

BIO-DATA

1. Name and full correspondence address:

Dr. Manas Kumar Bera
Assistant Professor (Grade-I), Department of Electronics & Instrumentation Engineering,
National Institute of Technology Silchar
Silchar, Assam-788010

2. Email(s) and contact number(s)

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3. Institution

National Institute of Technology Silchar
Silchar, Assam-788010

4. Date of Birth: 26.12.1980

5. Gender (M/F/T): Male

6. Category Gen/SC/ST/OBC: General

7. Whether differently abled (Yes/No): No

8. Academic Qualification (Undergraduate Onwards)

S. No	Degree	Year	Subject	University/Institute	%Marks
1	B.E.	2003	Electronics & Instrumentation Engineering	University of Burdwan	80.3
2.	M.E.	2006	Control System Engineering	Jadavpur University	72.15
3.	Ph.D.	2015	Control Systems Engineering	Systems and Control Engineering, IIT Bombay	8.4 (CPI)

9. Ph.D. thesis title, Guide's Name, Institute/Organization/University, Year of Award

- Ph.D. Thesis Title: Sliding Mode Control of Gas Metal Arc Welding Systems
- Guide's Name: Prof. B. Bandyopadhyay, Systems and Control engineering, IIT Bombay
- Institute: IIT Bombay
- Year of Award: 2015

10. Work experience (in chronological order)

S. No	Positions held	Name of the Institute	From	To	Pay scale
1.	Lecturer	Institute of Advanced Computer & Research, Rayagada, Orissa	27.07. 2003	26.06.2004	8000-275-13500
2.	Lecturer	Haldia Institute of Technology, Haldia, WB	01.06.2006	11.08. 2009	8000-275-13500
3.	Senior Lecturer	Haldia Institute of Technology, Haldia, WB	12.08.2009	10.10.2010	10000-325-15200
4.	Assistant Professor	Haldia Institute of Technology, Haldia, WB	11.10.2010	12.07.2011	15600-39100, AGP: 6000
5.	Assistant Professor	Haldia Institute of Technology, Haldia, WB	14.07.2014	29.01.2016	15600-39100, AGP: 8000
6	Professor	Haldia Institute of Technology, Haldia, WB	30.01.2016	14.07.2016	37,400-67,000 AGP:10000
7	Assistant Professor (Grade-I)	National Institute of Technology Silchar	18.07.2016	Till date	15600-39100, AGP:8000

11. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.

	Name of Award	Awarding Agency	Year
01	National Scholarship holder in Madyamik and HS.	Govt. of West Bengal	1997 and 1999

12. Journal Publications (List of papers published in SCI Journals, in year wise descending order)

SL. No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1	Krishanu Nath, Manas Kumar Bera, Jagannathan Sarangapani	Concurrent Learning-Based Neuro-Adaptive Robust Tracking Control of Wheeled Mobile Robot: An Event-Triggered Desig	EEE Transactions on Artificial Intelligence,			2022
2	Krishanu Nath, Manas Kumar Bera	Integral Sliding Mode Control of Networked Robotic Manipulator: A Dynamic Event-Triggered Design	Advanced Robotics, Taylor & Francis,			2022
3	Ariful Mashud, Manas Kumar Bera	Control Allocation Based Fault Tolerant Control of Descriptor System with Actuator Saturation	ISA Transactions			2022
4	Krishanu Nath, Manas Kumar Bera	Event-triggered neuro sliding mode control for an uncertain Euler Lagrange system: An impulsive dynamical system approach	Elsevier International Journal of Computers and Electrical Engineering	97		2022
5	Krishanu Nath, Manas Kumar Bera	Design of neural network based sliding mode controller for a class of nonlinear system: An	International Journal of Dynamics and Control, Springer,			2021

