

Dr. Richa Negi
(Professor)

❖ **List of Publications:**

➤ **Paper published in International journal:**

- [1] **Richa Negi**, Shubhi Purwar, Haranath Kar, “Delay-Dependent Stability Analysis of Discrete Time Delay System with Actuator Saturation” accepted for publication in Intelligent Control and Automation.
- [2] **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,” accepted for publication in ISRN Computational Mathematics.
- [3] **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.
- [4] A. Pati and **Richa Negi**, “An anti-windup control strategy to actuator saturating input voltage for active magnetic bearing system” COMPEL - The international journal for computation and mathematics in electrical and electronic engineering, vol. 35, no. 3, pp 1-19, 2016.
- [5] A. Pati, V.C. Pal and **Richa Negi**, “Design of 2-DOF control and Disturbance estimator for Magnetic Levitation system” Engineering, Technology & Applied Science Research, vol. 7, no. 1, pp 1369-1376, 2017.
- [6] V. C. Pal, and **Richa Negi**, “An Observer based dynamic output feedback controller for discrete system with input saturation and time varying delay,” International Journal of Control Theory and Applications, vol. 8, no. 4, pp. 1383-1394, 2015.
- [7] V. C. Pal, **Richa Negi**, and H. Kar, “Stability analysis of 2-D discrete systems described by Roesser model with time varying delay and input saturation using anti-windup strategy,” International Journal of Innovative Computing, Information and Control, vol. 12, no. 6, pp. 1943-1960 , 2016.
- [8] V. C. Pal, and **Richa Negi**, “Robust output feedback control of 2-D discrete system described by Roesser model with actuator saturation and time varying delay,” Transactions of the Institute of Measurement and Control, 2016, DOI:10.1177/0142331216644045.
- [9] V. C. Pal and **Richa. Negi**, “ H_∞ based anti-windup controller for 2-D discrete delayed systems in presence of actuator saturation,” IMA Journal of Mathematical Control and Information vol. 35, pp. 627–660, 2018.

- [10] V. C. Pal and **Richa Negi**, “Delay-dependent stability criterion for uncertain discrete time systems in presence of actuator saturation,” Transactions of the Institute of Measurement and Control, DOI: 10.1177/0142331217695387.
- [11] V. C. Pal R. Negi and Quanxin Zhu “Stabilization of discrete-time delayed systems in presence of actuator saturation based on Wirtinger Inequality,” Mathematical Problems in Engineering, Hindawi, 2019 vol. 2019, Article ID 5954642, pp. 1-14 <https://doi.org/10.1155/2019/5954642>
- [12] R. Jaiswal, A. Agarwal, and **Richa Negi**, “ Smart solution for reducing the COVID-19 risk using smart city technology,” IET Smart Cities, 2(2), pp. 82-88, 2020.
- [13] O. Yadav, S. Prasad, Nand Kishor , **Richa Negi**, and S. Purwar, “Controller Design for MTDC grid to Enhance Power Sharing and Stability,” IET Generation Transmission & Distribution 14(12), 2020.
- [14] V. C. Pal, **Richa Negi** and Ishaan Mudgal, “Design of Nonlinear Anti-windup Compensator for Time-Delayed Systems based on Triple Lyapunov Functional,” Transactions of the Institute of Measurement and Control; vol. 42(5) 997–1007 2020.
- [15] R. Jaiswal, Richa Negi and A. Agarwal, “ A phase shifted modular multilevel converter with variable arm inductance. International Journal of Energy Technology and Policy,” 17(12), pp. 204-226, 2021.

➤ **Papers presented in International/National conferences:**

- [1] **Richa Negi**, “Stability of regulated synchronous machine with penstock,” National conference in Power System, Warangal, 1998.
- [2] **Richa Negi**, S. Purwar, and H. Kar, “An LMI criterion for anti-windup design with global asymptotic stability for continuous-time linear system,” Power, Control and Embedded Systems (ICPCES), 2010 International Conference, pp.1-3, Nov. 29 2010-Dec. 1 2010.
- [3] **Richa Negi**, A. K. Tiwary, S. Purwar, and H. Kar, “Condition for global stability of continuous time delayed linear system with saturated inputs: LMI-based approach,” Control System, Computing and Engineering (ICCSCE), 2011 IEEE International Conference pp.176-181, 25-27 Nov. 2011.
- [3] V. C. Pal and **Richa Negi**, “Performance analysis of discrete-time systems with input saturation: an LMI-based approach,” Engineering and Systems (SCES), 2012 Students Conference, pp.1-6, 16-18 March 2012.
- [4] Janardhan Kundu and **Richa Negi**, “Stability analysis of discrete time delay system with actuator saturation,” Power, Control and Embedded System (ICPCES), 2012, 17-19 DEC. Dec. 2012.

