#### **Curriculum Vitae**



Dr.P.A.Krishnan has completed his Pre-degree from Calicut University in the year 1978, B.Tech in Civil Engineering from IIT Delhi in the year 1984. He completed his M.Tech in Engineering Mechanics from IIT Madras with Best Academic Record in the year 1986 and Ph.D from IIT Madras in the year 1991. He has joined in National Institute of Technology (formerly Regional Engineering College), Tiruchirappalli in the year 1990 and currently working as **Professor** in the Department of Civil Engineering. He has worked as Senior Research Assistant in the University of Liverpool, UK between 1997-1998.

He has guided more than 42 Post graduate projects works in various fields such as Structural Dynamics, Plates and Shells, Vibrational Analysis, Applied Mechanics, Numerical Methods and Composited materials. One Scholar has completed Ph.D and currently four Ph.D Scholars are working under his guidance. He has published 21 papers in International/National journals, 13 papers in International Conferences and more than 10 papers in National Level Conferences. He is actively involved in construction material testing consultancy works. And he is also a life member of the professional bodies – Indian Society for Technical Education and fellow in Institution of Engineers, India and Indian Geotechnical Society.

1.	Name	Dr.P.A.Krishnan
2.	Designation	Professor
3.	Office Address	Department of Civil Engineering,
		National Institute of Technology,
		Tiruchirappalli – 620015
4.	Telephone (Optional)	04312503158 (Direct)
	Mobile (Optional)	8129769531
5.	Email (Primary): pak@nitt.edu	Email (Secondary):
		p a krishnan@yahoo.com
6.	Field(s) of Specialization:	Applied Mechanics

### 7. Employment Profile

Job Title	Employer	From	То
Lecturer	REC, Trichy	1990	1997
Senior Research Assistant	University of Liverpool, UK	1997	1998
Assistant Professor	NIT Trichy	1999	2008
Professor	NIT Trichy	2008	Till date

#### 8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Subjects	
X	Kerala State Educational Board 1976 Al		All subjects	
Pre-Degree	Calicut University	1978	Physics, Chemistry and Maths Specialization	
B.Tech	IIT, Delhi	1984	Civil Engineering	
M.Tech	IIT, Madras	1986	Engineering Mechanics	
Ph.D	IIT, Madras	1991	Applied Mechanics	

#### 9. Academic/Administrative Responsibilities within the University

S.No	Name of the Activity	Year
1.	Acted as M.Tech Structural Engineering Coordinator	1
2.	Acted as Chairman of different class committees	1
3.	Acted as Coordinator of M.Tech projects	3
4.	Acted as member of PG Admission Committee	1
5.	Acted as member of M.S/Ph.D Admission Committee	1
6.	Involved in purchase of equipment for Structural Engineering  Lab, Strength of Materials lab and Survey Lab.	1
8.	TEQIP Books purchase Committee	1
9.	Arranged Class Seminars and Field Visits for students.	1

10.	Acted as member, Scrutinizing Committee for Lecturer Selection in Civil Engineering Department.	1
11.	Acted as 1 <sup>st</sup> year Co-Ordinator of Engineering Mechanics.	1
12.	Acted as Resource person for SESTRAD organized by Department of Civil Engineering, REC Trichy.	1
13.	Organized two day Workshop on Finite Elements methods for engineers on 1 <sup>st</sup> and 2 <sup>nd</sup> February 2007 under TEQIP Community Service.	1
14.	As QIP coordinator	1
15.	As Hostel Warden	1
16.	Currently guiding Ph.D. and M.S candidates	4

#### 10. Academic/Administrative Responsibilities outside the University

Position	Institution	Year
Member in Board of Studies	CUSAT, KOCHI	1

#### 11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
1986	Student with the best Academic Record in M.Tech in Engineering Mechanics.	IIT, Madras

### 12. Fellowships

S.No	Name of the Fellowship	Awarding Organization
1.	FIE	Institution of Engineers, India
2.	FIGS	Indian Geotechnical Society