		event-triggered framework				
6	Krishanu Nath, Anirban Nanda, Asifa Yesmin, Manas Kumar Bera	Event-Triggered Sliding-Mode Control of Two Wheeled Mobile Robot: An Experimental Validation	IEEE Journal of Emerging and Selected Topics in Industrial Electronics	2	218-226	2021
7	Asifa Yesmin, Abhisek K. Behera, Manas Kumar Bera, B. Bandyopadhyay	Dynamic Event-triggering based design of sliding mode control	International Journal Robust Nonlinear Control		1-16	2021
8	Asifa Yesmin, Manas Kumar Bera	Design of event-based sliding mode controller with logarithmic quantized state measurement and delayed control update	ISA Transactions	https://doi.org/10.1016/j.isatra.2020.07.014	-	2021
9	Ariful Mashud, Manas Kumar Bera	Robust fault tolerant control scheme for descriptor systems using fixed control allocation	European Journal of Control	56	142-153	2020
10	Asifa Yesmin, Manas Kumar Bera	Design of Event-triggered Sliding Mode Controller Based on Reaching Law With Time Varying Event Generation Approach	European Journal of Control	48	30-41	2019
11	Manas Kumar Bera, Pintu Kumar, Rajkumar Biswas	Robust Control of HIV Infection by Antiretroviral Therapy: A Super-twisting	IET Systems Biology	13	120-128	2019

		Sliding Mode Control Approach				
12	Bera, M. K., Bandyopadhyay, B. and Paul, A.K	Variable Gain Super-Twisting Control of GMAW Process for Pipeline Welding	ASME Journal of Dynamic Systems, Measurement & Control	137	074501-1-7	2015
13	Bera, M. K., Bandyopadhyay, B. and Paul, A.K	Output-feedback control of arc length for manual gas metal arc welding with higher order sliding modes'	International J. Modelling, Identification and Control	21	418-428	2014

13. Conference Publications:

1. Akriti Ghosh, Krishanu Nath, Manas Bera, Shahedul Haque Laskar, "Design of Adaptive Gravity Compensation Controller for Upper Limb Exosuit: The Concurrent Learning-based Approach", 2022 Eighth Indian Control Conference (ICC), IIT Madras, 14-16 Dec, 2022.
2. Arjun Rajeev Warriar, Pranav Nedunghat, Manas Kumar Bera and Krishanu Nath, "Implementation of Classical Path Planning Algorithms for Mobile Robot Navigation: A Comprehensive Comparison", ICECCME'22, Maldivas Natinal University (MNU), Male, Maldives, 16-18 Nov, 2022.
3. Krishanu Nath, Manas Kumar Bera, "Adaptive Integral Sliding Mode Control: An Event-Triggered Approach", ACODS 2022, NIT Silchar, Assam, India, 22-25 Feb, 2022
4. Asifa Yesmin, Krishanu Nath, Manas Kumar Bera, "Design and performance analysis of different event-triggering policies with sliding mode control strategy", 1st International Conference on Emerging Electronics and Automation (E2A 2021), NIT Silchar, 17th -19th Dec, 2021
5. Krishanu Nath, Asifa Yesmin, Manas Kumar Bera, "Sliding Mode Control for Stabilization of a Class of Nonlinear Systems: A Self-Triggered Design with Prescribed Performance Function", INDICON 2021, IIT Guwahati, 19-21st December, 2021
6. Krishanu Nath, Praveen Nambisan, Asifa Yesmin, Manas Kumar Bera, "Event-triggered PI control of Buck Converter in Cyber-Physical Framework", 2021 Seventh Indian Control Conference (ICC) , IIT Bombay, 20-22nd December, 2021.
7. Siddhartha Ganguly, Manas Kumar Bera, Prasanta Roy, "Robust Non-overshooting Tracking and Model Following Controller using Multi-variable Super-twisting Algorithm", 2019 Sixth Indian Control Conference (ICC), IIT Hyderabad, 18-20 December, 2019.
8. Gautham V S, Manas Kumar Bera, "Event-triggered Sliding Mode Control Based Trajectory Tracking of Robotic Manipulators in a Cyber-Robotic Space", TENCON 2019, Kochi, Kerala, 17-20 October 2019.

