**Dr. Ghanshyam G. Tejani**
**Assistant Professor, Mechanical Engineering, SOT**

## Education Qualification:

- **Ph.D. in Mechanical Engineering**, School of Technology, Pandit Deendayal Petroleum University (NAAC A Grade), Gandhinagar, India (July 2013 – December 2017)
  **Thesis title:** "Investigation of advanced metaheuristic techniques for simultaneous size, shape, and topology optimization of truss structures"
- **Master's degree in Mechanical Engineering** (**Machine Design)**, Secured **two Gold medals** as a **University topper**, RKCET, Gujarat Technological University, India (July 2010 – June 2012)
  **Dissertation title:** "Material optimization of a rubber compression moulding machine structure"
- **Bachelor's degree in Mechanical Engineering**, Shantilal Shah Engineering College, Bhavnagar University, Bhavnagar, India (July 1999 – June 2003)

## Research Interest:

- **Advanced Engineering Optimization**
- **Structural optimization**
- **Single & Multiple Objective Optimization**
- **Dynamics of Machinery**

## Teaching Experience

**Assistant Professor, School of Technology, GSFC University, Vadodara, India 25/9/2018—Present**

**Assistant Professor, School of Engineering, RK University, Rajkot, India 13/7/2009—24/09/2018**

## Industry Experience:

**Erection Engineer, Aawadkrupa Plastomech Pvt. Ltd., Bhavnagar, India 1/7/2007—30/6/2009**

**Supervisor, Par Drugs @ Chemicals Pvt. Ltd., Bhavnagar, India 1/2/2004–30/6/2007**

**Trainee, Essar Steel Ltd., Hazira, Surat, India 8/1/2003–8/2/2003**

## Courses Taught:

- Teaching courses at

M. Tech: Engineering Optimization, MATLAB, ANSYS, and Dynamics of Mechanical Systems

B. Tech.: Dynamics of Machinery, Machine Design, Engineering Graphics, AutoCAD, ANSYS, and Pro-Engineers,

## International Peer-Reviewed Publications

### Research Papers

- "Adaptive symbiotic organisms search algorithm for structural design optimization," *Journal of Computational Design and Engineering 3(3)*, 226—249, Elsevier, Science Direct, DOI:10.1016/j.jcde.2016.02.003 (2016) (IF: 1.352, SCOPUS, Web of Science, SCImago, etc.). **This paper is third most cited paper of this journal.**
- "Modified sub-population teaching-learning-based optimization for design of truss structures with natural frequency constraints," *Mechanics Based Design of Structures and Machines, An International Journal 44(4)*, 495—513, Taylor & Francis DOI: 10.1080/15397734.2015.1124023 (2016) (IF: 1.559, SCOPUS, Web of Science, etc.)
- "Truss topology optimization with static and dynamic constraints using modified sub-population teaching-learning-based optimization," *Engineering Optimization 48(11), 1—17* Taylor & Francis DOI: 10.1080/0305215X.2016.1150468 (2016) (IF: 1.728, Indexed by SCOPUS, Web of Science, SCImago, etc.)
- "Modified Meta-Heuristics Using Random Mutation for Truss Topology Optimization with Static and Dynamic Constraints." *Journal of Computational Design and Engineering 4(2)*. 106—130 Elsevier, Science Direct, DOI:10.1016/j.jcde.2016.10.002. (2016) (I.F. 1.352, Indexed by SCOPUS, Web of Science, SCImago, etc.)
- "Examination of three meta-heuristic algorithms for optimal design of planar steel frames," *Advances in Computational Design 1(1)*, 79—86, Techno Press. DOI:10.12989/acd.2016.1.1.079 (2015) (This research is funded by Thailand research fund, BRG5880014, with **Dr. Bureerat, Thailand**, Indexed by Web of Science)
- "Modified sub-population based heat transfer search algorithm for structural optimization: Modified HTS algorithm," International Journal of Applied Metaheuristic Computing 8(3), 1—23 IGI Global, DOI: 10.4018/IJAMC.2017070101 (2017) (Emerging Sources Citation Index, Web of Science)
- "Size, shape, and topology optimization of planar and space trusses using mutation-based improved metaheuristics." Journal of Computational Design and Engineering 5, 198—214, Elsevier, Science Direct, https://doi.org/10.1016/j.jcde.2017.10.001 (2017) (I.F. 1.352, SCOPUS, Web of Science, SCImago, etc.)
- "Topology, shape, and size optimization of truss structures using modified teaching-learning based optimization." Advances in Computational Design, Techno-Press, 2(4), 313—331. (2017) with **Dr. Bureerat, Thailand**
- "Topology and size optimization of trusses with static and dynamic bounds by modified symbiotic organisms search," ASCE's Journal of Computing in Civil Engineering 32(2), 1—11, doi:10.1061/(ASCE)CP.1943-5487.0000741 (2018) (IF: 2.310, SCOPUS, Web of Science, SCImago, etc.) with **Dr. Bureerat, Thailand**
- "Truss optimization with natural frequency bounds using improved symbiotic organisms search", *Knowledge-Based Systems 143*, 162—178, Science Direct, Elsevier, doi:10.1016/j.knosys.2017.12.012 (2018) (IF: 4.615, SCOPUS, Web of Science, SCImago, etc.) with **Dr. Mirjalili, Australia**
- "An improved heat transfer search algorithm for unconstrained optimization problems", *Journal of Computational Design and Engineering*, Elsevier, Science Direct, doi.org/10.1016/j.jcde.2018.04.003 (2018) (I.F. 1.352, SCOPUS and Web of Science), with **Dr. Mirjalili, Australia**
- "Topology optimization of truss subjected to static and dynamic bounds by integrating simulated annealing into passing vehicle search algorithms", *Engineering with Computers*, Springer, DOI:

