Resume

Dr. B. Kondraivendhan

Assistant Professor
Applied Mechanics Department
S.V. National Institute of Technology
Surat, Gujarat
India-395007

Mobile: +91-8758209578
Email: bkv@amd.svnit.ac.in
kondraivendhan78@yahoo.co.in
kondraivendhan78@gmail.com
Date of Birth: **23-07-1978, India**

Education

P.D.F.

- School of Civil and Environmental Engineering, Nanyang Technological University (NTU), Singapore, Dec'2010-Jul'2012
- Research work related to long and durable concrete was carried out for under water infrastructure creation.

Ph.D.

- **Thesis title:** Influence of w/c ratio and age on Pore size distribution of OPC and fly ash pastes and mortars
- Department of Civil Engineering, Indian Institute of Technology (IIT) Delhi, New Delhi, India. July' 2006 - Nov'2010
- It was a **UK-India collaborative project (UKIERI)** and part of this Ph.D., was carried out at University of Dundee in Scotland.

M.E (Structures)

- Department of Civil and Structural Engineering, Annamalai University, Chidambaram, Tamil Nadu. July' 2002- June'2004
- **Dissertation title:** Influence of concrete compressive strength upon the response of wrapped concrete specimens.

B.E (Civil Engineering)

- Department of civil Engineering, Alagappa Chettiyar College of Engineering and Technology (ACCET), Karaikudi. June'1996-May 2000
- **Dissertation title:** Under reamed pile foundation design for a multistoried commercial complex building.

Research Experience

- During Ph.D, worked extensively almost for 4 (2006 - 2010) years on pore size distribution of cement based materials exclusively on OPC and fly ash.
- The focus of the work is to study the pore size distribution parameters such as mean distribution radius ($r_{0.5}$), porosity and dispersion coefficient (d). The relationship between these pore size distribution parameters with mix factors such as w/c ratio, curing age and mean cement particle diameter and fly ash replacement are also studied.
- Degree of hydration relationships as a function of w/b ratio, curing age are developed separately for OPC paste and fly ash-cement paste through the non-evaporable water content determinations.
- A semi empirical relationship is developed for mean distribution radius as a function of w/c ratio, age and mean cement particle size for OPC and fly ash pastes and mortars.
- The role of the proposed relationships for pore size distribution parameters of OPC and fly ash pastes and mortars on compressive strength, permeability and hydraulic diffusivity is also demonstrated.

- The microstructure studies on concrete and pozzolana blended concrete were carried out as part of the Post Doctoral research during Dec 2010 to July 2012.
- Strength and durability studies on ultra high performance concrete were also done in the Post Doctoral research during Dec 2010 to July 2012.
- Research on Ferrocement confinement for short columns was carried out.
- Research on corrosion behavior of RCC is being carried out
- Research on ambiently cured Geo-polymer concrete research was carried out at SVNIT Surat
- Research on fabrication of biostone with the help of bacteria are carried out at SVNIT Surat
- Research on utilization of natural fibres in concrete are also being carried out at SVNIT Surat

Working Experience

- Worked as a lecturer at Thirumalai Engineering College, Kanchipuram, Tamil Nadu, India. Aug'2004-July'2006.
- Worked as a **Post doctoral research fellow (P.D.F)** at Nanyang Technological University (NTU) Singapore, Since Dec'2010 to July 2012.
- Worked as a Professor in the department of Civil Engineering at S.K.P Engineering College, Tiruvannamalai, India. Aug'2012-Aug'2013.
- Working as an Assistant Professor in the Applied Mechanics Department at S.V. National Institute of Technology, Surat, Gujarat, India. Since Aug'2013- till date.

Research Interest

1. Pore structure characterization and modeling of pore size distribution of cement based materials.
2. Effect of pozzolanic materials addition/replacement in cement based system.
3. Strength and durability studies on cement based material.

4. Studies on reinforced concrete corrosion.
5. Repair and rehabilitation of concrete structures.
6. Alternative materials for concrete production

Publications

Journals

1. Kondraivendhan, B., and Bulu Pradhan. "Effect of Ferrocement confinement on behavior of concrete", *Construction and Building Materials*, V. 23, 2009, pp. 1218-1222.
2. Kondraivendhan, B., and Bhattacharjee, B. "Effect of age, w/c ratio on size and dispersion of pores in OPC paste", *ACI materials Journal*, V. 107, No. 2, 2010, pp. 147-154.
3. Kondraivendhan, B.; Velchuri Sairam.; and Nandagopal, K. "Influence of pond ash as fine aggregate on strength and durability of concrete", *Indian Concrete journal*, V. 85, No. 10, 2011, pp. 27-36.
4. Das, B.B., and Kondraivendhan, B. "Implication of Pore size distribution parameters on compressive strength and permeability and hydraulic diffusivity of concrete", *Construction and Building Materials*, V. 28, No.1, 2012, pp. 382-386.
5. Kondraivendan, B. "Strength and Flow behavior of rice husk ash blended cement paste and mortar", *Asian Journal of Civil Engineering (BHRC)*, V.14, No.3, 2013, pp. 405-416.
6. Kondraivendhan, B., and Bhattacharjee, B. "Pore Size Distribution Modification of OPC Paste through Inclusion of Fly Ash and Sand", *Magazine of concrete research,* V. 65, No. 11, 2013, pp. 673-684.
7. Kondraivendhan, B.; Sabet Divsholi, B.; and Susanto Teng. "Estimation of strength, permeability and hydraulic diffusivity of pozzolana blended concrete through pore size distribution", *Journal of Advanced Concrete Technology,* V.11, 2013, pp. 230-237.

