

Name: Goshaidas Ray (Emp. Code: 84026)

Department of Electrical Engineering

A. Date of Joining (Institute): 2nd May, 1984

B. Subject Taught Till 2016 (Spring Semester):

1. Basic Elect. Technology (1 st . Yr., UG)	2. Computer Aided design (PG)
3. Introduction to Computing (1 st . Yr., UG)	4. Computational Techniques (PG)
5. Numerical Analysis (3 rd . Yr., UG)	6. Control System-1 (UG, 3 rd .Yr.)
7. Control system-2 (UG, 4 th .Yr)	8. Linear control Theory (PG/RS)
9. Digital Signal Processing (UG/PG/RS)	10. Digital control Theory (PG/RS)
11. Signals and Network (UG)	12. Advanced Control Theory (PG/RS)
13. Nonlinear Control (PG/UG/RS)	14. Intelligent Control (PG/UG)
15. Optimal Control (PG/UG/RS)	16. Estimation of Signals and Systems (PG/UG/RS)
17. Robust Control (PG/UG/RS)	18. Control System Engg. (UG, Autumn, 2016)

C. Subjects Taught and number of students in the class(Large Class): Credits :4

Subject	Class Strength (Approx.)	Period
1 Signals and Networks (UG)	251	2013-2016 (Autumn)
2. Electrical Technology (UG)	270	2011-2013 (Autumn & Spring)
3.Digital Signal Processing UG/PG)	90 (Av.)	2008-2011 (Autumn)
4. Electrical technology (UG)	180	2003-2005 (Spring)

5. Control Theory (PG/UG)	40	At least four years (Autumn)
6. Control System-I & II (UG)	40	1993 -1995 (At least two years)
7. Electrical Technology (UG)	75	1992-1994 (Spring)
8. Introduction to Computing (UG)	70	1987-90 (Spring)
9. Electrical Technology (UG)	75	1984- 1988 (Autumn)

D1. Complete List of Publications In Int. Journal (in reverse Chronology) for the period 2016-1981:

2016:

[1] K. Ramakrishnan and **Goshaidas Ray**, “Stability criterion for Network control systems with Additive Time-Varying State-Delays and bounded nonlinearities” **Int. J of Systems, Control & Communications**, vol.7, no.1, 2016.

2015:

[2] K. Ramakrishnan and **Goshaidas Ray**, “Stability Criteria for nonlinearly perturbed load-frequency systems with time-delay” **IEEE Trans. J on Emerging and selected Topics in Circuits and Systems**, Vol. 5, No. 3, pp. 383-392, September, 2015.

[3] Rajeeb Dey, S Ghosh, **Goshaidas Ray**, and A Rakshit, “Improved delay-range dependent stability analysis of a time-delay system with norm-bounded uncertainty” **ISA Transaction** , July, 2015.

[4] K. Ramakrishnan, V Venkatachalam, and **Goshaidas Ray**, “Improved delay-dependent stability criteria for continuous systems with two additive time-varying delay components” **Communications in Nonlinear Science and Numerical Simulation**, vol.24, 2015. (<http://dx.doi.org/10.1016/j.cnsns.2014.12.003>.)

[5] K. Ramakrishnan and **Goshaidas Ray**, “Improved results on delay-dependent stability on LFC systems with multiple time-delays,” **J of Control, Automation and Electrical Systems**, vol.26, no.1, 2015. (DoI.10.1007/s40313-015-0171-9)

2014:

[6] Rajeeb Dey, S Ghosh, **Goshaidas Ray**, and A Rakshit “Improved Delay-Dependent Stabilization of Time-Delay Systems with Actuator Saturation” **International Journal of Robust and Nonlinear Control**, Vol.24, pp. 902-917, 2014.

[7] K. Ramakrishnan and **Goshaidas Ray**,“ (Technical Brief), Robust non-fragile stabilizing controller for an uncertain stochastic nonlinear system with interval time-varying state-delays: Prescribed performance level” **Journal of Dynamic Systems, Measurement and Control**, vol.136, no.5, 2014.

[8] Leena G , and **Goshaidas Ray**, “ A Set of stabilizing PID Controller for MIMO Systems,” **Int. J of Control & Automation**, Vol.7, no.4, pp.175-190, 2014.

2013:

[9] K. Ramakrishnan and **Goshaidas Ray**, “ Robust Stability Criteria for a class of Uncertain Discrete-Time Systems with Time-Varying Delay” **Applied Mathematical Modeling (Elsevier)**, Vol.37, pp.1468-79, 2013.

