

Dr. K. Swaminathan

Professor
Department of Civil Engineering
National Institute of Technology Karnataka
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Education:

Ph. D. (Structural Engg.)
Indian Institute of Technology Bombay (IITB)
Mumbai-400 076. INDIA (2000)

M. E. (Structural Engineering)
Indian Institute of Science (IISc)
Bangalore-560012, INDIA, First Class (1984)

B. E. (Civil Engg.), Coimbatore Institute of Technology, Madras University
First Class with Distinction (1981)

Employment History:

i) Academics:

Held the following academic positions in the Dept. of Civil Engineering, National Institute of Technology Karnataka, Srinivasnagar Post, Mangalore-575025.

Professor

From 15-01-2008 to till date

Assistant Professor

From 12-06-2000 to 14-01-2008

Lecturer (Selection Grade)

From 30-10-1998 to 11-06-2000

Lecturer (Senior Grade)

From 17-07-1992 to 29-10-1998

Lecturer

From 15-07-1986 to 14-07-1992

ii) Industrial:

NCB cadre official Level M (Scientist)

From August 1984 to August 1985
National Council for Cement and Building Materials (NCB)
New Delhi, INDIA

Site Engineer (Civil works)

From August 1981 to June 1982
Tarapore Constructions Pvt. Ltd., Chennai, INDIA

iii) Administrative:

- As **Nodal officer (Civil works)** under the **World Bank** funded Technical Education Quality Improvement Programme (**TEQIP**) responsible for executing building works projects within the Institute (NITK) worth **two crore** rupees during the project period 2004-2007.
- As **Coordinator** established the Computer Aided Design Laboratory (CAD LAB-II) at the Divisional level at the cost of **one crore** rupees under the **World Bank** funded Technical Education Quality Improvement Programme (**TEQIP**) during the project period 2004-2007.
- As **Associate Dean (Academics)** at the Institute (NITK) for a period of three years during 2008-2011 under taken periodic revision of syllabus, course structures, rules and regulations etc. for the B. Tech Undergraduate Programme.
- As **Head of the Department** of Civil Engineering for a period of two years from April, 2019 – April, 2021

Honors and Awards:

- Invited as a Chairman to chair a session on *Structural Dynamics* in the International Conference on Structural Stability and Dynamics 2002 (ICSSD2002) held at Singapore, December 16-18, 2002.
- Invited as a Chairman to chair a session on *Composite Materials and Structures-II* in the AES-ATEMA 2011 Ninth International Conference on Advances and Trends in Engineering Materials and Their Applications held at Montreal, CANADA, August 1-5, 2011.
- IIT, Bombay research paper award 2010 for the publication titled Analytical Solutions for Free Vibration of Laminated Composite and Sandwich Plates based on Higher Order Refined Theory (Authors: T. Kant and K. Swaminathan) in the Journal Composite Structures in 2001.
- Reviewer for the following **International Journals**:
 - Composite Structures
 - Journal of Sound and Vibration
 - Journal of Mechanical Sciences
 - Composite Science and Technology
 - Mechanics of Advanced Materials and Structures
 - Composites – Part B (Engineering)
 - European Journal of Engineering
 - Institution of Engineers (India)-Civil Engineering Division
 - Advances in Mechanics and Applications of Industrial Materials

and many more National/International Journals.
- Reviewer for **Department of Science & Technology** (Govt. of India) to evaluate research project proposals.

- Expert member of the board of Union Public Service Commission (UPSC) Indian Engineering Service Examination (IES)
- Examiner for Ph. D. thesis evaluation in many universities in India.
- Central observer for **Central Board of Secondary Education** (CBSE) for conducting the All India Engineering Entrance Examination.
- Expert committee member in Civil Engineering for the **National Board of Accreditation** (NBA, Govt. of India) to accredit the Under Graduate (Civil Engineering) programme at various Indian Universities.

Countries Visited:

Australia, Canada, China, France, Hongkong, Malaysia, Mauritius, Singapore, South Africa, South Korea and USA.

