

## Faculty Performa

Title	Dr.	First Name	HARENDRA PAL	Last Name	SINGH	Photograph
<b>Designation</b>	Assistant Professor					
<b>Address</b>	Room No.-312, Third Floor, Rugby Sevens Building, G. C. Narang Marg, University Stadium, Cluster Innovation Centre, University of Delhi, Delhi-110007.					
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<b>Web-Page</b>						
<b>Educational Qualifications</b>						
<b>Degree</b>	<b>Institution</b>				<b>Year</b>	
<b>B.Sc. (PCM)</b>	C.C.S. University				2003	
<b>M.Sc. (Mathematics)</b>	C.C.S. University (Campus)				2005	
<b>M.Phil.(Mathematics)</b>	C.C.S. University (Campus)				2009	
<b>Ph.D. (Mathematics)</b>	I.I.T. Roorkee				2013	

<b>Career Profile</b>		
<b>Institution</b>	<b>Designation</b>	<b>Year</b>
Cluster Innovation Centre (CIC University of Delhi)	Assistant Professor	July 2015-Till Date
Shri Mata Vaishno Devi University	Assistant Professor	March 2015- July 2015
Sri Venkateswara College (University of Delhi)	Assistant Professor	July 2012- March 2015
<b>Areas of Interest / Specialization</b>		
<ul style="list-style-type: none"> <li>✚ Modeling and simulation of engineering systems such as robotic systems, switched systems, energy systems etc.</li> <li>✚ Robotics and control of dynamical systems using intelligent techniques</li> <li>✚ Fractional order linear and nonlinear systems and controls</li> <li>✚ Stability analysis of dynamical systems</li> </ul>		
<b>Subjects Taught</b>		
<ul style="list-style-type: none"> <li>✚ Linear Algebra (Undergraduate and Postgraduate)</li> <li>✚ Differential Equations (Undergraduate)</li> <li>✚ Robotics (Undergraduate)</li> <li>✚ Control Systems (Undergraduate)</li> <li>✚ Real Analysis (Undergraduate)</li> </ul>		
<b>Publications Profile</b>		
<ul style="list-style-type: none"> <li>✚ H. P. Singh, A. Mahajan, N. Sukavanam, V. Budhraja, 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. ISBN/ISSN NO. 2395-2334.</li> <li>✚ 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. ISBN/ISSN NO. 2191-0294. <b>I.F.-1.545</b></li> <li>✚ 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. ISBN/ISSN NO. 1433-3058. <b>I.F.-1.569</b></li> </ul>		

- ✚ 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. ISBN/ISSN NO. 0895-7177. **I.F.-1.412**
- ✚ 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. ISBN/ISSN NO. 0019-0578. **I.F.-2.984**
- ✚ 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. ISBN/ISSN NO. 1936-7317. **I.F.-1.253 (2010)**
- ✚ 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. ISBN/ISSN NO. 1758-8723.
- ✚ 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)**

- ✚ Innovation project entitled “Mathematical modeling and simulation of neural network based controllers for robots”. Funding Agency: University of Delhi Amount: 6 Lakh (Nov. 2013-March 2015)
- ✚ UGC Start-Up Research Grant 2015
- ✚ Research & Development Grant 2015 Funding Agency: University of Delhi

#### **Awards and Distinctions**

- ✚ GATE (2008) AIR-147
- ✚ CSIR-JRF (2008)
- ✚ Travel Award by DST for visiting Technical University Malacca Malaysia, 2011.

### Association With Professional Bodies

- ✦ Member of International Association of Computer Science and Information Technology (IACSIT)
- ✦ Member of International Association of Engineers (IAENG)
- ✦ Member of Instrumentation and Control Engineering Society (ICE Society)
- ✦ Member of Technical Committee on Mobile Manipulation

### Other Activities

#### Reviewer of Journals/Conferences

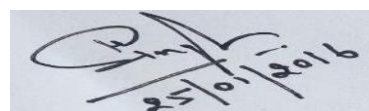
- ✦ Mathematical Reviews/MathSciNet (American Mathematical Society)
- ✦ International Journal of Intelligent and Robotic Systems (Springer)
- ✦ IEEE Transactions on Systems, Man and Cybernetics: Systems
- ✦ Advances in Mechanical Engineering (Sage)
- ✦ IEEE Conferences

#### Seminars and Workshops

- ✦ 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.

#### Software Packages

- ✦ Matlab
- ✦ Mathematica



Signature of Faculty Member