- [5] Vipin Chandra Pal, Ram Lautan, Nitin Kumar Sharma and **Richa Negi**, "An Overview of Anti windup Technique for Discrete Time Linear Systems with Input Saturation," presented in ISRTEC 2012 at KNIT Sultanpur.
- [6] Sonal Singh, **Richa Negi** and Bhanu Pratap, "Nonlinear Feedback Linearization Controller Design for Half Car Suspension System," Annual IEEE India Conference (INDICON), 2013.
- [7] Nitesh Kumar Soni and **Richa Negi**, "Stability analysis of linear discrete time system with time varying delay and actuator saturation," 2014 International Conference on Information Communication and Embedded Systems (ICICES 2014), 27-28 Feb. 2014, S.A.Engineering College, Chennai, Tamil Nadu, India.
- [8] Avadh Pati, Sonal Singh and **Richa Negi**, "Sliding Mode Controller Design Using PID Sliding Surface For Half Car Suspension System," 2014 Students Conference on Engineering and Systems (SCES), 28-30 May 2014, MNNIT Allahabad, Uttar Pradesh ,India.
- [9] Vikas Singh, Vipin Chandra Pal, Shikha Singh and **Richa Negi**, "An analysis of discrete time anti-windup system subjected to saturation: An observer based approach," 2014 Students Conference on Engineering and Systems (SCES), 28-30 May 2014, MNNIT Allahabad, Uttar Pradesh ,India.
- [10] Avadh Pati and **Richa Negi**, "Suboptimal Control of Magnetic Levitation (Maglev) System," 2014 3rd International Conference on Reliability, Infocom Technologies and Optimization (ICRITO) (Trends and Future Directions), 8-10 Oct. 2014, Amity University Noida Uttar Pradesh, India.
- [11] Vipin Chandra Pal, Vikas Singh and **Richa Negi**, "Stability Analysis of Discrete Systems Subjected to Input Quadratic Nonlinearity with Saturation," presented in IEEE UPCON 2015 at IIT Allahabad.
- [12] Vipin Chandra Pal, Jeetendra Kumar, and **Richa Negi**, " H_∞ control of discrete time delayed systems in presence of actuator saturation," Indian Control Conference (ICC), 2017 , pp. 295 - 302, 4-6 Jan. 2017, at IIT Guwahati.
- [13]. Avadh Pati, Vipin Chandra Pal and Vijay Kumar Verma, "Model Reference based Adaptive Sliding Mode Control of Magnetic Levitation System", International Conference on Power, Control & Embedded Systems, ICPCES-2017, MNNIT Allahabad, India, March 9-11, pp. 1-6, 2017. DOI: 10.1109/ICPCES.2017.8117617
- [14]. Nisha, Vipin Chandra Pal, Richa Negi and Avadh Pati, "Stability analysis of continuous time-delayed system with input saturation," 2018 5th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON) , MMMUT Gorakhpur-India, 02-04, Nov, 2018 pp 1-6, 2018, DOI: 978-1-5386-5002-8/18/\$31.00 ©2018 IEEE.

[15]. R. Jaiswal, A. Agarwal and **R. Negi**, "Performance Enhancement of Modular Multilevel Converter by using Modulation Technique," IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP), pp. 1-6, 2019.

➤ **Papers in press:**

[1].K. Agrawal, V.C. Pal and **R. Negi**, "H_∞ Stabilization of Uncertain Discrete Time-Delayed System with Actuator Saturation by using Wirtinger Inequality" , International Journal of Automation and Control, 2021.

[2]. A. Srivastava, **R. Negi** and H. Kar, "Guaranteed Cost Controller for Discrete Time-Delayed Systems with Actuator Saturation", Transactions of the Institute of Measurement and Control, 2021.