# Curriculum Vitae

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Mocrosoft Academic

https://academic.microsoft.com/author/2790365510/publication/search?q=Muthumani%20Krishnamurthy&qe=Composite(AA.AuId%253D2790365510)&f=&orderBy=0&paperId=2793301953

Researchers Id Publon M-2273-2017

- ✓ Professor since inception of Academy of Scientific and Innovative Research (AcSIR)
- ✓ 35 years of experience in research and development in world class technologies
- ✓ Teaching experience both as a regular faculty and as a visiting faculty
- ✓ Involved in syllabus preparation and curriculum design for many universities
- ✓ Proven leadership experience in various roles such as Project Leader, National Coordinator of National Network Project in Eleventh Five Year Plan and Head of Laboratory

# **Professional Experience**

Vellore Institute of Technology (6 years)

✓ Dean and Professor, School of Civil Engineering

# Structural Engineering Research Centre, Chennai (35 years)

- ✓ Chief Scientist and Head of Advanced Seismic Testing and Research laboratory since Feb, 2007
- ✓ Project Leader and Head, Structural Dynamics Laboratory (since 1997 to May 2007)
- ✓ Scientist and member, Structural Dynamics Laboratory (since March 1980 to 1996)
- ✓ Guided Ph.D. scholars seven
- ✓ Visit to University of Karlsruhe to discuss a project proposal titled "Geotechnical Stability and Stabilization of the Coastal Strong-earthquake-region of Gujarat/India"
- ✓ Attended a ten week training programme on Aseismic design of structures at IZZIS, Skopje, Yugoslavia (5m X 5m triaxial shake table available)
- ✓ Deputation to Japan for two weeks heading a team of six persons for training and performance checking of advanced seismic test facility

# Honors, awards

Sl. No.	Award/Prize	Details
1.	Certificate of special mention under Dr. M. Ramaiah prize scheme for the year 1999	"Seismic Qualification of a Valve Actuator Assembly - a Case Study", authored by P.Srinivasulu, K.Muthumani, N.Gopalakrishnan and K.Sathish kumar, Eleventh Symposium on Earthquake Engineering during December1998 at Roorkee.
2.	Dr. M. Ramaiah prize scheme for the year 2003	For the paper titled "Seismic Response Reduction of Structures using Elasto Plastic Passive Energy Dissipation", authored by Sathish kumar, K, Muthumani, K., Gopalakrishnan, N., Sivarama sarma, B.S., Reddy, G.R. and Parulekhar, Y.M., published in ISET journal, Vol.39, No3, Sept. 2002, pp.121-138
3.	Certificate of special mention under Dr. M. Ramaiah prize scheme for the year 2004	For the paper Dynamic Response Evaluation of a Framed Type Turbo-Generator Foundation incorporating Dynamic Modulus and Operating Speed Variations, authored by N. Lakshmanan, K. Muthumani, N. Gopalakrishnan and K. Sathish kumar and published in the International Journal of Structural Stability and Dynamics, Vol.4, No.3, 2004
4.	Dr. M.Ramaiah prize for best technical paper 2008	"Identification of reinforced concrete beam like structures subjected to distributed damage from experimental static measurements", Computers and concrete, vol5(1), January 2008, pp 37-60
5.	Dr M.Ramaiah prize for best technical paper 2012	"Design methodology for supplemental damping for supplemental damping for seismic performance enhancement of structures" Asian Journal of Civil Engineering, vol 13, No.5, Oct 2012, pp 659-678
6.	Dr M.Ramaiah prize for best technical paper 2013	"Experimental studies on use of toggle brace mechanism fitted with magneto rheological dampers for seismic performance enhancement of three story steel moment resisting frame model", Structural Control and Health Monitoring, vol. 20, No.3, March, 2013, pp. 373-386

7.	Dr M.Ramaiah prize	"Near fault earthquake and behavior of liquid storage tanks"
	for best technical paper	Journal of Structural Engineering, vol.40, No.5, Dec 2013-
	2014	Jan 2014, pp 433-441

