS-Department of Atomic Energy to conduct a Two-day workshop on “Disaster Mitigation and Management” during 21-22 June 2016. 6. Received a Grant of Rs. 2, 00,000/- (Rupees Two lakhs only) from AICTE for conducting a Two-day Workshop on “Challenges and Opportunities in Solar Photo Voltaic - an Emerging Energy Research” during 19th and 20th December 2013. 7. Project proposal submitted as Principal Investigator to Ministry of Coal under S&T Grant on “Utilization of Rejected Charcoal Briquette as partial replacement of aggregate in Concrete” for a funding of Rs. 20 Lakhs is under review. 8. Project proposal has been submitted as Co-Investigator to DST-SERB on “Cost Effective Paver Blocks Using Industrial Waste” for a funding of Rs. 22 Lakhs.
<p>Orcid Link / ID</p>	<p>https://orcid.org/0000-0001-6853-2749 ID : 0000-0001-6853-2749</p>

Google Scholar Link / ID	https://scholar.google.co.in/citations?user=crdP1_4AAAAJ ID : crdP1_4AAAAJ
Vidwan Link / ID	https://vidwan.inflibnet.ac.in/myprofile ID : 301727
Research Gate Link / ID	https://www.webofscience.com/wos/author/record/1911559AAH-3406-2019
Scopus Link / ID	https://www.scopus.com/authid/detail.uri?authorId=24172245900 ID : 24172245900