

Dr. Priti Maheshwari

Priti Maheshwari Associate Professor pritifce[at]iitr.ac.in 91-1332-285883

Areas Of Interest

- Geotechnical Engineering, Soil-Structure Interaction, Ground Engineering: Modeling and Analysis

Professional Background

| From | To | Designation | Organisation |
|------|----------|---------------------|---|
| 2012 | On Going | Associate Professor | Indian Institute of Technology Roorkee, Roorkee-247667 |
| 2008 | 2012 | Assistant Professor | Indian Institute of Technology Roorkee, Roorkee-247667 |
| 2005 | 2008 | Lecturer | Indian Institute of Technology Roorkee, Roorkee-247667 |
| 2004 | 2005 | Lecturer | Birla Institute of Technology and Science Pilani, Pilani-333031 |

Honors And Awards

| Award | Institute | Year |
|--|---|------|
| IGS Z Tech Biennial Award for the best paper published in Indian Geotechnical Journal on Geosyntheti | Indian Geotechnical Society | 2010 |
| Member, Editorial Board, International Journal of Geotechnical Engineering | International Journal of Geotechnical Engineering, J. Ross Publishing, USA | 2010 |
| Invitation for Second Indo-American Frontiers of Engineering Symposium (IAFOE) | Indo-U.S. Science and Technology Forum and the U.S. National Academy of Engineering | 2008 |
| Gold Medal for First position in Civil Engineering | University of Burdwan | 1999 |

Educational Details

| Degree | Subject | University | Year |
|--------|--------------------------|---------------------------|------|
| Ph.D. | Geotechnical Engineering | IIT Kanpur | 2004 |
| M.E. | Structural Engineering | MNREC Allahabad | 2001 |
| B.E. | Civil Engineering | REC Durgapur, West Bengal | 1999 |

Sponsored Research Projects

| Topic | Funding Agency | Year |
|--|--|------|
| Soil investigations for design of foundations of various structures of proposed clinker grinding uni | GACL, Mumbai | 2005 |
| Laboratory Soil Investigations for Proposed Grinding Unit of GACL, at Dadari. | GACL, Mumbai | 2006 |
| Soil Investigations and Recommendations for Foundation Design of Overhead Water Tank at Kashipur, Se | Project Manager, Construction Division, U.P. Jal Nigam, Rampur | 2006 |
| Stability of Slopes and Design of Remedial Measures for CSI Rajpur, Dehradun | PWD, Dehradun | 2006 |
| Soil Investigation for BC for Foundation Design of Car Parkings | Chairman, Municipal Corp., Mussoorie | 2006 |

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| Soil Investigation for OHTs at Mirzapur Pol, Jeevala and Kunjnavar | Ex. En. IX Div. Jalnigam, Saharanpur | 2006 |
| Recommendations for Design of Foundations of Various Structures of Clinker Grinding Unit of GACL, Ut | GACL, Mumbai | 2006 |
| Stability of Slopes and Design of Remedial Measures: Construction of 132 kV Substation at Satpuli (P) | Power Trans. Corp. of UA, PTCUL, Dehradun | 2006 |
| Geotechnical Investigations for Redevelopment of Town Hall of Mussoorie Municipal Corporation, Musso | Chairman, Municipal Corporation, Mussoorie | 2006 |
| Geotechnical & Geophysical Investigations for Expansion of Ambuja Cement Plant at Darlaghat (HP) | GACL, Darlaghat (HP) | 2007 |
| Recommendations for Design of Foundations of Various Structures of Expansion of Ambuja Cement Plant | GACL, Darlaghat (HP) | 2007 |

Participation In Seminars

| Name | Place | Sponsored By | Date |
|--|-----------------------------------|---|------------|
| National Conference on Advances in Bridge Engineering | I.I.T. Roorkee | Department of Civil Engineering, IIT Roorkee | 24-25 Marc |
| National Conference on Foundations and Retaining Structures (NCFRS) | I.I.T. Roorkee | IGS Roorkee Local Chapter | 23-24 May, |
| National Workshop on Quality Control in Construction through Precision Equipments (QCPEE) 2007 | I.I.T. Roorkee | Indian Society for Construction Materials and Structures (ISCMS) | 24 October |
| All India Seminar on Air Pollution and Health Impacts (AISAPHI) | Institution of Engineers, Roorkee | Institution of Engineers, Roorkee | Feb. 23-24 |
| Second Indo-American Frontiers of Engineering Symposium (IAFOE 2008) | Irvine, California, USA | Indo-US Science and Technology Forum (IUSSTF), New Delhi, in collaboration with US National Academy | February 2 |