[10] Arun Kishore W.C, Santanu Dasgupta, **Gosaidas Ray** and Siddhartha Sen “ Control allocation for an over-actuated satellite launch vehicle” **Aerospace Science and Technology**, ,Vol.28, pp.56-71, 2013 .

2012:

[11] Rajeeb Dey, S Ghosh, **Goshaidas Ray**, and A Rakshit “H_{infinity} Load frequency control of interconnected power systems with communication delay” **International Journal of Electrical Power and Energy Systems**, vol.42, 672-684, 2012.

[12] Ramakrishnan and **Goshaidas Ray**, "Robust Stability Criterion for Markovian Jump Systems with Nonlinear Perturbations and Mode-dependent Time-delays" **International Journal of General Systems**, Vol.41, No.4, pp.373-393, 2012.

[13] Arun K. Sharma and **Goshaidas Ray**, “Robust Controller with State-Parameter Estimation for Uncertain Network Control System” **IET Control Theory and Application**, vol.6, issue-18, pp. 2775-2784, 2012.

[14] S. Patra, S Sen and **Goshaidas Ray**, “ Local Stabilization of Uncertain LTI Plant with Bounded Control Inputs: Parametric Loop Shaping Approach” **IET Control Theory and Application**, vol.6, no.11, 1567-1576, 2012.

[15] Sandip Ghosh, S. K. Das and **Goshaidas Ray**, “Decentralized Adaptive Robust Stabilization of Uncertain Interconnected Time-Delay Systems”, **International Journal of Adaptive Control and Signal Processing** , vol. 26, pp. 13-29, 2012.

[16] S. Patra, S Sen and **Goshaidas Ray** “Load Frequency Control of Interconnected Power Systems Via Low Order Loop Shaping Controller”, **Int. J of Power and Energy Systems** , vol.32, no.4, pp.167-173, 2012.

[17] Leena G , K.B. Dutta and **Goshaidas Ray**, “ Design of a set of controllers for an n-link robot manipulator” **Int. J of Automation and Control** , vol.6, no.3, 2012.

2011:

[18] K. Ramakrishnan and **Goshaidas Ray**, “Improved delay-range-dependent robust stability criteria for a class of Lur'e systems with sector-bounded nonlinearity”, **Journal of the Franklin Institute**, vol. 348, no. 8., pp 1769-1786, 2011. Elsevier Publication.

[19] S. Patra, S Sen and **Goshaidas Ray**, “A Linear matrix inequality approach to parametric loop shaping control” **Journal of the Franklin Institute**, vol. 348, no. 8., pp 1832-1846, 2011.

[20] K. Ramakrishnan and **Goshaidas Ray**, “Robust stability criteria for uncertain neutral systems with interval time-varying delay,” **Journal of Optimization Theory and Applications**, Vol.149, 2011, vol. 149, no.2, pp-366-384, 2011, Springer.

[21] S. Patra, S Sen and **Goshaidas Ray**, “Design of loop-shaping controller for LTI system with input saturation: polytopic gain scheduled approach”, **J of Dynamic Systems, Measurement, and Control**, vol.133, no.1., 2011. (Technical Brief)

[22] K. Ramakrishnan and **Goshaidas Ray**, “Stability criteria with less LMI variables for linear system with additive time-delays,” **J of Applied Mathematics and Computing**, vol.36, no.2, pp. 263-274, 2011, Springer.

[23] K. Ramakrishnan and **Goshaidas Ray**, “Delay-range-dependent stability criterion for interval time-delay systems with nonlinear perturbations,” **International J. of Automation and Computing**, vol.8, no.1, 2011, Springer

[24] K. Ramakrishnan and **Goshaidas Ray**, “Robust stability criteria for uncertain linear systems with interval time-varying delay”, **J. of Control Theory and Application**, vol.9, no.4, 2011, Springer.

[25] K. Ramakrishnan and **Goshaidas Ray**, “Stability criterion with less LMI variables for linear discrete-time systems with additive time-delays,” **International J. of Automation and Computing**, vol.8 , no.4, 2011, Springer.

[26] K. Ramakrishnan and **Goshaidas Ray**, “Improved stability criteria for Lur’e type systems with time-varying delay”, **J of Acta Automatica Sinica**, vol.37, no.5, 2011, Elsevier Publication.