9. Ariful Mashud, Manas Kumar Bera, "A Multivariable Super Twisting Sliding Mode Control of Descriptor Systems", TENCON 2019, Kochi, Kerala, 17-20 October, 2019.
10. Asifa Yesmin, Manas Kumar Bera, "Event-triggered Integral Sliding Mode Control", TENCON 2019, Kochi, Kerala, 17-20 October, 2019.
11. Siddhartha Ganguly, Manas Kumar Bera, Prasanta Roy, "Robust Tracking and Model Following Controller based on Sliding Mode: An Experimental Validation with Magnetic Levitation System", IEEE Sponsored 5th International Conference for Convergence in Technology (I2CT) 2019, Pune ,Maharashtra,India, 29-31 March, 2019 (Accepted))
12. Bhabani Shankar Dey, Manas Kumar Bera and Binoy Krishna Roy, " Super Twisting Sliding Mode Control of Cancer Chemotherapy", VSS 2018, Graz, Austria, pp. 343 - 348, 9-11 July, 2018
13. Bhabani Shankar Dey, Manas Kumar Bera and Binoy Krishna Roy, " Nonlinear Active Control of a Cancerous Tumour", Control Instrumentation System Conference, CISCON 2017, November 3-4, 2017
14. Manas Kr. Bera, "Modeling & Simulation of Hybrid Model for the Short-Circuit Mode of Transfer in GMAW Systems", 2018 International Conference on Intelligent Autonomous Systems (ICoIAs'2018), pp. 161-165, Singapore, March 1-3, 2018.

14. Books/Reports/Chapters/General articles etc. :

SL. No.	Title	Author's Name	Publisher	Year of Publication
1	Book: Emerging Electronics and Automation	Peter Han Joo Chong, Akhtar Kalam, Antonio Pascoal, Manas Kumar Bera	Springer Singapore	2022
2	Chapter: Event-Triggered Integral Sliding Mode Control for an Uncertain Euler–Lagrange System with Actuator Saturation Book Name: Communication and Control for Robotic Systems	Krishanu Nath, Asifa Yesmin, Manas Kumar Bera	Springer, Singapore	2021
3	Chapter: Industry Grade Robust Controller Design for Constant Voltage Arc	A. K Paul, M. K. Bera, M. Waman, B. Bandyopadhyay	Studies in Systems, Decision and Control, Springer Nature Singapore	2020

	Welding Process, Book Name: Emerging Trends in Sliding Mode Control –Theory and Application			
2	Chapter: Design of event-triggered integral sliding mode controller for systems with matched and unmatched uncertainty Book Name: Emerging Trends in Sliding Mode Control –Theory and Application	A. Yesmin, M. K. Bera	Studies in Systems, Decision and Control, Springer Nature Singapore	2020

15. Any other Information :

Academic Honours: (2020 – 2021)

- Invited speaker at TEQIP-III sponsored “National Faculty Development Webinar on Modern Control System for Industrial Application”(NFDWMCSIA) organized by Department of Electronics & Communication Engineering of DUMKA ENGINEERING COLLEGE during 9th July – 11th July, 2020—Delivered talk on “Event-triggered Control”.
- Invited speaker at TEQIP-III sponsored Online Webinar on “Recent Research Trends in Control, Instrumentation & Allied Engineering: A Multidisciplinary Approach” (RRTCIA)-2020 organized by Department of EIE, NIT Silchar during 04th to 08th September, 2020—Delivered talk on “Introductory Concept of Event-triggered Control Paradigm”.
- Invited speaker at AICTE sponsored Online STTP on “Recent advances in Industrial Robotics and applications” organized by Shree Ramchandra College of Engineering, Pune during 30th November to 5th December, 2020—Delivered talk on “Sliding Mode Control: Application to Mobile Robot”.
- Invited speaker at “Recent Trends in Control System Engineering” jointly organized by Electrical Engineering Department and Electronics & ICT Academy, NIT Patna under the “Scheme of financial assistance for setting up of Electronics and ICT Academies” by the Ministry of Electronics and Information Technology (MeitY), Government of India from 22nd to 28th June 2020- Delivered talk on “Event triggered systems with sliding mode control”.
- Invited speaker at AICTE sponsored Online Faculty Development Program on “Recent Advances in Control Systems” (RACS-2020) organized by Department of Electrical

Engineering Madan Mohan Malaviya University of Technology Gorakhpur-273010, (U.P) INDIA during October 17- 21, 2020- Delivered talk on “Event-triggered Sliding Mode Control”.

