RESUME

PERSONAL DETAILS

Dr. Pavan Kumar Emani	pk.emani@gmail.com +91-96 90 77 2484
126/1-1, Tulsi Vihar, BellRoad,	Scopus ID: 6504323628, Orcid ID: 0000-0001-5444-5580
Clement Town, Dehradun, INDIA	AICTE ID: 1-3810516089, Vidwan-ID : 167299

	Date of Birth	: 06-01-1980
300	Father's Name	: Dr. E. V. Satyanarayana Murthy
1	Permanent Address	s : H/No. 1-8-34, Daitavari Street, Railpet, Bapatla, AP
	Languages Known	: Telugu, English, Hindi
	Hobbies	: philosophy, cooking, culture, civilization & history

Educational Qualifications	Discipline	Year	Board/ Institution	CGPA/ %
SSC	Maths + Science +	1995	Board of Secondary Education,	83.5%
	Social+ 3 language		AP	
10+2	Maths+Phy+Chem-	1997	Board of Intermediate Education, AP	91.5%
B. Tech	Civil Engg	2001	Bapatla Engg. College, Nagarjuna University	86.4%
Graduation in	Civil Engg. in Nuclear	2002	BARC Training School,	85.6%
Nuclear Science and	Industry		Mumbai	
Engineering				
Ph. D	Earthquake	2009	Indian Institute of Technology,	
	Engineering		Roorkee	

EXPERIENCE

Organization	Designation	From	То	Duration
Bhabha Atomic Research	Scientific Officer-C	01-09-2002	31-08-2004	2 100000
Centre (BARC)	Scientific Officer- D	01-09-2004	02-09-2005	3 years
College of Engineering	Senior Lecturer	20-02-2009	30-04-2009	
Roorkee (COER)	Assistant Professor	01-05-2009	18-08-2011	3 years
	Associate Professor	19-08-2011	31-12-2011	
Graphic Era (Deemed to be	Associate Professor	09-01-2012	31-10-2015	71/
University)	Professor	01-11-2015	Till Date	7½ years

AWARDS

- 1. Distinguished Faculty Award, Uttarakhand State Council of Science & Technology, 2022
- 2. Outstanding Researcher for 2015-2018 for active contribution in Research by Graphic Era
- 3. Research Excellence Award 2015 for best research output by Graphic Era University
- 4. ISET B. K. Maheswari Award 2014 for Best Ph. D Thesis in Soil-Structure Interaction in India
- 5. Homi Bhabha Award in Civil Engineering 2002 from BARC training school
- 6. AIR-34 (GATE 2001), AIR-103 (GATE 2005)
- 7. Nagarjuna University (AP) silver medal in Civil Engineering 2001
- 8. Gold medal for excellence in civil engineering 2001 by Bapatla Engg. College, Andhra Pradesh
- 9. First Prize in National Level student paper presentation contest by VR Siddhartha Engg College, Vijayawada, 1999

SPONSORED RESEARCH PROJECTS

Title	Sponsoring agency	Amount (INR)	Start Date	End Date	Со-РІ
Development of inelastic design curves for the seismic design of pile foundations No.SR/FTP/ETA-130/2010	DST-SERB (Young Scientist Award)	9,01,000/- INR	04- April 2012	31- March 2015	NA
Seismic behavior of Large pile groups in liquefying soil conditions 2012/36/49/BRNS- 2977	Board of Research in Nuclear Sciences (BRNS)	24,35,800 INR	27- April 2013	31- March 2017	Dr. Ankush Mittal
Development of Observer based robust controller for vibration mitigation designed for 3 storey benchmark structure and its force validation using a magneto- rheological damper	Submitted to ISRO	42.5 lakh	2021	2023	

PUBLICATIONS

No. of journal Papers	:
No. of conference Proceedings	:
No. of Book Chapter	:

- : 13 (of which 8 in Scopus/ SCI) + 3 SCI (under review)
- : 20 (4 Scopus papers accepted and in publication)
- : 02