Courses Taught:

Matrix Analysis of Structures (Postgraduate)

Finite Element Method (Postgraduate)

Theory of Plates (Postgraduate)

Stability of Structures (Postgraduate)

Design of RCC Structures (Undergraduate)

Design of PSC Structures (Undergraduate)

Finite Element Method (Undergraduate)

Computer Aided Design & Applications in Civil Engg. (Undergraduate)

Research Areas:

Computational Mechanics, Application of analytical and numerical methods (FEM) for stress, vibration and buckling analyses of fibre reinforced composite plates, Functionally Graded Material (FGM) Plates, Experimental and analytical (Using ANSYS) investigations on CFRP retrofitted concrete structural elements, Experimental investigations on Recycled Aggregate Concrete (RCA) and Concrete Technology.

Number of Ph. D. Thesis Supervised: 05

Number of Ph. D. Thesis Currently Supervising: 03

Number of Post Graduate Thesis Supervised: 68

List of Publications: Refer the complete list given at the end.

Sponsored Projects Undertaken:

1. Completed a research project titled “*Seismic vulnerability and Earthquake Resistant Design of Structures for South West Region of India*” sponsored under **MHRD R&D scheme**. Project cost is **Rs. 20.00 lakhs** for three years duration from **2003-2006**.

- Completed a research project titled “*Earthquake response characteristics of Masonry in-fill Panels*” sponsored by **BARC**. Project cost is **Rs. 25.00 lakhs** for three years duration from **2007-2010**.

Consultancy Areas:

Analysis and design of residential and commercial building. Diagnosis, repair and rehabilitation of structural elements. Non-destructive testing of concrete. Concrete mix design. Testing and quality control of various construction materials.

Membership of Professional and Scientific Bodies:

- Associate Member, Institution of Engineers (India), Calcutta
- Life Member, Indian Geotechnical Society, New Delhi
- Life Member, Indian Concrete Institute, Chennai
- Life Member, Indian Society for Technical Education, New Delhi
- Life Member, Indian Society for Theoretical and Applied Mechanics, Kharagpur

List of Publications

a) Peer Reviewed International Journals:

- Kant, T. and **Swaminathan, K.** ‘Estimation of Transverse/Interlaminar stresses in Laminated Composites – A Selective Review and Survey of Current Developments’, *Composite Structures*, 49(1), 65-75, 2000.
- Kant, T. and **Swaminathan, K.** ‘Free Vibration of Isotropic, Orthotropic and Multilayer Plates Based on Higher Order Refined Theories’, *Journal of Sound and Vibration*, 241(2), 319-327, 2001.
- Kant, T. and **Swaminathan, K.** ‘Analytical Solutions Using a Higher Order Refined Theory for the Stability Analysis of Laminated Composite and Sandwich Plates’, *Structural Engineering and Mechanics, An International Journal*, 10(4), 337-357, 2000.
- Kant, T. and **Swaminathan, K.** ‘Analytical Solutions for Free Vibration of Laminated Composite and Sandwich Plates Based on a Higher Order Refined Theory’, *Composite Structures*, 53(1), 73-85, 2001.
- Kant, T. and **Swaminathan, K.** ‘Analytical Solutions for the Static Analysis of Laminated Composite and Sandwich Plates Based on a Higher Order Refined Theory’, *Composite Structures*, 56(4), 329-344, 2002.
- Swaminathan, K.** and Ragounadin, D. ‘Analytical Solutions Using a Higher Order Refined Theory for the Static Analysis of Antisymmetric Angle Ply Composite and Sandwich Plates’, *Composite Structures*, 64(3-4), 405-417, 2004.
- Swaminathan, K.**, Patil, S. S., Nataraja, M. S. and Mahabaleshwara, K. S. ‘Bending of sandwich plates with antisymmetric angle ply face sheets - Analytical evaluation of higher order refined computational models’, *Composite Structures*, 75(1-4), 114-120, 2006.