[27] Leena G , K.B. Dutta and **Goshaidas Ray**, “ A class of stabilizing PID controllers for position control of single-link robot, **Int. J of Control and Automation**, vol.4, no.3, Sept. 2011.

[28] Amol Khalate, Leena G and **Goshaidas Ray**, “An Adaptive Fuzzy Controller for Trajectory Tracking of Robot Manipulator,” **Intelligent Control and Automation (ICA)** Vol. 2 No. 4, November, 2011.

[29] K. Ramakrishnan and **Goshaidas Ray**, “ Robust Controller Synthesis for linear Uncertain systems with interval time-delay : A less Conservative Result” **International J of Control Automation**, vol.4, no.4, 2011.

[30] Rajeeb Dey, **Goshaidas Ray**, S Ghosh and A Rakshit, “State feedback stabilization of uncertain linear time-delay systems: A nonlinear matrix inequality approach”, **Numerical Linear Algebra with Application**, vol.18., no.3, 351-361, 2011.

2010:

[31] Rajeeb Dey, **Goshaidas Ray**, S Ghosh and A Rakshit, “Stability analysis of continuous system with time-varying delays”, **J of Applied Mathematics and Computation**, vol. 215, pp. 3740-3745, 2010.

[32] S. Patra, S Sen and **Goshaidas Ray**, “ Robust control of uncertain LTI plant with input saturation: loop-shaping approach”, **Int. J of System Sci.**, vol.41, no.11, pp. 1337-1351, 2010.

[33] Sandip Ghosh, S.K.Das and **Goshaidas Ray**, “Stability analysis of interconnected time-delay systems in a generalized framework”, **IET Control Theory & Applications**, Vol. 4, No.12 , pp. 3022 - 3032 , 2010.

[34] S. Patra, S Sen and **Goshaidas Ray**, “ Pre-compensator selection for loop shaping control” **Int. J of Control, Automation and Systems**, vol.8, pp. 45-51, 2010.

2009:

[35] Sandip Ghosh, S.K.Das and **Goshaidas Ray**, “ Decentralized stabilization of uncertain systems with interconnections and feedback delays”, **IEEE-Trans. AC**, 54, no.4, pp. 905-912, 2009.

[36] Sandip Ghosh, S.K.Das and **Goshaidas Ray**, “Stabilizing adaptive controller for uncertain dynamical systems: AN LMI approach”, **Int. J of Control, Automation, and Systems**, 7, No.2, April, 2009.

2008:

[37] S. Patra, S Sen and **Goshaidas Ray**, “Design of static loop-shaping controller in four-block frame work using LMI Approach”, **Automatica**, 44, 2214-2220, 2008.

[38] W.C. A Kishore, S Sen, **Goshaidas Ray** and T.K. Ghosal, “Control allocation for tracking time-varying control demand”, **J of Guidance, Control, and Dynamics**, 31, 1150-1157, 2008.

2007:

[39] S. Patra, S Sen and **Goshaidas Ray**, “ Design of Robust load-frequency controller: loop-shaping Approach”, **Electric Power Components and Systems**, vol.35, 7,, 2007.

2006:

[40] **Goshaidas Ray**, Sitanshu Dey, and T.K. Bhattacharyya, “Reaching condition for variable structure output feedback controller using a search technique”, **Int. J. of System Sci.**, vol.37, pp.455-462, 2006.

[41] **Goshaidas Ray**, Sitanshu Dey, and T.K. Bhattacharyya, “Design of variable structure controller using Fuzzy PI type sliding surface: An Application to load frequency control problem”, **Int. J. Emerging Electric Power Systems**.vol.7, pp1-9, 2006.

2005:

[42] **Goshaidas Ray**, Sitanshu Dey, and T.K. Bhattacharyya, “ Multi-area load frequency control of power systems: A decentralized variable structure approach”, **Electric Power Components and Systems**, volume-33, no.3, March, 2005.

[43] **Goshaidas Ray**, Sitanshu Dey, and T.K. Bhattacharyya, “Design of reaching phase for variable structure controller based on Householder transformation”, **Kybernetika.**, vol.41, pp.601-622, 2005.

2004:

[44] **Goshaidas Ray** and Sitanshu Dey, “Design of reaching phase for variable structure controller based on SVD method”, **Kybernetika**, vol.40, pp. 233-256, 2004.

2003:

[45] D Baksi, K.B. Dutta and **Goshaidas Ray**, “Necessary and sufficient conditions for stabilization of expanding systems servomechanism problems”, **Kybernetika**, vol.39, 2003.