1. Book chapters

- RamaRaju, P.J., Emani, P.K., Kothari, S. (2020). 2D Coupled Poro-Elastic Analysis for Dynamic Behaviour of CPRF. In: Prashant, A., Sachan, A., Desai, C. (eds) Advances in Computer Methods and Geomechanics . Lecture Notes in Civil Engineering, vol 56. Springer, Singapore. <u>https://doi.org/10.1007/978-981-15-0890-5_51</u>, 617–623, ISBN: 978-981-15-0889-9, ISBN (online) 978-981-15-0890-5.
- Emani, P. K., Patchamatla, J. R. R., Kothari, S., Kumar, R., & Phanikanth, V. S. (2019). Numerical Simulation of Seismic Interaction of Pile Foundation and Structure. In *Recent Challenges and Advances in Geotechnical Earthquake Engineering* (pp. 141-167). IGI Global.DOI 10.4018/978-1-5225-6948-0.ch006, ISBN13: 9781522569480|ISBN10: 1522569480

(b) Published Journal papers (* -Scopus Indexed)

In addition to the 13 publications mentioned herein, 3 SCI papers are under review

- 13 Purohit, V., Emani, P. K. (2022). Discrete and Continuum Modeling of Coulomb Friction Damping in Stone Blocks, Journal of Graphic Era University (JGEU), 10(2), 181-194. doi: 10.13052/jgeu0975-1416.1027, River Publisher, ISSN: 0975-1416 (Print Version) 2456-4281 (Online), https://www.journal.riverpublishers.com/index.php/JGEU/article/view/3271.
- 12 Patchamatla, J. R. R. & Emani, P. K (2022). Time Domain Implementation of Consistent
- * Boundaries for Continuum Two-Dimensional Wave Propagation Problems Using ABAQUS User-Defined Elements. International Journal of Mathematical, Engineering and Management Sciences, 7(2), 196-210. <u>https://doi.org/10.33889/IJMEMS.2022.7.2.013.</u>, ISSN: 2455-7749
- 11 P. K. Emani, V. Purohit (2020). Predictive analysis of compressive strength by using linear
- regression model in python, International Journal of Advanced Research in Engineering and Technology, 11(9), 1091-1097. DOI: 10.34218/IJARET.11.9.2020.108, ISSN: 2394 – 6814
- 10 Purohit, V., Emani, P. K. (2020). Monitoring of an overhang beam by using strain gauge and
- * LVDT, International Journal of Advanced Research in Engineering and Technology (IJARET), 11(5), 772-779. DOI: <u>https://doi.org/10.34218/IJARET.11.5.2020.081</u>, <u>ISSN Print: 0976-6480</u>, <u>https://iaeme.com/MasterAdmin/Journal_uploads/IJARET/VOLUME_11_ISSUE_5/IJARET_11_05_081.pdf</u>
- 9* Purohit, V., Emani, P. K., and Patchmatla, J. RamaRaju (2019) FEM Analysis Of Corbel Arch And Drum Column Masonry In Abaqus, Journal of Critical Reviews, ISSN- 2394-5125, 6(4),140-148. <u>http://www.jcreview.com/fulltext/197-1614176542.pdf?1614781334</u>
- 8*. Patchamatla, J. R. R. and Emani, P. K. (2019). Time Domain Implementation of transmitting

Boundaries in ABAQUS for Discrete Soil-structure Interaction Systems, *International Journal of Mathematical, Engineering and Managerial Sciences (IJMEMS)*, 5(3), 447-462. ISSN: 2455-7749