#### **Patents**

- 1) Patent title "A Process for the manufacture of a passive energy device (PED) from a hysteretic shear polymer". Patent Number: 232989. Date of Publication of Granted Patent 03/04/2009, Journal No 13/2009. Patent Application number 510/DEL/2003. Int C08L 7/00. The invention relates to the development of natural rubber based hysteretic shear polymer and a vibration damper device for use in buildings and structures for dissipating energy due to seismic forces.
- 2) Patent title "Earthquake protection device for bridges" Patent No. 2066 DEL 2010 (Ref No. 0090 NF/2010) filed date 26-05-2010 at CSIR and 31-08-2010 at GoI patent office
- 3) Smart energy harvesters for self-sustaining structural health monitoring system No. 0044NF/2013
- 4) Method of producing water repellent oil palm shells lightweight aggregate for the high impact value 201841019569
- 5) Elastoplastic and friction hybrid passive energy dissipation device for framed structures 202041045398

# **Technology/process/product development:**

Title	Year of	My contribution in the
	development	development
"A Process for the manufacture of	<mark>2003</mark>	Lead the team, tested and design
a passive energy device (PED)		scheme developed
from a hysteretic shear polymer".		•
No.: 232989. Dt 03/04/2009,		
Journal No 13/2009. Patent		
Application number		
510/DEL/2003. Int C08L 7/00		
(Elasto plastic damper)	2004	
Lead Extrusion damper	<mark>2004</mark>	Lead the team, tested and design
		scheme developed
Viscoelastic damper	<b>2005</b>	Lead the team, tested and design
		scheme developed
Earthquake protection devices for	<mark>2010</mark>	Lead the team, tested and design
bridges(Shape Memory Alloy		scheme developed
Damper) No. 2066DEL2010		•
(0090NF/2010)		
Smart energy harvesters for self-	2013	Lead the team, tested and design
sustaining structural health		scheme developed
monitoring system No.		
0044NF/2013		
UU++111/2U13		

## Deputation / assignments abroad

- ➤ Attended a ten week course on seismology and seismic resistant design of structures in Yugoslavia in 1983
- ➤ Visited University of Karlsruhe for two weeks and discussed the project on Geotechnical stability and stabilization of the coastal strong earthquake region of Gujarat/ India
- ➤ Visited M/s. Saginomia factory in Japan to inspect and observe the working of advanced seismic test facility before supply to SERC
- ➤ Attended an international workshop/conference at Taipei

#### **Research Output**

## Publications (please refer Annexure- II)

Journals	68
Conferences	154
Research Reports (R&D)	97
Consultancy/Sponsored Reports	178

#### **Book**

S.Arunachalam, <u>K.Muthumani</u> and S.Gomathinayagam, "Analysis and design of structures for wind and seismic loads", **Allied Publishers Limited**, Feb 2007

#### **Contribution to books**

- 1. "Capacity building of engineers in earthquake risk management" Edited by N.Lakshmanan and C.V.Vaidyanathan, Allied Publishers, May 2005 (ISBN 81-7764-837-3)
  - Chapter 4.3 Geotechnical failure of foundation during earthquakes
  - Chapter 4.4 Earthquake resistant design of shallow foundation
  - Chapter 4.5 Earthquake resistant design of deep foundation
  - Chapter 5.1 Seismic base isolation concepts and case studies
- 2. "Smart Materials" Taylor and Francis Publication Edited by Mel Schwartz (2008) Chapter 4 Structural Application of Smart Material Sreekala R and Muthumani K
- "Vibration Analysis and Control New Trends and Development"
   Chapter 9 Seismic Response Control Using Smart Materials Sreekala R, Muthumani K and Nagesh R Iyer

## **Academic and professional qualifications:**

Degree	College/university/year	Specialisation	Award/class
Ph.D.	Indian Institute of Technology,	Structural Engineering/	
	Madras, 1997	Structural Dynamics	

M.Tech.	Indian Institute of Technol	ogy,	Engineering Mechanics	Gold Medal
	Madras, 1979			
B.E.(Hons.)	Government College	of	Civil Engineering	<b>Distinction</b>
	Technology, Coimbatore,			
	University of Madras, 197	7		

## **Member of professional Societies**

- ✓ **Fellow**, Institution of Engineers
- ✓ **Fellow,** Indian Society for Earthquake Technology,
- ✓ **Life Member**, Indian Concrete Institution
- ✓ **Life Member**, Indian Geotechnical Society
- ✓ **Life Member,** Indian Society for Wind Engineering
- ✓ **Life Member,** Indian Nuclear Society
- ✓ **Life Member,** Indian Association for Structural Engineering
- ✓ **Life Member,** Indian Association for Computational Mechanics