Memberships

- Indian Geotechnical Society, Life Member (LM 1986)
- Indian Society of Rock Mechanics and Tunnelling Technology, Life Member (LM 1907)

Teaching Engagements

| Title | Course Code | Class Name | Semester |
|-------------------------|-------------|------------|----------|
| Advanced Soil Mechanics | CE 542 | P.G. | Autumn |
| Computer Aided Graphics | CE 201 | U.G. | Autumn |

Projects And Thesis Supervised

| Title of Project | Names of Students |
|---|----------------------|
| Analysis of piled raft foundation | Alok Kumar |
| Finite element analysis of shallow foundations for eccentric inclined loads | Bayya Venkata Lokesh |

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| Behavior of granular piles with randomly mixed fibres | Mani Bhushan Kumar |
| A computer package on design of geosynthetic reinforced earth slope | Anil Barnowal |
| Comparative study of various statistical strength criteria for rocks | E. Venkatesham |
| Engineering behavior of granular materials | Sarita Gupta |
| Behavior of geogrid reinforced granular piles | Ayan Kundu |

PHDs Supervised

| Topic | Scholar Name | Status of PHD | Registration Year |
|---|------------------|---------------|-------------------|
| Numerical modeling of shallow foundations on cohesionless soil | P. Pradeep Kumar | O | 1 |
| Behaviour of foundations on improved ground under static and moving | Shubha Khatri | A | 1 |

Visits To Outside Institutions

| Institute Visited | Purpose of Visit | Date |
|---|---|------------|
| Arnold & Mabel Beckman center of National Academics, Irvine, California | To attend Indo-American Frontiers of Engineering Symposium (IAFOE 2008) | February 2 |

Special Lectures Delivered

| Title | Place | Date |
|---|--|-----------|
| Various Field and Laboratory Tests on Soils & Some Aspects Related to Dug Wells | Continuing Education Centre, IIT Roorkee | Sept. 19, |
| Various Field and Laboratory Tests on Soils & Some Aspects Related to Dug Wells | Continuing Education Centre, IIT Roorkee | Sept. 19, |
| Various Field and Laboratory Tests on Soils & Some Aspects Related to Dug Wells | Continuing Education Centre, IIT Roorkee | Sept. 19, |

Refereed Journal Papers

- Maheshwari, Priti and Khatri, Shubha (2012), "Influence of Inclusion of Geosynthetic Layer on Response of Combined Footings on Stone Column Reinforced Earth Beds." *Geomechanics and Engineering*, Vol.4, No. 4, pp. 263-279.
- Maheshwari, Priti and Khatri, Shubha (2012), "Generalized Model for Footings on Geosynthetic – Reinforced Granular Fill – Stone Column Improved Soft Soil System." *International Journal of Geotechnical Engineering*, Vol. 6, No. 4, 403-414.
- Maheshwari, Priti and Khatri, Shubha (2012), "Nonlinear analysis of infinite beams on granular bed-stone columns reinforced earth beds under moving loads." *Soils and Foundations*, Vol. 52, No. 1, 114-125.
- Maheshwari, Priti and Kumar, P. Pradeep (2011), "Probabilistic Analysis and Design of a Strip Footing on Layered Soil Media." *Geotechnical and Geological Engineering*, Springer, Vol. 29, No. 6, 1099-1108.
- Maheshwari, Priti, Viladkar, M.N. and Kumar Arun (2011), "Experimental Evaluation of Nonlinear Kelvin Model Constants by using Triaxial Test Data." *International Journal of Geotechnical Engineering*, Vol. 5, No. 4, 373-382.
- Maheshwari, Priti and Khatri, Shubha (2011), "Nonlinear Analysis of Footings on Granular Bed – Stone Column Improved Soft Soil." *Geomechanics and Geoenvironment: An International Journal of Geotechnical Engineering*, Vol. 6, No. 3, 185-194.
- Maheshwari, Priti and Kashyap, Deepak (2011), "Stochastic Analysis of Beams on Reinforced Earth Beds." *Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards*, Vol. 5, No. 3-4, 207-217.
- Maheshwari, Priti and Khatri, Shubha (2011) "A Nonlinear Model for Footings on Granular Bed–Stone Column Reinforced Earth Beds." *Applied Mathematical Modelling*, Vol. 35, No. 6, 2790-2804.