8. Kondraivendhan, B., and Bhattacharjee, B., "Prediction of strength, permeability and hydraulic diffusivity of OPC paste", *ACI Materials Journal*, V. 111, No. 2, 2014, pp.171-178.
9. Kondraivendhan, B., and Bhattacharjee, B., "Flow behavior and strength for fly ash blended cement paste and mortar", *International Journal of Sustainable Built Environment"*, V.4, 2015, pp. 270-277.
10. Kondraivendhan, B., and Bhattacharjee, B., "Strength and W/C Ratio Relationship of CBM revisited through pore features", *Materials Characterization,* V.122, 2016, pp 124-129.
11. Kondraivendhan, B., "Relationship for size and dispersion of pores with mix factors for cement sand mortar, *Materials Science Forum,* V.866, 2016, pp. 37-42

Conferences

1. Kondraivendhan, B., and Bhattacharjee, B. "Determination of OPC paste porosity through MIP", International Conference on Advances in Concrete, Structural and Geotechnical Engineering, BITS Pilani, 2009, pp.1-6.
2. Kondraivendhan, B., and Bhattacharjee, B. "Assessment of cement sand mortar porosity through MIP", International Conference on Advances in Mechanical and Building sciences in the 3rd millennium, VIT Vellore, 2009, pp.1634-1637.
3. Kondraivendhan, B., and Bhattacharjee, B. "PSD modification of PC paste and mortar due to fly ash addition", Proceedings of UKIERI congress: Concrete for 21st century construction, IIT Delhi, New Delhi, 2011.
4. Kondraivendhan, B.; Sabet Divsholi, B.; and Susanto Teng. "Assessment of strength, permeability and hydraulic diffusivity of concrete through Mercury Intrusion Porosimetry" 36th conference on our world in concrete and structures, Singapore 2011.
5. Darren, T.Y.L.; Xu Da.; Sabet Divsholi, B.; Kondraivendhan, B.; and Susanto Teng."Effect of ultra fine slag replacement on durability and mechanical

properties of high strength concrete" 36th conference on our world in concrete and structures, Singapore 2011.

6. Kamde, D.R.; Kondraivendhan, B; and Desai, S.N. "Service life Prediction model for reinforced concrete structures due to chloride ingress", Advances in Structural Engineering, IIT Delhi, Vol. 3, 2014, pp. 1883-1894.
7. Anita N. Borade.; Kondraivendhan, B., "Critical review of chloride induced corrosion", UKIERI congress- concrete research driving profit and sustainability, NIT Jalandar 2015.
8. Anita N. Borade.; Kondraivendhan, B., "Role of supplementary cementitious materials on chloride induced corrosion-An overview", 2nd R.N Raikar memorial International conference, Mumbai 2015.
9. Anita N. Borade.; Kondraivendhan, B., "Effect of Metakaolin and slag blended cement on corrosion behavior of concrete", IOP Material science and Engineering science conference series 216 (1), Seoul 2017,012022

Books

1. Deepak Kamde, Satish N.Desai and B. Kondraivendhan, "Service life prediction model for reinforced concrete structures", Lap Lambert Academic Publishing, 2014, ISBN-13-978-3-659-55017-1

Guidance

The following numbers of students are guided/guiding by me

B.Tech : 11

M.Tech: 7

Ph.D. : 5

Recognition

- Visiting student of University of Dundee, Scotland, UK during May-June 2010

- Received MHRD scholarship for pursuing Ph.D. at IIT Delhi during Jul'2006-Nov'2010
- Received scholarship from NTU Singapore for pursuing P.D.F (Post-doctoral Fellowship) during Dec'2010- Jul-2012
- Reviewer for DST (Department of Science and Technology INDIA) Projects.
- Reviewer for Construction and Building Materials Journal
- Reviewer for Materials and Structures Journal
- Reviewer for Powder Technology Journal
- Reviewer for Journal of Advanced Concrete Technology
- Reviewer for computers and concrete Journal
- Reviewer for scientific Iranica
- Acted as a Research Progress Seminar (RPS) committee member at RK University, Rajkot, Gujarat
- Involved as an expert committee member in so many condition assessment of concrete structures
- Actively involving the routine concrete material testing and mix design at SVNIT Surat.
- Delivered number of lectures in SVNIT organized Short Term Training Programmes
- Acting as a Research progress Seminar (RPS) committee member for more than 20 Ph.D. candidates at both civil Engineering and Applied Mechanics Departments.
- Received best paper presentation award in 1st International Conference on Civil Engineering and Material Science (ICCEMS-2016)), was held in Singapore
- Acted as a Conference chair for a session at 2nd International Conference on Civil Engineering and Material Science (ICCEMS-2017), was held in Seoul, South Korea
- Invited speaker in 2nd International Conference on Civil Engineering and Material Science (ICCEMS 2017)), was held in Seoul, South Korea

- ❖ Invited key note speaker in a work shop namely "Design and Development of Sustainable concrete in the era of global warming" was held on Jan-2017 at NIT Suratkal, Karnataka

Programmes organized

1. Short term training programme namely "Recent Advances in Civil Engineering Materials (RACEM-2014)" was organized during 30th Sep'2014 to 2nd Oct2014
2. Short term training programme namely "Recent Advances in Durability of Concrete (RADC-2015)" was organized during 9th Oct'2015 to 11th Oct2015

Countries visited

England, Scotland, Singapore, Malaysia, South Korea and Indonesia