#### 13. Details of Academic Work

- (i) Curriculum Development
- (ii) Courses taught at Postgraduate and Undergraduate levels
  - a) Structural Analysis
  - b) Advanced Strength of Material
  - c) Mechanics of Solids
  - d) Experimental Stress Analysis
  - e) Structural Dynamics
  - f) Theory of Elasticity And Plasticity
  - g) Theory of plates
  - h) Finite Element Methods
  - i) Engineering Mechanics
  - j) Basics Civil Engineering

#### iii)Projects guided at Postgraduate level

S.No	Name of the Thesis	Year
1.	Effect of Finite Sizes of Joints on Static and Dynamic Behaviour of Frames	1994
2.	An analytical study on the behavior of SSRC Plate under combined inplane and Lateral Load.	1995
3.	An Experimental Investigation on the Efficiency of Beam column joints	1995
4.	Analysis of Multistorey frames using Guyan Reduction Procedure.	1999
5.	Analysis of Plates Using Integral Equation Method	1999
6.	Analysis Of Rectangular Plates Using Stadd – Iii	1999
7.	Base Isolation of framed structures	2001
8.	Vibration of Shell Panels Using Integral Equation Method	2001
9.	Static Analysis of plates Using Three Noded Triangles	2002
10.	Analysis of thin Conical Shell panels Using Integral Equation Method	2002
11.	Vibration of Spherical panels Using Integral Equation method	2002
12.	Static Analysis of Hybrid Laminated Beams using Shear Deformation Theories	2003
13.	Analysis of Stiffened plates Using ANSYS 5.6.	2003
14.	Static and Dynamic Analysis of Orthotropic Triangular Plates	2003
15.	Analysis of Laminated Composite Plates using Integral Equation method	2003
16.	Integral Equation Schemes of Laminated Beams.	2003

17.	Static Analysis of Thick Plates Using Integral Equation method	2004
18.	Buckling of Plates subjected to Compressive In plane loading	2004
19.	Static and Dynamic Analysis of Laminated Composite Plates	2004
20.	Static and Dynamic Analysis of Thin plates by Finite Difference Method	2004
21.	Static Analysis of Steel and Laminated Composite Plates Using FE method based on Strain Approach.	2005
22.	Buckling and Ultimate Load Carry Capacity of Stiffened tapered Plates	2005
23.	Analysis of Laminated Plates	2006
24.	Performance Based Seismic Design of moment resistant Frames	2006
25.	Earthquake Analysis of Visco-elastic Damped Multi-storied Building	2006
26.	Analysis of Cylindrical Shells using Integral equation Technique	2006
27.	Vibration Laminated Composite Plates Using Finite Difference Method	2007
28.	Static and Dynamic Analysis of Homogeneous Isotropic Rectangular Plates using Finite Difference Method.	2007
29.	Analysis of Beams and Plates due to Moving Loads	2007
30.	3-Dimensional Time History Analysis of Multi-storey Buildings with ADAS Dampers	2007
31.	Analysis of Trapezoidal Corrugated Plates Using ANSYS – 11	2007
32.	Seismic Analysis of High Rise Buildings Considering the Effect of Floor Slabs	2007
33.	Free vibration Analysis of Bridge Trusses	2009
34.	Development of Plastic Hinges for Steel Concrete Composite Columns	2009
35.	Free Vibration Analysis of Clamped Laminated Cylindrical Panels using an Integral equation Method	2009
36.	Analysis of Laminated Plates subjected to Moving Load/mass	2009
37.	Analysis of Laminated Plates subjected to moving Oscillators	2010
38.	Analysis of Laminated Skew Plates Using Integral Equation Method	2010
39.	Push over Analysis of Steel-Concrete Composite Framed Structures	2010
40.	Three dimensional Vibration Analysis of Orthotropic Plates By using Radial Basis Functions	2010

