


Faculty Performa

Title	Dr.	First Name	Harendra Pal	Last Name	Singh	Photograph
Designation		Assistant Professor				
Address		Room No.-312, Third Floor, Rugby Sevens Building, G. C. Narang Marg, University Stadium, Cluster Innovation Centre, University of Delhi, Delhi-110007.				
Phone No	Office	+9111-27666706 (Ext. 323)				
	Residence					
	Mobile	09891910248				
Email		harendramaths@gmail.com				
Web-Page						
Educational Qualifications						
Degree		Institution			Year	
B.Sc. (PCM)		C.C.S. University			2003	
M.Sc. (Mathematics)		C.C.S. University (Campus)			2005	
M.Phil. (Mathematics)		C.C.S. University (Campus)			2009	
Ph.D. (Mathematics)		I.I.T. Roorkee			2013	
Career Profile						
Cluster Innovation Centre, University Stadium, University of Delhi, Delhi-110007. 2015 – Onward.						
Administrative Assignments						
<ul style="list-style-type: none"> ✚ Member of Infrastructure and Space Committee ✚ Member of Local Purchase Committee ✚ Member of Student Advisory Committee 						
Areas of Interest / Specialization						
<ul style="list-style-type: none"> ✚ Modeling and simulation of engineering systems such as robotic systems, switched systems, energy systems etc. ✚ Robotics and control of dynamical systems using intelligent techniques ✚ Fractional order linear and nonlinear systems and controls ✚ Stability analysis of dynamical systems 						

Subjects Taught
<ul style="list-style-type: none"> ✦ Linear Algebra (Undergraduate and Postgraduate) ✦ Ordinary Differential Equations (Undergraduate) ✦ Robotics (Undergraduate) ✦ Control Systems (Undergraduate) ✦ Calculus (Undergraduate and Postgraduate) ✦ Partial Differential Equations (Undergraduate)
Publications Profile
<ul style="list-style-type: none"> ✦ Manju Rani, Naveen Kumar and H. P. Singh, “Efficient position/force control of constrained mobile manipulators”, International Journal of Dynamics and Control, pp. 1-10, https://doi.org/10.1007/s40435-018-0401-7, Springer, 2018. ✦ Pradeep, Akanshu Mahajan, Varun Bharti, H. P. Singh, Lalita Josyula and Pravesh Kumar, “Construction of a 3D map of indoor environment”, Procedia Computer Science, 125, pp. 124-131, Elsevier, 2018. ✦ H. P. Singh, Surendra Kumar, Pravesh Kumar and Akanshu Mahajan, “Virtual experimental analysis of redundant robot manipulators using neural networks”, Soft Computing: Theories and Applications. Advances in Intelligent Systems and Computing, 584, pp. 21-30, Springer, 2018. ✦ Pravesh Kumar, Millie Pant and H. P. Singh, “Solving nonlinear optimization problems using IUMDE algorithm”, Soft Computing: Theories and Applications. Advances in Intelligent Systems and Computing, 584, pp. 245-254, Springer, 2018. ✦ Pravesh Kumar, Millie Pant, Musrrat Ali and H. P. Singh, “Enhanced DE with weighted base vector for unconstrained global optimization”, Indian Journal of Science and Technology, 10, pp. 1-16, 2017. ✦ Akanshu Mahajan, H. P. Singh and N Sukavanam, “An unsupervised learning based neural network approach for a robotic manipulator”, International Journal of Information Technology, 9, pp. 1-6, Springer, 2017. ✦ H. P. Singh, A. Mahajan and N. Sukavanam, V. Budhraj, S. Singh, A. Kumar, A. Vashisht, “Control of an autonomous industrial fire fighting mobile robot”, DU Journal of Undergraduate Research and Innovation, 1, pp.124-130, 2015. ✦ H. P. Singh “Simulation of Neural Network based Adaptive Compensator Control Scheme for Multiple Mobile Manipulators with Uncertainties”, International Journal of Nonlinear Sciences and Numerical Simulation, 15, pp. 1-8, De Gruyter, 2014. ✦ H. P. Singh and N. Sukavanam, “Stability analysis of robust adaptive hybrid position/force controller for robot manipulators using neural network with uncertainties”, Neural Computing and Applications, 22, pp. 1745-1755, Springer, 2013. ✦ H. P. Singh and N. Sukavanam, “Neural network based control scheme for redundant robot manipulators subject to multiple self-motion criteria”, Mathematical and Computer Modelling, 55, pp. 1275-1300, Elsevier, 2012. ✦ H. P. Singh and N. Sukavanam, “Simulation and stability analysis of neural network based control scheme for switched linear systems”, ISA Transactions, 51, pp. 105-110, Elsevier, 2012. ✦ H. P. Singh and N. Sukavanam, “Intelligent robust adaptive trajectory and force tracking control for holonomic constrained nonholonomic mobile manipulators”, Advanced Science Letters, 16, pp. 313-321, American Scientific Publishers, 2012. ✦ H. P. Singh and N. Sukavanam, “Control of robot manipulators in task-space under uncertainties using neural network”, International Journal of Intelligent Engineering Informatics, 1, pp. 142-155, Inderscience, 2011. ✦ H. P. Singh and N. Sukavanam, “Neural network based adaptive compensator for motion/force control of constrained mobile manipulators with uncertainties”, in proceeding of IEEE HIS-2011, Malacca, Malaysia, 5-8 December 2011. ✦ H. P. Singh, N. Sukavanam and Vikas Panwar, “Neural network based compensator for robustness to the robot manipulators with uncertainties” in proceeding of IEEE ICMET- 2010, Singapore during 10-12 September, pp. 444-448, 2010. ✦ H. P. Singh and N. Sukavanam, “Uncertain bound estimation for robustness to robot manipulators using feedforward neural network” in proceeding of International Conference on Computational Intelligence and Communication Networks (IEEE CICN- 2010), Bhopal during 26-28 November, pp. 133-138, 2010.

