





Anantray Parghi, PhD, P.Eng., C.Eng.

Department of Civil Engineering | Associate Professor

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EXECUTIVE SUMMARY

- **20+ years of structural engineering research and consulting experience**, high-performance and fibre reinforced concretes, seismic analysis, design, structural inspection, vetting, and calculation using a variety of tools, including **STADD Pro, ETABS, SAP2000, SeismoStruct, AutoCAD, and MS Office Suite**.
- Hands-on experience using **CSA-A23.3, CSA-S16, CSA-S806, CSA-S6, NBCC, ACI-318, ASTM, EC2, EC3 and EC4, IS-456 & IS-1893, IS-13920, IRC:112, IRC-24**.

EMPLOYMENT HISTORY: TEACHING, RESEARCH, AND CONSULTING EXPERIENCE**12/2023-present****Associate Professor**

Department of Civil Engineering | National Institute of Technology, Surat, INDIA

Teaching & Research/PhD Supervision

- Supervising **PhD-8 Master- 02** students in Civil-Structural Engineering
- Writing technical reports, technical specifications, journal and conference articles
- Organized a **7-structural engineering technical workshop** of one week's duration
- Teaching in UG and PG students of Civil-Structural Engineering

Administrative Works

- In charge of high-head structures laboratory, materials test laboratory, experimental stress analysis laboratory, departmental library, and computer laboratory

Consulting Works

- Consulting projects, in the area of seismic assessment, repair, and rehabilitation
- Physical testing of building materials
- Analysis and design, proof check of structural calculation and drawings-06
- Writing technical reports and project proposals
- Inspection and evaluation of existing facilities and structures

2007-07-12/2023**Assistant Professor**

Department of Civil Engineering | National Institute of Technology, Surat, INDIA

Teaching & Research/PhD Supervision**Administrative Works****Consulting Works****2017/01-2018/02****Post-Doctoral Fellow**

Department of Civil Engineering | University of Manitoba, MB, CANADA

Research

- Co-supervising PhD and Master's theses in Structural Engineering
- Writing technical reports, journal articles, conference articles, and research grant proposals
- Experimental and numerical investigation of structural elements retrofitted using FRP
- Reviewer in Peer-Reviewed technical journals-15 and conferences-3
- Coordination with lab manager, technicians, and graduate students

2011/09-2016/08**Research Assistant**

Faculty of Applied Science | The University of British Columbia, BC, CANADA

Teaching & Research

- Teaching undergraduate courses-**04** in Civil-Structural Engineering
- Writing technical reports, technical specifications, journal and conference articles
- Faculty advisor for the Capstone Project-**08**
- Filed **2 Patents**, published **10 Journals**, **50 Conference** articles, and **3 Book Chapters**

2011/09-2016/08**Research Engineer**

PolyRAP Pavement System Ltd., BC, CANADA

- Conducted experimental and numerical investigation of composite materials-**04**
- Writing technical reports, grant proposals, conference and journal articles-**04**

2007/01-2007/07**Research Assistant**

Department of Civil Engineering | Indian Institute of Technology (IIT) Roorkee, INDIA

Teaching & Research

- Teaching undergraduate courses in Civil-Structural Engineering
- Experiment and numerical investigation of structural elements

2006/06-2006/12 Lecturer

Department of Civil Engineering | South Gujarat University, Navsari, INDIA

- Teaching undergraduate courses in Civil-Structural Engineering-04
- Supervised final year undergraduate

2004/07-2006/06 Research Assistant

Department of Applied Mechanics | National Institute of Technology, Surat, INDIA

Teaching & Research

- Teaching undergraduate courses in Civil-Structural Engineering
- Conducted experimental and numerical investigation of structural elements

2001/03-2002/04 Assistant Engineer

Road and Building Department | Government of Gujarat, Rajkot, INDIA

- Earthquake reconnaissance survey of buildings/bridges during the Bhuj-2001 Earthquake
- Repair, rehabilitation, and damage assessment of residential and commercial buildings
- Site supervision, estimation, and costing of new construction of residential buildings

EDUCATION

University of Manitoba, MB, CANADA

Post-Doctoral Fellowship: 2017-2018

(i) Seismic performance of columns retrofitted with sprayed-FRP

(ii) Performance-based seismic design guidelines for sprayed-FRP retrofitted circular reinforced concrete bridge columns

Supervisor: Professor Ehab El-Salakawy, PhD, P. Eng.

The University of British Columbia, BC, CANADA

PhD Civil-Structural Engineering: 2011-2016

Thesis: Seismic performance evaluation of circular reinforced concrete bridge piers retrofitted with fibre-reinforced polymer

Supervisor: Professor M. Shahria Alam, PhD, P. Eng.

National Institute of Technology, INDIA

M.Tech. Civil-Structural Engineering: 2004-2006

Thesis: An experimental study of the exterior beam-column junction on the behavior of SFRC subjected to cyclic loading

Supervisor: Professor C. D. Modhera

L.E. College Morbi (Saurashtra University), INDIA

B. Eng. Civil-Structural Engineering: 2001-2004

Thesis (i) Design of diversion head works (ii) Design of water treatment plant

Supervisor: Professor B. M. Vadher

Government Polytechnic Jamnagar (TEB, Gandhinagar), INDIA

Diploma: Civil Engineering: 1998-2000

Thesis: Colony planning of residential building in Gujarat State, India

Supervisor: Professor D. P. Trivedi

AWARDS AND SCHOLARSHIPS

2017-2018 Mitacs Accelerate Postdoctoral Fellowship, University of Manitoba, Winnipeg, Canada

2016-2018 Mitacs Elevate Postdoctoral Fellowship, University of British Columbia, Kelowna, Canada (Declined)

2016S University Graduate Fellowship, UBC, Okanagan, Canada

2016S Special University of BC Okanagan Graduate Scholarship, UBC, Okanagan, Canada

2016 E-Ph.D. (Entrepreneurial-Ph.D. Prize) Prize, UBC, Vancouver, Canada

2015 CSCE Young Professional Travel Bursary, Annual Conference-2015, Regina

2014-2016	Mitacs-Accelerate Ph.D. Fellowship at the UBC, Okanagan, Canada
2013-2014	NSERC Ph.D. Fellowship at the UBC, Okanagan, Canada
2013	Best Poster Presentation Award in the 3 rd Annual Graduate Research Poster Competition, at the University of British Columbia, Canada
2011-2016	International Partial Tuition Scholarship, the University of British Columbia, Canada
2011	Ph.D. Scholarship, IIT Bombay, Quality Improvement Program, Declined
2010	Award of Scholarship for the Selection Year 2008-09 under the Scheme of National Overseas Scholarship by the Government of India for the Doctoral Study
2007-2007	Ph.D. Scholarship, IIT Roorkee, Ministry of Human Resources Development, Govt of India
2004-2006	M. Tech. Scholarship, SV NIT, Surat, Ministry of Human Resources Development, Govt of India
2001-2004	B. Eng. Merit Scholarship, L. E. College, Morbi, Saurashtra University, Rajkot
1998-2000	Diploma in Civil Engineering, Merit Scholarship, Government Polytechnic, Jamnagar, Technical Education Board, Gandhinagar

RESEARCH GRANTS/PROJECTS WORKED DURING PhD and Postdoc RESEARCH

University of Manitoba, Canada (NSERC-Natural science and engineering research council)

1. Seismic performance of columns retrofitted with sprayed-FRP (NSERC), **\$ 25000.0 (Year 2017)**
2. Performance-based seismic design guidelines for sprayed-FRP retrofitted circular reinforced concrete bridge columns (MITACS), **\$ 110,000.0 (Year 2017-2019).**

The University of British Columbia, Canada

3. New generation polymer concrete for pavement construction (NSERC), **\$ 25000.0 (Year-2011)**
4. Seismic retrofitting of deficient bridge piers using sprayed fiber reinforced polymer (FRP) composites (NSERC), **\$ 25000.0 (Year-2013)**
5. Improved prediction models for concrete confined with various composites: experimental and numerical investigation (MITACS), **\$ 90000.0 (Year 2013-2015)**
6. Mechanical characteristics and strengthening effectiveness of sprayed FRP composites (NSERC), **\$ 25000.0 (Year-2013)**
7. Mechanical and durability properties of recycled aggregate concrete (NSERC), **\$ 25000.0 (Year-2015)**
8. Mechanical and freeze-thaw durability study of recycled aggregate concrete (NSERC), **\$ 135,678.0 (Year-2012)**
9. Seismic performance evaluation of reactive powder concrete beam-column joints reinforced with FRP composite bars and stirrups (NSERC), **\$ 25000.0 (Year-2011)**
10. Seismic design of RC frame using buckling restrained braces (NSERC), **\$ 25000.0 (Year-2012)**
11. Seismic behavior of deficient reinforced concrete bridge piers confined with FRP – a fractional factorial analysis (NSERC), **\$ 25000.0 (Year-2013)**
12. Seismic collapse assessment of non-seismically designed circular RC bridge piers retrofitted with FRP composites (NSERC), **\$ 25000.0 (Year-2014)**
13. Seismic performance evaluation of FRP retrofitted circular bridge columns (NSERC), **\$ 25000.0 (Year-2013)**
14. Seismic performance evaluation of sprayed-FRP retrofitted RC bridge columns (NSERC), **\$ 25000.0 (Year-2013)**
15. Development of high-head laboratory and establishment of the structural testing laboratory (NSERC) (**\$ 992,199.0 Year -2011.**)

S V National Institute of Technology, India

1. Research proposal to be submitted to the **Department of Science and Technology, New Delhi, India** under Technology Development Program (TDP) in collaboration with Lakehead University, Canada and SVNIT, Surat, on the performance of FRP confined axially loaded square, circular and elliptical RC columns with different aspect ratios subjected to elevated temperature (₹50,00000.0 Year 2026-2028).
2. Research proposal submitted to the **Science and Engineering Research Board (SERB)**, Govt. of India on “Seismic performance investigation of hybrid fiber reinforced polymer-steel and shape memory alloys-steel reinforced engineered cementitious composite bridge piers” (₹56,05,231.0 on Jan 26, 2026).