41.	Analysis of Masonry Infilled RC and Steel Frames with Seismic Infill	2011
	Wall Isolator Subframe (SIWIS) System	-
42.	Free Vibration analysis of Laminated Composited Annular Plates	2011
43.	Study of Sandwich Beams with different Core Geometries Subjected to	2012
45.	One point loading	2012
44.	Analysis of Thick Plates Using Integral Equation Method	2011
		2011
45.	Stress Prediction At Composite L-Brackets at Bolt or Nut Connections	2013
46.	Free Vibration Analysis of Laminated Composite Circular Cylindrical	2013
10.	Shells	2012
47.	Free Vibration Analysis of Laminated Composite Plates with Cutouts	2013
48.	Interfacial Stress Analysis of Externally Plated Reinforced Concrete	2013
	Beams	2010
49.	Free Vibration Analysis of Composite Skew Plates	2013
50.	Behaviour of Piles Under Static and Dynamic Loads	2014
51.	Analysis of the Effect of Stiffener Profile On Buckling Strength in	2015
	Cylindrical Shells with Reinforced Cut Out	2012
52.	Free vibration Analysis of Isotropic and Laminated Composite	2015
	Cylindrically Curved Shell Panles	
53.	Free vibration Analysis of Square Plates with different crack	2015
	Configurations	
54.	Optimal sizing and placement of Inflatable Stiffeners in High Altitude	2015
	Airships	
	A comparision between Static Responses of Power- Law, Sigmoid,	
55.	Exponential Functionally Graded (FG) Shell Under Thermal Loading	2015
	Using Finite Element Method	
56.	Numerical Evaluation of Ferro Cement Panels using ABAQUS	2016
57.	Seismic Performance of RC Frames Retrofitted with CFRP at joints	2016
58.	Analysis of Functionally Graded Open Cylindrical Shell Structure Under	2016
50.	Thermal Loading	2010
59.	Buckling Analysis of Circular Plate with Shape Memory Alloys subjected	2016

	to both temperature and mechanical loading Using ABAQUS	
60.	Moment Gradient Factor of Mono-Symmetric Stepped I-Beams	2017
61.	Experimental Investigation and Strengthening of the Weaker Plane in a Profiled Composite Deck Slab	2017
62.	Finite Element Analysis of Concrete Filled Tubular Flanged Girder with Corrugated Web	2017
63.	Behavior of shells with corrugations	2017

#### 15. Number of B.Tech Project guided

S.No.	Name of thesis	Year
1.	Seismic and wind behavior of RC elevated water tank in various seismic zones to plot the graph of the critical reaction values	2015
2.	Comparison of fixed base and base isolation technique in a medium- rise building	2015
3.	Vibrational analysis of 2D bending Frame by Finite Element in MATLAB	2015

#### 16. Number of M.S Project guided

S.No	Name of Thesis	Year
1.	Finite Element Analysis of Girder Pin Connection	2018

#### 17. Number of Ph.Ds guided

S.No	Title of Ph.D Thesis	Year of Award
1.	"Studies on Strength and Behaviour of Retrofitted RCC Beams"	2011
2.	Behavioural Study and Strengthening of Steel Circular Hollow Cylinders with and without Circular Cut- outs and Dents.	2012 - Ongoing
3.	Seismic behavior of Frame with Friction Damper	2014 - Ongoing
4.	Experimental assessement of strengthening technique for brick masonry.	2015 - Ongoing

# 18. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Venue
16 <sup>th</sup> to 21 <sup>st</sup> August 1993	Environmental Impact Analysis of Water Resources Projects , CWRDM	CWRDM, Kozhikkode
19 <sup>th</sup> Oct to 1st Nov 1998.	AICTE Shortterm Course on Vibration Engineering	REC , Calicut
16 <sup>th</sup> to 27 <sup>th</sup> May 1994	Recent Developments in Analysis and Design of Offshore Structures	REC Calicut
17 <sup>th</sup> to 31 <sup>st</sup> May 1995	AICTE Shortterm Course on Systsem Simulation with Digital Computer with Special Emphasis on Project Management	REC Calicut
21 <sup>st</sup> to 51 <sup>st</sup> December 1999	Random Vibration and Application to Earthquake Engineering, IIT Kharagpur	IIT Kharagpur
11 <sup>th</sup> to 15 <sup>th</sup> July 2005	Probability Methods in Earthquake Engineering (PMEE 2005)	IIT Madras
28 <sup>th</sup> March 2007	Acted as a Resource person for SESTRAD	Department of Civil Engineering REC Trichy