- Maheshwari, Priti and Khatri, Shubha (2010) "Nonlinear Response of Footings on Granular Bed – Stone Column –Reinforced Poor Soil." *International Journal of Geotechnical Engineering*, J. Ross Publishing, Inc., U.S.A., Vol. 4, No. 4, 435 – 443. DOI 10.3328/IJGE.2010.04.04.435-443.
- Maheshwari, Priti and Viladkar, M.N. (2010) "Soil-Structure Interaction of Damped Infinite Beams on Extensible Geosynthetic Reinforced Earth Beds under Moving Loads". *Geotechnical and Geological Engineering*, Springer, Vol. 28, No. 5, 579 – 590. DOI: 10.1007/s10706-010-9314-8.
- Maheshwari, Priti (2010) "Analysis of Rails on Damped Tensionless Reinforced Earth Beds under Moving Loads". *International Journal of Geotechnical Engineering*, J. Ross Publishing, Inc., U.S.A., Vol. 4, No. 1, 127 – 137. DOI: 10.3328/IJGE.2010.04.01.127-137.
- Maheshwari, Priti and Kashyap, Deepak (2009), "Stochastic Design of Beams on Reinforced Random Earth Beds in Deterministic Mode". *Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards*, Taylor and Francis, UK, Vol. 3, No. 4, 224 – 231. DOI: 10.1080/17499510902744713.
- Maheshwari, Priti, Viladkar, M.N. and Venkatesham, E. (2009), "Modified Stanley's Approach for Statistical Analysis of Compression Strength Test Data of Rock Specimens". *International Journal of Rock Mechanics and Mining Sciences*, Elsevier, Vol. 49, No. 7, 1154 – 1161. DOI: 10.1016/j.ijrmms.2009.07.001.
- Samadhiya, N.K., Maheshwari, Priti, Zsaki, A., Basu, Partha and Kundu, Ayan, (2009) "Strengthening of Clay by Geogrid Reinforced Granular Pile". *International Journal of Geotechnical Engineering*, J. Ross Publishing, Inc., U.S.A., Vol. 3, No. 3, 377 – 386. DOI 10.3328/IJGE.2009.03.03.377-386.
- Maheshwari, Priti, Viladkar, M.N. and Venkatesham, E. (2009), "A New Probabilistic Approach to Analysis of Compressive Strength Test Data of Rock Specimens". *Geomechanics and Geoengineering: An International Journal*, Taylor and Francis, UK, Vol. 4, No. 2, 163 –169. [June 2009]. DOI: 10.1080=17486020902855670.
- Maheshwari, Priti and Viladkar, M.N. (2009), "A Mathematical Model for Beams on Geosynthetic Reinforced Earth Beds under Strip Loading". *Applied Mathematical Modelling*, Elsevier, UK, Vol. 33, No. 4, pp. 1803 – 1814. DOI: 10.1016/j.apm.2008.03.009. [April 2009].
- Maheshwari, Priti (2008), "Analysis of Beams on Tensionless Reinforced Granular Fill- Soil System". *International Journal for Numerical and Analytical Methods in Geomechanics*, John Wiley & Sons Inc., UK, Vol. 32, No. 12, pp. 1479 – 1494. DOI: 10.1002/nag.681.
- Samadhiya, N.K., Maheshwari, Priti, Basu, Partha and Kumar, Mani Bhushan (2008), "Load-Settlement Characteristics of Granular Piles with Randomly Mixed Fibres". *Indian Geotechnical Journal*, Indian Geotechnical Society, New Delhi, India, Vol. 38, No. 3, pp. 345 – 354.