2002:

[46] D Baksi, K.B. Dutta and **Goshaidas Ray**, “Existence of pole-zero structures in a rational matrix equation arising in a decentralized stabilization of expanding systems”, **Kybernetika**, vol.-38, No.2, 2002.

[47] **Goshaidas Ray** and C. Susma Rani, “Decentralized robust stabilization and control of interconnected uncertain discrete time systems”, **Int. J. of Syst. Sci.**, Vol.32, No.3, 2002.

2001:

[48] **Goshaidas Ray** and C. Susma Rani, “Stabilizing decentralized robust controllers of interconnected uncertain power systems based on the Hessenberg form: simulated results”, **Int. J. of Syst. Sci.**, Vol.32, No.3, 2001.

1999:

[49] D. Baksi, V.V.Patel, K.B.Datta and **Goshaidas Ray**, “Decentralized stabilization and strong stabilization of a bicoprime factorized plant”, **Kybernetika**, Vol.35, No.2, 1999.

[50] **Goshaidas Ray**, A.N. Prasad and G.D Prasad, “A new approach to the design of robust load-frequency controller for large scale power systems”, **Electric Power Systems research**, Vol.51, 1999.

[51] **Goshaidas Ray**, A.N. Prasad and T.K.Bhattacharyya, “ Design of decentralized robust load-frequency controller based on SVD method”, **Computer and Electrical Engineering**, Vol.25, 1999.

1997:

[52] **Goshaidas Ray**, Brundabati Dhal and G.D Prasad, “Stabilization of a class of interconnected systems using aggregation model via Schur approach” , **Electric Machines and Power Systems**, Vol.25, No.8, 1997.

[53] G Durga Prasad, Mubarak A. Al-Mulhim, **Goshaidas Ray** and B Gopichand, “Comparative assessment of the effect of dynamic load models on voltage stability”, **Electric Power and Energy Systems**, Vol.19, No.5, 1997.

[54] **Goshaidas Ray** and Subimal De, “On-line parameter estimation and two-level control of large scale discrete time systems” , **Kybernetika**, Vol.33, No.4, 1997.

[55] **Goshaidas Ray**, Brundabati Dhal and G.D Prasad, “Stabilization of a class of interconnected systems using aggregation model via Schur approach” , **Electric Machines and Power Systems**, Vol.25, No.8, 1997.

1996:

[56] **Goshaidas Ray**, Narri Yadaiah and G.D Prasad, “Design of a load frequency regulator based on the Schur approach”, **Electric Power Systems Research**, Vol.36, 1996.

[57] **Goshaidas Ray**, A.N. Prasad and G.D Prasad, “Design of a robust load-frequency controller for interconnected power systems based on the singular-value decomposition method”, **Electrical Power Systems Research**, Vol.37, 1996.

[58] **Goshaidas Ray** and Subimal De, “On-line parameter identification and design of multivariable discrete time regulator based on innovation model”, **Mathematical Modelling of Systems**, Vol.2, No.1, 1996.

1994:

[59] D. Baksi, K.B. Dutta and **Goshaidas Ray**, “Parallel algorithm for pole assignment of multi-input systems”, **IEE Proc. Control Theory Appl.**, Vol.141, No.6, 1994.

[60] **Goshaidas Ray** and Brundabati Dhal, “Singular perturbation model based output controller for a class of systems via Schur decomposition”, **Smart Mater. Struct.**, Vol.3, 1994.

1993:

[61] **Goshaidas Ray** and L.Subrahmanyam, “Modelling hierarchical dynamic systems for decentralized state estimation”, **Control and Cybernetics**, Vol.22, No.3, 1993.

1992:

[62] **Goshaidas Ray** and A Bakre, “Decentralized control of large-scale systems based on canonical representation” , **Smart Mater. Struct.**, Vol.1, 1992.

[63] **Goshaidas Ray** and Narri Yadaiah, “Decentralized control of continous time interconnected stochastic systems based on successive pole assignment”, **Smart Mater. Struct.**, Vol.1, 1992.

1991:

[64] **Goshaidas Ray** and Anil Kumar, “Decentralized Adaptive PI control strategies for frequency control of interconnected systems”, **Kybernetika**, Vol.27, No.5, 1991.

1990:

[65] **Goshaidas Ray** and P Rama Mohan Rao, “On-line identification and control of multivariable discrete time systems based on a transformed model”, **Int. J. of Systems Sci.**, Vol.21, No.1, 1990.