3. Research proposal to be submitted to the **GUJCOST** on Seismic performance investigation of RC frame using hybrid shape memory alloys (SMA)-magnetorheological damper, Principal Investigator (₹50,00000.0 Year 2026-2028).
4. Research proposal to be submitted on Design and optimization of U-shaped SMA dampers with varying U plate cross-sectional shapes to the **GUJCOST/DST** in collaboration with the University of British Columbia, Canada, and SVNIT, Surat, ₹50,00000.0 Year 2028-2028.
5. Research proposal to be submitted to the **GUJCOST/DST** in collaboration with the University of Manitoba, Canada, and SVNIT, Surat, on Seismic performance of FRP retrofitted RC bridge piers with inadequate lap-splice subjected to unidirectional and bidirectional loads, Principal Investigator (₹50,00000.0 Year 2026-2028).
6. Strengthening and repair of reinforced concrete structures using composite material (SVNIT)
7. Mechanical properties of normal to high-strength steel fibre-reinforced concrete (SVNIT)
8. Effect of ductility and deformation behavior on structural members (SVNIT)

PolyRAP Pavement System Ltd., Canada, (Industrial Research and Assistance Program)

9. Construction of a parking lot at Kelowna (IRAP)
10. Feasibility study of the use of polymer in concrete (IRAP)
11. Feasibility study of the use of polymer for the soil stabilization of road and parking lot (IRAP)
12. Feasibility study of the use of gold mine tailings for the sustainable development of concrete (IRAP)
13. Effect of curing regimes on the mechanical properties and durability of polymer-modified mortars: experimental investigation (NSERC)
14. Physical and mechanical properties of cementitious composites containing recycled glass powder (RGP) and styrene butadiene rubber (SBR) (NSERC)
15. Physical and mechanical properties of mortar containing incinerated sludge ash and silica fume (NSERC)

Government of Gujarat, Rajkot, Road and Building Department, India

16. Performance of building during the Bhuj-2001 earthquake and reconnaissance survey,
17. Earthquake reconnaissance survey of farm buildings and wells during the Bhuj-2001 earthquake,
18. Repair and rehabilitation of residential buildings,
19. Repair and retrofitting of commercial buildings,
20. Site supervision of the new construction of residential buildings
21. Damage assessment of the residential and commercial buildings
22. Estimation and costing of repair and rehabilitation of earthquake-damaged buildings

PATENTS

1. **Anant Parghi**, "Method of Strengthening an Existing Infrastructure Using Sprayed-Fibre Reinforced Polymer Composite", United States Patent and Trademark Office, Application No. 2,926,664, Patent Filed on April 4, 2016.
2. **Anant Parghi** and M. Shahria Alam "Geopolymer Cement Compositions and Methods of Making and Using Same", Patent Filed PCT International Application No. PCT/CA2015/050260, Patent Filed on March 31, 2015.

PUBLICATIONS

Referred Journal Publications:

1. Kanan Thakkar and **Anant Parghi**. [Seismic performance evaluation of bridge piers reinforced with shape memory alloys in plastic hinge region using Taguchi method](#) (2026) 11:104, Springer, Journal of Building Pathology and Rehabilitation, Impact Factor: 1.44. <https://doi.org/10.1007/s41024-026-00782-1>
2. Arefeh Emami; Elaheh Elahian; **Anant Parghi**; Meisam Qorbani Fouladi (2025) [Numerical investigation of wave overtopping in impermeable seawalls coated with sand-based porous media](#), Journal of Numerical Methods in Civil Engineering, Vol. 10, 2, PP. 1-11, [10.61882/NMCE.2507.1096](https://doi.org/10.61882/NMCE.2507.1096)
3. Achchhe Lal, Anil Kumar Mahto, and **Anant Parghi**. Stochastic thermal instability analysis of elastically supported laminated composite plate embedded with SMA fibres. (2025) Suranaree J. Sci. Technol, Accepted.
4. **Anant Parghi**, Jay Gohel, Apurwa Rastogi, Melda Yucel, Cigdem Avci-Karatas, Snehal Mevada (2025). [Seismic response prediction of asymmetric structures with SMA dampers using machine learning algorithms](#). Asian Journal of Civil Engineering. Vol. 183, PP. 108778 Springer. Impact Factor: 4.2. <https://doi.org/10.1007/s42107-025-01323-w>

5. **Anant Parghi**, Apurwa Rastogi, Jay Gohel and Arefeh Emami. [Parametric study and optimization of SMA U-shaped dampers with varying U-plate cross-sectional shapes](#) (2025). Journal of Structural Design and Construction Practice, Vol. 30, No. 4. ASCE. DOI: [10.1061/JSDCCC.SCENG-1641](#)
6. **Anant Parghi**, Jay Gohel, Apurwa Rastogi and Arefeh Emami. [Seismic response of torsionally linked systems using shape memory alloy passive dampers](#). (2025) Journal of Soil Dynamics and Earthquake Engineering, Vol. 183, PP. 108778 Elsevier. Impact Factor: 4.2. <https://doi.org/10.1016/j.soildyn.2024.108778>
7. Achchhe Lal, Anil Kumar Mahto and **Anant Parghi** (2024), Stochastic FEM based thermal buckling of SMA fibre reinforced composite laminated plate using Polynomial Chaos, Journal of Mechanics Based Design of Structures and Machines, Taylor & Francis, <https://doi.org/10.1080/15397734.2024.2318727>.
8. **Anant Parghi**, Mayank Patel, and M. H. Lunagaria. [Numerical investigation of fibre-reinforced polymer retrofitted short reinforced concrete circular columns under concentric compressive load](#). International Journal of Engineering, 2024; 37(10): 1882-1890. doi: 10.5829/ije.2024.37.10a.02
9. **Anant Parghi**, Mayank Patel, and M. H. Lunagaria. Numerical investigation of FRP confined RC square and circular columns under concentric compression load, Suranaree Journal of Science and Technology. (Suranaree J. Sci. Technol. 31(2):010301(1-16). DOI: <https://doi.org/10.55766/sujst-2024-02-e03172>
10. Arefeh Emami, Neda Pourjafari, **Anant Parghi**, [Effect of porous SBR composites on mitigating the heave motion response of a semi-submersible platform](#) (2024), Ocean Engineering, Vol. 295, 116856. Elsevier. Impact Factor: 4.101, 5-Year Impact Factor: 5. <https://doi.org/10.1016/j.oceaneng.2024.116856>
11. Elham Nabizadeh and **Anant Parghi** (2023). [Automated corrosion detection using deep learning and computer vision](#), Asian Journal of Civil Engineering, <https://doi.org/10.1007/s42107-023-00684-4>.
12. Elham Nabizadeh and **Anant Parghi** (2023). [Vision-based concrete crack detection using deep learning-based models](#). Asian Journal of Civil Engineering, 24, 2389–2403. <https://doi.org/10.1007/s42107-023-00648-8>.
13. Elham Nabizadeh and **Anant Parghi** (2023). [Artificial neural network and machine learning models for predicting the lateral cyclic response of post-tensioned base rocking steel bridge piers](#). Asian Journal of Civil Engineering, <https://doi.org/10.1007/s42107-023-00791-2>.
14. Achchhe Lal, **Anant Parghi**, and Kanif Markad (2021). [Post-buckling nonlinear analysis of sandwich laminated composite plate](#), Materials Today: Proceedings, Vol. 44, Part 6, PP. 4934-4939, <https://doi.org/10.1016/j.matpr.2020.12.088>.
15. Hossain, Md.; Aldabagh, Saif; **Anant Parghi**; Alam, M. Shahria (2022). [Low-grade glass fibre-reinforced polymer-confined circular RC columns under simulated seismic loads](#), Canadian Journal of Civil Engineering. 49(11): 1714-1729. <https://doi.org/10.1139/cjce-2021-0172>
16. **Anant Parghi** and M. Shahria Alam (2017). [Seismic collapse assessment of non-seismically designed circular RC bridge piers retrofitted with FRP composites](#). Composite Structures, Vol. 160, PP. 901–916 Elsevier. Impact Factor: 4.101, 5-Year Impact Factor: 4.451. doi.org/10.1016/j.compstruct.2016.10.094
17. **Anant Parghi** and M. Shahria Alam (2017). “[A review on the application of sprayed-FRP composites for strengthening of concrete and masonry structures in the construction sector](#)”, Composite Structures, Vol. 187, PP. 518–534 Elsevier. Impact Factor: 4.101, 5-Year Impact Factor: 4.151. doi.org/10.1016/j.compstruct.2017.11.085
18. **Anant Parghi** and M. Shahria Alam (2016). “[Seismic behavior of deficient reinforced concrete bridge piers confined with FRP – a fractional factorial analysis](#)”, Engineering Structures, Vol. 126, PP. 531–546, Elsevier. Impact Factor: 2.755, 5-Year Impact Factor: 3.060. doi.org/10.1016/j.engstruct.2016.08.011
19. **Anant Parghi** and M. Shahria Alam (2016). “[Physical and mechanical properties of cementitious composites containing recycled glass powder \(RGP\) and styrene butadiene rubber \(SBR\)](#)”, Journal of Construction and Building Materials, Vol. 104, PP. 34-43, Elsevier. Impact Factor: 3.485, 5-Year Impact Factor: 4.039 doi.org/10.1016/j.conbuildmat.2015.12.006
20. **Anant Parghi** and M. Shahria Alam (2017). “[Physical and mechanical properties of mortar containing incinerated sludge ash and silica fume](#)”, ACI Special Publication, SP-314, PP 1-30.
21. **Anant Parghi** and M. Shahria Alam (2015). “[Effect of curing regimes on the mechanical properties and durability of polymer modified mortars-an experimental investigation](#)”, Journal of Sustainable Cement-Based Materials, Vol. 5, Issue 5, PP 324-347, Taylor & Francis. doi.org/10.1080/21650373.2015.1124812

