CV

1. **Name:** .(Mrs.)ShubhiPurwar

2. **Designation & Department:** Professor, Department of Electrical Engg.

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5. **Subjects of Interests/Specialization:** Nonlinear control, Intelligent control, Adaptive control.

❿ **Academic Qualifications:**

Degree	University	Subject	Year
B. E.	Nagpur University	Electronics and Power	1988
M. E.	University of Allahabad	Control and Instrumentation	1992
Ph. D	IIT Delhi, New Delhi	Nonlinear Control system	2006

❿ **Professional Career:**

Position	Institution	Year
Professor	MNNIT Allahabad	Aug 2012 to till date
Associate Professor	MNNIT Allahabad	Nov. 2006 to Aug 2012
Assistant Professor	MNNIT Allahabad	Nov. 1992 to Jan. 2006
Sr. Lecturer	M. N. R. E. C., Allahabad	Nov. 1997 to Nov. 2002
Lecturer	M. N. R. E. C., Allahabad	Nov. 1992 to Nov. 1997

❿ **Award/ Prize/ Certificate etc. won by the investigator:**

IETE-S K Mitra Memorial Award 2008 for best research oriented paper entitled "Nonlinear System Identification Using Neural Networks".

Best Paper Award in SCES-2014 for paper titled, "Adaptive Speed Control of a Light Weighted All-Electric Vehicle with Unknown Time-delay".

Fellowship/ Membership of professional bodies :

Member, IEEE
Life Member, ISTE
Life Member, Institution of Engineers

Invited Talks:

"Opportunities for joint research projects with foreign Universities and funding agencies", Sensitization Workshop to promote Externally Funded Research, MNNIT Allahabad, April 29, 2012.

"Intelligent Control of Nonlinear System" in Indo-US workshop held at IIT, Kanpur, October 26-28, 2009.

"Neural Network and Fuzzy Logic in Manufacturing" AICTE staff development programme, MNNIT Allahabad, March 26-28, 2007.

Sl. No.	Title of Lecture	Short Term Course/ Conference/Workshop	Date	Organisation
1.	Application of Control Techniques in Power Systems	STC on Distributed Generation Resources and its Integration Impact on Grid	28/01/20115 to 01/2/2015	MNNIT Allahabad
2.	Nonlinear Control Techniques Stability Analysis of Nonlinear systems	STC on Nonlinear Control and their Applications	12/11/2014 to 16/11/2014	MNNIT Allahabad
3.	Linear System	STC on Signal & Image Processing	07/07/2014 to 11/07/2014	MNNIT Allahabad
4.	Sliding mode Control	Modeling and Control of Power Converters	24/07/2013 to 28/07/2013	MNNIT Allahabad
5.	Intelligent Control Lyapunov Stability Analysis	STC on Advanced Control Systems	08/07/2013 to 12/07/2013	MNNIT Allahabad
6.	Opportunities for joint research projects with foreign Universities and funding agencies	Sensitization Workshop to promote Externally Funded Research	April 29,2012	MNNIT Allahabad
7.	Intelligent Control of Nonlinear System	Indo-US workshop	October 26-28, 2009	IIT Kanpur
8.	Neural Network and Fuzzy Logic in Manufacturing	AICTE staff development programme on Advanced Manufacturing Processes	March 13-23, 2007	MNNIT Allahabad

⑩ Sponsored Projects:

Sponsoring Organization	Project No.	Title of Project	Amount of Grant	Project Duration
SERC-DST India, New Delhi	SR/ S3/ EECE/ 004/ 2008	Intelligent control of helicopter/ TRCS using backstepping techniques	Rs. 23, 81, 520/-	July, 2008 to Dec., 2011

⑩ Paper published in International journal:

Sunil Kumar Mishra, Shubhi Purwar and Nand Kishor, "An Optimal and Non-Linear Speed Control of OWC Wave Energy Plant with Wells Turbine and DFIG", Accepted for publication in International Journal of Renewable Energy Research.

Sheetla Prasad, Shubhi Purwar and Nand Kishor, "H-infinity based Non-linear Sliding mode Control for Frequency Regulation in Interconnected Power Systems with Constant and Time-varying Delays", Accepted for publication in IET Generation, Transmission & Distribution.

Nand Kishor, Janne M Seppanen, Jukka Turunen, Antti- Juhani Nikilla, Liisa C Haarla, Shubhi Purwar, "Low-order Controller Design using Remotely Measured Time-delayed Signals for Stabilisation of Equivalent Power grid", IET Generation, Transmission & Distribution, 2015.

A.Kulkarni and S.Purwar, "Nonlinear Experimental Estimation and Verification of a MIMO system through EKF", Journal of Electrical Engineering, vol. 15, no.2, 2015.