1989:

[66] **Goshaidas Ray**, “On-line state and parameter estimation of multivariable systems based on transformed model”, **Int. J. of Systems Sci.**, Vol.20, No.1, 1989.

[67] **Goshaidas Ray** and Anil Kumar, “Decentralized load-frequency control of interconnected power systems with prescribed eigenvalues”, **Cybernetics and Systems: An Int. Journal**, Vol.20, 1989.

1987- 1981:

[68] **Goshaidas Ray**, “On the decentralized stabilization of interconnected discrete time systems”, **Kybernetika**, Vol.23, No.6, 1987.

[69] A.K.Mahalanabis and **Goshaidas Ray**, “Modelling large power systems for efficient load-frequency control” , **Mathematical Modelling**, Vol.7, 1986.

- [70] A.K.Mahalanabis and **Goshaidas Ray**, “Efficient algorithm for the optimal control of interconnected stochastic systems”, **IEE Proc., Vol.131, Pt.D, No.3, May 1984.**
- [71] A.K.Mahalanabis and **Goshaidas Ray** “On the state estimation of large-scale systems in the discrete time domain”, **Large Scale Systems, Vol.3, 1982.**
- [72] A.K.Mahalanabis and **Goshaidas Ray** “On the state estimation of large-scale continuous time linear systems” **IEE Proc., Vol.128, Pt.D, No.4, July, 1981.**
-

D2. Complete List of Publications National Journal (in reverse Chronology) for the period 2016-1987:

- [1] A Dwivedi, Arun K Sharma and **Goshaidas Ray** “Genetic algorithm based decentralized PI Type controller: Load frequency control,” **J of the Inst. Of Engineers, Series B, 2016 , India.**
- [2] Leena G, K.B. Dutta and **Goshaidas Ray**, “A set of stabilizing PD controllers: An application to robot manipulator” **J of the Inst. Of Engineers, Series B. , vol. 96(1), pp. 27-35, 2014.**
- [3] Leena G, K.B. Dutta and **Goshaidas Ray**, “ A set of Decentralized PID Controllers for an n-Link Robot Manipulator”, **Sadhana J, Indian Academy of Science, vol. 37 , issue-3, no.6 , pp. 405-423, 2012.**
- [4] Leena G, K.B. Dutta and **Goshaidas Ray** “A set of stabilizing controller for a MIMO nonlinear system,” **M R Int. J of Engg. and Technology, (India),vol.1, 46-55, July, 2008.**
- [5] **Goshaidas Ray**, S.K. Das and B Tyagi, “Stabilization of inverted pendulum via fuzzy control,” **IE(I) J-EL, vol.88, September, 2007.**
- [6] A.J Mehta, **Goshaidas Ray**, S.K.Das and T.K. Bhattacharyya, “ An application of fuzzy logic controller to Twin Rotor MIMO system: Experimental Results,” **J of Systems Sci. & Engineering, vol.15, June, 2007.**
- [7] **Goshaidas Ray**, A Khalate, S.K.Das & T.K. Bhattacharyya,” Stabilization of inverted cart –pendulum system based on T-S fuzzy model: Simulation and Experimental,” **IE(I) J-EL vol.87, June, 2006.**
- [8] A Khalate, S.K.Das and **Goshaidas Ray**, “Stabilization of inverted pendulum system based on fuzzy model and linear matrix inequality,” **Paritantra System society of India, vol.10, pp. 29-35, 2004.**

[9] **Goshaidas Ray**, “Decentralized control of large-scale discrete time systems based on quadratic performance index,” **IE(I), E-T division, Vol.68, 1987.**

D3. Complete List of Publications Int. Conference (in reverse Chronology) for the period 2016-1986:

2015:

[1] Rajeeb dey, Sadip Ghosh, Eva Gyurkovics and Goshaidas Ray, “ Delay-Dependent Stability Criterion for Linear Systems with Time-Varying State Delay” **8th IFAC Symposium on Robust Control Design, ROCOND'15, July 8-11, 2015, Bratislava, Slovak Republic.**

[2] Ramakrishnan and **Goshaidas Ray**, “ Robust Stability Criterion for Linear Systems with Additive State-Delays and Bounded Nonlinearity” **ICC-2015, January, 5-7, 2015, IIT Madras, Chennai, India.**