https://doi.org/10.33889/IJMEMS.2020.5.3.037, ISSN: 2455-7749

- Emani, P., Kothari, S., Phanikanth, V. (2018). Collapse Load Analysis of Reinforced Concrete Pile Group in Liquefying Soils under Lateral Loading. *International Journal of Geotechnical and Geological Engineering*, World Academy of Science, Engineering and Technology, International Science Index 134, 12(2), 114 - 117. <u>http://scholar.waset.org/1307-6892/10008595.https://doi.org/10.5281/zenodo.1315869
 </u>
- Emani, P. K. and Kothari, S. (2017). "Study of Pure Torsion in Open Thin Walled Sections using Finite Element Analysis". Journal of Graphic Era University, 5(2), 140-146,ISSN: 0975-1416 (print), 2456-4281 (online) <u>http://www.geujournals.com/assets/8-jgeu-16-029- emani-v52-</u> 1401462.pdf
- 5*. Emani, P. K., Kumar, R., & Phanikant, V. S. (2016). Inelastic Response Spectrum for Seismic Soil Pile Structure Interaction. *International Journal of Geotechnical Earthquake Engineering* (*IJGEE*), 7(2), 24-34. 10.4EE.2016070018/JG102, ISSN: 1947-8488, |EISSN: 1947-8496
- 4*. Maheshwari B.K. and Emani P.K. (2014), "Three Dimensional Nonlinear Seismic Analysis of Pile Groups using FE-CIFECM coupling in Hybrid Domain and HiSS Plasticity Model", *International Journal of Geomechanics*, 15(3), DOI:10.1061/(ASCE)GM.1943-5622.0000335, ASCE. ISSN: 1532-3641 EIISN: 1943-5622
- Lute, V., Emani, P. K. and Rao, V. (2011) "Effect of deck-pylon connection in extradosed bridges", *Journal of Recent trends in Civil Engineering and Technology*, 1(2),1-8. *eISSN: 2249–* 8753, ISSN: 2321-6476
- Emani, P. K. and Maheshwari, B. K. (2010) "Effectiveness of hybrid methods in analyzing frequency-dependent systems with limited nonlinearity." *International Journal for Advanced Computing (IJAC)*, 2(2), 60-67.ISSN: 0975-7686
- Emani, P.K. and Maheshwari, B.K. (2009) "Dynamic impedances of pile groups with embedded caps in homogeneous elastic soils using CIFECM", *Soil Dynamics and Earthquake Engineering*, Elsevier, 29(6), 963-973, <u>https://doi.org/10.1016/j.soildyn.2008.11.003</u>., 0267-7261, eISSN: 1879-341X

(c) Published Conference papers

24 Rahul Vaishnava, Pavan Kumar Emani, Shashank Kothari (2022). "Graphical Method for solution of differential equation of plate bending problems", International Conference on Advances in Civil Engineering 2022' (ICACE 2022).

- 23 Seismic analysis of multi-storied frames with concrete filled steel tubular members (CFST) using opensees, 1 st International Conference on Mathematical Methods and Techniques in Engineering and Sciences (ICMMTES 2022), PaperID- ICMMTES-22-62
- 22 Ramaraju, P. J & Emani, P. K. (2022). Coupled pore pressure deformation analysis of hsrt embankments, 1 st International Conference on Mathematical Methods and Techniques in Engineering and Sciences (ICMMTES 2022), PaperID- ICMMTES-22-60
- 21 Nainwal, A., Emani, P. K., Shah, M. C., & Negi, A. (2022, November). Analysis of seismic forces at different floor levels of G+ 9 multi-storey OMRF building using STAAD Pro. In AIP Conference Proceedings (Vol. 2481, No. 1, p. 020031). AIP Publishing LLC, INTERNATIONAL CONFERENCE ON ADVANCEMENTS IN ENGINEERING AND SCIENCES (ICAES2021).01-02 July 2021, Dehradun, UK https://doi.org/10.1063/12.0012009
- Nainwal, A., Emani, P. K., Shah, M. C., Negi, A., Kumar, V., & Negi, P. (2021). The influence of Metakaolin on the copper slag substituted concrete with the fine aggregate of Beas river. International Conference on Technological Advancements in Material Science and Manufacturing, Materials Today: Proceedings, 46, 10425-10432. https://doi.org/10.1016/j.matpr.2020.12.981, 19-20 Feb, 2021, Dehradun, UK
- Nainwal, A., Negi, P., Emani, P. K., Shah, M. C., Negi, A., & Kumar, V. (2021). An experimental investigation to substitute copper slag in concrete with Beas river fine aggregate. International Conference on Technological Advancements in Material Science and Manufacturing, Materials Today: Proceedings, 46, 10339-10343. https://doi.org/10.1016/j.matpr.2020.12.481
- 18 Patchamatla, J. R. R., Emani, P. K., Kothari, S. (2019) "2D Coupled Poro-Elastic Analysis for Dynamic Behaviour of CPRF", Proceedings of International Association for Computer Methods and Advances in Geomechanics (IACMAG), March 4-6, IIT Gandhinagar, India.
- 17 Patchamatla, J. R. R., Kandpal, N., Kothari, S., and Emani, P. K. (2018). "Time domain implementation of silent boundaries for wave propagation analysis in soils", Proceedings International conference on Mathematical Techniques in Engineering Applications (ICMTEA-2018), December 7-8, 2018, Graphic Era (deemed to be University), Dehradun.
- 16 Emani, P. K., Patchamatla, J. R. R., Kothari, S. and Phani Kanth, V. S. (2018). "Rayleigh wave effects on Combined Piled Raft Foundation", 16th Symposium of Earthquake Engineering, December 20-22, 2018, IIT Roorkee, India
- 15 Patchamatla, J. R. R. and Emani, P. K. (2018). "Vibration Analysis of High-speed railway track using ABAQUS", Proceedings of International Conference on advances in construction materials and structures (ACMS-2018), March 7-8, 2018, IIT Roorkee.
- 14 Emani, P., Kothari, S., Phanikanth, V. (2018). "Collapse Load Analysis of Reinforced Concrete