8. **Swaminathan, K.**, Patil, S. S. ‘Higher order computational model with 12 degrees of freedom for the stress analysis of antisymmetric Angle Ply Plates - Analytical Solutions’, *Composite Structures*, 80(4), 595-608, 2007.
9. **Swaminathan, K.**, Patil, S. S. ‘Analytical Solutions Using a Higher Order Refined computational model with 12 degrees of freedom for the Free Vibration Analysis of Antisymmetric Angle Ply Plates’, *Composite Structures*, 82(2), 209-216, 2008.
10. **Swaminathan, K.**, Patil, S. S. ‘Higher Order Refined Computational Models for the Free Vibration Analysis of Antisymmetric Angle Ply Plates’, *Journal of Reinforced Plastics and Composites*, 27(5), 541-553, 2008.
11. **Swaminathan, K.**, and Sangwai, G. R. ‘Higher Order Model with 9 DOF for the Transverse Stress Analysis of Antisymmetric Angle Ply Laminated Composite Plates’, *International Journal of Earth Sciences and Engineering*, 2(4), 367-375, 2009.
12. **Swaminathan, K.**, and Govind R. Sangwai. ‘Transverse Stresses in Antisymmetric Angle Ply Sandwich Plates – Analytical Evaluation of Refined Higher Order Shear Deformation Theories’, *Advanced Materials Research*, Vol. 123-125, 599-602, 2010.
13. **Swaminathan, K.** and Naveenkumar D. T. “Analytical Solutions Using a Higher-Order Refined Theory for the Static Analysis of Functionally Graded Material Plates.” *Advanced Materials Research*, 705, 30-35, 2013.
14. **Swaminathan K.** and Naveenkumar D. T. “Assessment of First Order Computational Model for Free Vibration Analysis of FGM Plates.” *International Journal of Scientific and Engineering Research*, 4(5), 115-118, 2013.
15. **Swaminathan K.** and Naveenkumar D. T. “Computational Model for the Transverse Stress Analysis of FGM Plates – An Assessment.” *International Journal of Earth Science and Engineering*, 6(4), 122-131, 2013.
16. **Swaminathan K.** and Naveenkumar D. T. “Free Vibration Analysis of Single and Multilayered Sandwich FGM Plates - Assessment of Higher Order Refined Theories.” *Applied Mechanics and Materials*, 467, 300-305, 2013.
17. **Swaminathan, K.** and Reginald Fernandes. ‘Higher order computational models for the thermo-elastic analysis of cross-ply laminated composite plates’, *International Journal of Scientific and Engineering Research*, 4(5), 119-122, 2013.
18. **Swaminathan K.** and Naveenkumar D. T. “Higher Order Refined Computational Models for the Stability Analysis of FGM plates – Analytical Solutions.” *European Journal of Mechanics - A/Solids*, 47, 349-361, 2014.
19. **Swaminathan K.**, Naveenkumar D. T., Zenkour A. M., and Carrera E. “Stress, Vibration and Buckling Analyses of FGM Plates – A State-of-the-art Review” *Composite Structures*, 120, 10-31, 2015.
20. **Swaminathan K.** and Sangeetha D.M. “Thermo-Elastic Analysis of FGM Plates based on Higher Order Refined Computational Model” *International Journal of Research in Engineering and Technology*, 4(13), 1-6, 2015.

21. **Swaminathan K.** and Sangeetha D.M. “Temperature Dependent and Independent Material Properties of FGM Plates” *IOSR Journal of Mechanical and Civil Engineering*, 2, 84-88, 2015.
22. **Swaminathan K.** and Sangeetha D.M. “Thermal Analysis of FGM Plates – A Critical Review of Various Modelling Techniques and Solution Methods” *Composite Structures*, 160, 43-60, 2017.
23. **Swaminathan, K.**, Sachin, H., and Rajanna, T. ‘Vibration and Stability Characteristics of Functionally Graded Sandwich Plates with / without Porosity Subjected to Localized Edge Loadings’, *Mechanics Based Design of Structures and Machines*, 2022.
24. **Swaminathan, K.**, Sachin, H., and Rajanna, T. ‘Influence of Porosity and Nonuniform in-plane Edge Loads on Vibration and Buckling Response of Power Law and Sigmoid Function Based FG Sandwich Plates with Geometrical Discontinuities’, *Mechanics Based Design of Structures and Machines*, 2022

b) Peer Reviewed International Conference Proceedings:

1. Kant, T. and **Swaminathan, K.** ‘Comparison of Shear Deformation Theories for the Bending Analysis of Laminated Composite Plates’, *Proc. International Conference on Theoretical, Applied and Experimental Mechanics, (ICTACEM98)* held at I. I. T., Kharagpur, INDIA, Dec. 1-5, 1998.
2. Kant, T. and **Swaminathan, K.** ‘Few Higher Order Displacement Models for Stretching-Bending Behaviour of Sandwiches’, *Proc. Fourth Asia-Pacific Conference on Computational Mechanics for the Next Millenium (APCOM '99)* held at SINGAPORE, Dec. 15-17, 1999.
3. **Swaminathan, K.** ‘Free Vibration of Isotropic, Orthotropic and Multilayer Composite Plates – Analytical Evaluation of Higher Order Displacement Models’, *Proc. International Conference on Advances in Composite – 2000 (ADCOMP2000)* held at Bangalore, INDIA, August 24-26, 2000.
4. Kant, T. and **Swaminathan, K.** ‘Basic Composite Mechanics – Recent Results’, *Proc. Indo-German Workshop on High Temperature Fibre Composite Materials* held at Institute of Technology, Banaras Hindu University, Varanasi, INDIA, September 11-15, 2000.
5. **Swaminathan, K.** ‘Higher Order Models for the Bending Analysis of Laminated Sandwich Plates’, *Proc. International Conference on Industrial Mathematics (ICIM2001)* held at I. I. T. Madras, Chennai, INDIA, August 12-14, 2001.
6. **Swaminathan, K.** ‘Analytical Evaluation of Higher Order Models for the Stress Analysis of Laminated Sandwich Plates’, *Proc. International Conference on Computational and Mathematical Methods in Science and Engineering (CMMSE2002)* held at Alicante, SPAIN, September 20-25, 2002.
7. **Swaminathan, K.** ‘Higher Order Refined Theories for the Free Vibration of Multilayer Sandwich Plates’, *Proc. International Conference on Structural Stability and Dynamics 2002 (ICSSD2002)* held at SINGAPORE, December 16-18, 2002.

8. **Swaminathan, K.** and Nagapraveen, M. ‘Higher Order Refined Theory for the Stress Analysis of Angle Ply Composite and Sandwich Plates’, *Proc. International Conference on Structural Engineering, Mechanics and Computation (SEMC 2004)* held at University of Cape Town, SOUTH AFRICA, July 5-7, 2004.
9. **Swaminathan, K.** and Ragounadin, D. ‘Higher Order Displacement Model for the Static Analysis of Antisymmetric Angle Ply Composite and Sandwich Plates’, *Proc. International Conference on Recent Advances in Composite Materials (ICRACM 2004)* held at BHU, Varanasi, INDIA, Dec. 17-19, 2004.
10. **Swaminathan, K.**, Patil, S. S. and Dinesh Shetty. ‘Stress Analysis of Antisymmetric Angle Ply Laminated Plates - Analytical Solutions Using Higher Order Refined Computational Models’, *Proc. The Third International Conference on Advances in Structural Engineering and Mechanics (ASEM '04)* held at Seoul, SOUTH KOREA, Sep. 2-4, 2004.
11. **Swaminathan, K.**, Patil, S. S., Nataraja, M. S. and Mahabaleshwara, K. S. ‘Bending of Sandwich Plates with Antisymmetric Angle Ply Face Sheets - Analytical Evaluation of Higher Order Refined Computational Models’, *Proc. 13th International Conference on Composite Structures (ICCS-13)* held at Monash University, Melbourne, AUSTRALIA, Nov. 14-16, 2005.
12. **Swaminathan, K.** and Patil, S. S. ‘Higher Order Refined Computational Model for the Free Vibration Analysis of Antisymmetric Angle Ply Laminated Plates’, *Proc. 2nd International Congress on Computational Mechanics and Simulation (ICCMS-06)* held at I. I. T. Guwahati, Assam, INDIA, Dec. 8-10, 2006.
13. **Swaminathan, K.** and Patil, S. S. ‘Free Vibration of Antisymmetric Angle Ply Plates - Analytical Evaluation of Higher Order Refined Computational Models’, *Proc. 2nd International Conference on Recent Advances in Composite Materials (ICRACM-07)* held at India Habitat Centre, New Delhi, INDIA, during Feb. 20-23, 2007.
14. Manjunath, T. L., Sangwai, G. R. and **Swaminathan, K.** ‘Static Analysis of Antisymmetric Angle Ply Plates Using Higher Order Computational Model with Four Degrees of Freedom’, *Proc. International and INCCOM-6 Conference on Future Trends in Composite Materials and Processing* held at I. I. T. Kanpur, INDIA, Dec. 12-14, 2007.
15. **Swaminathan K.**, Sangwai Govind R. ‘Transverse Stress Analysis of Antisymmetric Angle Ply Plates - Assessment of Higher Order Refined Computational Models’ *Proc. 2nd International Symposium on Advance Materials and Polymers for Aerospace and Defense Applications (SAMPADA-2008)* held at University of Pune, Pune, INDIA, Dec. 08-12, 2008.
16. **Swaminathan K.**, Sangwai Govind R. ‘Higher Order Computational Model for the Stress Analysis of Antisymmetric Angle Ply Composite Plates’, *Proc. International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering (ISRS – 2008)* held at Indian Institute of Technology, Chennai, INDIA, December 10-12, 2008.
17. **Swaminathan K.**, Sangwai Govind R. ‘Higher Order Computational Model with 12 DOF for the Stress Analysis of Antisymmetric Angle Ply Composite Plates’, *Proc. SAMPE EUROPE – 30th International Jubilee Conference and Forum – SEICO 09* held at Paris, FRANCE, March 23-25, 2009.