10.1007/s00366-018-0612-8 (2018) (IF: 1.951, Indexed by SCOPUS and Web of Science), with **Dr. Bureerat, Thailand**

- "Multiobjective adaptive symbiotic organisms search for truss optimization problems", *Knowledge-Based Systems*, Science Direct, Elsevier DOI:10.1016/j.knosys.2018.08.005 (2018) (IF: 4.615, SCOPUS, Web of Science, SCImago, etc.), with **Dr. Bureerat & Dr. Pholdee, Thailand and Dr. Prayogo, Taiwan.**
- "Parallel Sub-Class Modified Teaching–Learning-Based Optimization", in communication with Journal of Computational Design and Engineering, Elsevier, Science Direct with **Dr. Mirjalili, Australia**
- "Structural Optimization Using Multi-Objective Modified Adaptive Symbiotic Organisms Search" under review with Expert Systems with Applications, Elsevier, Science Direct with **Dr. Bureerat & Dr. Pholdee, Thailand and Dr. Prayogo, Taiwan**

**Books/ Book chapters**

- Book, Truss Topology Optimization: A review, Truss Topology Optimization: A review, Scholars Press, Germany, ISBN: 978-620-2-31370-4 (2018)
- "TLBO approach to truss structure subjected to static and dynamic constraints," International Conference on ICT for Sustainable Development – 2015, Ahmedabad, 5th July 2015. (published in Springer Post Conference Proceeding)
- "Grey Wolf Optimizer (GWO) Algorithm for Minimum Weight Planer Frame Design Subjected to AISC-LRFD," ICT4SD-2015, Ahmedabad, 5th July 2015. (published in Springer Post Conference Proceeding)

**Conference & Seminar:**

- "TLBO approach to truss structure subjected to static and dynamic constraints," International Conference on ICT for Sustainable Development – 2015, Ahmedabad, 5th July 2015. (published in Springer Post Conference Proceeding)
- "Grey Wolf Optimizer (GWO) Algorithm for Minimum Weight Planer Frame Design Subjected to AISC-LRFD," ICT4SD-2015, Ahmedabad, 5th July 2015. (published in Springer Post Conference Proceeding)
- The research paper entitled "Simulation of a rubber compression moulding machine to minimize the mass of structure" was awarded by best paper presentation in session at the international conference ICITS-2012

**International Collaborations**

Successfully collaborated with five experts in the area of engineering optimization - Dr. Sujin Bureerat and Dr. Nantiwat Pholdee (Professors at KhonKaen University, Thailand), Dr. Ali Kaveh (Head of Iran National Laboratory, Iran), Dr. Seyedali Mirjalili (Professor at Griffith University, Australia), Dr. Amir Gandomi (Stevens Institute of Technology, United States), and Dr. Doddy Prayogo (Assistant Professor at Peter Christian University, Taiwan).

**Editorial Board Member**

- Computer and Information Science of Canadian Center of Science and Education, Canada (In Scopus)
- Journal of Model Based Research, Open access pub, United States
- World Congress on Petroleum Engineering & Natural Resources, Athens, Greece & London, United Kingdom
- Engineering and Applied Science Research, Thailand (In Scopus)
- Asia-Pacific Journal of Science and Technology, Thailand (In Scopus)