Pile Group in Liquefying Soils under Lateral Loading". Proceedings of International Conference on advances in construction materials and structures (ACMS-2018), March 7-8 2018, IIT Roorkee.

- 13 Emani, P. K., Ritesh, K. and PhaniKant, V. S. (2016). "Study of interaction between axial and lateral loading on piles during seismically induced Liquefaction", 6th International Conference on Recent Advances in Geotechnical Earthquake Engineering (ICRAGEE-2016), August 1-6, 2016 Noida, India.
- 12 Emani, P. K., Kandpal, A. and Vedula, P. K. (2015). "Non-linear Dynamic Lateral Load Analysis of single pile using winkler springs", Proc. National Conference on Research and Innovations in Science and Technology (NCRIET-15), March 28-29, 2015, COER, Roorkee.
- 11 Emani, P. K., Wahane, N. and Tiwari, V. (2014)."Design curves for floating pile groups in Liquefying soils", Indian Geotechnical Conference 2014, December 18-20, 2014, JNTU, Kakinada.
- 10 Emani, P. K. and Vaishnav, P. (2014), "Implementing substructure method of seismic soil-pile interaction using ABAQUS", 15th Symposium on Earthquake Engineering (15SEE), December 11-13, 2014, IIT Roorkee, Roorkee.
- 9 Prabhat Kumar, Ashwani Kumar, Pandey, A. D., Sharma, R. and Emani, P. K. (2014). "Seismic hazard map of Uttarakhand using NGA relationship", 15th Symposium on Earthquake Engineering (15SEE), December 11-13, 2014, IIT Roorkee, Roorkee.
- 8 Emani, P. K., Saxena, P. and Kandpal, A. (2014), "Performance evaluation of MATLAB operations using parallel computing constructs", International Conference on Advances in Computing Communications and Informatics-2014 (ICACCI-2014), COER, Roorkee.
- Aggrawal, S., Arora, R., Emani, P. K. and Mittal, A. (2010). "An efficient parallel processing scheme using hybrid domain algorithm," Proc. Of 14 Symposium on Earthquake Engineering, December 17-19, 2010, IIT Roorkee, Paper No. A149.
- 6 Emani, P. K. and Maheshwari, B. K. (2010). "Dynamic Pile-Cap-soil-Pile interactions in triangular pile groups," Proc. of 14th Indian Geotechnical Conference (IGC)- 2010, December 16-18, 2010, IIT Bombay, Paper No. 124, Vol. 2, 961-964.
- 5 Emani, P.K. and Maheshwari, B.K. (2008). "Nonlinear analysis of pile groups using hybrid domain method", Proc. of 12th International Conference of IACMAG, October 1-6,2008, Goa, India, Paper No. 1590.
- 4 Maheshwari, B. K. and Emani, P. K. (2008). "Effect of nonlinearity on the dynamic behavior of pile groups," Proc. Of 14th World Conference on Earthquake Engineering (WCEE), October 12-17, 2008, Beijing.
- 3 Emani, P. K and Maheshwari, B. K. (2006). "Evaluation of free-field seismic response of

nonlinear soil layers for bridges." Proc. National Conference on Advances in Bridge Engineering, March 24-25, 2006, IIT Roorkee, Paper No. 24, 279-290.