- Maheshwari, Priti and Kashyap, Deepak (2008), "Rationalization of Factors of Safety in Analysis of Beams on Geosynthetic Reinforced Random Earth Beds by Monte Carlo Simulation". *International Journal of Geotechnical Engineering*, J. Ross Publishing, Inc., U.S.A., Vol. 2, No. 3, pp. 277 – 284. DOI: 10.3328/IJGE.2008.02.03.277-284.
- Maheshwari, Priti, Basudhar, P.K. & Chandra, S. (2008), "Response of Beams on Geosynthetic Reinforced Earth Beds Subjected to Uniform Loading". *Indian Geotechnical Journal*, Indian Geotechnical Society, New Delhi, India, Vol. 38, No. 1, pp. 21 – 32.
- Maheshwari, Priti and Viladkar, Manohar Narayan (2007), "Strip Footings on a Three Layer Soil System: Theory of Elasticity Approach". *International Journal of Geotechnical Engineering*, J. Ross Publishing, Inc., U.S.A., Vol. 1, No. 1, pp. 47-59.
- Maheshwari, Priti, Basudhar, P.K. & Chandra, S. (2006), "Modeling and Analysis of Infinite Beams on Extensible Geosynthetic-Reinforced Granular Fill-Soft Soil System Subjected to Moving Loads", *Geotechnical Special Publication No. 152, Ground Modification and Seismic Mitigation*, ASCE, pp. 259 - 266. (Geoshanghai, International Conference, Shanghai, China, June 6-8, 2006)
- Maheshwari, Priti and Madhav, M.R. (2006). "Analysis of a Rigid Footing Lying on Three Layered Soil Using the Finite Difference Method". *Geotechnical and Geological Engineering: An International Journal*, Springer, Netherlands, Vol. 24, No. 4, pp. 851-869. DOI: 10.1007/s10706-005-7109-0.
- Maheshwari, P., Basudhar P.K. and Chandra, S. (2006). "Modeling of Beams on Reinforced Granular Beds". *Geotechnical and Geological Engineering: An International Journal*, Springer, Netherlands, Vol. 24, No. 2, pp. 313-324. DOI: 10.1007/s10706-004-7548-z.
- Maheshwari, P., Chandra, S. and Basudhar, P.K. (2005). "Steady State Response of Beams on a Tensionless Geosynthetic-Reinforced Granular Fill-Soft Soil System Subjected to Moving Loads". *Soils and Foundations*, The Japanese Geotechnical Society, Japan, Vol. 45, No. 5, pp. 11-18.
- Maheshwari, P., Basudhar P.K. and Chandra, S. (2005). "The Effect of Prestressing Force and Interfacial Friction on the Settlement Characteristics of Beams on Reinforced Granular Beds". *Indian Geotechnical Journal*, Indian Geotechnical Society, New Delhi, India, Vol. 35, No. 3, pp. 283-298.

Maheshwari, P., Chandra, S. and Basudhar, P.K. (2004). "Response of Beams on a Tensionless Extensible Geosynthetic-Reinforced Granular Fill-Soft Soil system Subjected to Moving Loads". *Computers and Geotechnics*, Elsevier, UK, Vol. 31, No. 7, pp. 537-548. DOI:10.1016/j.compgeo.2004.07.005.

Maheshwari, P., Basudhar P.K. and Chandra, S. (2004). "Analysis of Beams on Reinforced Granular Beds". *Geosynthetics International*, Thomas Telford Ltd., London, UK, Vol. 11, No. 6, pp.470-480. DOI: 10.1680/gein.11.6.470.54387.

Maheshwari, P., Chandra, S. and Basudhar, P.K. (2004). "Modelling of Beams on a Geosynthetic-Reinforced Granular Fill-Soft Soil System Subjected to Moving Loads". *Geosynthetics International*, Thomas Telford Ltd., London, UK, Vol. 11, No. 5, pp.369-376. DOI: 10.1680/gein.11.5.369.53138.