

**Name: Dr. Vimal Savsani**

### *Publications*

#### **Book published**

RV Rao, VJ Savsani, Mechanical Design Optimization using Advanced Optimization Technique, Springer London Heidelberg, ISBN 10.1007/978-1-4471-2748-2, (2012).

#### **Papers Published in International Journals**

1. P Savsani, RL Jhala, VJ Savsani, Comparative Study of Different Metaheuristics for the Trajectory Planning of a Robotic Arm, IEEE Systems Journal, IEEE, (2014). (Accepted).
2. VK Patel, VJ Savsani, A multi-objective improved teaching-learning based optimization algorithm (MO-ITLBO). Information Sciences, Elsevier, (2014).(Accepted)
3. VK Patel, VJ Savsani ,Optimization of a plate-fin heat exchanger design through an improved multi-objective teaching-learning based optimization (MO-ITLBO) algorithm. Chemical Engineering Research and Design, Elsevier, (2014). (Accepted)
4. PV Savsani, RL Jhala, VJ Savsani, Effect of hybridizing Biogeography-Based Optimization (BBO) technique with Artificial Immune Algorithm (AIA) and Ant Colony Optimization (ACO). Applied Soft Computing, Elsevier, 21, 542-553, (2014).
5. VJ Savsani, Implementation of modified artificial bee colony (ABC) optimization technique for minimum cost design of welded structures, International Journal for Simulation and Multidisciplinary Design Optimization, EDP science, 5, 1-10, (2014).
6. AN Jani, VJ Savsani, A Pandya, 3D affine registration using Teaching-Learning Based Optimization, 3D research, Springer, 4 (3), 1-6, (2013).
7. VJ Savsani, Multi-objective design optimization of rolling element bearings using ABC, AIA and PSO technique, International Journal of Energy Optimization and Engineering, IGI, 2(3), 102-125, (2013).
8. RV Rao, VJ Savsani, J Balik, Teaching-learning-based optimization algorithm for unconstrained and constrained real-parameter optimization problems. Engineering Optimization, Taylor and Francis, 44(12), 1447-1462, (2012).
9. VJ Savsani, HBBABC: A Hybrid Optimization Algorithm Combining Biogeography Based Optimization (BBO) and Artificial Bee Colony (ABC) Optimization for Obtaining Global Solution of Discrete Design Problems. Computational Engineering Research ,2, 7, 85-97, (2012)

10. RV Rao, VJ Savsani, DP Vakharia, Teaching-learning-based optimization: A novel optimization method for continuous non-linear large scale problems. *Information Sciences*, Elsevier, 183, 1, 1-15, (2012).
11. RV Rao, VJ Savsani, DP Vakharia, Teaching-learning-based optimization: A novel method for constrained mechanical design optimization problems. *Computer-Aided Design*, Elsevier, 43, 3, 303-315, (2011).
12. VJ Savsani, RV Rao, DP Vakharia Optimal weight design of a gear train using particle swarm optimization and simulated annealing algorithms. *Mechanism and Machine Theory*, Elsevier, 45, 3, 531-541, (2010).
13. RV Rao, DP Vakharia, VJ Savsani, Mechanical engineering design optimisation using modified harmony elements algorithm. *International Journal of Design Engineering, Inder science*, 2, 2, 116-135, (2009).
14. VJ Savsani, RV Rao, DP Vakharia, Discrete optimization of a gear train using biogeography based optimization. *International Journal of Design Engineering, Inder science*, 2, 2, 205-223, (2009).
15. VJ Savsani, RV Rao, DP Vakharia, Multi-objective design optimization of rolling element bearings using a modified particle swarm optimization technique. *International Journal of Design Engineering, Inder science*, 1, 4, 412-433, (2008).