22. **Anant Parghi**, M. K. Maroliya, C. D. Modhera, (2010) "Influence of steel fiber variation on impact strength of reactive power concrete", International Journal of Earth Science and Engineering, ISSN 0974-5904, Vol. 03, No.04 Sp. Issue, PP 628-633.
23. **Anant Parghi**, M.K. Maroliya, and C. D. Modhera, (2010) "An evaluation of some of the parameters involved in producing normal weight reactive powder concrete", International Journal of Civil Engineering, ISSN 0975-5314, Vol. 02, Number-2, PP 93-100.
24. **Anant Parghi**, C.D. Modhera and S.A. Vasanwala (2009) "A state-of-the-art review of performance-based design in earthquake engineering." Electronic Journal of Structural Engineering, ISSN-1443-9255, PP 76-87.
25. **Anant Parghi**, M. K. Maroliya, and C. D. Modhera, (2008) "Socio-economic aspect for sustainability of ultra-high-performance reactive powder concrete-A Review", National Journal of Civil Engineering & Construction, Vol. 2 Issue 1, PP 86-92.

Referred Journal Publications Under Review

1. Anil Kumar Mahto, Achchhe Lal, and **Anant Parghi**. Nonlinear Parametric Thermal instability analysis of laminated composite plate embedded with SMA fibers. 09-Mar-2025, Ms. Ref. No.: JVC-24-0256, Journal of Mechanics of Vibration Control, No. 38, (Under review), SAGE.
2. Anil Kumar Mahto, Achchhe Lal, and **Anant Parghi**. Nonlinear dynamic instability analysis of laminated composite plate embedded with SMA fibers, Journal of Mechanics of Advanced Material & Structures, 10 April 2025, Ms. Ref No: 222960451, Taylor & Francis, Mechanics of Advanced Material & Structures, Taylor & Francis.
3. **Anant Parghi** and Kanan Thakkar. Application of super-elastic SMAs in infrastructure: a global perspective and critical review of past, present and future trends. Structures. June 16, 2025, Ms. Ref. No.: STRUCTURES-D-21-01683.
4. **Anant Parghi**, and M. Shahria Alam. Seismic repair and retrofit of reinforced concrete bridge piers: Review of research findings. Construction & Building Materials. July 6, 2025, Manuscript No. CONBUILDMAT-S-10-03930, No. of Pg. 38, (Under review), Elsevier.
5. **Anant Parghi** and M. Shahria Alam. "Potential applications of nanotechnology in civil engineering and its effect on environment, health and safety reflection: A Review", Construction & Building Materials. August 15, 2025, Manuscript No. CONBUILDMAT-D-12-03640, No. of Pg. 38, (Under review), Elsevier.

Papers Under Preparation to be Submitted to Journals:

1. **Anant Parghi**, and M. Shahria Alam. Stress-strain behavior model of FRP-confined concrete: A review. Structures to be submitted to Journal of Structures, Elsevier.
2. **Anant Parghi**, and M. Shahria Alam. Analysis of circular RC bridge piers retrofitted with fiber reinforced polymer under axial and lateral cyclic load to be submitted to Journal of Structures, Elsevier.
3. **Anant Parghi**, and M. Shahria Alam. Fragility analysis of deficient RC bridge piers retrofitted with FRP composites. Engineering Structures. to be submitted to Journal of Structures, Elsevier.
4. **Anant Parghi** and M. Shahria Alam. "Chopped mat sheet (CSM) composites confined concrete cylinders: Axial Compression experiments and strength model", to be submitted to Composite Structures.
5. **Anant Parghi** and M. Shahria Alam. "Bond strength of concrete substrate and sprayed-FRP composites", to be submitted to Journal of Composite Materials, SAGE Publishing.
6. **Anant Parghi** and M. Shahria Alam. "Experimental and numerical evaluation of sprayed-FRP strengthened RC circular bridge columns", to be submitted to Journal of Reinforced Plastics and Composites, SAGE Publishing.
7. **Anant Parghi** and M. Shahria Alam. "Analysis of RC columns retrofitted with sprayed-fibre reinforced polymer under axial and lateral cyclic loading", to be submitted to Journal of Structures, Elsevier.
8. **Anant Parghi** and M. Shahria Alam. "Analysis of RC columns retrofitted with chopped mat sheet reinforced polymer under axial and lateral cyclic loading", to be submitted to Journal of Structures, Elsevier.
9. **Anant Parghi** and M. Shahria Alam. "Seismic performance evaluation of deficient bridge columns retrofitted with CFRP under far-field excitation using incremental dynamic analysis", to be submitted to the Journal of the Bulletin of Earthquake Engineering, Springer.

Citation Information Concrete Solutions Edited by Michael Grantham, Valentina Salomoni, and Carmelo Majorana
CRC Press 2009 Print ISBN: 978-0-415-55082-6 eBook ISBN: 978-0-203-86400-5

1. **Chapter No. 63.** [An experimental study on the effect of steel fiber reinforced concrete on the behavior of the exterior beam-column junctions subjected to cyclic loading.](#) **Anant Parghi**, and C. D. Modhera.
2. **Chapter No. 64.** [Strengthening and repair of reinforced concrete structures using composite material,](#) **Anant Parghi**, and C. D. Modhera
3. Kanan Thakkar and **Anant Parghi.** [Parametric investigation of bridge piers reinforced with shape memory alloys in plastic hinge regions.](#) Lecture Notes in Civil Engineering (Springer Nature), Vol. 56-2, Amit Prashant et al. (Eds): Advances in Computer Methods and Geomechanics, Springer, Singapore - 978-981-15-0889-9, 487769_1_En, (23).
4. Elham Nabizadeh and **Anant Parghi.** [Deep learning-based concrete crack detection using YOLO architecture.](#) Part of the [Communications in Computer and Information Science](#) book series (CCIS, Volume 1883) [International Conference on Artificial Intelligence and Smart Vehicles](#), ICAISV 2023: [Artificial Intelligence and Smart Vehicles](#) pp 182–193.