18. **Swaminathan K.**, Sangwai Govind R. ‘Transverse Stresses in Antisymmetric Angle Ply Plates – Assessment of Shear Deformation Theories’, *Proc. 15th International Conference on Composite Structures (ICCS-15)* held at Porto, PORTUGAL, June 15-17, 2009.
19. **Swaminathan, K.**, Lavanya, Y. and Anup Bhansali, ‘Geometric Nonlinear Analysis of Multilayered Antisymmetric Angle Ply Plates Using FSDT’, *Proc. International Conference on Mathematical Modeling and Nonlinear Equations* held at B. N. M. Institute of Technology, Bangalore, INDIA, Jan. 20-22, 2010.
20. **Swaminathan K.**, Sangwai Govind R. ‘Transverse Stresses in Antisymmetric Angle Ply Sandwich Plates – Analytical Evaluation of Refined Higher Order Shear Deformation Theories’, *Proc. 3rd International Conference on Multi-Functional Materials and Structures* held at Jeonju, SOUTH KOREA, Sep. 14-18, 2010.
21. **Swaminathan K.**, Chetana, H. A. and Goudappa Biradar. ‘Experimental Study on the Shear Strengthening of RC Beams Using Externally Bonded Carbon Fiber Reinforced Polymer Sheets’, *Proc. Ninth AES-ATEMA’2011 International Conference – Advances and Trends in Engineering Materials and Their Applications* held at Montreal, CANADA, Aug. 01-05, 2011.
22. **Swaminathan K.**, Anup Bhansali and Suprabhat Jakati. ‘Bending of Functionally Graded Plates – Analytical Evaluation of First Order Computational Model’, *Proc. International Conference on Advances in Civil Engineering (ACE-2011)* held at K. L. University, Vaddeswaram, Andhra Pradesh, INDIA, Oct. 21-23, 2011.
23. **Swaminathan K.** and Naveenkumar D. T. “Computational Model for the Transverse Stress Analysis of FGM Plates – An Assessment.” *Proc. of 3rd International Engineering Symposium (IES-2013)*, Kumamoto University, JAPAN, March 4-6, 2013.
24. **Swaminathan, K.**, Goudappa Biradar and Sandeep Uppar. ‘Shear Strengthening of Precracked RC Bbeams Using Carbon Fibre Reinforced Polymer Strips’, *Proc. UKIERI International Conference on Innovations in Concrete Construction*, held at Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India, March 5-8, 2013.
25. **Swaminathan K.** and Naveenkumar D. T. “Analytical Solutions Using a Higher-Order Refined Theory for the Static Analysis of Functionally Graded Material Plates.” *Proc. of International Conference on MEMS and Mechanics(MEMSM2013)*, Wuhan, CHINA, March 15-16, 2013.
26. **Swaminathan K.** and Naveenkumar D. T. “Assessment of First Order Computational Model for Free Vibration Analysis of FGM Plates.” *Proc. of International Conference on Innovations in Civil Engineering(ICICE2013)*, SCMS School of Engineering and Technology, Ernakulam, Kerala, INDIA, May 9-10, 2013.
27. **Swaminathan K.** and Naveenkumar D. T. “Higher Order Refined Computational Models for the Stress Analysis of FGM Plates – Analytical Solutions.” *Proc. of the 9th international conference on Fracture & strength of Solids*, Jeju, SOUTH KOREA, June 9-13, 2013.
28. **Swaminathan K.** and Naveenkumar D. T. “Free Vibration Analysis of Single and Multilayered Sandwich FGM Plates - Assessment of Higher Order Refined Theories.”

