

SUNDAR RATHNARAJAN

Research Scholar
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ACADEMIC PROFILE

Course	Specialization	Board/ College	Month & Year of Passing	Marks obtained CGPA
Ph.D	Construction Materials	Indian Institute of Technology Madras	Jan 2015-till date	8.33
M.E	Structural Engineering	Thiagarajar College of Engineering, Madurai	May 2014	9.13
B.E	Civil Engineering	Thiagarajar College of Engineering, Madurai	May 2011	8.11

PROFESSIONAL EXPERIENCE

January 2015 – till date	Research Scholar, Department of Civil Engineering, IIT Madras
July 2015 – December 2014	Teaching fellow, College of Engineering Guindy, Chennai
July 2011 – March 2012	Graduate Engineer Trainee, Consolidated Construction Consortium Limited (CCCL), Chennai

AREA OF INTEREST

- Corrosion in RCC Structures
- Repair and Rehabilitation of Structures
- Service life Estimation of reinforced concrete structures

AWARDS AND FELLOWSHIPS

1. Awarded with **NACE Gateway of India Section Scholarship** worth **2 Lakhs** by NACE International Foundation for the year 2018 – 2019.
2. **Best Paper in poster presentation** in **CORCON 2017** held in Mumbai for the technical paper titled “Carbonation Rate and Service Life of Reinforced Concrete Systems with Mineral Admixtures and Special Cement”.
3. **Best Paper in Young Scientist Forum** in **CORCON 2015** held in Chennai for the technical paper titled Effect of admixed corrosion inhibitors on durability indices of cement mortar

ACADEMIC PROJECT DETAILS

- Ph.D. in Construction materials (Ongoing) – Working on “**Determination of carbonation resistance and service life estimation of concrete mixes with partial substitution of Supplementary Cementitious Materials (SCMs)**” under the guidance of Dr.Radhakrishna G. Pillai, Associate Professor IIT Madras. Study on the influence of partial substitution of SCMs in cementitious system on its carbonation behaviour. Estimation of service life of the reinforced concrete structures deteriorating due to carbonation induced corrosion by determining the rate of carbonation (KCO₂) and threshold pH at corrosion initiation. Corrosion propagation studies were carried out in fully carbonated mortars to determine its influence in the estimation of service life.
- M.E., Structural Engineering – Major project on “**Simulation of heat transfer in concrete structures using Finite element method**” under the supervision of Mr.Joseph Sugunaseelan, Professor, TCE Madurai, finite element model was developed to simulate the heat transfer through concrete with and with glass fibres and validated.
- B.E., Civil Engineering – Major Project on “**Evaluation of Land slide risk analysis using GIS – A case study in Ooty**”, guided by Dr.S.Palanivel, Assistant Professor, Department of Civil Engineering, TCE, Madurai. Topographic maps were collected for the study area and were overlaid using ArcMap module to develop hazard zonation map based on drainage and slope characteristics prevailing in the study area.

INTERNSHIPS

- **Research internship at Laboratory of construction materials (LMC) in EPFL, Lausanne, Switzerland, under the supervision of Prof. Karen Scrivener from 2nd August 2016 to 28th October 2016.on the topic “Effect of curing on carbonation resistance of concrete mixes with different mineral admixtures”**

RESEARCH AND TEACHING ASSISTANTSHIP ACTIVITIES

1. Member of LC3 Team IIT Madras, - Studied the effect of carbonation on transport and electrochemical properties of Limestone Calcined Clay cement (2015 – till date)
 2. **Research Assistant** in Micro analytical characterization lab – Involved in operational and maintenance activities of **Scanning Electron Microscope** in Department of Civil Engineering IIT Madras (December 2017 – till date)
 3. **Teaching assistant** for NPTEL Online course for **Advanced Concrete Technology** during the period of (July 2018 – October 2018).
 4. Involved in the condition assessment of RC chajjas in Rashtrapathi Bhavan Delhi using Non-destructive testing method
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JOURNAL PUBLICATIONS

1. Ravindra Gettu, Radhakrishna G. Pillai, Manu Santhanam, Sripriya Rengaraju, Yuvaraj Dhandapani, Sundar Rathnarajan, Anusha S. Basavaraja, (2018)“ **Service Life and Life Cycle Assessment of Reinforced Concrete with Flyash and Limestone Calcined Clay Cement**”, Cement Concrete Research (Under review)