Referred Papers in Conference Proceedings:

1. Jay Gohel, Apurwa Rastogi and **Anant Parghi.** (2025) Effectiveness assessment of shape memory alloy damper in asymmetric building incorporating machine learning techniques. In: Liem, N.Q. (eds) Proceedings of the 4th International Conference on Materials Engineering and Functional Materials. ICMFM 2025. Springer Proceedings in Materials, vol 88. Springer, Singapore. https://doi.org/10.1007/978-981-95-0445-9_8
2. Jay Gohel, Apurwa Rastogi and **Anant Parghi,** Comparison of different machine learning algorithms for response of structure equipped with shape memory alloy damper, International Conference on Recent Advances in Structural Engineering (RAISE-2024), Department of Civil Engineering, S.V. National Institute of Technology Surat 395007, Gujarat, India, 16th – 18th December, 2024 (Accepted).
3. Apurwa Rastogi and **Anant Parghi,** A study on SMA U-shaped metallic yielding dampers under cyclic loading Third International Conference on Advances in Concrete, Structural & Geotechnical Engineering (ACSGE) Department of Civil Engineering, BITS Pilani, Pilani Campus, Rajasthan, February 26-28, 2024.
4. Raveendra Kumar Saroj, **Anant Parghi,** Performance of fiber-reinforced polymer in RC structures under varied environment conditions: A critical review, Third International Conference on Advances in Concrete, Structural & Geotechnical Engineering (ACSGE), Department of Civil Engineering, BITS Pilani, Pilani Campus, Rajasthan, February 26-28, 2024.
5. Prem Kumar Akula, **Anant Parghi,** Mayank Patel and M. H. Lunagaria. “Numerical analysis of FRP retrofitted short RC circular columns under uniaxial compressive load”. International Conference on Condition Assessment, Rehabilitation & Retrofitting of Structures (CARRS 2023), Department of Civil Engineering, IIT Hyderabad, 10-13, December 2023.
6. Prem Kumar Akula, **Anant Parghi,** Mayank Patel and M. H. Lunagaria. “Numerical analysis of FRP retrofitted short RC square columns under uniaxial compressive load”. 13th Structural Engineering Convention (SEC-2023), Department of Applied Mechanics, VNIT, Nagpur, 7-9 December 2023.
7. Elham Nabizadeh and **Anant Parghi** (2023). Deep learning-based concrete crack detection using YOLO architecture. Artificial Intelligence and Smart Vehicles First International Conference, ICAISV 2023, Editors: Mehdi Ghatee, and S. Mehdi Hashemi, Tehran, Iran, January 25–26, 2023.
8. **Anant Parghi** and Jay Gohel, Effect of Re-centering shape memory alloy damper on seismic response of torsionally coupled idealized frame system. Second International Conference on Advances in Civil Infrastructure and Construction Materials. MIST, Dhaka, Bangladesh, 26–28 July 2023.
9. **Anant Parghi** and Apurwa Rastogi, U-shaped hysteresis SMA damper for seismic isolation: A numerical analysis. Second International Conference on Advances in Civil Infrastructure and Construction Materials. MIST, Dhaka, Bangladesh, 26–28 July 2023.
10. Apurwa Rastogi and **Anant Parghi,** Seismic damage mitigation of RC dual column bridge piers using SMA-MR hybrid bracing system, SMSB 2022 (11th International Conference on Short and Medium Span Bridges, July 19-22, 2022, Toronto, Ontario, Canada.

11. Apurwa Rastogi and **Anant Parghi**, Extensive utilization of shape memory alloys in civil infrastructures: A concise review, SMSB 2022 (11th International Conference on Short and Medium Span Bridges, July 19-22, 2022, Toronto, Ontario, Canada).
12. Jay Gohel and **Anant Parghi**, Shape memory alloy for seismic vibration mitigation: A state-of-the art review, First International Conference Innovation in Smart and Sustainable Infrastructure Organized by Pandit Deendayal Energy University, Gandhinagar, 23rd - 25th August, 2022, Gandhinagar, India.
13. Jay Gohel and **Anant Parghi**, Seismic response of asymmetrical frame equipped with shape memory alloy-magnetorheological hybrid damper, 17th Symposium on earthquake engineering, IIT Roorkee, India, 14-17 November, 2022. Proceedings of 17th Symposium on Earthquake Engineering (Vol. 1), Lecture Notes in Civil Engineering 329, https://doi.org/10.1007/978-981-99-1608-5_22.
14. Jay Gohel and **Anant Parghi**, Research developments in vibration control of structure using Tuned liquid column dampers: A State-of-the-art review, SMSB 2022 (11th International Conference on Short and Medium Span Bridges, July 19-22, 2022, Toronto, Ontario, Canada).
15. Jay Gohel and **Anant Parghi**, Seismic Response of Asymmetrical frame equipped with shape memory alloy damper, SMSB 2022 (11th International Conference on Short and Medium Span Bridges, July 19-22, 2022, Toronto, Ontario, Canada).
16. Kanan Thakkar and **Anant Parghi**. Seismic performance of bridge piers reinforced with shape memory alloys in plastic hinge region. IOP Conference Series: Materials Science and Engineering, Volume 814, International Conference on Sustainable Innovations in Civil & Mechanical Engineering, 02-04 January 2020, Pandharpur, Maharashtra, India
17. Kanan Thakkar and **Anant Parghi**. Performance evaluation of bridge piers reinforced with shape memory alloys in plastic hinge region: Part 1 – statistical analysis. IOP Conference Series: Materials Science and Engineering, Volume 814, International Conference on Sustainable Innovations in Civil & Mechanical Engineering, 02-04 January 2020, Pandharpur, Maharashtra, India
18. Kanan Thakkar and **Anant Parghi**. Performance evaluation of bridge piers reinforced with shape memory alloys in plastic hinge region: Part 2 – optimization. IOP Conference Series: Materials Science and Engineering, Volume 814, International Conference on Sustainable Innovations in Civil & Mechanical Engineering, 02-04 January 2020, Pandharpur, Maharashtra, India.
19. Achchhe Lal, **Anant Parghi**, Anil Kumar Mahto and Rahul Kumar. Buckling analysis of laminated composite plate due to localised in plane loading. IOP Conference Series: Materials Science and Engineering, Volume 814, International Conference on Sustainable Innovations in Civil & Mechanical Engineering, 02-04 January 2020, Pandharpur, Maharashtra, India.
20. Achchhe Lal, **Anant Parghi**, Anil Kumar Mahto and Rahul Kumar. Buckling response analysis of laminated plates subjected to localised bi-axial in-plane compressive loading. IOP Conference Series: Materials Science and Engineering, Volume 1004, 1st International Conference on Recent Advancements in Design and Manufacturing (ICRADM 2020) 16-17 July 2020; SVNIT, Surat, India
21. Mayank Patel, Rahul Pardeshi, Bhairav Thakur, **Anant Parghi**. Strengthening of fibre reinforced polymer (FRP) confined reinforced concrete (RC) column with different aspect ratios under axial load and high-temperature effect review. IOP Conference Series: Materials Science and Engineering, Volume 814, International Conference on Sustainable Innovations in Civil & Mechanical Engineering, 02-04 January 2020, Pandharpur, Maharashtra, India.
22. Bhairav Thakur, Rahul Pardeshi, Mayank Patel and **Anant Parghi**. Seismic assessment of concrete column reinforced with fiber reinforced polymer and stainless-steel rebar. IOP Conference Series: Materials Science and Engineering, Volume 814, International Conference on Sustainable Innovations in Civil & Mechanical Engineering, 02-04 January 2020, Pandharpur, Maharashtra, India.
23. Rahul Pardeshi, Bhairav Thakur, and **Anant Parghi**. Seismic investigation of longitudinally aligned shape memory alloy-stainless steel reinforced concrete column. IOP Conference Series: Materials Science and Engineering, Volume 814, International Conference on Sustainable Innovations in Civil & Mechanical Engineering, 02-04 January 2020, Pandharpur, Maharashtra, India.
24. Kanan Thakkar and **Anant Parghi**. Parametric investigation of bridge piers reinforced with shape memory alloys in plastic hinge regions. International Association for Computer Methods and Advances in Geomechanics (IACMAG), IIT Gandhinagar, March 5-7, 2019.