Research Projects (Major Grants/Research Collaboration)
<ul style="list-style-type: none"> ✦ UGC Start-Up Research Grant 2016-18 ✦ Innovation project entitled “Translating “Lilavati of Bhaskara” in the realm of present mathematics curriculum”, 2015-16. Funding Agency: University of Delhi ✦ Research & Development Grant 2015-16. Funding Agency: University of Delhi ✦ Innovation project entitled “Mathematical modeling and simulation of neural network based controllers for robots”, Nov. 2013-March 2015. Funding Agency: University of Delhi
Awards and Distinctions
<ul style="list-style-type: none"> ✦ GATE (2008) AIR-147 ✦ CSIR-JRF (2008) ✦ Travel Award by DST for visiting Technical University Malacca Malaysia, 2011.
Association With Professional Bodies
<ul style="list-style-type: none"> ✦ Member of International Association of Computer Science and Information Technology (IACSIT) ✦ Member of International Association of Engineers (IAENG) ✦ Member of MIR Labs
Other Activities
<p><u>Reviewer of Journals/Conferences</u></p> <ul style="list-style-type: none"> ✦ Mathematical Reviews/MathSciNet (American Mathematical Society) ✦ International Journal of Intelligent and Robotic Systems (Springer) ✦ IEEE Transactions on Systems, Man and Cybernetics: Systems ✦ Advances in Mechanical Engineering (Sage) ✦ IEEE Conferences <p><u>Seminars and Workshops</u></p> <ul style="list-style-type: none"> ✦ Participated in workshop on “Building Mathematical Ability” held at University of Delhi, during June 24-26, 2013. ✦ Participated in “International Conference on Soft Computing for Problem Solving” held at I.I.T. Roorkee during December 20-22, 2011. ✦ Tutorial participant in “Hybrid Intelligent Systems (IEEE HIS-2011)”, Malaysia during 5-8 December, 2011. ✦ Participated and presented a paper in “International Congress of Mathematicians (ICM- 2010)” held at Hyderabad during 19-27 August, 2010. ✦ Participated in “Study Group Meeting on Industrial Problems” held at the Department of Mathematics, I.I.T. Roorkee during March 16-21, 2009. <p><u>Software Packages</u></p> <ul style="list-style-type: none"> ✦ Matlab ✦ Mathematica

Signature of Faculty Member