Proc. 2013 International Conference on Material Science and Mechanical Engineering (ICMSME 2013), Kuala Lumpur, MALAYSIA, Oct. 27-28, 2013.

29. **Swaminathan, K.** and Reginald Fernandes. ‘Thermal stress analysis of anti-symmetric angle-ply laminated composite plates using first order shear deformation theory’, *Proc. First International Conference on Emerging Trends in Mechanical Engineering (ICETME 2013)* held at Vallabh Vidyanagar, Gujarat, INDIA, Jan. 4-5, 2013.
30. **Swaminathan, K.** and Reginald Fernandes. ‘Higher order computational models for the thermo-elastic analysis of cross-ply laminated composite plates’, *Proc. International Conference on Innovation in Civil Engineering (ICICE 2013)*, held at Ernakulam, Kerala, INDIA, May 9-10, 2013.
31. **Swaminathan, K.** and Reginald Fernandes. ‘Analytical Solutions for the Thermo-Elastic Analysis of Antisymmetric Angle Ply Plates – An Assessment’, *Proc. The 9th International Conference on Fracture and Strength of Solids*, held at Jeju, SOUTH KOREA, June 9-13, 2013.
32. **Swaminathan, K.** and Reginald Fernandes. ‘Bending, Vibration and Stability Analyses of Thermally Stressed Antisymmetric Angle Ply Laminated Plates Based on Higher Order Refined Theories’, *Proc. First International Conference on Mechanics of Composites MECHCOMP2014* held at Stony Brook University, New York, USA, June 8-12, 2014.
33. **Swaminathan, K.**, Appu Managoli and Sangeetha, D. M., “Experimental Studies on The Properties of Recycled Aggregate and Recycled Aggregate Concrete”, *Proc. International Conference on Recent Advances in Civil Engineering ICRAACE’16* held at Cochin University of Science and Technology, Cochin, Kerala, INDIA, Jan 14-16, 2016.
34. **Swaminathan, K.** and Sangeetha, D. M., “The Effect of Higher Order Model on the Geometric Nonlinear Analysis of Antisymmetric Angle Ply Laminates”, *Proc. ASME 2016 International Conference on Civil, Mechanical and Environmental Engineering Technologies ICCMEET – 2016* held at College of Engineering, Coimbatore, Tamil Nadu, INDIA, Feb. 26-27, 2016.
35. **Swaminathan, K.** and Sangeetha, D. M., “Higher Order Computational Models for the Thermo-Elastic Analysis of FGM Plates – An Assessment”, *Proc. 2nd International Conference on Advanced Composite Materials, ACM-2016* held at Suzhou, CHINA, July 25-27, 2016.
36. **Swaminathan, K.** and Sangeetha, D. M., “Higher Order Refined Computational Models for the Thermo-Elastic Analysis of FGM Plates”, *Proc. International Conference on Structural Engineering, Mechanics and Computation SEMC-2016* held at University of Cape Town, SOUTH AFRICA, Sep. 5-7, 2016.
37. **Swaminathan, K.**, Sachin, H., and Rajanna, T. ‘Buckling analysis of functionally graded materials by dynamic approach’, *Proc. of 4th International Conference on Advanced Research in Mechanical, Materials and Manufacturing Engineering, (ICAMMME)* held at REVA UNIVERSITY, Bangalore, INDIA, July 9-13, 2020.