25. Syed Abdullah Mohit, **Anant Parghi**, Ehab F. El-Salakawy, Seismic performance of sprayed-FRP retrofitted circular columns, 9th International Conference on Fibre-Reinforced Polymer (FRP) Composites in Civil Engineering (CICE 2018), PARIS, JULY 17-19, 2018.
26. **Anant Parghi** and Kanan Thakkar, Effects of SMAs reinforcements on RC circular bridge piers under near-fault ground motions, ASCE Forensic Engineering Congress Conference, Austin, Texas, November 29-December 2, 2018.
27. Kanan Thakkar and **Anant Parghi**, Bridge piers reinforced with SMAs in plastic hinge area: a parametric study, Proceedings of the 3rd International Conference on Civil, Structural and Transportation Engineering (ICCSTE'18), Niagara Falls, Canada - June 10 - 12, 2018.
28. Kanan Thakkar and **Anant Parghi**, Application of shape memory alloys to enhance the performance of civil infrastructures: a review, 2nd International Conference on Advances in Concrete, Structural, and Geotechnical Engineering (ACSGE 2018), BITS Pilani, February, 26-28, 2018.
29. Kanan Thakkar and **Anant Parghi**, Incremental dynamic analysis of RC bridge piers reinforced with super-elastic shape memory alloys, International Conference on Advances in Construction Materials and Structures (ACMS-2018), IIT, Roorkee, India, March 07-08, 2018.
30. Satwik Rayjada and **Anant Parghi**, Seismic performance enhancement of RC columns using fiber reinforced polymer, 2nd International Conference on Advances in Concrete, Structural, and Geotechnical Engineering (ACSGE 2018), BITS Pilani, February, 26-28, 2018.
31. **Anant Parghi**, and M. Shahria Alam. Collapse fragility analysis of non-seismically designed bridge columns retrofitted with FRP composites, ASCE Structures Congress, Denver, Colorado, April 6-8, 2017.
32. **Anant Parghi**, and M. Shahria Alam. Seismic collapse safety of RC circular bridge pier retrofitted with fibre reinforced polymer" IABSE/Vancouver 2017.
33. **Anant Parghi**, and M. Shahria Alam. Seismic repair and retrofit of reinforced concrete bridge columns: Review of research outcomes. CINPAR 2016. International Conference on Structural Repair and Rehabilitation, 26-29 October-2016, Porto, Portugal.
34. **Anant Parghi**, and M. Shahria Alam. Fragility analysis of deficient RC bridge columns retrofitted with FRP composites. CINPAR - International Conference on Structural Repair and Rehabilitation, 26-29 October-2016, Porto, Portugal.
35. **Anant Parghi**, and M. Shahria Alam. Seismic behavior of non-seismically designed circular RC bridge piers retrofitted with FRP. 11th International Conference on Earthquake Resistant Engineering Structures (ERES 2017).
36. **Anant Parghi** and M. Shahria Alam. Analysis of RC circular bridge columns retrofitted with fiber reinforced polymer under axial and lateral cyclic loading, CSCE 4th Annual Conference, Regina, 27th to 30th May 2015.
37. **Anant Parghi** and M. Shahria Alam. Axial stress-strain behavior model of FRP-confined concrete: a state-of-the-art review, CSCE 4th Annual Conference, Regina, 27th to 30th May 2015.
38. **Anant Parghi**, Mayank Delwadia and C. D. Modhera. Performance-based design in earthquake engineering: A state of the art review, International Conference on Advances on Concrete, Structural and Geotechnical Engineering, BITS Pilani, 25-27 Oct. 2009.
39. **Anant Parghi**, D. L. Shah and C. D. Modhera. Self-compacting concrete: A state of the art review, Inter. Conf on Advances on Concrete, Structural and Geotechnical Engineering, BITs Pilani, 25th -27th Oct. 2009.
40. M. K. Maroliya, **Anant Parghi**, and C. D. Modhera "Influence of the steel fiber variance on the impact strength of reactor powder concrete, "International Conference on Advances on Concrete, Structural and Geotechnical Engineering, BITS Pilani, 25-27 Oct. 2009.
41. **Anant Parghi**, C. D. Modhera. Deformability and ductility in over reinforced self-compacting concrete structures", Proceeding of the National Conference, NIT Warangal, 14-16 Dec 2007.
42. **Anant Parghi**, C. D. Modhera, Finite element analysis of RC columns confined with FRP sheets", Proceeding of the National Conference held at NIT Hamirpur, 16-17 May 2008.
43. **Anant Parghi**, C. D. Modhera and M. K. Maroliya. Effect of ductility and deformation behavior of self-compaction concrete structures 33rd Conference on Our World in Concrete & Structures at Singapore, 25 – 27 August 2008.
44. **Anant Parghi**, C. D. Modhera and D. L. Shah. Micro mechanical crack and deformations study of SFRC deep beams" 33rd Conference on Our World in Concrete & Structures at Singapore, 25 – 27 August 2008.

45. M. K. Maroliya, **Anant Parghi**, C. D. Modhera and Bhavin A. Patel, "Physio mechanical behavior of reactive powder concrete under aggressive environment of contaminated soil", 33rd Conference on Our World in Concrete & Structures at Singapore, 25 – 27 August 2008.
46. **Anant Parghi** and C. D. Modhera. A state of the art: Repair of reinforced concrete members. 4th International Conference & Exhibition on Innovative World of Concrete at New Delhi, December 11–14 2008
47. **Anant Parghi**, C. D. Modhera and M. K. Maroliya. Effect of ductility and deformation behavior on structural members" 4th International Conference & Exhibition on Innovative World of Concrete at New Delhi, December 11–14 2008.
48. **Anant Parghi** and C. D. Modhera. Mechanical properties of normal to high strength steel fiber-reinforced concrete, 4th International Conference & Exhibition on Innovative World of Concrete at New Delhi, December 11 – 14 2008.
49. **Anant Parghi** and C. D. Modhera. An experimental study on effect of steel fiber reinforced concrete on the behavior of exterior beam-column junctions subjected to cyclic loading, 3rd International Conference on Concrete Repair, Venice/Padua, Italy, 29th June to 2nd July 2009.
50. **Anant Parghi** and C. D. Modhera. Strengthening and repair of reinforced concrete structures using composite material, 3rd International Conference on Concrete Repair, Venice/Padua, Italy, 29th June to 2nd July 2009.
51. **Anant Parghi** and M. Shahria Alam. Application of FRP composites reinforcement in the construction: A state-of-the-art review, CICM 2015, 1st International Conference on Advances in Civil Infrastructure and Construction Materials, MIST, Dhaka, Bangladesh, 14–15 December 2015
52. **Anant Parghi** and M. Shahria Alam, Design oriented stress-strain model for concrete confined with FRP composites, CICM 2015, 1st International Conference on Advances in Civil Infrastructure and Construction Materials, MIST, Dhaka, Bangladesh, 14–15 December 2015.
53. **Anant Parghi** and M. Shahria Alam, An overview of retrofitting of structures using sprayed-FRP composites CICM 2015, 1st International Conference on Advances in Civil Infrastructure and Construction Materials, MIST, Dhaka, Bangladesh, 14–15 December 2015.
54. **Anant Parghi** and M. Shahria Alam, Stress-strain behavior model of FRP-confined concrete: a state-of-the-art review, 9th International Conference on Short and Medium Span Bridges, Calgary, Alberta, Canada, July 15-18, 2014.
55. **Anant Parghi** and M. Shahria Alam. Mechanical properties of cementitious composites containing recycled glass powder (RGP) as a partial replacement of cement. ACI Concrete convention and exposition, Concrete with recycled materials, Anaheim, California, USA, October 16th 2017.
56. **Anant Parghi**, Shiwanand S. R., B Kondraivndhan, and C. D. Modhera. An assessment of efficiency factors of recycled aggregate concrete bottle-shaped struts". ACI Concrete convention and exposition, Concrete with recycled materials, Anaheim, California, USA, October 16th 2017.
57. **Anant Parghi**, Suryawanshi S. R., Bhupinder Singh, and Pradeep Bhargava. Behaviour and efficiency of recycled aggregate concrete isolated bottle-shaped struts". ACI Concrete convention and exposition, Concrete with recycled materials, Anaheim, California, USA, October 16th 2017.
58. **Anant Parghi** and M. Shahria Alam. Seismic analysis of circular reinforced concrete bridge columns retrofitted with advanced composite materials, 2nd Annual Eng. Graduate Symposium UBC, Okanagan, 8th June 2015.
59. **Anant Parghi** and M. Shahria Alam. Improved prediction models for concrete confined with various composites: experimental and numerical investigation" 3M Three Minutes Thesis Presentation, UBC, Okanagan, February 12th 2014.
60. **Anant Parghi** and M. Shahria Alam. A nonlinear finite element model for concrete confined with FRP composites", Annual Eng. Graduate Symposium UBC, Okanagan, February 18, 2014.
61. **Anant Parghi**, and M. Shahria Alam. Physical and mechanical properties of cementitious composites containing recycled glass powder (RGP) and styrene butadiene rubber (SBR) for improvement of sustainability", 3rd Annual Graduate Research Poster Competition, at the University of British Columbia, Canada, April 15th, 2013.
62. **Anant Parghi**, and M. Shahria Alam. Seismic performance evaluation on reactive powder concrete (RPC) beam-column joints reinforced with FRP composite bars and stirrups" 3M Three Minutes Thesis Presentation, UBC, Okanagan, February 2013.
63. **Anant Parghi**, Uma Chaduvula. Pile subjected to negative skin friction and vertical load", A National Symposium CONTECH-2007 held at Nirma University, Ahmedabad, Sept. 28-29, 2007.