[3] Nilanjan Mukherjee, T.K. Bhattacharya and **Goshaidas Ray**, “Robust Stabilization of Uncertain T-S Fuzzy systems: An Integral Error based Sliding Surface design” **5th International Conference on Fuzzy and Neural Computing (FANCCO 2015), Hyderabad, 17th.- 19th. Dec., 2015, India.**

2014:

[4] K. Ramakrishnan and Goshaidas Ray, “New Results on Delay-dependent Robust Stability of Interval State-Delayed Linear Systems with Nonlinear Perturbations” **3rd. Int. Conf. on advances in Control and optimization of Dynamical Systems” ACODS -2014, March 13-15, IIT Kanpur, India, published in IFAC online papers.**

[5] Amol A khalate, Rajeeb Dey and **Goshaidas Ray** “Robust Control of Robot Manipulator Based on Estimation of Upper Bounds on Parametric uncertainties” **ICECE-2014- Conf., December, 20-22 Dec., 2014, BUET, Dhaka, Bangladesh.**

[6] K.J. Binoo, S Sengupta and **Goshaidas Ray** “ Design of Non-fragile Controller for Motion Control of Robot Manipulator” ” **ICECE-2014- Conf., December 20-22, 2014, BUET, Dhaka, Bangladesh.**

2013:

[7] Sandip Ghosh, S. K. Das and **Goshaidas Ray**, “Decentralized Mixed Delay-Dependent/Delay-Independent Stabilization of Interconnected Time-Delay Systems” **13th-IFAC**

symposium on Large-Scale Complex Systems Theory and Applications, LSS , Shanghai, China, 7-10, July , 2013.

[8] Rajeeb Dey, V. E. Balas, T.C. Lin and **Goshaidas Ray**, “Improved Delay-range-dependent Stability Analysis of a T-S Fuzzy System with Time Varying Delay” **IEEE Int. Symposium on Computational and Intelligence and Informatics, 19-21 Nov., 2013, Badapest, Hungary.**

[9] K. Ramakrishnan and **Goshaidas Ray**, “Robust Stability Criteria for Uncertain Discrete-time Lur'e Systems with Time-varying State-Delay and Sector-bounded Nonlinearity” **Multi Systems Conference, Hyderabad International Convention Centre, Hyderabad, 28-30 August 2013, India.**

2012:

[10] K. Ramakrishnan and **Goshaidas Ray**, “Reciprocal Convex Approach to Delay-Dependent Stability of Uncertain Discrete-Time Systems with Time-Varying Delay” **American Control Conference - 2012, June 27-29, Fairmont Queen Elizabeth, Montreal, Canada.**

[11] K. Ramakrishnan and **Goshaidas Ray**, “ Robust filter design for a class of uncertain systems with time-varying state-delays” **7th. Int. Conf. on Elect. And Computer Engineering, Dhaka, 20-22 December, 2012.**

[12] K. Ramakrishnan and **Goshaidas Ray**, “Robust Controller Synthesis for a Class of Uncertain Linear Systems with Interval Time-Varying Delay “ **Conference on “Advances in Control and Optimization of Dynamical Systems (ACODS) – 2012”, 16-18 February, 2012, at IISc, Bangalore, India.**

[13] K. Ramakrishnan and **Goshaidas Ray**, “Delay dependent non-fragile robust control for a class of uncertain stochastic nonlinear systems” **Int. conf. on Industrial and Information Systems (ICIIS)-2012, Chennai, 6-9 August, 2012.**

[14] Rajeeb Dey, S. Ghosh, **Goshaidas Ray**, A. Rakshit, “Further Result on Delay-Dependent Stability Analysis of a Linear Retarded System with Time Varying Delay” **Conference on “Advances in Control and Optimization of Dynamical Systems (ACODS) – 2012”, 16-18 February, 2012, India.**

[15] Rajeeb Dey, S Ghosh, **Goshaidas Ray**, and A Rakshit “New delay dependent stabilization result for linear system with actuator saturation” **Int. Conf. On Power, Signals, Control and Computations, Thrissur, Kerala, India, January, 3-6, 2012.**

2010:

- [16] K. Ramakrishnan and **Goshaidas Ray**, “Delay-range-dependent stability criteria for Luré systems with interval time-varying delay,” **IEEE CDC 2010, Atlanta, GA, USA, December 15-17, 2010.**
- [17] Rajeeb Dey, Nishant Sinha, Priyanka Chaubey, S Ghosh and G Ray, “Active sway control of a single pendulum gantry crane system using output delayed feedback control technique” **11th. Int. Conference Control, Automation, Robotics and Vision, ICARCV2010, 7-10 Dec., 2010, Singapore.**
- [18] K J. Binoo and **Goshaidas Ray.**, “Trajectory Tracking of a two-link robot manipulator: A terminal attractor approach”, **6th. International conference on electrical and computer engineering, ICECE-10, 18-20 Dec., 2010, Dhaka, Bangladesh.**
- [19] K. Ramakrishnan and **Goshaidas Ray**, “An improved delay-dependent stability criterion for neutral systems with mixed time-delays and nonlinear perturbations,” **IEEE INDICON 2010, Jadavpur University, Kolkata, December 17-19, 2010.**
- [20] K. Ramakrishnan and **Goshaidas Ray**, “Further improvement in delay-range-dependent stability criterion for linear systems with time-varying delay”, **IEEE INDICON 2010, Jadavpur University, Kolkata, December 17-19, 2010..**
- [21] K. Ramakrishnan and **Goshaidas Ray**, “Robust stability criterion for linear systems with interval time-varying delay,” **International Conference on System Dynamics and Control, MIT, Manipal, Vol. 1, pp. 1-6, August 19-22, 2010.**

2009:

- [22] K. Ramakrishnan and **Goshaidas Ray**, “Delay-dependent robust stability criteria for linear uncertain systems with interval time-varying delay,” **IEEE TENCON 2009, Singapore, November 23 – 26, 2009.**
- [23] K. Ramakrishnan and **Goshaidas Ray**, “Delay-dependent stability criteria for linear systems with multiple time-varying delays”, **IEEE TENCON 2009, Singapore, Nov. 23 – 26, 2009.**
- [24] A Sengupta, S. Sen and **Goshaidas Ray**, “ Control allocation schemes for a satellite Launch vehicle with inclusion of actuator slew rate limits,” **Proc. of 2009 Int. Automatic Control Conf. (CACS), National Taipei Univ. of Tech., Taipei, Taiwan, Nov. 27-29, 2009.**
- [25] K. Ramakrishnan and **Goshaidas Ray**, “Delay-dependent stability analysis of linear systems with additive time-varying delays,” **IEEE International Conference on Automation Science and Engineering CASE 2009, Aug. 22-25, 2009, Vol. 1, pp. 122-126, IISc, Bangalore**

[26] K. Ramakrishnan and **Goshaidas Ray**, “Robust stability criteria for uncertain linear systems with time-varying delay,” **IVth International Conference on Trends in Measurements and Automation TIMA 2009, January 4 – 6, 2009, MIT, Chennai.**

2008:

[27] Leena G, K.B.Dutta and **Goshaidas Ray**, “ A set of stabilizing PD controllers for MIMO systems,” **5th. Int.Conf. on Elect. and Comp. Engineering (ICECE)-2008, BUET, Dhaka, Banglash, 861-866, 2008.**

[28] W.C. A. Kishore, S Sen, **Goshaidas Ray**, “ Disturbance observer based performance improvement of controller,” **IEEE-10, Colloquium and 3rd. Int. conf. on Industrial, Information Systems.(ICIIS-2008), Kharagpur, India.**

2007:

[29]. Rajeeb Dey, S Ghosh and **Goshaidas Ray**, “Delay-dependent stability analysis of linear system with time-varying state delay,” **IFAC, MCPL, Romania, 27-30, August, 2007.**

[30] Rajeeb Dey, S Ghosh and **Goshaidas Ray**, “Delay-dependent stability analysis of linear system with multiple delays,” **ICIIS, 2007, Sri-Lanka, 2007.**

[31] Rajeeb Dey, S Ghosh and **Goshaidas Ray**, “ Delay-dependent stability and stabilization for linear systems: Delay in States,” **Int. Conf. on Modeling and Simulation, Coimbatore, 27-29, August, 2007.**

2006:

[32] W.C.A. Kishore, S. Sen and Goshaidas Ray, “Disturbance rejection and control allocation of over-actuated Systems,” **IEEE Int. Conf. on Industrial Technology, Mumbai, India, 2006.**

2001:

[33] Leena G, K.B.Dutta and **Goshaidas Ray**, “A class of stabilizing industrial controllers based on Lyapunov stability approach,” **Int. Conf. on EAIT-2001, I.I.T Kharagpur, India, Dec., pp.372-375, 2001.**

[34] **Goshaidas Ray**, S.K.Das and T.K.Das, “A neuro- controller paradigm for control of dynamic systems,” **Int. Conf. on EAIT-2001, I.I.T Kharagpur, India, Dec., pp.201-204,2001.**

1992:

[35] **Goshaidas Ray** and L. Subrahmanyam, “Modelling hierarchical dynamic systems for decentralized output estimation,” **Advances in Modelling and Simulation**, vol.35, No.2, pp.31-46, 1992, France.