#### **Bureau of Indian Standards Code Committees**

- ➤ Member, CED 39, Earthquake Engineering Sectional Committee
- ➤ Member, CED 39:P/1 Adhoc Panel for Tsunami Resistant Structure
- ➤ Member, CED 7.6, Panel for Handbook for Design of Structures subjected to Dynamic Loads

#### Annexure

## **Technical Papers (Journals)**

- 1. Lakshmanan, N., Srinivasulu, P., Thandavamoorthy, T.S. and Muthumani, K., "Vibration Isolation using Rubber Pads in Machine Foundation", Journal of Structural Engineering, Vol.9, No.4, January 1983
- 2. Srinivasulu, P., Lakshmanan, N., and Muthumani, K., "An Investigation on an Existing Turbo-generator Foundation", Journal of Structural Engineering, Vol.11, No.4, January 1985, pp 129-135
- 3. Srinivasulu, P., Lakshmanan, N., <u>Muthumani, K.</u>, and Sarma, B.S., "Static and Dynamic Characteristics of Cork Pads", Journal of The Institution of Engineers (India), Vol.67, July 1986
- 4. Lakshmanan, N., Srinivasulu, P., <u>Muthumani, K.</u>, and Sarma, B.S., "Pile-soil Interaction under Static Vertical Loads", Journal of Structural Engineering, Vol.13, January 1987
- 5. Gopalakrishnan, N., Srinivasulu, P., Lakshmanan, N., <u>Muthumani, K.</u>, and Sathishkumar, K., "Some Studies on Sweep Sine Excitation", Journal of Structural Engineering, Vol.21, No.4, January 1995, pp.239-245
- 6. <u>Muthumani, K.</u>, Rajagopalan, N., and Lakshmanan, N., "Stiffness Degradation of Reinforced Concrete Beams under repeated Impact Loading", Indian Concrete Journal, Vol.69, No.4, April 1995
- 7. Sathishkumar, K., Srinivasulu, P., Lakshmanan, N., Gopalakrishnan, N., and Muthumani, K., "A Dynamic Load Cell for Mechanical Exciters", Journal of the Instrument Society of India, Vol.29(4), 1999, pp.211-218
- 8. <u>Muthumani, K.</u>, Sarma, B.S., Gopalakrishnan, N., and Sathishkumar, K., "Earthquake Resistant Design of Building Frames with Visco-Elastic