- Invited speaker at AICTE sponsored Online Faculty Development Program (Series-I) on “Fractional order robust control system design” organized by the Department of Electrical and Electronics Engineering, Vardhaman College of Engineering, Hyderabad during 26th – 31st October, 2020.
- Invited speaker at AICTE sponsored Online Faculty Development Program (Series-II) on “Fractional order robust control system design” organized by the Department of Electrical and Electronics Engineering, Vardhaman College of Engineering, Hyderabad during 23rd – 28th November, 2020.
- Invited speaker at AICTE sponsored Online Faculty Development Program (Series-III) on “Fractional order robust control system design” organized by the Department of Electrical and Electronics Engineering, Vardhaman College of Engineering, Hyderabad during 15th - 20th March 2021.
- Invited speaker at AICTE sponsored Online Faculty Development Program on “Control System Design- Classical & Modern with Hands on” organized by the Department of Electrical Engineering, College of Engineering, Pune during 22nd -27th March 2021.
- Invited speaker at online FDP on “Recent Trends in Control System Engineering (ReTreCSE-2021)” jointly organized by Electrical Engineering Department and Electronics & ICT Academy, NIT Patna from 31st May-6th June 2021
- Invited speaker at Short Term Course on "Development of Autonomous Electric Wheel Chairs for Disabilities", which is a technology innovation hub on interdisciplinary data analytics and predictive technology (IDAPT) under National Mission on Interdisciplinary Cyber-Physical System (NM-ICPS) at Indian Institute of Technology (Banaras Hindu University) Varanasi from 1st t-5th Dec 2021
- Invited speaker at AICTE Sponsored ATAL FDP on "Nonlinear System: Dynamics and Control" at Government Engineering College, Thrissur, Kerala from 13th-17th Dec, 2021

GIAN Course Organized

- GIAN project awarded by MHRD, GOI to conduct Course ID: 171031D02, Course Name: Robustness, Fragility, Optimality and Modern PID Control by Prof. S. P. Bhattacharyya, Robert M. Kennedy Professor, Dept. of Electrical and Computer Engineering, Texas A&M University, USA (approx 8.16 Lakhs).
- Awarded financial assistance for grant-in-aid to conduct (High-End Workshops) on “Control of Autonomous Mobile Robot: From Theory to Practice”, SERB, Govt. of India, Oct. 2022.
- Awarded financial assistance for grant-in-aid to conduct वृत्तिका (Training and Skill Internship), SERB, Govt. of India, Oct. 2022.

Project Received

The project titled "Modelling and Analysis of Susceptible Asymptomatic Infected Removed (SAIR) Epidemic Model with Vaccination and Information-Dependent Vaccination: Application to Covid-19 Pandemic in India" has been recommended by the related Mathematical Research Impact Centric Support (MATRICS) to the Science and Engineering Research Board (SERB), Department of Science and Technology, Government of India for funding for three years (2022-25).

PhD Student Guided

SL. No.	Name of the Student	Status	Thesis Title
1	Dr. Asifa Yesmin	Awarded in 2022	Event-Based Sliding Mode Control: Design and Analysis with Different Triggering Policies
2	Ariful Mashud	Thesis submitted Nov, 2022	Design of Robust Fault Tolerant Controller for Descriptor Systems
3	Krishanu Nath	Synopsis Completed March, 2023	Design and Implementation of Event-triggered Sliding Mode Controller for Nonlinear Systems