PROFESSIONAL AFFILIATIONS: *LM-Life Time Membership

1. **EGM** (Applied for P.Eng. registration), Engineers Geoscientist of British Columbia, Canada
2. **Fellow**, Institute of Engineers, India
3. **P.Eng.** Engineering Council of India (ECI)
4. **P.Eng.** (#PE700184-9) (Professional Engineer) Institute of Engineers, India
5. **C.Eng.** (#M-163155-6) (Chartered Engineer), Institute of Engineers, India
6. **M.IE** (#M-163155-6) (Member), Institute of Engineers, India
7. **EGM** (Applied for P.Eng. registration), Engineers Geoscientist of Manitoba, Canada
8. **ACI** (#1092818) American Concrete Institute
9. **ASCE** (#501710) American Society of Civil Engineering
10. **CSCE** (# 073713) Canadian Society for Civil Engineering
11. **ASTM** (#1494285) American Society for Testing and Materials
12. **SEABC** (# 31201672) Structural Engineers Association of British Columbia
13. **APEGBC** (# 169966) Association of Professional Engineers and Geoscientists of British Columbia
14. **ACEC** (#14029) Association of Consulting Engineering Companies, BC
15. **ICI** (#13147) Indian Concrete Institute, India
16. **ACCE(I)** (#F-5273) Association of Consulting Civil Engineers, India
17. **IASE** Indian Association of Structural Engineers
18. **ISTE (LM # 56972)** Indian Society of Technical Education
19. **ISSET (LM #1358)** Indian Society of Earthquake Technology
20. **ISWE (LM # 456)** Indian Society of Wind Engineering
21. **IndACM (LM)** Indian Association for Computational Mechanics
22. **ASRR (LM)** Association of Structural Rehabilitation and Retrofitting

GRANT REVIEWER

1. LEVERHULME TRUS CJCE, University of Southampton, United Kingdom (UK).
2. Council of Science & Technology U. P. (Dept. of Science & Technology, Govt. of U.P.), Vigyan Bhawan, 9, Nabiullah Road, Suraj Kund Park, Lucknow-226018

REVIEWER IN REFERRED JOURNALS

1. Journal of Automation in Construction, Elsevier
2. CJCE, Canadian Journal of Civil Engineering, Canada
3. Journal of Building Engineering, Elsevier
4. ACI Structural Journal, American Concrete Institute, USA
5. ACI Materials Journal, American Concrete Institute, USA
6. ASCE, Journal of Materials in Civil Engineering, USA
7. Springer, Journal of Bulletin of Earthquake Engineering
8. Construction and Building Materials, Elsevier
9. Engineering Structures, Elsevier
10. Journal of Composite Materials, SAGE Publication, USA
11. American Journal of Civil Eng. and Architecture, Science and Education Publishing, USA
12. World Research Journal of Civil Engineering, Bioinfo Publication, India
13. Journal of Civil Engineering and Architecture, Horizon Research Publishing, USA
14. International Journal of Adv Res in Engineering and Science, Aafreen Research Publications (ARP), India
15. The Open Civil Engineering Journal, Bentham Open Publishers, United Arab Emirates
16. Current World Environment, An International Research Journal of Environmental Science, India

REVIEWER IN CONFERENCES

1. 2nd International Conference on Advances in Civil Infrastructure and Construction Materials (CICM 2023) MIST, Dhaka, Bangladesh, 26–28 July 2023.
2. 6th International Conference on Engineering Mechanics and Materials (CSCE Annual Conference, Vancouver, May 31st to June 1st, 2017)

- 1st International Conference on Advances in Civil Infrastructure and Construction Materials (CICM 2015) MIST, Dhaka, Bangladesh, 14–15 December 2015.
- 8th International Conference on Materials Specialty (CSCE Annual Virtual Conference, May 26-29, 2021)
- Annual Conference of the Canadian Society for Civil Engineering (CSCE) in Whistler, BC from May 25-28, 2022.
- International Conference on Recent Advances in Structural Engineering (RAISE-2024), Department of Civil Engineering, S.V. National Institute of Technology Surat 395007, Gujarat, India, 16th – 18th December, 2024.

VOLUNTEER WORKS

2014-Present	GradTrain: Coach to new applicants to Graduate School Abroad https://www.gradtrain.com/UserProfile/Coach?id=133	USA
2014/08	Jump-start team orientation lead for new International Students	UBC Okanagan
2014/08	Orientation faculty volunteer team leader	UBC Okanagan
2012/05-2016/05	Higher secondary school science fair judge	UBC Okanagan
2005/06-2006/06	National Service Scheme (provide service to society in the village, India)	SV NIT, Surat

ADMINISTRATIVE DUTIES

2020/02-present	In-charge Heavy Structures Laboratory, SVNIT, Surat
2017/10-present	In-charge Mechanics of Solid and Materials Testing Laboratory, SVNIT, Surat
2016/11-present	PhD admission committee members at the Department of Applied Mechanics, SV NIT, Surat
2011/09-2016/08	Laboratory in charge of ALAMs Research Laboratory at the UBC, Okanagan
2008/07-2011/08	In-charge Institute Infrastructures, Repairing and Maintenance in Estate Section, SVNIT, Surat
2007/07-present	M.Tech. thesis evaluation committee members at the Department of Applied Mechanics, SV NIT, Surat
2008/07-2011/08	Tender committee member in the Estate Section, SVNIT, Surat
2008/07-2009/07	Furniture purchase committee member at SVNIT, Surat
2007/07-2011/08	(i) In-charges of Pre-Stressed Concrete Laboratory, (ii) High Head Laboratory, (iii) Departmental CAD Laboratory, (iv) Experimental Stress Analysis Laboratory (v) Departmental library In-charge at the SV NIT, Surat
2007/07-present	Actively Involved in Testing and Consultancy Services at the SV NIT, Surat

RESEARCH ON NEWS MAGAZINES/ARTICLES

- UBC researchers discover cure for ‘concrete cancer’
<https://news.ok.ubc.ca/2016/05/25/ubc-researchers-discover-cure-for-concrete-cancer/>
- Real Estate Development / Construction / Architecture
<https://www.building.ca/construction/ubc-concrete-cancer/1003733226/>
- UBC-Okanagan researchers develop new concrete with glass
- Fragile as glass? Researchers develop new concrete with glass as a main ingredient, CBC Radio and New British Columbia
<http://www.cbc.ca/news/canada/british-columbia/glass-concrete-ubc-1.3600637>

CONSULTANCY PROJECTS (₹ = Indian Rupees- Consulting Fees)

- More than 200+ Consultancy projects completed

INVITED LECTURES

- How to write a scientific article and respond to reviewers: A step-by-step guide by GUJCOT and DST, Government Gujarat on Research methodology and technical writing at Government Engineering College, Surat, India (January 5, 2026).
- Why nonlinear analysis of structure? Importance of nonlinear analysis on SERB funded One Week High End Workshop on Nonlinear Seismic Analysis of Structures (NSAS)-2023 under ‘KARYASHALA’ ABHYAAS

- Program Accelerate Vigyan Scheme at S. V. National Institute of Technology, Surat, India on Monday, July 10th, 2023 at 11.30 to 1.00 PM IST.
3. Crack control in RC elements during structural design and construction on SERB funded One Week High End Workshop on Nonlinear Seismic Analysis of Structures (NSAS)-2023 under 'KARYASHALA' ABHYAAS Program Accelerate Vigyan Scheme at S. V. National Institute of Technology, Surat, India on Monday, July 10th, 2023 at 02.00 to 3.30 PM IST.
 4. Seismic assessment of RC structures, on SERB funded on SERB funded Two weeks High End workshop on "Seismic Assessment and Rehabilitation of Structures (SARS)-2022" under 'KARYASHALA' ABHYAAS Program Accelerate Vigyan Scheme at S. V. National Institute of Technology, Surat, India on Monday, December 19th, 2022 at 11.30 to 1.00 PM IST. Seismic strengthening of RC structures using FRP, on SERB funded Two weeks High End workshop on "Seismic Assessment and Rehabilitation of Structures (SARS)-2022" under 'KARYASHALA' ABHYAAS Program Accelerate Vigyan Scheme at S. V. National Institute of Technology, Surat, India, Tuesday, December 20th, 2022 at 11.30 to 1.00 PM IST.
 5. Destructive and non-destructive tests demonstration on SERB funded Two-Week High-End Workshop on "Seismic Assessment and Rehabilitation of Structures (SARS)-2022" under 'KARYASHALA' ABHYAAS Program Accelerate Vigyan Scheme at S. V. National Institute of Technology, Surat, India, Tuesday, December 20th, 2022 at 2.00 to 4.00 PM IST.
 6. Earthquake engineering and materials test laboratory structural elements demonstration on SERB funded Two-Week High-End Workshop on "Seismic Assessment and Rehabilitation of Structures (SARS)-2022" under 'KARYASHALA' ABHYAAS Program Accelerate Vigyan Scheme at S. V. National Institute of Technology, Surat, India, Saturday, December 24th, 2022 at 11.30 to 1.00 PM IST.
 7. Effect of corrosion on the service life of RCC structures on SERB funded Two-Week High-End Workshop on "Seismic Assessment and Rehabilitation of Structures (SARS)-2022" under 'KARYASHALA' ABHYAAS Program Accelerate Vigyan Scheme at S. V. National Institute of Technology, Surat, India, Tuesday, December 27th, 2022 at 10.0 to 11.30 AM IST.
 8. Corrosion protection of RCC structures on SERB funded Two-Week High-End Workshop on "Seismic Assessment and Rehabilitation of Structures (SARS)-2022" under 'KARYASHALA' ABHYAAS Program Accelerate Vigyan Scheme at S. V. National Institute of Technology, Surat, India, Friday, December 30th, 2022 at 10.0 to 11.30 AM IST.
 9. Limitation of crack formation in reinforced concrete by measures in structural design and construction on SERB funded on SERB funded Two weeks High End workshop on "Seismic Assessment and Rehabilitation of Structures (SARS)-2022" under 'KARYASHALA' ABHYAAS Program Accelerate Vigyan Scheme at S. V. National Institute of Technology, Surat, India, Saturday, December 31st, 2022 at 10.0 to 11.30 AM IST.
 10. Technical presentation on "Durable concrete for sustainable infrastructures" at Science Center, Surat for ASCON Realty Engineers, Surat-India on Saturday, September 3, 2022 at 4.0 to 6.30 PM IST.
 11. Research presentation and writing of proposal on Faculty Development Program sponsored by GUJCOT and DST, Government Gujarat on Research methodology and technical writing at Government Engineering College, Surat, India (December 2nd, 2020).
 12. References in report, thesis and research articles using Mendeley software on Faculty Development Program sponsored by GUJCOT and DST, Government of Gujarat on Research methodology and technical writing at Government Engineering College, Surat, India (December 3rd, 2020).
 13. Constitution of India on the celebration of the Constitution Day, November 26th at the Oil and Natural Gas Corporation (ONGC), Surat, India, (November 26th, 2020).
 14. Control of cracks development in reinforced concrete by measures in structural design and construction on Faculty Development Program (AICTE ATAL) on Recent Advances in Civil and Structural Engineering (RACSE) at Government Engineering College, Surat, India (November 25th, 2020).
 15. Webinar on Fiber reinforced polymer retrofitting system for sustainable civil-infrastructure, at School of Engineering, PP Savani University, Surat, India, (August 23, 2020).
 16. Webinar on Basic and recent advancement in concrete technology, at RMIX, Ready mix concrete plant, Surat, India, (May 16, 2020).
 17. Webinar on Advanced concrete technology for durable & sustainable infrastructures at Dr. S. & S. S. Gandhi Engineering College, Surat, India (May 27, 2020).

