

**Rashmi Ranjan Pattnaik, Ph.D, P.E (USA)**  
Associate Professor,  
Department of Agricultural Structure Civil & Environmental Engineering



### **Education**

- Ph.D. (Civil) from Glenn Department of Civil Engineering, Clemson University, USA, 2006
- M.E.(Civil) from Birla Institute of Technology, Pilani, Rajasthan, India, 1990
- B.Sc Engg (Civil), Orissa University of Agriculture and Technology, Bhubaneswar, India, 1988

### **Experience**

*Working in OUAT Bhubaneswar since 1991 in different capacities in teaching, research and extension and as Associate Professor & Principal Investigator of DST Project “Investigation on durability of Concrete Repair”, Department of Agricultural Structure Civil & Environmental Engineering.*

### **Externally Funded Projects/ schemes**

- Principal Investigator, Technology System Development (TSD) programme of Department of Science & Technology (DST), New Delhi, “Investigation of durability of concrete repair” (Project period 2014-2017)

### **Other important assignments**

- Member, Technical Committee on University Civil Constructional work, OUAT.
- Member, Technical Committee on Protective Cultivation structures, Directorate of Horticulture, Govt. Of Odisha, Bhubaneswar

### **Courses taught**

- Engineering Mechanics (U.G)
- Strength of Materials (U.G)
- Environmental Engineering (U.G)
- Design of Structures (U.G)
- Soil Mechanics (U.G)
- Similitude in Engineering (P.G & Ph.D)
- Experimental Stress Analysis (P.G & Ph.D)

### **Students guided**

Co-Guide for 5 students of M. Tech.

### **Significant research contributions**

- Developed a computer program on 3D Space frame analysis.
- Developed a new method to study the compatibility between concrete repair materials and substrate concrete.

#### ***Present research interests***

- Durability of Concrete repair
- Repair and rehabilitation of concrete structures
- Structural health monitoring using sensors

#### ***Honours and Awards***

- Professional Engineer (PE) Registration, South Carolina Board of Engineers & Surveyors, USA, 2008.
- 6 awards in 5 consecutive years for best technical paper presentation in Annual Technical Session of Orissa Engineering Congress and Institution of Engineers (India), from year 1995 to 1999
- Secured 98.27 percentile in GATE exam and recipient of OUAT Merit Scholarship for UG study

#### ***International trainings/ visits***

- Presented a research paper on “Analysis of Slant Shear Bond Strength of Repair Materials Using Experimental and Finite Element Methods”, Transportation Research Board (TRB), TRB 96th Annual Meeting, January, 2007 at Washington DC, USA
- Present a research paper on “Investigation into Compatibility of Repair Materials with Bridge Deck Concrete,” ACI Spring Convention, at Charlotte, North Carolina, USA, March 2006

#### ***Peer recognition***

- Reviewer of Springer Journal , Journal of Institute of Engineers India Series-A

#### ***Publications***

Authored 2 books with ISBN numbers, 6 research papers in peer reviewed journals and more than 10 popular technical articles.

#### ***Selected publications***

- Pattnaik, R.R. and Rangaraju, P.R. "Investigation of Slant Shear Bond Strength of Repair Materials for Durable Concrete Repair" Indian Concrete Journal, "(Accepted)
- Pattnaik, R.R. "Investigation on failures of composite beam of repair material and substrate concrete due to drying shrinkage property of repair materials", Springer, J.Inst.Eng.India Ser.A (Accepted)

- Pattnaik, R.R. and Rangaraju, P.R. "Relationship between properties and compatibility of repair materials with substrate concrete" Indian Concrete Journal, December 2014, Vol. 88, Issue 12, pp. 20-31.
- Pattnaik, R.R. and Rangaraju, P.R. "Investigation on Flexure Test of Composite Beam of Repair Materials and Substrate Concrete for Durable Repair", Springer, J.Inst.Eng.India Ser.A, December 2014, 95(4), 203 - 209
- Pattnaik, R.R. and Rangaraju, P.R. "Analysis of Compatibility between Repair Material and Substrate Concrete Using Simple Beam with Third Point Loading" Journal of Materials in Civil Engineering, ASCE, Vol. 19, No. 12, 2007, p. 1060-1069.

#### **Books**

*Title Investigation into Compatibility between Repair Material and Substrate Concrete Using Experimental and Finite Element Methods*

*Author Rashmi Ranjan Pattnaik*

*Contributor Clemson University, USA*

*Publisher Clemson University, 2006*

*ISBN 054294488X, 9780542944888*

*Length 167 pagesLength 167 pages*

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