- Dampers", Journal of Structural Engineering, Vol.29, No.1, 2002, pp 53 62
- 9. K. Sathish kumar, <u>K. Muthumani</u>, N. Gopalakrishnan, B. Sivarama Sarma, G.R. Reddy, and Y.M. Parulekar, "Seismic Response Reduction of Structures using Elasto Plastic Passive Energy Dissipation", ISET Journal, Vol.39, No.3, September 2002.
- 10. Lakshmanan, N., <u>Muthumani, K.</u>, Gopalakrishnan, N., and Sathish kumar, K., "Dynamic Response Evaluation of a Framed Type Turbo-generator Foundation incorporating Dynamic Modulus and Operating Speed Variations", International Journal of Structural Stability and Dynamics, Vol.4, No.3, September 2004, pp.1-24
- 11. K. Sathish kumar, <u>K. Muthumani</u>, N. Gopalakrishnan, G.R. Reddy, and Y.M. Parulekar, "Reduction of Large Seismic Deformations using Elasto Plastic Passive Energy Dissipators", Defence Science Journal, Vol.53, No.1, January 2003, pp.95-103.
- 12. Parulekar, Y.M., Reddy, G.R., Vaze, K.K., Kushwaha, H.S., <u>Muthumani, K.,</u> "Elasto-Plastic Damper for Reducing Seismic Response of a Piping System", Journal of the Vibration Institute of India, Vol.3(1), 2004 pp.33-43.
- 13. Helen M. Santhi, Samuel Knight, G.M., and <u>Muthumani, K.</u>, "Evaluation of Seismic Performance of Gravity Load Designed Reinforced Concrete Frames", Journal of Performance of Constructed Facilities, American Society of Civil Engineers (ASCE), Vol.19, No.14, November 2005, pp.277-289
- 14. Rama Raju, K., Meher Prasad, A., Lakshmanan, N., <u>Muthumani, K.</u>, Jagadish, D.R., and Amuthasheela, R., "Optimum Distribution of Viscous Fluid Dampers in Structural Systems", Journal of The Institution of Engineers (India), Vol.86, November 2005, pp.103-108
- 15. Lakshmanan, N., <u>Muthumani, K.,</u> Gopalakrishnan, N., Sathishkumar, K. and Sreekala, R., "Selective case studies of solution to vibration problems in power plant structures" Journal of Structural Engineering, Vol.33, No.1, April- May 2006, pp.31-43
- Y.M. Parulekar, G.R.Reddy, K.K. Vaze, <u>K. Muthumani</u>, "Passive Control of Seismic Response of Piping Systems" International Journal of Pressure Vessel Technology, vol 128, No 3, Aug 2006, pp 364-370
- 17. B.K.Raghuprasad, N.Lakshmanan, K.Muthumani and N.Gopalakrishnan, "Enhancement of damage indicators in wavelet and curvature analysis" Sadhana, vol 31, part 4, August 2006, pp 1-24
- 18. Munirudrappa, N., <u>Muthumani K.</u> and Sadath Ali Khan Zai, 'Impact resistance of fibre reinforced high strength concrete', Journal New Building Materials & Construction World, Vol.12, Issue 6, December 2006, pp.164-180
- 19. Sreekala, R., <u>Muthumani, K.</u>, Lakshmanan, N., Gopalakrishnan, N., Sathish kumar, K., Reddy G.R. and Parulekar, Y.M., 'Shape memory alloys for seismic response control', Journal of Structural Engineering, Vol.33, No.5, December 2006-January 2007, pp.383-389
- 20. Lakshmanan, N., Raghuprasad, B.K., <u>Muthumani, K.</u>, Gopalakrishnan, N. and Basu, D., 'Wavelet analysis and enhanced damage indicators', International Journal Smart Structures and Systems, Vol.3, No.1, January 2007, pp.23-49
- 21. Sreekala, R., Lakshmanan, N., <u>Muthumani, K.</u>, Sathish kumar, K. and Gopala Krishnan, N., "Evaluation of Damage Indices for RC Beams under Cyclic Loading a Simple Technique", Journal of Structural Engineering, Vol.34, No.1, May 2007, pp.1-9
- 22. Lakshmanan, N., Raghuprasad, B.K., Muthumani, K., Gopalakrishnan, N. and