1988:

[36] **Goshaidas Ray** and M.S.Phatak, “Efficient two-level control structure for a class of large-scale discrete time systems”, **Advances in Modelling and Simulation**, vol.14, No.1, pp.37-52, 1988, France.

[37] **Goshaidas Ray** and Anil Kumar, “Decentralized estimator based controller for a class of large scale continuous time systems with prescribed degree of stability”, **Advances in Modelling and Simulation**, vol.18, No.3, pp.1738, 1988, France.

1987-1986:

[38] **Goshaidas Ray** and M.S.Phatak, “Observer based multi-level control structure of large scale systems with state feedback,” **First Symposium on Electric Power Systems in Fast Developing Countries**, March 21-24, 1987, Saudi Arabia.

[39] **Goshaidas Ray** and M.S.Phatak, “Some basic schemes on decentralized state reconstruction of large-scale systems in the discrete time domain,” **IFAC Symposium**, December 15-17, 1986, Bangalore, India.

D4. Complete List of Publications National Conference (in reverse Chronology) for the period 2002-1986:

[1] **Goshaidas Ray** and A Dwivedi, “Decentralized state estimation of interconnected systems based on genetic algorithm: An application to power system, **NPSC-2002, IIT-Kgp, December. 27-29, 2002.**

[2] Leena G., K.B.Datta and **Goshaidas Ray**, “A class of stabilizing PD controllers for robotic manipulators,” 24th. National Systems Conference, 7th.-9th. December, 2000, Bangalore, India.

[3] **Goshaidas Ray** and Sitansu dey, “Reduced-order switching of variable structure sliding mode controller based on SVD method”, 24th. National Systems Conference, 7th.-9th. December, 2000, Bangalore, India.

[4] **Goshaidas Ray** and A.Bakre, “Decentralized state estimation of large scale systems on the basis of a canonical representation,” 13th. National System Conference, December 13-15, 1989, I.I.T Kharagpur, India.

[5] **Goshaidas Ray** and M.S.Phatak, “ An efficient algorithm for decentralized state reconstruction of large-scale system,” **National Seminar on Recent trends in Electric Energy Systems, May 21-23, 1986, I.I.T Delhi, India.**

[6] S.Sen and **Goshaidas Ray**, “Stabilization of two time-scale discrete systems with multirate state feedback,” **National System Conference, December 21-23, 1986, I.I.T Delhi, India.**

E. Consultancy and Sponsored Project Work:

[1] Title of the project with code: Design of Robust Biochemical Network (project Code: DRB, CSIR, HRDC, New-Delhi), (Period: April, 2012 to April, 2015) Completed and report submitted on 22th. July, 2015. (**PI Prof. Goshaidas Ray** & Prof. A Mukherjee)

[2] “Attitude Control of Launch Vehicles “, ISRO, IIT Kharagpur Cell, PI : Prof. S. K. Das, Co PI: **Prof. G Ray** (2012)

[3] “Design of an optimal Control Strategy for GSLV-MK3 (OCL)” --.KCST Cell and ISRO Project, VSSC, Trivandrum. (2010) (**PI Goshaidas Ray** (PI), S Sen, and A Patra)

[4] “Fault Tolerant Control of Satellite Launch vehicles”—ISRO Project, Bangalore (2006) (A Patra (PI), S Mukherjee, S Sen and **Goshaidas Ray**)

[5] “Air Gap Controller for Electro-Magnetic Levitation”—. BHEL Sponsored Project (2003). D Prasad (PI), T.K.Bhattacharya (Co-PI), (Associated with them).

[6] AICTE TAPTEC-Project – “Study and Development of real-time, Intelligent Controllers based on Neuro-Fuzzy Techniques,” (2001) (Jointly - Prof .S.K.Das (PI) and **Prof.Goshaidas Ray**).

[7] “Feasibility study of contact motion analysis” Naval Science and Technology Lab (NSTL), Visakhapatnam. (1993) (Prof.S.K.D as (PI), Prof. A.Patra, Prof. **Goshaidas Ray**).