# 19. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	No.of Participants	Sponsored by
Workshop on Finite Element Methods for Engineers	National	1 <sup>st</sup> and 2 <sup>nd</sup> February 2007	50	TEQIP

#### 20. Invited Talks delivered

S.No.	Name of the Topic	Date	Inviting Organization
1.	Random Vibration and applications to Earthquake Engineering.	21 <sup>st</sup> - 31 <sup>st</sup> Dec 1999	Department of Civil Engineering, IIT Karagpur.
2.	Finite Element Method	21 <sup>st</sup> - 23 <sup>rd</sup> March 2013	Department of Civil Engineering, NIT Trichy.

#### 21. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member )	Organization	Membership No.
FIE	Institution for Engineers, India	F-114118-6
MISTE	Indian Society for Technical Education	LM 13953
FIGS	Indian Geotechnical Society	LF 0505

#### 22. Publications

#### (A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year
R.S.Srinivasan, P. A. Krishnan	Vibration of Cylindrical Shell Panels	Journal of Sound and Vibration	114(3)	583-587	1987
R.S.Srinivasan, P. A. Krishnan	Vibration of Conical Shell Panels	Journal of Sound and Vibration	117(1)	153-160	1987

R.S.Srinivasan, P. A. Krishnan	Dynamic Analysis of Stiffened Shell Panels	Computers and Structures	33(3)	831-837	1989
R.S.Srinivasan, <b>P. A. Krishnan</b>	Dynamic Analysis of Layered Conical Shell Panel Using Integral Equation Technique	Computers and Structures	31(6)	897-905	1989
R.S.Srinivasan, P. A. Krishnan	Response of Orthogonally Stiffened Cylindrical Shell Panels	AIAA Journal	28(6)	1144- 1145	1990
R.S.Srinivasan, <b>P. A. Krishnan</b>	Integral Equation Technique Using Normal Mode Method for Nonlinear Random Vibration of Clamped Rectangular Plates	Probabilistic Engineering Mechanics	3(4)	204- 209	1990
R.S.Srinivasan, P. A. Krishnan	Application of Integral equation Technique to Nonlinear Stochastic Response of Rectangular Plates	Journal of Acoustical Society of America	88(5)	2277- 2283	1990
R.S.Srinivasan, P. A. Krishnan	Random Response of Thick Laminated Rectangular Plates	Journal of Vibration and Acoustics	113(3)	286-291	1991

J. Blachut, L.S. Ramachandra, <b>P.</b> <b>A. Krishnan</b>	Experimental and Numerical Investigation of Plastic Loads for Internally Pressurized Vessel Heads	Pressure Vessel and Piping Codes and Standards	Vol.360	345- 359	1998
P. A. Krishnan and Uma	Analysis of Rectangular Plates Using Integral equation Method	Journal of Structural Engineering, SERC Journal	27(4)	283-285	2001
P. A. Krishnan and Senthil Kumar	Static Analysis of Hybrid Laminated Beams Using Shear Deformation Theories	Journal of Structural Engineering, SERC Journal.	32(4)	327-332	2005
P. A. Krishnan and Smitha George	"Forced Response of Angle Ply Llaminates using Finite Difference Method	Institution of Engineers (India) Journal	Vol.88	28-33	2007
P. A. Krishnan and Simi Gopalan	Static and Dynamic Analysis of Cylindrical Shells using Integral equation Method	University Journal of Structural engineering	Vol.I No.1	76-81	2008
P. A. Krishnan and Ranjitha	Static and Dynamic Analysis of Rectangular Plates with Linearly Varying Thickness	Institution of Engineers (India) Journal	Vol.89	3-7	2009.
N.S.Padmavathy	Free vibration	International	Vol 08	1214-	2015

