

# Technical Contributions

## HONOURS AND AWARDS

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|------|--|
| 2012 | Young Scientist, Fast Track Research Project, Department of Science & Technology, Govt of India, "Sensorless XY Flexural Mechanism for Precision Application", |
| 2008 | Best Research Project, Vaigyaniki, Radiance, IIT, Bombay for "Design and Development of 3D Microfabrication System"  |
| 2007 | International Award at Bangalore Nano Conference, "A Novel Optomechatronic Focused Laser Spot Submicron Scanning System for Microstereolithography".           |
| 2007 | Appreciated by Director, IIT Bombay, for "Development of Laser Scanner for 3D Microfabrication".   |

## RESEARCH FUNDS

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|------|-----------|---|
| 2021 | Submitted | IGSTC Joint Call for Proposals for joint R&D&I projects of industrial relevance in 2+2 Mode of Partnership in the thematic area "Additive Manufacturing". In Collaboration with IMTEK - University of Freiburg, Freiburg, Germany |
| 2020 | Ongoing   | AICTE, RPS, Design and Development of 3D Object Manufacturing System, Wastepaper as Raw Material, Funds Sanctioned  |
| 2019 | Ongoing   | AICTE Margdarshan Scheme 15 Lakhs, Govt College of Engg., Karad   |
| 2019 | Completed | Consultant and Advisor for Irrigation department for Energy Audit and PG testing of Lift Irrigation Pumping stations at Takari&Mhaishal scheme Govt. of Maharashtra   |
| 2012 | Completed | Sensor-less XY Flexural Mechanism for Precision Application, (DST) Department of Science & Technology Young Scientist Fast Track 2012, Fund 14 Lakhs  |
| 2012 | Completed | Design and Development of Sensor-less Linear Compressor, Indian Space Research Organization – University of Pune Cell (ISRO-UoP Cell), Fund 15 Lakhs  |
| 2014 | Completed | High Speed, High Precision 3D Printer, SelectSys America, Jubille Hills, Hyderabad, Fund 5 Lakhs  |
| 2014 | Completed | Design and Development of LCD based Stereolithography for Micro-fabrication, BCUD, University of Pune, Fund 2.4 Lakhs   |
| 2013 | Completed | Design and development of portable high yield regenerative solar still with PCM, BCUD, University of Pune, Fund 1.8 Lakhs   |
| 2013 | Completed | Design and development of vibration energy harvesting device", BCUD, University of Pune, Fund 2.4 Lakhs   |

## PATENTS

### Granted

1. Suhas Deshmukh, P.S. Gandhi, Kundu, Tapanendu, "A method and a scanner for three-dimensional focused laser beam spot", Patent Number :270072, Application No 1847/MUM/2007
2. Suhas Deshmukh, Shubham Sunil Hawaldar, Milind Dattatray Killedar, Shubhada Sunil Hawaldar. "Automatic Water Flushing System", Granted Application, Patent Number :358151, Application No 202021015780,
3. Hrishikesh BalasahebZambare, Ali Razban , Suhas Pandurang Deshmukh , Mahesh Shivaji Shewale , Sharad S . Mulik, "POSITION DETERMINING SYSTEM", Pub. No.: US 2019 / 0195612 A1, Pub. Date: Jun. 27, 2019

### Patent Pending &Published

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1. Suhas Deshmukh, Virendra Bhojwani, Amit Jomde, "A mechanism to conveniently release footrest in vehicles", Application No 201621025659 Filed on 27/07/2016.
2. Suhas Deshmukh, Virendra Bhojwani, Amit Jomde, "Sensor less XYZ Scanner for precision application", Indian Patent Application No.201621027261, Filed on 09/08/2016
3. Ganesh Suresh Jadha, Urmi Ravindra Salve, Suhas Deshmukh "Cutting Dies for Kolhapuri Chappal And Automation Thereof", Indian Patent Application No. 201821034508
4. Suhas Deshmukh, Ketan Sakharam Kulkarni, Automated Oxygenation Device, Indian Patent Application No. 201721017826, Filed On 22/05/2017
5. Suhas Deshmukh, Blood Warmer, Indian Patent Application No. 201721002404, Filed On 22/01/2017
6. Suhas Deshmukh, Detachable Multipurpose Container, Indian Patent Application No.201721037350, Filed On 23/10/2017
7. Suhas Deshmukh, Kavidas Mate Multi DOF Manual Precision Positioning Mechanism with Motion Amplification, Indian Patent Application No. 201721034464, Filed On 28/09/2017