- Sreekala, R., "Seismic Damage Estimation through Measurable Dynamic Characteristics", Computers and Concrete, an International Journal, Vol.4, No.3, June 2007, pp.167-186
- 23. Cinitha, A., <u>Muthumani, K.</u>, Samuel Knight, G.M., "Analytical and experimental investigation on dynamic characteristics of steel space frame model" Journal of Structural Engineering, Vol.34, No.3, August-September 2007, pp.195-200
- 24. Lakshmanan, N., Raghu Prasad, B K., <u>Muthumani, K.</u>, Gopala Krishnan, N. and Basu, D., "Damage Evaluation through Radial Basis Function Network (RBFN) Based Artificial Neural Network Scheme", Smart Structures and Systems, Vol.4(1), January 2008, pp.70-75
- 25. Lakshmanan, N., Raghu Prasad, B.K., <u>Muthumani, K.</u>, Gopala Krishnan, N. and Basu, D., "Identification of Reinforced Concrete Beam-like Structures subjected to Distributed Damage from Experimental Static Measurements", Computers and Concrete, Vol.5(1), January 2008, pp.90-110
- 26. Lakshmanan, N., Sathish Kumar, K., Sreekala, R., <u>Muthumani, K.</u>, Guru, J., and Gopala Krishnan, N., "Experimental investigations on the seismic response of a base isolated reinforced concrete frame model", Journal of Performance of Constructed Facilities, ASCE, Vol.22, No. 5 September/October 2008, pp.289-296
- 27. Raghuprasad, B.K., Lakshmanan, N., Gopalakrishnan, N. and <u>Muthumani, K.,</u> 'Sensitivity of eigen value to damage and its identification', Structural Durability and Heath Monitoring', Vol.4, No.3, 2008, pp.117-144
- 28. Sreekala, R., Muthumani, K., Lakshmanan, N., Gopalakrishnan, N. and Sathish kumar, K. 'Orthodontic arch wires for seismic risk reduction', Current Science, Vol.95, No.11, December 2008, pp.1593-1599
- 29. Antony Jeyasehar, C., Sathish kumar, K., <u>Muthumani, K.</u> and Lakshmanan, N., "Seismic performance evaluation methodologies for civil engineering structures', Indian Journal of Engineering & Material Sciences, Vol.16, No.4, August 2009, pp.220-228
- 30. Sreekala, R., <u>Muthumani, K.</u>, Sathish Kumar, K. and Gopalakrishnan, N., "Natural rubber latex modified fibre concrete, initial studies on structural performance", The Indian Concrete Journal, Vol.83, No.10, October 2009, pp.29-35.
- 31. Sreekala, R., Lakshmanan, N., <u>Muthumani, K.</u>, Meher Prasad, A. and Gopalakrishnan, N., "Aseismic design with pre-defined plastic hinges- a study", Asian Journal of Civil Engineering (Building and Housing)- an International Journal, Vol.10, No.6, 2009, pp.691-700
- 32. Sreekala, R., <u>Muthumani, K.</u>, Lakshmanan, N., Gopalakrishnan, N., Sathishkumar, K., Reddy, G.R. and Parulekar, Y.M., "A study on the suitability of NiTi wires for passive seismic response control", International Journal of Advanced Materials (JAM), vol 42,no.2, April,2010, pp 65-76
- 33. Sreekala, R., <u>Muthumani, K.</u>, Meher Prasad, A., Gopalakrishnan, N. and Sathishkumar, K., "Towards a sustainable infrastructure through smart dampers", Special Issue on Sustainable Built Environment, Journal of Structural Engineering, April-May 2010, Vol. 37, No.1, pp.61-65
- 34. Rama Rao, G.V., Sreekala, R., Gopala Krishnan, N., Sathishkumar, K., Muthumani, K. and Lakshmanan, N., "Coasting down signal analysis as a tool for detection of proximity of resonances and a case study", Engineering Failure Analysis, vol 18, January 2011, pp.340-35