18. Introduction to research on Faculty Development Program (AICTE ATAL) on Research Methodology and Technical Writing (RMTW) at S. V. National Institute of Technology, Surat, India (September 16th, 2019).
19. Research methodology in engineering on Faculty Development Program (AICTE ATAL) on Research Methodology and Technical Writing (RMTW) at S. V. National Institute of Technology, Surat India, (September 16th, 2019).
20. Research presentation and proposal writing on Faculty Development Program (AICTE ATAL) on Research Methodology and Technical Writing (RMTW) at S. V. National Institute of Technology, Surat, India, (September 19th, 2019).
21. Referencing in report writing using Mendeley Software on Faculty Development Program (AICTE ATAL) on Research Methodology and Technical Writing (RMTW) at S. V. National Institute of Technology, Surat, India, (September 20th, 2019).
22. Introduction to advanced composites on Faculty Development Program (AICTE ATAL) on Recent Advances in Structural Engineering (RASE) at S. V. National Institute of Technology, Surat, India (November 18th, 2019).
23. Application of smart materials in the infrastructures on Faculty Development Program (AICTE ATAL) on Recent Advances in Structural Engineering (RASE) at S. V. National Institute of Technology, Surat, India, (November 22nd, 2019).
24. Constitution of India on the celebration of the Constitution Day November 26th at the Oil and Natural Gas Corporation (ONGC), Surat, India, (November 26th, 2018).
25. Keep India beautiful, clean India together on the World Habitat Day on October 1st, 2018 at the Institute of Engineer (India), Surat Chapter, Surat, India, (October 1st, 2018).
26. Application of advanced composites for seismic strengthening of structures at Nirma University, Ahmedabad, India, (April 29th, 2017).
27. Application of advanced composites materials in construction, “Recent advances in concrete technology” at the S V National Institute of Technology, Surat, India, (December 25th, 2016).
28. Utilization of Industrial and domestic waste as partial cement replacement materials for sustainable construction, Building future series, the Okanagan Institute (together with the Thompson-Okanagan Chapter of the Cascadia Green Building Council and the RAIC Centre for Architecture at Athabasca University) at Bohemian Cafe Bernard Street, Kelowna, Canada (19th Sept. 2013).
29. Self-compacting concrete “Recent advances in concrete technology” at S V National Institute of Technology, Surat, India (January 20th, 2009).
30. Business opportunity in civil engineering in India short term training program on “Techno entrepreneurship and its importance in technical education system” at the S. V. National Institute of Technology, Surat, India (January 12th, 2009).
31. High performance concrete in “Recent advances in concrete technology” at S. V. National Institute of Technology, Surat, India, (January 10th, 2010).
32. Earthquake resistant structures, National seminar on “Earthquake resistant structures” at S. V. National Institute of Technology, Surat, India, (September 15th, 2010).
33. Brief history of concrete and high-performance concrete at Vidya Bharti Polytechnic Campus, Umrah-Surat, India, (January 10th, 2010).

SHORT COURSES/WORKSHOP ORGANIZED, SVNIT SURAT, INDIA

1. Proposal submitted to the AICTE ATAL approved faculty development program on “Seismic design of RC buildings and bridges structures”, at the S. V. National Institute of Technology, Surat, India, (13th to 24th, June 2024).
2. Organized the Science and Engineering Research Board (SERB) approved high end workshop on “Nonlinear seismic assessment analysis of structures (NSAS-2023) under ‘KARYASHALA’ ABHYAAS Program Accelerate Vigyan Scheme at the S. V. National Institute of Technology, Surat, India, (10th to 15th, July 2023).
3. Organized the Science and Engineering Research Board (SERB) approved high end workshop on “Seismic assessment of rehabilitation of structures (SARS-2022) under ‘KARYASHALA’ ABHYAAS Program Accelerate Vigyan Scheme at the S. V. National Institute of Technology, Surat, India, (19th to 31st, Dec. 2022).
4. Organized AICTE ATAL approved faculty development program “Recent advances in structural engineering (RASE)” at the S. V. National Institute of Technology, Surat, India, (18 to 22nd November 2019).

5. Organized AICTE ATAL approved faculty development program “Research methodology and technical writing (RMTW)” at the S. V. National Institute of Technology, Surat, India, (16 to 20th September 2019).
6. Organized National Seminar on “Earthquake resistant structures” at the S. V. National Institute of Technology, Surat, India, (6 to 11th September-2010).
7. Organized AICTE approved short term training program on “Recent advances in concrete technology” at the S. V. National Institute of Technology, Surat, India, (25 to 29 Jan. 2010).
8. Organized AICTE approved short term training program on “Recent advances in concrete technology” at the S. V. National Institute of Technology, Surat, India, (12 to 16 Jan. 2009).
9. Organized AICTE approved short term training program on “Techno entrepreneurship and its importance in the technical education system” at the S. V. National Institute of Technology, Surat, India, (29 Dec-2008 to 2 Jan.-2009).
10. Organized AICTE approved short term training program on “Advanced computing techniques in structural engineering at the S. V. National Institute of Technology, Surat, India, (5 to 9 Jan. 2008).

PROPOSED POSTDOCTORAL FELLOW SUPERVISION, SV NIT Surat, India (SERB N-PDF)
<https://anrfonline.in/ANRF/npdf> (Applied for Research Grant at ANRF, INDIA)

Name	Research Topic
Dr. Udhaya Thangarasu	Overcoming durability barriers: Nano-reinforced geopolymers for next-generation low-carbon infrastructures
Dr. Apeksha Mendhe	Synchronization of existing traffic licenses into a versatile, optimised license and rule card (LTRC) system by doping automated digitization
Dr. Pooja Jha	Utilization of SCMs and construction wastes for improving the sustainability of the 3D-printed concrete
Dr. Tushar Bansal	Development of a robust AI model for damage detection of structures using smart sensor data and Machine Learning

SUPERVISION OF PHD THESIS, SV NIT Surat, India

Name/Registration	Co-supervisor	Date of completion	Research Topic
Kanan Thakkar January-2017	--	September-2021	Seismic investigation of bridge piers reinforced with shape memory alloys in the plastic hinge region
Mayank Patel January-2018	--	December 2025	Effect of elevated service temperature on axial strength of circular column with different aspect ratio strengthen with FRP composites
Mahesh Lunagaria July-2018	--	Synopsis to be submitted	Investigation of the high temperature effect on the residual axial capacity of FRP strengthened RC square column with different aspect ratio
Anil Kumar Mahto July-2019	Dr. A Lal Mech. Eng.	Synopsis to be submitted	Dynamic response of RC structures reinforced with shape memory alloys
Jay Gohel August-2020	--	Synopsis to be submitted	Seismic performance of a structure using a semi-active magnetorheological-shape memory alloy damper
Apurwa Rastogi August-2020	--	Synopsis to be submitted	Seismic performance of a steel frame using an SMA-based bracing system
Alka Tomar December-2020	--	Progress	Damage detection of concrete structures using embedded magnetic shape memory alloy sensing
Ammar Vanank January-2021	--	Progress	Seismic vulnerability assessment and integrity of ageing dams of Gujarat, India
Shilpi Verma July-2024	--	Progress	Utilisation of SCMs and construction wastes for improving the sustainability of the 3D-printed concrete
Joya Hitesh January-2026	--	Progress	Numerical evaluation of multi-storey reinforced concrete frames subject to progressive collapse
Haresh Tarani	--	Progress	Contact Period.....Course work