## JOURNALS

1. Deshmukh, Suhas, Gandhi, PS, Optomechanical scanning systems for microstereolithography (MSL): Analysis and experimental verification Journal of Materials Processing Technology, 209, 3, 1275-1285, 0924-0136, 2009, Elsevier.
2. Gandhi, PS, Deshmukh, S, A 2D optomechanical focused laser spot scanner: analysis and experimental results for microstereolithography, Journal of Micromechanics and Microengineering, Volume 20, Issue 1, 015035, 0960-1317, 2009, IOP Publishing
3. Attar, Ajaj R, Tipole, Pralhad, Bhojwani, Virendra, Deshmukh, Dr Suhas, Effect of magnetic field strength on hydrocarbon fuel viscosity and engine performance, International Journal of Mechanical Engineering and Computer Applications, Volume 1, Issue 7, 94-98, 2013
4. Taware, SM, Deshmukh, SP, A review of energy harvesting from piezoelectric materials, IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE), 43-50, 2013,
5. Gandhi, Prasanna, Deshmukh, Suhas, Ramtekkar, Rahul, Bhole, Kiran, Baraki, Alem, "ON-AXIS" LINEAR FOCUSED SPOT SCANNING MICROSTEREOLITHOGRAPHY SYSTEM: OPTOMECHANIC DESIGN, ANALYSIS AND DEVELOPMENT, Journal of Advanced Manufacturing Systems, Volum 12, Issue 01, 43-68, 0219-6867, 2013, World Scientific Publishing Company
6. Jadhav, Nilam P, Deshmukh, Suhas, Lele, Mandar M, Numerical Simulation of Fin and Tube Gas Cooler for Transcritical CO<sub>2</sub> Air Conditioning System, J Int. J. Eng. Res. Technol, Volume 1, Pages 1-8, 2012
7. Anand Tandel, Suhas Deshmukh, Kirankumar Jagtap, Abhijeet Deshpande, Comparison Of Multibody Dynamic Analysis Of Double Wishbone Suspension Using Simmechanics And FEA Approach, International Journal of Research in Engineering and Science, Volume 2, Issue 4, Pages 31-37, 2014, IJRES
8. Modeling, analysis and PID controller implementation on double wishbone suspension using SimMechanics and Simulink, Tandel, Anand, Deshpande, AR, Deshmukh, SP, Jagtap, KR, Procedia Engineering, Volume 97, Pages 1274-1281, 1877-7058, 2014, Elsevier
9. Jain, Shweta, Deshmukh, Suhas, Experimental investigation of magnetic fuel conditioner (MFC) in IC engine, IOSR Journal of Engineering (IOSRJEN), Volume 2, Issue 7, Pages 27-31, 2012
10. Bhoge, Dhananjay M, Deshmukh, Suhas P, Comparison of flexural joints used in precision scanning mechanism using FEA tool, Int. J. Technol. Res. Eng., Volume 3, issue 2, 2015.
11. Chikhale, SJ, Deshmukh, SP, Comparative analysis of vehicle suspension system in Matlab-SIMULINK and MSc-ADAMS with the help of Quarter Car Model, International Journal of Innovative Research in Science, Engineering and Technology, Volume 2, issue 8, pages 4074-4081, 2013.
12. Mulik, Sharad S, Deshmukh, Suhas P, Shewale, Mahesh S, Zambare, Hrishikesh, Design Development and Precision Scanning of Single DOF Flexural Mechanism using Double Flexural Manipulator, ARPN Journal of Engineering and Applied Sciences (ISSN: 1819-6608), Volume 11, 13, 8342-8348, 2016.