P.A.Krishnan and Bharath Reddy	Analysis of Prestressed Circular Cylindrical Shells using ABAQUS	Journal of Earth Sciences and Engineering	No.3	1221	
N.S.Padmavathy and <b>P.A.Krishnan</b>	Buckling Analysis of Circular Cylindrical Shells with Circular Cutouts	International Journal of Applied Engineering	Vol 10 No.62	408-412	2015
Thavamani Charles, P.A.Krishnan and V. Ramachandran	Finite Element Analysis of Girder Pin Connections	International Journal of Science and Research	Vol 5 Issue8	1229- 1234	2016
Vipin V. P, <b>P.A.Krishnan</b>	A Finite Element Study on the performance of corrugated Steel Sections under Compression	Journal of Engineering Technology & Innovative Research	Vol 4 Issue5	249-251	2017
Ravikiran and <b>P.A.Krishnan</b>	Finite Element analysis of Curved Steel Girders with Tubular Flanges	International Journals for Advanced research in Basic Engineering Science and Technology	Vol 3 Issue24		2017
Vipin V. P, <b>P.A.Krishnan</b>	Behaviour of Cylindrical Shells with Cut-outs	International Journals for Advanced research in Basic Engineering Science and Technology	Vol 3 Issue24		2017
Sadiq Ali and <b>P.A.Krishnan</b>	Optimization of Stepped I beams for Lateral Torsional	International Journals for Advanced research in Basic	Vol 3 Issue24		2017

	Buckling	Engineering Science and		
		Technology		
Sundararooban and <b>P.A.Krishnan</b>	Finite Element Modelling and Behaviour of profiled Composite deck slabs subjected to	International Journals for Advanced research in Basic Engineering Science and Technology	Vol 3 Issue24	2017
	Bending			

#### 23) <u>Conferences/Workshops/Symposia</u> <u>Proceedings</u>

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Venue	Year
J. Blachut, L.S. Ramachandra, <b>P.A. Krishnan</b>	Plastic and Shakedown Loads for Internally Pressurized Domes made from Strain Hardening materials	Proceeding,9 <sup>th</sup> International Conference On Pressure Veseel Technology	Sydney Australia,	April 2000
P.A.Krishnan, S. U. Mathangi and M. Asok Kumar	Effect of Damping in Base Isolated Framed Structures	2 <sup>nd</sup> National Conference on Recent Trends in Concrete Composites for Structural Systems	Kongu Engineering College, Perunthurai,	14 <sup>th</sup> and 15 <sup>th</sup> March 2007.
E. Satheesh kumar <b>P.A.</b> <b>Krishnan</b> and M. Ashok Kumar	Seismic Analysis of Visco- Elastic Damped Multi- storey Buildings	International Conference in Emerging Technologies and Science	Amogh Siddhi Educational Society, Maharashtra,	February 13 <sup>th</sup> and 14 <sup>th</sup> 2008.
P.A. Krishnan M. Ashok Kumar and S. Damodharan	Base Isolation of Framed Structures	National Conference of Emerging Technologies in Civil Engineering for Sustainable Development	SRKR College, Bhimavaram,	27 <sup>th</sup> to 29 <sup>th</sup> December 2006
P.A. Krishnan and Smitha	Vibration of Laminated	National Conference on Focus on Advances in	TKM College of Engineering,	1 <sup>st</sup> to 3 <sup>rd</sup> Feb. 2007