**Reviewed International Journal Papers**

- Knowledge-Based Systems, Elsevier, Science Direct, The Netherlands; H-index 82 (seven papers)
- Applied Soft Computing, Elsevier, Science Direct, The Netherlands; H-index 97 (one paper)
- Journal of Computing in Civil Engineering, American Society of Civil Engineers, USA; H-index 59 (one paper)
- Advances in Computational Design, An International Journal, Techno Press, Korea (one paper)
- Periodica Polytechnica Civil Engineering, Hungary; H-index 13 (one paper)
- Journal of Pure and Applied Mathematics, Pulsus Journals, United Kingdom; H-index 33 (one paper)
- Mathematical Problems in Engineering, Hindawi, United Kingdom; H-index 44 (one paper)
- Computer and Information Science, Canadian Center of Science and Education, Canada; H-index 23 (one paper)
- Iranian Journal of Science and Technology, Transactions of Civil Engineering, Springer, Iran; H-index 9 (three papers)
- Engineering and Applied Science Research, Thailand (In Scopus) (one paper)
- Asia-Pacific Journal of Science and Technology, Thailand (one paper)
- International Journal of Electrical and Computer Engineering, Indonesia; H-index 11 (one paper)
- Journal of ICT Research and Application, Indonesia; H-index 5 (one paper)
- International journal of Science & Technology, Scientia Iranica, Iran; H-index 34 (one paper)
- Engineering with Computers, Springer, Germany; H-index 39 (one paper)

**Professional Memberships**

- The Institution of Engineers (Membership No: AM1600632)
- International Association of Engineers (Membership No: 154360)
- American Society of Civil Engineers (Membership No: 11464867)
- American Society of Mechanical Engineering (Expired)

**Workshops/Programs Attended**

- Knowledge Management: Issues and Challenges, SVNIT, Surat, 4th-8th January 2010
- Innovative Approach for Effective Teaching in Engineering Graphics, INDUS Uni., Ahmadabad, 16th January 2010
- Vibration Problems in Plants & Machineries, Anchor Institute Cell, SVNIT, Surat, 14th–18th June 2010
- Finite Element Methods, RK University, 14th-18th June 2010
- Section VIII, Division 1- Design & Fabrication of Pressure Vessels, ASME & SVNIT, 26th–30th December 2011
- Computer Aided Designing using PRO-E, Anchor Institute Cell, 4th–8th June 2012
- Computational Fluid Dynamics, sponsored by IIT Bombay, RK University, 12th–22nd June 2012
- Introduction to Research Methodology, sponsored by IIT Bombay, RK University, 25th June to 4th July 2012
- ANSYS Training: Structural, Innovent Eng. Pvt. Ltd., 26th-27th July 2012
- Aakash for Education, sponsored by IIT Bombay, RK University, 10th–11th November 2012
- Introduction of Finite Element Analysis, IUCEE, 23rd January to 6th March 2013 (8 days)
- Research methods in Educational Technology, IIT Bombay & RK University, 2nd & 9th February 2013
- Engineering Mechanics, sponsored by IIT Bombay, 26th November 2013 to 6th December 2013
- Towards a Green Planet, sponsored by PDPU, Gandhinagar, 20th December 2013
- Fluid Mechanics, sponsored by IIT Kharagpur, RK University, 20th –30th May 2014
- Writing and Publishing Skills for Researchers, RK University, Rajkot, 26th September 2015
- Learning Exchange Design 3.0, RK University, 26th March 2016 to 30th April 2016 (6 days)
- Design Thinking Workshop, RK University, Rajkot, 18th–22nd August 2017
- FDP101x Foundation Program in ICT for Education, IIT Bombay & RKU, 3rd August to 12th September 2017 (10 days)

- FDP201x Pedagogy for Online and Blended Teaching-Learning, IITB, RKU, 12th Sept. to 28th Nov. 2017 (10 days)
- FDP on Features of Faculty, organized on 14th April 2018 at BAPS Swaminarayan Mandir, Rajkot.
- Diversity management in the workplace in the context of HEI, by Wrocław University of Science and Technology, Poland; held at RK University, Rajkot, 25th–26th July 2018
- Assessment and grading, by Frederick University, Nicosia, Cyprus; held at RK University, Rajkot, 30th–31st July 2018
- Personal Development and Intellectual Honesty, by Nova University, Portugal; held at RK University, Rajkot, 6th–7th September 2018

**Extracurricular activities**

- Mentor of change of Shree G K Dholakiya School, Rajkot, the Atal Tinkering Lab (Innovation networking and mentoring platform), NITI Aayog, Gov. of India

**Awards & Honours:**

- My research paper 'Adaptive symbiotic organisms search algorithm for structural design optimization' is the third most cited paper in Journal of Computational Design and Engineering (IF: 1.352), Elsevier, Science Direct (2018)
- Certificate of outstanding contribution in reviewing award, Knowledge-Based Systems (IF: 4.627), Elsevier, Science Direct (2017)
- University topper and Double gold medalist, M.E. course, GTU (2012)
- Best paper presentation award in session, international conference ICITS-2012
- AutoCAD 2012 certified associate
- Most number of publications and citations in RK University

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**Twitter: https://twitter.com/GhanshyamTejani**

**Publons: https://publons.com/author/1279762/**

**Mendeley: https://www.mendeley.com/profiles/ghanshyam-tejani/**

**ResearchGate: www.researchgate.net/profile/ghanshyam_tejani/**

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