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13. Mulik, Sharad S, Krishnamoorthy, A, Deshmukh, Suhas P, Shewale, Mahesh S, PID Control and System Identification of Flexural Bearing for Voice Coil Actuator, *Transylvanian Review*, Issue 1, 1221-1249, 2016.
14. Bhosale, Arun, Anderson, A, Deshmukh, Suhas P, Shewale, Mahesh, A Voltage Enhancing using Multipole Magnetic Generator for Low Frequency Vibrational Energy Harvesting, *Transylvanian Review*, 1221-1249, 2016.
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23. Mulik, Sharad S, Deshmukh, Suhas P, Patil, R, Patil, AP, Monde, HS, Parametric Modeling and Analysis of XY Flexural Mechanism using FEA, *International Journal of Modern Trends in Engineering and Research*, Volume 2, Issue 7, 2015.
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28. Tipole, Pralhad, Karthikeyan, A, Bhojwani, Virendra, Deshmukh, Suhas, Babar, Harshal, Tipole, Bharati, Examining the impact of magnetic field on fuel economy and emission reduction in IC engines, *International Journal of Ambient Energy*, Pages 1-7, 0143-0750, 2019, Taylor & Francis.
29. Mulik, Sharad, Krishnamoorthy, A, Deshmukh, Suhas, Flexural mechanisms for high precise scanning applications: a review, *Int J Mech Eng Technol*, Volume 9, Issue 4, Pages 312-327, 2018.
30. Patange, Abhishek D, Bewoor, AK, , Deshmukh, SP, Mulik, SS, Pardeshi, SS, Jegadeeshwaran, R, Improving Program Outcome Attainments using Project Based Learning approach for: UG Course-

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Mechatronics, Journal of Engineering Education Transformations, Volume 33, Issue 1, Pages 1-8, 2394-1707, 2019.

31. Malpani, Saurabh Anand, Yenarkar, Yogesh, Deshmukh, Suhas, FE Analysis of Flexural Bearing For Linear Compressor, International Journal of applied research in Mechanical Engg. Vol. I, issue-I, Pages 359-364, 2011.
32. Mulik, Sharad S, Krishnamoorthy, A, Deshmukh, Suhas P, Shewale, Mahesh S, Parametric Optimization and Stiffness Determination of XY Positioning Stage for High Precision Applications, Journal of Experimental & Applied Mechanics, Volume 7, Issue 2, Pages 66-73, 2016.
33. Shewale, Mahesh, Razban, Ali, Deshmukh, Suhas, Mulik, Sharad, Design, Development, and Implementation of the Position Estimator Algorithm for Harmonic Motion on the XY Flexural Mechanism for High Precision Positioning, Sensors, Volume 20, Issue 3, Pages 662, 2020, Multidisciplinary Digital Publishing Institute.
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35. Jadhav, Santosh B, Dhande, Kishor K, Deshmukh, Suhas P, Design and Evaluation of Compliant Modular XY Positioning Stage, J Australian Journal of Mechanical Engineering, Pages 1-12, 1448-4846, 2020, Taylor & Francis.
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3. Khan, Zeba, Zambare, Hrishikesh, Deshmukh, Suhas, Shinde, Abhijeet, Parametric FEA Analysis of Double Flexural Manipulator for Precision Application, Applied Mechanics and Materials, Volume 612, 59-64, 3038352004, 2014, Trans Tech Publications Ltd.
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5. Deshmukh, S.P., Zambare, H., Mate, K., Shewale, M.S., Khan, Z., System identification and PID implementation on Double Flexural Manipulator, International Conference on Nascent Technologies in the Engineering Field (ICNTE), 2015, 1-5, 2015, IEEE Explore.
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