Vikas Sharma and Shubhi Purwar, "Nonlinear Controllers for a Light Weighted All-Electric Vehicle using Chebyshev Neural Network", International Journal of Vehicular Technology, April 2014.

Vikas Sharma and Shubhi Purwar, "Chebyshev Neural Network based Discrete-time Adaptive Speed Control for a Light Weighted All-Electric Vehicle", International Review of Electrical Engineering, vol. 9, no.1, 92-102, 2014. ISSN 1827-6660.

Bhanu Pratap and Shubhi Purwar, "Real-Time Implementation of Neuro Adaptive Observer Based Robust Backstepping Controller for Twin Rotor Control System", vol. 25, Journal of Control, Automation and Electrical Systems, 2014.

Vinay Kumar Deolia, Shubhi Purwar, and T. N. Sharma, "Adaptive Backstepping Controller for Discrete-Time Nonlinear Systems with Input Saturation" in International Journal of Communication System and Networks, Science and Engineering Support Society (SERSC), 2012.

Vinay Kumar Deolia, Shubhi Purwar, and T. N. Sharma, "Stabilization of Uncertain Nonlinear Discrete-Time Delay Systems based on Neural Network" in Intelligent Control and Automation, Scientific research publications, 2012.

Vinay Kumar Deolia, Shubhi Purwar, and T. N. Sharma, "Deadzone Compensation with Backstepping Control in Discrete-time Nonlinear Systems using Neural Networks", International Journal of CSNT, vol 2, no.1, 2013.

Richa Negi, Shubhi Purwar, Haranath Kar, "Delay-Dependent Stability Analysis of Discrete Time Delay System with Actuator Saturation" in Intelligent Control and Automation, 2012.

Richa Negi, Haranath Kar, and Shubhi Purwar, "Stability Analysis of 2-D Discrete Linear System Described by The Fornasini-Marchesini Second Model with Actuator Saturation," in ISRN Computational Mathematics, 2012.

Richa Negi, Shubhi Purwar, Haranath Kar, "Anti -Windup Design with Global Asymptotic Stability for Discrete-Time Linear Systems: An LMI-Based Approach," Canadian Journal on Electrical and Electronics Engineering Vol. 2, No. 12, December 2011.

Bhanu Pratap and S. Purwar, "Real-time Implementation of State Observers for Twin Rotor MIMO System: An Experimental Evaluation" International Journal of Modelling, Identification and Control, 2013.

F. A. Shaik, S. Purwar and Bhanu Pratap, "Real-time Implementation of Chebyshev Neural Network Observer for Twin Rotor Control System", Expert Systems with Applications, vol. 38, no. 10, 13043–13049, 2011.

Ajay Kulkarni, S. Purwar, "Wavelet based Adaptive Backstepping Controller for a Class of Nonregular Systems with Input Constraints," Expert Systems with Applications, Volume 36, Issue 3, Pages 6686-6696, 2009.

S. Purwar, I.N. Kar, A.N. Jha, "Adaptive Output Feedback Tracking Control of Robot Manipulators using Position Measurements only," Expert Systems with Applications, Volume 34, Issue 4, Pages 2789-2798, 2008.

S. Purwar, I.N. Kar, A.N. Jha, "Adaptive Fuzzy Logic based Control of Induction Motors," Control and Intelligent Systems,Vol. 35, No.2, pp. 126-133, 2007.

S. Purwar, I.N. Kar, A.N. Jha, "On-line System Identification of Complex Systems using Chebyshev Neural Network," Applied Soft Computing, Volume 7, Issue 1, Pages 364-372, 2007.

S. Purwar, I.N. Kar, A.N. Jha, "Adaptive Control of Robot Manipulators using Fuzzy Logic Systems under Actuator Constraints," Fuzzy Sets and Systems, Vol.152, Issue 3, pp. 651-664, 2005.

❿ Papers published in National journal:

S. Purwar, I. N. Kar, A. N. Jha, "Nonlinear System Identification Using Neural Networks," IETE Journal of Research, Vol.53, No.1, pp.35-42, 2007.

Papers presented in International conferences:

Sunil Mishra, Shubhi Purwar and Nand Kishor, "Air Flow Control of OWC Wave Power plants using FOPID Controller, MSC, Sydney, Sept. 21-23, 2015.

Sheetla Prasad, Shubhi Purwar and Nand Kishor, "On Design of a Nonlinear Sliding mode LFC of Interconnected Power System with Communication Time-delay", MSC, Sydney, Sept. 21-23, 2015.

Vikas Sharma and Shubhi Purwar, "Adaptive Speed Control of a Light Weighted All-Electric Vehicle with Unknown Time-delay," SCES, Allahabad, May 28-30, 2014.

