Faculty Details proforma for DU Web-site

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					
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Web-Page						

Educational Qualifications

Degree	Institution	Year
B.Sc.	C.C.S. University	2003
M.Sc.	C.C.S. University (Campus)	2005
M.Phil.	C.C.S. University (Campus)	2009
Ph.D.	I.I.T. Roorkee	2013

Career Profile

Institution	Designation	Year
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

Administrative Assignments

- Sport Committee Member
- Robotics Lab Coordinator
- Website, e-Newsletter Committee Member

Areas of Interest / Specialization

- 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
- Machine learning (Robot learning)
- Robot vision

Subjects Taught

- Linear Algebra (Undergraduate and Postgraduate)
- Differential Equations (Undergraduate)
- Robotics (Undergraduate)
- Control Systems (Undergraduate)
- Real Analysis (Undergraduate)

Research Guidance

Publications Profile

Published:

- 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.

- 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. **I.F.-0.687**

- 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. **I.F.-1.49** 2

- 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.-2.6**

- 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.

Communicated:

- Computational and experimental analysis of neural network based control scheme for multiple mobile robot manipulators. 2016, Elsevier (under review)

- Neural network based control scheme for vibration suppression of an uncertain building structure against earthquake. 2016, Elsevier (under review)

Conference Organization/ Presentations (in the last three years)

Research Projects (Major Grants/Research Collaboration)

- Innovation project entitled "Translating "Lilavati of Bhaskara" in the realm of present Mathematics Curriculum". Funding Agency: University of Delhi, Amount: 6 Lakh Year: 2015-16 (Co-PI)
- Innovation project entitled "Mathematical modeling and simulation of neural network based controllers for robots". Funding Agency: University of Delhi, Amount: 6 Lakh Year: 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