SUPERVISION OF M.TECH. THESIS, SV NIT Surat, India

Name/Registration	Co-supervisor	Date of completion	Research Topic
Joya Hitesh August-2023	--	June 2025	Numerical evaluation of multi-storey reinforced concrete frames subject to progressive collapse
Akula Prem Kumar August-2021	--	July, 2022	Numerical investigation of RC columns retrofitted with FRP under uniaxial load at elevated temperature
Ketul Chaudhari May-2019	--	December, 2020	Seismic performance concrete bridge piers reinforced with shape memory alloys and steel bars using statistical analysis
Ketu Surti May-2018	--	July, 2019	Seismic performance assessment of RC wall pier bridge reinforced with SMA in plastic hinge region

SUPERVISION OF B.TECH./B.A.Sc. THESIS, SV NIT Surat, India, and UBC Canada

Name/Registration	Co-supervisor	Date of completion	Research Topic
Tency Trivedi Alok Raj Nisheeth Singh Rajput	--	Progress	Machine learning-based retrofit recommendation system
Meet Patel Shivang Vyas	--	May 2021	Seismic fragility assessment of high-rise non-ductile reinforced concrete buildings in India
Abhishek Tiwari Satyam Tiwari Darshan Bhuta	--	May, 2018	Effect of SMA reinforcement on plastic hinge of RC skew bridges circular pier under seismic load
Rohan Bhutwala Gautam Raj Saloni Mistry	--	May, 2018	Effect of FRP rebar on RC skew bridges circular pier under seismic load
Satwik Rayjada	--	May-2017	Seismic performance evaluation of FRP retrofitted RC columns
Rohan Naik	--	May-2017	Axial strength of FRP-confined concrete with different cross-sectional aspect ratios under elevated temperature/fire effect
Jonathan Greening Mohammad Aminfard Scott Forsyth	--	May-2012	Polymer concrete for pavement construction
Jordan Huot Saavin Khurana Matthew Dorion Stirling Grassick Jeremy Fostvelt	--	May-2016	Pushover analysis of FRP retrofitted bridge piers: a fractional factorial design
Viral Chauhan	--	July-2022	Structural health monitoring of concrete structures using embedded magnetic shape memory alloys sensing
Yash Vajapara	--	July-2022	Damage detection of structures based on autoencoder neural networks and deep learning
Rakesh Solanki	--	July-2022	Recent advances, opportunities hype, or hindrance on structural health monitoring in North America
Prince Vahasiya	--	July-2022	Estimation of axial load-carrying capacity of FRP reinforced concrete columns through machine learning approach

TEACHING, UNDERGRADUATE AND GRADUATE LEVEL COURSE, SV NIT Surat, India

L= Lecture, T = Tutorial, and P = Practical/Laboratory, *UG = Undergraduate courses

Course name	Teaching scheme			Credit
	L	T	P	
CECE-113 S2: Building Technology (*UG)	3	-	2	4
CEME-105: Energy and Environmental Engineering (*UG)	6	-	-	4
CEST-113: Theory of Elasticity and Plasticity (*PG)	3	-	-	3

AM-204: Engineering Mechanics (*UG)	3	2	2	4
AM-205: Mechanics of Solids (*UG) Mech. Eng.	3	-	2	4
AM-207: Mechanics of Solids (*UG) Civil Eng.	3	1	1	5
CE-201: Solid and Fluid Mechanics (*UG)	4	-	-	4
AM-206: Structural Analysis-I (*UG)	3	1	2	5
AM-408: Concrete Technology (*UG)	2	-	2	4
AM-309: Introduction to Earthquake Engineering (EIS-I) (*UG)	3	1	-	4
AM-310: Machine Foundation (EIS-II) (*UG)	3	-	-	3
AM-312: Repair and Maintenance of Structures (EIS-I) (*UG)	3	-	-	3
AM-407: Design of concrete Structures (*UG)	3	2	2	6
CE-409: Seminar (*UG)	-	-	2	1
CE-412: Capstone Project (*UG)	-	-	8	4
AM-704: Design of Earthquake Resistant Structures (Graduate)	3	1	-	4
AM-702: Finite Element Analysis (Graduate)	3	1	-	4
AM-706: Structural Dynamics (Graduate)	3	-	2	4
CE-797: Structural Engineering Laboratory	-	-	04	2
AM-712: Design of Pre-stressed Concrete Structures (Graduate)	3	1	-	4
AM-710: Rehabilitation of Concrete Structures (Graduate)	3	1	-	4

TEACHING ASSISTANTSHIP, UBC Canada

Course name	Term and Year	Position
APSC-181: Statics	Term-1, 2011	Marker
APSC-258: Applications of Eng. Design	Term-2, 2013	Laboratory and Tutorial
ENGR-325: Civil Engineering Materials	Term-1, 2013	Laboratory and Tutorial
APSC-258: Applications of Eng. Design	Term-2, 2014	Laboratory and Tutorial
APSC-181: Dynamics	Term-2, 2014	Laboratory and Tutorial
ENGR-325: Civil Engineering Materials	Term-1, 2014	Laboratory and Tutorial
APSC-258: Applications of Eng. Design	Term-2, 2015, 2016	Laboratory and Tutorial

TRAINING COURSES (ATTENDED)

1. Attended numerous webinars in the area of civil-structural engineering (March to September, 2021)
2. Five-day Faculty Development Program (AICTE ATAL) on Recent Advances in Structural Engineering (RASE) at S. V. National Institute of Technology, Surat (November 18th-22nd, 2019).
3. Five-day Faculty Development Program (AICTE ATAL) on Research Methodology and Technical Writing (RMTW) at S. V. National Institute of Technology, Surat (September 16th - 20th, 2019).
4. Epicons Workshop 69: Inspection, repairs & rehabilitation of bridges, at VJTI, Matunga, Mumbai, (March 18, 2017).
5. Globe-2016 Conference, at Vancouver convention center (March 1, 2016).
6. One-Day Industrial Workshop on "Exploring a national network for the composite industry" at UBC, Vancouver (January 28, 2016).
7. Two-Day Industrial Workshop on "Composite materials engineering, A step by step approach" at UBC, Okanagan, Kelowna (June 4 & 5, 2015).
8. One-day seminar on seismic design using -CSA S6-14 (CHBDC) at Vancouver, May 21, 2015.
9. Three-day workshop on teaching assistant credential program at UBC, Okanagan, May-2012.
10. Workplace Hazardous Material Information System (WHMIS) at UBC, Okanagan, September 6 & 7, 2011
11. Two-day workshop on "Advance concrete mix design workshop" on, Organized by Abuja Cement Ltd. Surat (18th to 19th November-2010).
12. Short Term Training Program on "Analysis and design of high-rise buildings using STADD. Pro." at Sardar Patel College of Engineering, Mumbai (24th to 29th August-2009).
13. Short Term Training Program on "Advances in geotechnical engineering" at SVNIT Surat (29th Dec 2008 to 2nd January-2009).

14. Short Term Training Program on “Pedagogy and research methodology” at SVNIT Surat (19th to 23th January-2009).
15. Short term training program on “Software application and web-based learning tools in structural engineering” at SVNIT Surat (7th to 11th December-2008).
16. Short term training program on “Advanced engineering optimization through intelligent techniques” at SVNIT Surat (16th to 20th June-2008).
17. Two-days short term introductory course on “I.S. 800-2007” at NIT Nagpur (29th to 30th April-2008).
18. Five-day workshop on seismic design of steel structures at IIT Kanpur (20th to 24th March-2008).
19. Five-day workshop on experiment techniques in earthquake engineering at IIT Kanpur (15th to 19th March-2008).
20. Short Term training program on “Seismic resistance design & rehabilitation of structures” at Central Building Research Institute Roorkee (22th to 25th April-2008).
21. Induction training program on “Effective quality upgradation assistance for technical education” at SVNIT Surat (18th to 20th January-2008).
22. Short term training program on “Recent trends in corrosion science, technology, monitoring and control” at SVNIT Surat (25th to 29th December-2007).
23. Short term training program on “Introduction to STADD Pro.” at NITTTR Chandigarh (25th to 29th August-2007).

AREAS OF EXPERTISE:

Seismic analysis and design; smart materials and their structural application (Shape memory alloys, Nano materials), seismic retrofitting of steel, high-performance and fiber reinforced concrete and masonry structures; recycle/reuse of industrial wastes for structural applications; finite element analysis; structural dynamics; constitutive relationship; application of advanced composites materials-fiber reinforced polymer (FRP); sprayed-FRP, multi-criteria optimization; statistics.

Date: Wednesday, April 15, 2026

Place: SV NIT Surat, India



(Dr. Anant Parghi)