### **Papers Published/Presented in Conference proceedings**

#### **International/ National Conference**

1. MB Vaghela, VJ Savsani, SB Jadeja, Design and Kinematic Analysis of an Automatic Tool Changing Mechanism Used in VMC, *Proceedings of International Conference on Advances in Tribology and Engineering Systems*, Springer India, 269283 (2014).
2. PV Savsani, RL Jhala, VJ Savsani, Optimized Trajectory Planning of a Robotic Arm Using teaching learning based optimization (TLBO) and artificial bee colony (ABC) optimization techniques, 381-386, *Proceedings of 7th IEEE Systems Conference*, Orlando, Florida, USA, 15-18 April (2013).
3. PV Savsani, VJ Savsani, Motion Tracking Through Machine Vision, *Proceedings of ASME ECT Conference*, 10, 14-21, Atlanta, Georgia, USA, (2011).
4. PV Savsani, VJ Savsani, Computer Simulation and Modeling of Anthropomorphic Robot Arm, *Proceedings of the Second Indo-Russian Joint Workshop on Computational Intelligence and Modern Heuristics in Automation and Robotics*, 5761, Novosibirsk, Russia, September 10-13, Additional volume, (2011).

5. VJ Savsani, RV Rao, Multi-objective design optimization of a robot gripper using TLBO technique, Proceedings of the Second Indo-Russian Joint Workshop on Computational Intelligence and Modern Heuristics in Automation and Robotics. Novosibirsk, Russia, September 10-13, 196-200, Novosibirsk, Russia, (2011).
6. VJ Savsani, RV Rao, DP Vakharia, TLBO: An Efficient Optimization Technique for Mechanical Design, Proc. of the 5th International Conference on Advances in Mechanical Engineering (ICAME-2011), June 06-08, 2011, S.V. National Institute of Technology, 250-253, Surat, Gujarat, India, (2011).
7. VJ Savsani, RV Rao, DP Vakharia, Multi-objective optimization of mechanical elements using artificial bee colony optimization technique. ASME ECT Conference, 9, 146-152, Atlanta, Georgia, USA, (2010).
8. VJ Savsani, RV Rao, DP Vakharia, ABC-WPGE: A Hybrid Artificial Bee Colony Algorithm with Particle Swarm Guided Employed Bees for Global Numerical Optimization, Proc. of the 4th International Conference on Advances in Mechanical Engineering, September 23-25, 2010, S.V. National Institute of Technology, 196-200, Surat, Gujarat, India, (2010).
9. VJ Savsani, RV Rao, DP Vakharia, Multi-objective design optimization of rolling element bearings using a modified artificial bee colony optimization technique. Proceedings of 2nd International Conference on Advances in Mechanical Engineering, August 3-5, 722-726, Surat, India, (2009).
10. VJ Savsani, RV Rao, DP Vakharia, Modified Harmony Elements Algorithm for the Optimization of Mechanical Engineering Design, Proc. of the International Conference on 'Advances in Mechanical Engineering', December 15-17, 2008, S.V. National Institute of Technology, 545-550, Surat, Gujarat, India, (2008).
11. YH Cui, R Guo, RV Rao, VJ Savsani, Harmony Element Algorithm – A Naive Initial Searching Range, Proc. of the International Conference on 'Advances in Mechanical Engineering', December 15-17, 2008, S.V. National Institute of Technology, 479-484, Surat, Gujarat, India, (2008).
12. VJ Savsani, RV Rao, DP Vakharia, Biogeography-based optimization for the discrete optimization of a speed reducer. Proc. of the International Conference on 'Advances in Mechanical Engineering', December 15-17, 2008, S.V. National Institute of Technology, 404-408, Surat, Gujarat, India, (2008).
13. VJ Savsani, RV Rao, DP Vakharia, Cost Optimization of a long column using genetic algorithm, Proceedings of International conference on emerging technologies and applications in engineering, technology and sciences, 315-320, Saurashtra university, Rajkot, Gujarat, India, (2008).

14. PV Savsani, VJ Savsani, Kinematic Enumeration and sketching of 8-link 1 DOF simple jointed planar kinematic chains, Proceeding of National Conference on Emerging trends in mechanical Engineering, SVNIT, Surat, INDIA, 39, (2007).
15. VJ Savsani, PV Savsani, Implementation of FEA for 154 MVA power transformer considering the effect of static and seismic loads, Proceeding of National Conference on Emerging trends in mechanical Engineering, SVNIT, Surat, INDIA, 37, (2007).