CONFERENCE PUBLICATIONS

1. Dyana Joseline, Hareesh Haridasan, Sundar Rathnarajan, Divya Rani, Thangadurai Raja, Radhakrishna G. Pillai, Amlan K. Sengupta., Arun Menon, (2018) “**Restoration of Reinforced Lime Concrete Sunshades of the about-a-century-old Rashtrapathi Bhavan in New Delhi, India**”, SAHC, Cusco – Peru, 11-13 September, 2018
 2. Ravindra Gettu, Manu Santhanam, Radhakrishna G. Pillai, Yuvaraj Dhandapani, Sakthivel T., Sripriya Rengaraju, Fathima Suma, Sanoop Prakasan, Sundar Rathnarajan, Anusha S. Basavaraja, (2018) “**Recent research on Limestone Calcined Clay Cement (LC3) at IIT Madras**”, Centennial of LMC and Karen Scrivener’s 60th birthday conference, Forum Rolex, Lausanne, Switzerland, August 2018.
 3. Ravindra Gettu, Radhakrishna G. Pillai, Manu Santhanam, Sundar Rathnarajan, Anusha S. Basavaraja, Sripriya Rengaraju, Yuvaraj Dhandapani, (2018) “**Service Life and Life Cycle Assessment of Reinforced Concrete with Limestone Calcined Clay Cement**”, Proceedings of International Conference on Durability and Concrete Sustainability, pp 213-221, July 2018, Leeds UK,
 4. Sundar Rathnarajan, Naga Pavan Vaddey, Radhakrishna G. Pillai, Ravindra Gettu, Manu Santhanam, “**Modelling carbonation rates in concrete with similar strength grade with and without slag**”, Proceedings of ICACMS 2017, Chennai, India, 3rd – 8th September 2017.
 5. Radhakrishna G. Pillai, Manu Santhanam, Ravindra Gettu, Yuvaraj Dhandapani, Sripriya Rengaraju, Sundar Rathnarajan, Anusha Basvaraja, (2017) “**Service life estimation and life cycle assessment for Portland cement, fly ash and LC3 systems**”, Service-life prediction of concrete, 3rd Meeting: The Corvallis Workshops, Oregon, USA
 6. Sundar Rathnarajan, Radhakrishna G. Pillai,(2017) “**Carbonation rate and service life of RC systems with mineral admixtures and special cements**” CORCON 2017, Mumbai, India, 17th – 20th September, 2017.
 7. Sripriya Rengaraju, Sundar Rathnarajan, Oviya Pugal, Anupama V A, Radhakrishna G. Pillai (2015) “**Effect of admixed corrosion inhibitors on durability indices of cement mortar**”, Proceedings of International Conference and Expo on corrosion (CORCON 2015), Nov 19-21, 2015, Chennai, NACE International
 8. Sundar R, Joseph Sugunaseelan S,(2014) “**Simulation of heat transfer in concrete members under fire loading using Finite element analysis**” Proceedings of the 6th National conference on Innovations in Civil Engineering (ICE’14) held at Kumaraguru College of Technology, Coimbatore, on 16th April 2014 pp.82-86
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POSITIONS HELD

- **Graduate Student Coordinator**, Civil Engineering Association, IITM, during the academic year 2015 – 2016.
- **Overall Co-ordinator** for events and workshops in ICI Students' chapter at Thiagarajar College of Engineering, Madurai during the academic year 2013 – 2014.
- **Joint Secretary** of Civil Engineering Association in Thiagarajar College of Engineering, Madurai during the academic year 2010 – 2011.

PROFESSIONAL SOCIETY MEMBERSHIPS & ACTIVITIES

- **Life member of Indian Concrete institute (ICI)**
- **Student Member of NACE Gateway of India Section (NIGIS)** – South zone student section (July 2015 – till date)
- Volunteered in Transportation committee and Registration team activities during CORCON 2015, a conference organized by NACE Gateway of India Section
- Volunteered in the session management team during CORCON 2017, Mumbai, a conference organized by NACE Gateway of India Section
- Student In-charge for Transportation and Accommodation committee for RILEM sponsored “International Conference on Advances in Construction Materials and Systems 2017” (ICACMS 2017), held in Chennai
- Student organizing committee member for CORSYM 2018, Student symposium organized by NACE Gateway of Indian Section
- Volunteered for data collection during NACE Impact survey conducted in India through NIGIS South zone student section

SKILL SET

Software Packages

- ArcGIS
- ABAQUS
- SPSS
- MATLAB
- AUTOCAD

Languages known

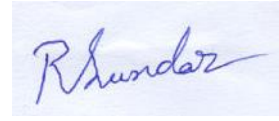
- Fluent in Tamil, English, Hindi, and Malayalam

REFERENCES

Dr.Radhakrishna G Pillai (Associate Professor) Department of Civil Engineering, Indian Institute of Technology Madras Email: pillai@iitm.ac.in Ph: +91-44-2257 4303	Dr. Manu Santhanam (Professor) Department of Civil Engineering Indian Institute of Technology Madras Email: manus@iitm.ac.in Ph: +91- 44 – 2257 4283
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DECLARATION

I hereby declare that the above mentioned information is true to the best of my knowledge and that I bear the responsibility for the correctness of the particulars

A handwritten signature in blue ink, appearing to read 'R Sundar', is enclosed in a light blue rectangular box.

(Sundar Rathnarajan)