38. **Swaminathan, K.**, Sachin, H., and Rajanna, T. ‘Effect of initial stresses on vibration behavior of functionally graded materials’, *Proc. of 4th International Conference on Advanced Research in Mechanical, Materials and Manufacturing Engineering, (ICAMMME)* held at REVA UNIVERSITY, Bangalore, INDIA, July 9-13, 2020.
39. **Swaminathan K.**, Sachin H., and Rajanna T. ‘Buckling response of functionally graded material plates with cutouts subjected to linearly varying loads’, *Proc. of 1st Online Recent Advances in Computational and Experimental Mechanics, (ICRACEM)* held at I. T., Kharagpur, INDIA, September 4-6, 2020.
40. **Swaminathan K.**, Sachin H., and Rajanna T. ‘Effect of porosity distribution on vibration and stability characteristics of FGM plates subjected to nonlinearly varying edge loads’, *Proc. of 4th International Conference on Advances in Structural Mechanics and Applications, (ASMA)* held at N.I.T Silchar, INDIA. October 6-8, 2021.
41. **Swaminathan K.**, Sachin H., and Rajanna T. ‘Influence of porosity and temperature load on buckling characteristics of functionally graded material plates’, *Proc. of 13th International Symposium on Plasticity and Impact Mechanics, (IMPLAST)* held at I.I.T Madras, INDIA. August 21-26, 2022.

c) Peer Reviewed National Conference Proceedings:

1. **Swaminathan, K.**, Patil, S. S. and Arumugam, P. ‘Higher Order Model for the Transverse Stress Analysis of Antisymmetric Angle Ply Laminated Composite Plates’, *Proc. 51st Congress of ISTAM* held at College of Engineering, Andhra University, Visakapatnam, Dec. 18-21, 2006.
2. **Swaminathan, K.** and Patil, S. S. ‘Higher Order Refined Computational Model for the Free Vibration of Angle Ply Plates - Analytical Formulations and Solution Method’, *Proc. National Symposium on Mathematical Methods and Applications (NSMMA 2004)*, held at IIT Madras, Chennai, Dec. 22, 2004.
3. **Swaminathan, K.** and Patil, S. S. ‘Bending of Orthotropic Plates - Analytical evaluation of Higher Order Refined Computational Models’, *Proc. National Conference on Structural Engineering and Mechanics (SEM - 2004)* held at BITS Pilani, Sep. 24-25, 2004.
4. **Swaminathan, K.** and Patil, S. S. ‘Higher Order Refined Computational Model for the Stress Analysis of Angle Ply Plates - Analytical Formulations and Solution Method’, *Proc. National Symposium on Mathematical Methods and Applications (NSMMA 2003)*, held at IIT Madras, Chennai, Dec. 22, 2003.
5. **Swaminathan, K.**, Sangwai, G. R. and Sindhoor Hegde. ‘Bending of Antisymmetric Angle Ply Multilayered Plates - Analytical Evaluation of First and Higher Order Models’, *Proc. 52nd Congress of ISTAM* held at B. N. M. Institute of Technology, Bangalore, Dec. 14-17, 2007.
6. **Swaminathan K.**, Sangwai G. R., Vagish H. V., Raghavendra C. ‘Finite Element Solutions for the Transverse Stress Analysis of Laminated Composite Plates’, *Proc. 53rd*

Congress of ISTAM, held at University College of Engineering, Osmania University, Hyderabad, December 27-30, 2008.

7. **Swaminathan K.** and Goudappa Biradar. ‘Design Shear Strength of Concrete – Experimental Verification of IS: 456-2000 Code Provision’, *Proc. National Conference on Contemporary Civil Engineering Research & Practices(CCERP-2012)* held at Manipal University, Manipal, India, April, 20-21, 2012.
8. **Swaminathan K.** and Sangeetha D. M., ‘Temperature Dependent and Independent Material Properties of FGM Plates’, *Proc. National Conference on Innovation in Engineering Science and Technology NCIEST-2015* held at Rajarshi Shahu College of Engineering, Pune, India, Dec, 28-29, 2015.