- 35. Raghuprasad, B.K., Lakshmanan, N., Gopalakrishnan, N. and <u>Muthumani, K.</u>, 'Damage Identification of structures through simple and measurable indicators', International Journal of Structural Engineering World Congress, vol.1, No.1, 2011, pp.39-44
- 36. Sreekala, R., <u>Muthumani, K.</u>, Gopalakrishnan, N. and Sathish Kumar, K., "Modelling flexural behavior of polymer modified concrete" Journal of Building Research, Vol. 59, 2011, pp 53-66
- 37. Sreekala, R., Lakshmanan, N., <u>Muthumani, K.</u>, Gopalakrishnan, N. and Meher Prasad, A., "Development of a simplified damage model for beams aiding performance based seismic design", International Journal on Advances in Structural Engineering, Vol. 14, No. 2, April 2011, pp. 307-317
- 38. Rama Raju, K., Meher Prasad, A., <u>Muthumani, K.</u>, Gopalakrishnan, N., Nagesh R. Iyer and Lakshmanan, N. (2011) 'Experimental studies on use of toggle brace mechanism fitted with magneto-rheological dampers for seismic performance enhancement of three-storey steel moment-resisting frame model', *Structural Control and Health Monitoring*, On line: 11/10/2011, DOI: 10.1002/stc.499 (IF-0.961).
- 39. Sreekala, R., <u>Muthumani, K.</u>, Gopalakrishnan, N., Sathish Kumar, K., Rama Rao, G.V. and Nagesh, R. Iyer, "Seismic performance of polymer modified concrete in flexure Modelling" International Journal of Structural Engineering, Vol. 3., No. 4., Jan-Mar 2012, pp 298-310.(IF =0.37)
- 40. Sathish Kumar, K., Sundararajan, R., Antony Jeyasehar, C., Radhakrishnan, T. and Muthumani, K., "Seismic performance enhancement methodology for framed structure using supplemental damping", International Journal of Modern Engineering Research, vol 2., No.1., Jan-Feb, 2012, pp 134-140
- 41. Sathish Kumar, K., Antony Jeyasehar, C., <u>Muthumani, K.</u> and Nagesh, R. Iyer," Predictor corrector algorithm for pseudo dynamic testing towards seismic performance evaluation of structures" Journal of Structural Engineering, CSIR-SERC, vol. 39., 2012, pp 102-106
- 42. Sreekala, R., Meher Prasad, A.M. and <u>Muthumani, K.,</u> "An investigation into the liquid sloshing characteristics of ground anchored tank during lateral vibration" International Journal of Emerging Multi-disciplinary Fluid Sciences, Vol. 3, 2012, pp 99-116 (IF= 0.45)
- 43. Parulekar, Y. M., Reddy, G. R., Vaze, K. K., Guha, S., Gupta, C., <u>Muthumani, K.</u> and Sreekala R. (2012) 'Seismic response attenuation of structures using shape memory alloy dampers', *Structural Control and Health Monitoring*, Vol. 19, No. 1, pp. 102–119 (IF-0.961)
- 44. Lakshmanan, N., Ravisankar, K., <u>Muthumani, K.</u>, Krishnamoorthy, T.S., Ramanjaneyulu, K., Gopalakrishnan, N. and Nagesh R. Iyer (2012) 'Management and Maintenance Scheduling of Infrastructural Facilities A Road Map', *ASCE Journal of Performance of Constructed Facilities*, Vol. 26, No. 6, pp. 835-848 (IF-0.45).
- 45. Sathish Kumar, K., Antony Jeyasehar, C., and Muthumani, K., "A design methodology for supplemental damping for seismic performance enhancement of frame structure" Asian Journal of Civil Engineering (Building and Housing), vol 13, No. 5, October 2012, pp-659-678
- 46. Prakashvel, J., Uma Rani, C., <u>Muthumani, K.</u> and Gopalakrishnan, N., "Earthquake response of reinforced concrete frame with open ground storey" Bonfring Journal of Industrial and Engineering Science, Vol. 2, 2012, pp 91-101

- Sathish Kumar, K., Muthumani, K., Antony Jeyasehar, C., and Nagesh R. Iyer, " 47. Newmark implicit time integral for application in pseudo dynamic testing experimental verification" Asian Journal of Civil Engineering (Building and Housing), vol 13, No. 6, December 2012, pp-805-820
- Lakshmanan, N, Muthumani, K., and Gopalakrishnan, N., "Forensic engineering 48. for machine foundation", International Journal of Forensic Engineering, vol. 1, No 3/4, 2013, pp 301-319
- 49. Rama Raju, K., Meher Prasad, A.M., Muthumani, K., Gopalakrishnan, N., Nagesh, R. Iyer and Lakshmanan, N., "Experimental studies on use of toggle brace mechanism fitted with magneto rheological dampers for seismic performance enhancement of three story steel moment resisting frame model" Journal of Structural Control and Health Monitoring, Vol. 20, 2013, pp 373-386 (IF = 1.576)
- Rama Rao, G.V., Sreekala, R., Sathish Kumar, K., Gopalakrishnan, N., Muthumani, 50. K., Nagesh, R. Iyer., Lakshmanan, N. and Reddy, G.R., "Seismic response measurement of an underwater model through high speed camera and feature tracking" Experimental Techniques, 2013, DOI: 10.1111/ext.1204(IF=0.378)
- Rama Raju, K., Jame, A., Gopalakrishnan, N., Muthumani, K. and Nagesh R. Iyer, 51. " Experimental studies on seismic performance of three storey steel moment resisting frame model with scissor jack magneto rheological damper energy dissipating system" Journal of Structural Control and Health Monitoring, 2013, DOI: 10.1002/stc.1598 (IF = 1.544)
- 52. Sreekala, R., Gopalakrishnan, N., Muthumani. K., Sathish Kumar, K., Rama Rao, G.V. and Nagesh, R. Iyer, "Seismic protection of critical infra-structures through innovative technologies" International Journal if Critical Infrastructure, Vol9., 2013, pp 351-367
- 53. Sathish Kumar, K., Antony Jeyasehar, C., Muthumani, K. and Nagesh R. Iyer," Newmark implicit time integral for pseudo dynamic testing – mathematical verification", Asian Journal of Civil Engineering, Vol. 15, 2014, pp. 61-77
- Sreekala, R., Meher Prasad, A., Muthumani, K., Lakshmanan, N. and Nagesh. R. 54. Iyer," Near fault earthquakes and behavior of liquid storage tanks", Journal of Structural Engineering, vol 40., No. 5., Dec-2013-Jan-2014, pp 433-441
- 55. Rama Rao, G.V., Gopalakrishnan, N., Jaya, K.P., Muthumani, K., Reddy, G.R. and Parulekar, Y.M., "Studies on nonlinear behavior of shear walls of medium aspect ratio under monotonic and cyclic loading" Journal of performance of constructed facilities, ASCE (DOI 101214, ISSN 0887-3828/04014201(14)), 2014
- Rama Rao, GV, Gopalakrishnan, N., Jaya KP, Muthumani, K., Reddy GR, 56. Parulekar, YM., (2015) "Studies on Non-linear behaviour of shear walls of medium aspect ratios under monotonic and cyclic loading", ASCE Journal of Performance of Constructed Facilities.
- Ramya A, Muthumani K, Nafeez Ahmed,(2016)" Performance of Eccentrically 57. Braced Frames under the Action of Lateral Load" International Journal of Earth Sciences and Engineering, vol 9, No 1, pp 157-161
- Vaishnavi V. Battul and K. Muthumani, (2016) "Seismic Performance of Reinforced 58. Concrete Frame with plan Irregularity" Asian Journal of Civil Engineering, vol 17, No. 8, pp 1099-1110
- 59. S.Annamalai, S. Thirugnanasambandam and K. Muthumani, "Flexural behaviour of geopolymer concrete beams cured under ambient temperature" Asian Journal of Civil Engineering, vol 18., No. 4(2017), pp 621 - 631

