

SHIVANI RANI

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EDUCATION

University of Oklahoma Norman, Oklahoma USA

Expected: 2019

Doctorate in Civil Engineering, GPA: 4.0

Project: *The Performance of Asphalt Binders Modified with Polyphosphoric Acid (PPA)*

Thesis: *Implementation of Disturbed State Concept (DSC) To Model the Rutting Potential of Asphalt Pavements*

Indian Institute of Technology (IIT) Gandhinagar, India

2011-2013

Masters of Technology in Civil Engineering, GPA: 4.0

Thesis: *Estimation of Linear Spring Constant for Laterally Loaded Monopile Embedded in Nonlinear Soil*

Uttar Pradesh Technical University (UPTU) Lucknow, India

2007-2011

Bharat Institute of Technology (BIT), Meerut

Bachelors of Technology in Civil Engineering, GPA: 3.93

Projects: *Design of a Sewage Treatment Plant*

[Jan 2011 to July 2011]

Load Calculations of a Multi-storeyed Building

[July 2010 to Dec 2010]

WORK EXPERIENCE

- **Research Assistant**, University of Oklahoma, Norman [Aug 2014 –Present]
I am working on a project “The Behaviour of Asphalt Binder Modified with Polyphosphoric acid”.
My duty is to perform all the laboratory tests, analyse the results and also write the report.
- **Grader/Teaching Assistant**, IIT Gandhinagar, India [Jan 2015-May 2015]
I interacted with students for their queries and evaluated/graded their performance, and invigilated examinations for the course Mechanics of Materials
- **Research Assistant**, IIT Gandhinagar, India [Aug 2013 –July 2014]
Project1: *Dynamic Analysis of a Monopile*
Project2: *Virtual Geotechnical Lab Project*
My work was to create a numerical model for dynamic analysis of a monopile and to perform all the simulations on the model. In second project, my duty was to write reports on different soil procedures and data interpretation.
- **Grader/Teaching Assistant**, IIT Gandhinagar, India [Aug 2011-April 2013]
I designed problems, interacted with students for their queries and evaluated/graded their performance, and invigilated examinations for the courses Advanced Solid Mechanics; Finite Element Method; Mathematical Methods for Engineers; and Introduction to Numerical Methods

COMPUTER SKILLS

Languages: C, MATLAB

Software: AutoCAD, STAAD.pro, GiD, Nonlin, Shake2000, OpenSEES, Abaqus

ACHIEVEMENTS and AWARDS

ACADEMIC

- Received five -year *Alumni Fellowship* award at University of Oklahoma, Norman, 2015
- Felicitated with *Most Inspiring Engineering/scientist Women in India* award by Engineering Watch, 2014
- *President Gold Medal*- Awarded for 1st rank amongst the M.Tech. Scholars Class of 2013, IIT Gandhinagar
- *Institute Gold Medal*- Awarded for 1st rank amongst the Civil Engineering Class of 2013, IIT Gandhinagar
- *Dean's list Award*- Awarded for the academic excellence in Autumn semester, 2011, IIT Gandhinagar
- *University Rank*- Awarded for 3rd rank amongst the Civil Engineering Class Of 2011, UPTU
- *Institute Rank*- Awarded for 1st rank in all four years amongst the Civil Engineering Class of 2011, BIT
- Received Certificate of Appreciation from Meerut Engineers Association awarded to Department toppers of Junior Undergraduates, 2010

SPORTS

- Felicitated with *Award for Overall Outstanding Performance in Sports*, IIT Gandhinagar 2013
- Felicitated with Player of Year award, IIT Gandhinagar, 2013
- Felicitated for *Player of the Tournament*, Petro Cup, PDP, 2013
- Break the record in Discus throw at 48th Inter-IIT Sports Meet, 2012
- Gold Medal in Shot-put throw at 48th Inter-IIT Sports Meet, 2012
- Gold Medal in Basketball at Petro Cup, PDP and Concur, DA-IICT, 2012

SHORT COURSES AND WORKSHOPS ATTENDED

- Seismic Design of Earth and Rock-fill dams, IIT Gandhinagar, 2013
- Technology Incubation Workshop, IIT Gandhinagar, 2013
- Finite Element Method, Constitutive Modelling and Applications, IIT Gandhinagar, 2012
- Seismic Design of Reinforced Concrete Buildings, IIT Gandhinagar, 2012
- Safety Aspects on Laboratory Testing, IIT Gandhinagar, 2012
- Intellectual Property Rights workshop, IIT Gandhinagar, 2012
- Geotechnical Aspects of Earthquake Engineering, IIT Gandhinagar, 2012

ACTIVITIES

- *Member, Engineering Graduate Student Community*, University of Oklahoma, Norman [Aug 2015 – Present]
- *Graduate Student Ambassadors*, University of Oklahoma, Norman [May 2015 – Present]
- *Member, International Advisory Committee*, University of Oklahoma, Norman [Oct 2014 – Present]
- *Trip Organiser*, IIT Gandhinagar, India [Aug 2013 – July 2014]
- *Basketball Team Member*, IIT Gandhinagar, India [Oct 2011 - July 2013]
- *Athletics Player*, IIT Gandhinagar, India [Oct 2011 - July 2013]
- *Leader of a Survey Camp*, BIT Meerut, India [Nov 2009]
Coordinated all the activities of a 10 people group to prepare a survey sheet of a river bridge.
- *Undergraduate Student Committee Class Representative*, BIT, Meerut, India [July 2007-May 2009]
Elected as class representative to express students' concerns to the Head of Engineering Department.

PUBLICATIONS

- Rani, S. and Prashant, A., (2014). "Estimation of Linear Spring Constant for a Laterally Loaded Monopile Embedded in Nonlinear Soil." *Internal Journal of Geomechanics*, ASCE, 10.1061/(ASCE)GM.1943-5622.0000441.
- Rani, S. and Prashant, A. (2014). "Difficulties in 1D Modelling and Analysis of Monopile subjected to Lateral Force." 3rd *International Conference on Geotechnical Engineering*, Shanghai, China.
- Rani, S. and Prashant, A. (2013), Considering Soil Nonlinearity in 1D Simulation of Laterally Loaded Long Pile, *International Journal of Chemical, Environmental & Biological Sciences (IJCEBS)*, Vol. 1(4): 622-626.
- Rani, S. and Prashant, A., (2013) Estimation of the Maximum Shear Modulus in the context of finding Spring Constant for Pile-Soil System, 4th *Indian Young Geotechnical Engineering Conference*, Chennai, India, 17-18 May, 2013.

REFERENCES

Prof. Zaman Musharraf: David Ross Boyd Professor and Aaron Alexander Professor of Civil Engineering, Alumni Chair Professor of Petroleum and Geological Engineering, Director, Southern Plains Transportation Center, The University of Oklahoma, E-mail: zaman@ou.edu

Prof. Amit Prashant: Dean (Academic Affairs), Department of Civil Engineering, IIT Gandhinagar, India, Email: ap@iitgn.ac.in

Prof. Ajanta Sachan: Assistant Professor, Department of Civil Engineering, IIT Gandhinagar, India, Email: ajanta@iitgn.ac.in