- 2 Emani, P.K. and Maheshwari, B.K. (2006). "SSI analysis of pile foundation using frequencytime domain hybrid method", Proc. of the 13th Symposium on Earthquake Engineering, December 18-20, 2006, IIT Roorkee, Roorkee, India.
- Emani, P. K, Bhasha, S. M., Narasimhan, R., Ramanujam, S. and Kulkarni, P. B. (2003). "Seismic retrofitting and strengthening of spherical prestressed concrete water tank", Proc. Of workshop on Retrofitting of Structures, October 10-11, 2003, Department of Earthquake Engineering, IIT Roorkee.

DOCTORAL THESES SUPERVISED

Title	Year awarded	Name of scholar	Co-supervisor
High-speed Railway track induced vibrations on buildings	On-going	Mr. Patchamatla JanakiRama Raju	

MASTER THESES SUPERVISED

	Name of scholar	Title	Year
1	Rajendra S. Gusain*	Influence of roof-top telecommunication tower on step-back building	2014
2	Rakesh Sharma*	Seismic Hazard assessment of Uttarakhand state India using 2014 NGA relationship	
3	Prakash Paudel	Seismic design of duplex residential house on stilts	2016
4	Abdul Rauf	Structural Behaviour of cable elements in cable-stayed bridges	2016
5	Shashank Kothari	Development of MATLAB programs for seismic design of pile foundations in liquefying soils	2016
6	Ajit Panwar	Buckling analysis of pile in liquefied soils2016	
7	Sanjay Singh Rana	Buckling analysis of pile groups in liquefiable soils	2017
8	Neeraj Kandpal	Seismic analysis of pile foundations using ABAQUS software	2018
9	Akash Kala	Damage Detection in Portal Frame using Natural Frequencies	2021
10	Deepak Bahuguna	Seismic Analysis of Multi-story building using Opensees	
11	Amritanshu Petwal	Design of Foundations in restricted spaces 202	
12	Karthik Chauhan	Friction Damping between Stone blocks	2021

13	Jitendra Bhasker	Performance Based Design of Reinforced Concrete Frames by Push-over Analysis using ETABS software	2021
14	Mahesh Prasad	Seismic Analysis of G+8 RCC building on sloping and flat ground	2021
15	Naman Pratap	Seismic response of multi-storied building with vertical irregularity	2022
16	Neeraj Khuswah	Seismic Response of Multi-stories Building with a shear wall	2022
17	Anurag Rawat	Finite element modelling of RC slab subjected to impact loading using OPENSEES	2022
18	Bhumika Joshi	Performance based seismic analysis of a building	2022
19	Harshit Bharadwaj	Seismic performance of open ground storey building strengthened with RC shear wall	2022

* Co-supervised with Dr. Prabhat Kumar

B. TECH PROJECTS

S. No.	Name of Candidate	Project Title	Year
1	Ankur Bora et al	Computer Aided design of elevated water tanks	2012
2	Gaurav Juyal et al	Traffic Flow characteristics and flexible pavement design	2013
3	Shekhar et al	Development constitutive models for soil plasticity	2014
4	Ankur Saini	Development of GUI for Pile foundation	2014
5	Ujjwal et al	Design of Graphic User Interface for RC beams	2014
6	Akash Rana et al	MATLAB programming of Morice-Little Method for the design of Bridge Deck	2015
7	Shail Gairola	Simulation of seismic waves in soil continuum	2015
8	Deepak Rawat et al	Analysis and design of GEU auditorium	2017
9	Saurabh Singh et al	Design of 22-storied residential building	2018
10	Akshay Jain et al	Dynamic Analysis of Structure under seismic load	2019

EDITORIAL BOARD MEMBER

• Journal of Graphic Era University

REVIEWER

- International Journal of GeoMechanics, ASCE
- Earthquake Engineering and Engineering Vibrations, Springer

S. No	Role	Details
5	Resource person	MVGCE, Vizianagaram, 4 day training on OPENSEES
4	Resource person	GVPCE, Vizag, 09 - 13 Jan 2013, One week training on OPENSEES
3	Resource person	GBPIET 2020 ON Challenges in SSI,
2	Key note speaker	NCRIET-2015 HELD AT COER, ROORKEE ON MARCH 28-29, 2015
1	Invited talk	GVPEC (Gayatri Vidya Parishad) 11July 2013 on Push Over Analysis