George	Composite Cross Ply Plates Using Finite Difference Method	Civil Engineering	Kollam,	
P.A.Krishnan	Free Vibration of Skew Laminated Plates using Integral Equation Method	TECHNOLOGIA , MPCCET, Bhilai	MPCCET, Bhilai	24 <sup>th</sup> and 25 <sup>th</sup> February 2010
P.A.Krishnan	Analysis of Laminated Plate Subjected to Moving Load	Technologia , MPCCET, Bhilai(Chattishgarh)	MPCCET, Bhilai	24 <sup>th</sup> and 25 <sup>th</sup> February 2010,
P.A. Krishnan and S. Parmar	A Comparative Study of Loading Resistant to Sandwich Beam panel	Recent Trends in Structural Engineering	Vijnana Jyothi Institute of Engineering and Technology, JNTU, Hyderabad	6 <sup>th</sup> and 7 <sup>th</sup> January 2012
B Shushoban and Dr. P.A. Krishnan	Free vibration analysis of stiffened shells	International Conference on Advances in Civil Engineering and Chemistry of Innovative Materials ACECIM	SRM University, Chennai.	March 2014
P.A.Krishnan and Fareed Kumar	Free Vibration Analysis of Composite Skew Plates	National Conference on Sustainable Development NCSDCE ' 14	Hindustan University of Technology and Science, Chennai	28 <sup>th</sup> March 2014
.S. Padmavathy, P.A.Krishnan and Bharath Reddy	Free Vibration Analysis of Prestressed Circular Cylindrical Shells using ABAQUS	National Conference on Advancements in Materials Construction and Sustainable Environment (AMCSE-2014)	Kalasalingam University	29 <sup>th</sup> March 2014
Aniruddh Maddi and P. A. Krishnan	Interfacial Stress Analysis of Externally Plated RC Beams	Futuristic Innovations and Emerging Trends in Civil Engineering FIETCE "14	Department of Civil Engineering, B.S.Abdurahman University, Chennai	5 <sup>th</sup> and 6 <sup>th</sup> May 2014

M.Sabareesan and P. A. Krishnan	Free Vibration analysis of edge cracked plate with different crack configurations	International Conference on Advances in Civil Engineering materials and process	(ICACEMAP - 2015), CIT	7-9 <sup>th</sup> January 2015
N.S.Padmavathy and <b>P. A.</b> <b>Krishnan</b>	Buckling analysis of circular Cylindrical Shells with Circular Cut- Outs	International Conference on Advances in Civil Engineering materials and process	(ICACEMAP - 2015), CIT	7-9 <sup>th</sup> January 2015
N.S.Padmavathy and <b>P. A.</b> <b>Krishnan</b>	Numerical analysis of Circular Hollow Sectioned Pipes with Cut-Outs	International Conference on Recent Trends in Engineering and material Science	(ICEMS 2016), Jaipur National University, Jaipur, Rajasthan, India.	17 <sup>th</sup> -19 <sup>th</sup> March 2016
Vipin .V.P, <b>P. A. Krishnan</b>	Behaviour of cylindrical shells with Cut-Outs	International Conference on Recent Trends in Engineering, Science and Technology	(ICRTEST-17), Sri Ramanathan Engineering College, Tirupur, TN	8 <sup>th</sup> – 9 <sup>th</sup> March 2017
Ravi Kiran and <b>P. A. Krishnan</b>	Finite Element analysis of curved Steel girders with Tubular Flanges	International Conference on Recent Trends in Engineering, Science and Technology	(ICRTEST-17), Sri Ramanathan Engineering College, Tirupur, TN	8 <sup>th</sup> – 9 <sup>th</sup> March 2017
Sadiq Ali and P. A. Krishnan	Optimisation of stepped I-Beams for Lateral Torsional Buckling	International Conference on Recent Trends in Engineering, Science and Technology	(ICRTEST-17), Sri Ramanathan Engineering College, Tirupur, TN	8 <sup>th</sup> – 9 <sup>th</sup> March 2017
Sundararooban and P. A. Krishnan	Finite Element Modeling of behavior of profiled composite Deck slabs subjected to bending.	International Conference on Recent Trends in Engineering, Science and Technology	(ICRTEST-17), Sri Ramanathan Engineering College, Tirupur, TN	8 <sup>th</sup> – 9 <sup>th</sup> March 2017