Sunil Mishra and Shubhi Purwar, "To Design Optimally Toned FOPID Controller for Twin Rotor MIMO system," SCES, Allahabad, May 28-30, 2014.

Vikas Sharma and Shubhi Purwar, "Discrete-Time Backstepping Control for a Light Weighted All-Electric Vehicle," INDICON, Mumbai, Dec 13-15, 2013.

Vikas Sharma and Shubhi Purwar, "Nonlinear Backstepping Control for a Light Weighted All-Electric Vehicle," in International Conference on Recent Trends in Power, Control and Instrumentation Engineering (PCIE 2013), Hyderabad, India, Nov. 8-9, 2013.

Bhanu Pratap and Shubhi Purwar, "State Observer Based Robust Feedback Linearization Controller for Twin Rotor MIMO System," IEEE Multi-conference on Systems and Control, Dubrovnik, Croatia, Oct 3-5, 2012.

Vinay Kumar Deolia, Shubhi Purwar, and T. N. Sharma, "An LMI Approach for the Stabilization of Discrete-Time Delay Nonlinear Systems using Backstepping" in Proceedings of the IEEE Conference on Communication System and Network Technologies, Rajkot, India, pp. 612-615, 11-13 May, 2012.

V. K. Deolia, S. Purwar, T. N. Sharma, "Backstepping Control of Discrete-Time Nonlinear System Under Unknown Dead-zone Constraint," International Conference on Communication Systems and Network Technologies, India, 2011.

Vinay Kumar Deolia, Shubhi Purwar, T.N. Sharma, "Adaptive Backstepping Control for a Class of Uncertain Discrete-Time Nonlinear Systems with Input Nonlinearities" 2011 International Conference on Computational Intelligence and Communication Networks, Gwalior, India, 2011.

Prachi Barsaiyan, Shubhi Purwar, "Comparison of State Feedback Controller Design Methods for MIMO Systems; International Conference on Power, Control & Embedded Systems (ICPCES-2010), Allahabad, India, 2010.

Animesh Kumar Shrivastava, Shubhi Purwar, "State Feedback and Output Feedback Tracking Control of Discrete-time Nonlinear System using Chebyshev Neural Networks", International Conference on Power, Control & Embedded Systems (ICPCES-2010), Allahabad, India, 2010.

Richa Negi, Shubhi Purwar, H. Kar (2010); An LMI Criterion for Anti–Windup Design with Global Asymptotic Stability for Continuous–Time Linear Systems; International Conference on Power, Control & Embedded Systems (ICPCES-2010), Allahabad, India, 2010.

Bhanu Pratap and Shubhi Purwar, "Sliding Mode State Observer for 2−DOF Twin Rotor MIMO System", Proceeding of IEEE, International Conference on Power, Control & Embedded Systems (ICPCES-2010), Allahabad, India, 2010.

Bhanu Pratap and Shubhi Purwar, "Neural Network Observer for Twin Rotor MIMO System: An LMI Based Approach", proceeding of IEEE, International Conference on Modeling Identification and Control (ICMIC-2010), Okayama, Japan, 2010.

F. A. Shaik, S. Purwar, "A Nonlinear State Observer Design for 2-DOF Twin Rotor System," International Conference on Advances in Computing, Control, & Telecommunication Technologies, India, 2009.

Ajay Kulkarni, S. Purwar, "Backstepping Control for a Class of Delayed Nonlinear Systems with Input Constraints," INDICON, India, 2008.

S. Purwar, Nidhi Gupta, "Trajectory Tracking Control of Wheeled Mobile Robots using Wavelet Networks," IEEE Multi Systems Conference, Singapore, 2007.

S. Purwar, "Higher Order Sliding mode Control for Robot Manipulators," IEEE Multi Systems Conference, Singapore, 2007.

S. Purwar, I. N. Kar, A. N. Jha, "Adaptive Control of Robot Manipulators using Chebyshev Neural Networks under Actuator Constraints," IEEE International Conference on Robots and Autonomous systems, Barcelona, Spain, 2005.

S. Purwar, I. N. Kar, A. N. Jha, "Neuro-sliding mode Control of Robotic Manipulators," IEEE International Conference on Robotics, Automation and Mechatronics, Singapore, 2004.

S. Purwar, I. N. Kar, A. N. Jha, "Adaptive Control of Robot Manipulators using Fuzzy Logic Systems under Actuator Constraints," IEEE International conference on Fuzzy Systems, Budapest, Hungary, 2004.

Papers presented in National conferences:

1.   S. Purwar, "Trajectory Tracking of Wheeled Mobile Robot," Proc. of All India Seminar on Product Development, MNNIT, Allahabad, 2006.