- 60. S. Yogesh, J Lalhmangaiha, T. Santhi I. Yamini Sreevalli and K. Muthumani, "Stiffness degradation of RC beam by dynamic methods" Asian Journal of Civil Engineering, vol 18., No. 8 (2017), pp 1259-1270
- S.Brahma Naidu, I Yamini Sreevalli and K.Muthumani, "Computational methodologies for damage prediction and localization in bridges" International Journal of Civil Engineering and Technology, vol 9, No 4, April, 2018, pp 803-811
- 62. Somil Khattar and K.Muthumani, "Seismic performance of high-rise building" International Journal of Civil Engineering and Technology, vol 9, No 3, March 2018, pp 878-886
- 63. V. Swamynadh and K. Muthumani, "Properties of structural lightweight concrete containing treated oil palm shell as coarse aggregate" Asian Journal of Civil Engineering, Vol 19, No 6, September 2018, pp 673-678
- 64. V. Swamynadh and K.Muthumani, "Seismic performance of lightweight concrete structures" Advances in civil engineering, vol 2018 pp1-6
- 65. Naga Dheeraj Kumar Reddy Chukkaı · Muthumani Krishnamurthy, "Comparison of X-shaped metallic dampers with fluid viscous dampers and influence of their placement on seismic response of the building" Asian Journal of Civil Engineering, 2019.
- 66. S. Annamalai, S. Thirugnanasambandam and K. Muthumani, "Behaviour of environment friendly green concrete beams using fly ash and furnace slag under cyclic loading" International Journal of Environment and Waste Management, 2019, vol 23, No4,
- Muthumani Krishnamurthy\* and Swamy Nadh Vandanapu, "Micro-structural and interfacial transition zone investigation on oil palm shell lightweight concrete "International Journal of Microstructure and Materials Properties, Vol. 14, No. 5, 2019
- Naga Dheeraj Kumar Reddy Chukka and Muthumani Krishnamurthy, "Seismic performance assessment of structure with hybrid passive energy dissipation device" Structures (27)2020, pp1246-1259

## **Technical Papers (Conferences)**

- Srinivasulu, P., Lakshmanan, N., Thandavamoorthy, T.S. and <u>Muthumani, K.</u>, "An Experimental Study on the Non-linear Behaviour of Rubber Isolators under Dynamic Loading", VII European Earthquake Conference, Athens, Greece, September 1982
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#### **Annexure III**

## **Research Reports**

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