SKILLS

Computer Languages:C/C++, Visual Basic, MATLAB, PythonSoftware Packages:STAAD, SAP, COSMOS, ADINA, ANSYS, MIDAS, ABAQUS

PROFESSIONAL MEMBERSHIPS

S.No Details

- 1 Life Member, Indian Society of Earthquake Technology (ISET), LM-1361
- 2 Life Member, Indian Concrete Institute, LM- 11607
- 3 Fellow & Chartered Engineer, The Institute of Engineers India (IEI), F-1269808

SUBJECTS TAUGHT

Under graduate level	Post-graduate Level
 Engineering Mechanics Strength of Materials Structural Analysis - I Structural Analysis - II Reinforced Concrete Design- I &II Bridge Engineering Design of Steel structures 	 Finite Element Method Advanced Concrete Structures Advanced Steel design Computer Aided Analysis (Theory and Lab) Soil- Structure Interaction Earthquake Resistance Design of Buildings and Dynamics of Structures
Earthquake Resistant Design of Buildings	Theory of plates and shellsStability analysis of structures

Further Details of subjects taught

S.	Title of the course Taught	PG/	Role	Academic Year
No		UG		
1	Engineering Mechanics	UG	Sole	2019-20
2	Strength of Materials	UG	Sole	2018-19, 2017-18, 2020-21, 2021-22
3	Structural Analysis - I	UG	Sole	2021-22, 2020-21, 2019-20, 2018-19,
				2017-18, 2016-17, 2008-09
4	Structural Analysis - II	UG	Sole	2014-15, 2015-16, 2009-10, 2020-21
5	RC Design- I	UG	Sole	2016-17, 2009-10
6	RC Design- II	UG	Sole	2014-15, 2009-10, 2011-12, 2010-11
7	Bridge Engineering	UG	Sole	2013-14, 2014-15
8	Design of Steel structures	UG	Sole	2011-12, 2010-11
9	Building Materials and Construction	UG	Sole	2010-11
10	Engineering Geology	UG	Sole	2008-09
11	Earthquake Resistant Design of Blgs.	UG	Sole	2010-11
12	Earthquake Resistant Design of Blgs.	PG	Sole	2015-16, 2014-15
13	Finite Element Method	PG	Sole	2016-17, 2013-14
14	Advanced Concrete Structures	PG	Sole	2010-11
15	Advanced Steel design	PG	Sole	2019-20, 2017-18
16	Computer Aided Analysis of structs.	PG	Sole	2014-15, 2016-17

17	Theory of plates and shells	PG	Sole	2022-23, 2021-22, 2020-21, 2019-20,
				2018-19, 2016-17
18	Stability analysis of structures	PG	Sole	2020-21, 2019-20, 2018-19, 2017-18
19	Design of concrete Bridges	PG	Sole	2013-14, 2016-17

SHORT TERM COURSES/ WORKSHOPS ORGANIZED

S. No	Title	Role	From Date	To Date
1	Summer Internship Program- 2019	Coordinator	03-06-2019	29-06-2019
2	Summer Internship Program- 2021	Coordinator	28-06-2021	06-08-2021
3	Advanced Excel Workshop	Coordinator & Resource person	06-05-2022	07-05-2022

INDUSTRY – INSTITUTE – INTERACTION

S. No	Event	From Date	To Date
1	AICTE-INAE Distinguished Visiting	October 2021	December 2021
	Faculty (DVF) scheme		

PROFESSIONAL DEVELOPMENT ACTIVITIES

S. No	Event	Nos	Month/ Years
1	Faculty Development Programs	2	July 2009, Nov 2020
2	Short Term Courses	3	Oct 2019, July 2021, Oct 2021,

REFERENCES

1. Dr. Bal Krishna Maheswari, Department of earthquake Engineering, IIT Roorkee, 01332-285450

2. Dr. H. N. NAgaraja, Director General(Formerly Vice Chancellor), Graphic Era (Deemed to be

University), Dehradun - 9512213733/7834019126

3. Shri. K. Srinivas, Chief engineer & Head, A&CED, BARC, Mumbai-400085, 022-25593773

Glavatura

Date: 20-01-2023

Pavan Kumar Emani