Curriculum vitae

Prabin Kumar Padhy

Professor

Department of Electronics and Communication Engineering

Indian Institute of Information Technology Design and Manufacturing

Jabalpur, MP, India, Mob: +91 9425155297.

(An Institute of National Importance established by Ministry of Education, Govt. of India)

Email: prabin16@iiitdmj.ac.in

Website: www.iiitdmj.ac.in

***Research Interests*:** Automatic Controller Tuning, Identification and Control of Processes, Mobile Robot, Control of Network Congestion

Education:

Degree/ Exam	**University/ Board/ College**	**Year of completion**	**Percentage of marks**	**Division**
X	BSE Orissa, Purunakatak High School, Orissa	1988	73.2	1st
XII	HSE Orissa, Govt. College, Phulbani, Orissa	1990	62.2	1st
Graduation	BE(Electrical), Indira Gandhi Institute of Technology Sarang, Utkal University,Orissa	1998	66.6	1st
Post-Graduation	MTech(Electrical,Control System) IIT BHU, Varanasi	2001	9.1 CGPA	1st
Phd	PhD(ECE, Control System) IIT Guwahati	2007	8.75 CGPA	-

Teaching/ Research Experience: **18 Years**

S. No.	**Employer**	**Position held**	**Period of job**	**Years (18 years)**
•	PDPM IIITDM Jabalpur (Established by Ministry of Education, Govt. of India)	**Professor** in Electronics and Communication Engineering	16/07/2021-Continuing	**0.4**
•	PDPM IIITDM Jabalpur (Established by Ministry of Education, Govt. of India)	**Associate. Professor** in Electronics and Communication Engineering	26/07/2010-15/07/2021	11

•	PDPM IIITDM Jabalpur (Established by Ministry of Education, Govt. of India)	**Asst. Professor** in Electronics and Communication Engineering	26/07/2007-25/07/2010	3.0
•	Hashimoto Lab, University of Tokyo, Japan	**Researcher** Research work: Mobile Robot	01/07/2009-10/01/2010	0.6
•	KIIT, Bhubaneswar, Orissa, India (DEEMED University)	**Lecturer** in Electrical Engineering	01/09/2000-22/12/2003	3.3
•	IGIT Sarang, Orissa, India (Utkal University)	**Lecturer** in Electrical Engineering	06/01/1999-24/07/1999	0.6

Administrative Experience

Period	**Organization**	**Position**	**Nature of work**
August 2021 to August 2022	IIITDM Jabalpur	Dean, RSPC	Administration of Research, Project, and Consultancy
August 2021 to Continuing	IIITDM Jabalpur	Grievance Officer for Person With Disability	Grievance Related Maters for PWD
Aug 2019 to July 2021	IIITDM Jabalpur	Head of Discipline, ECE	Administration of discipline
Dec 2015 – July 2019	IIITDM Jabalpur	Dean, Academic	Academic Administration of Under graduate and Post Graduate studies
June 2014 – Till Today	IIITDM Jabalpur	Nodal Officer, Grievance Addressal Cell	Grievance Related Maters
Mar 2013- Oct 2015	IIITDM Jabalpur	Coordinator, QIP	Administration of PhD programme, QIP
Mar 2013- June 2016	IIITDM Jabalpur	Chairman, Project Based Internship	Administration of Project Based Internship
Mar 2010 – June2012	IIITDM Jabalpur	Coordinator, Academic Affairs (Dean, Academic)	Academic Administration of Under graduate and Post Graduate studies
Mar 2009 – Mar 2010	IIITDM Jabalpur	Cultural Counsellor	Administration of Cultural Activities
Jan 2008-June 2012	IIITDM Jabalpur	Convener, Post Graduate Committee of Senate	Academic Administration of Post Graduate studies

Sponsored Project:

Period	Sponsoring Organization	Title of Project	Grant amount	Co-investigators	Status
2008 – 2011, 3 year	DST, Govt of India	Improved controlled design for AQM routers supporting TCP flows	Rs. 3,00,000	No	Completed
2012 – 2014, 2 year	DST, Govt of India	Brain Controller Mobile Robot	Rs. 18,50,000	Prof. V K Gupta	Completed
2019- 2021, 2 year	DIC, MHRD, Govt of India	Smart Room Ventilator (SRV)	Rs. 276900/-	Prof. V K Gupta	Completed
2023- 2025, 2 year	TIH IIT Mandi				

Courses/Lab Taught

Title	Level (UG/PG)	Number of times	Developed by you or not
Fundamentals of Electrical and Electronics Engineering	UG	6	Yes
Control Systems	UG	6	Yes
Signals systems and Networks	UG	1	No
Computer Control	UG & PG	2	Yes
Systems and Control	PG	4	Yes
Sensing, Control and Network	UG & PG	2	Yes
Power Electronics	UG & PG	2	Yes
Digital Signal Processing (DSP)	UG	1	No
Fundamentals of Electrical and Electronics Engineering Lab	UG	6	Yes
Control System Lab	UG & PG	1	Yes
Systems and Control Lab	UG & PG	3	Yes

Research Guidance
(PhD)

S. No.	Name of Student	Masters/PhD	Year of completion	Title of thesis	Co-guides (if any)
1.	Shristi	PhD	Continuing	MPC Controller Design	No

2.	Kumar Prabhakar	PhD	Continuing	Power System Inertia Estimation Techniques	Dr Sachin Jain
3.	K Gnaneshwar	PhD	Continuing	Design of Fractional order PID controller	No
4.	Bipin Singh	PhD	Continuing	IMC based controller design	No
5.	Ashish Chobey	PhD	Continuing	Design of Controller for maximum Power point tracking of PV Cell	Dr Sachin Jain
6.	Sudeep Sharma	PhD	2021	Identification of Time-Delayed systems	No
7.	Ms. Rishika Trivedi	PhD	2021	Design of Fractional Order PID Controller	No
8.	Mr. Neeraj Goswami	PhD	2021	Sliding Mode Control of Mobile Robot	No
9.	Mr. Bharat Verma	PhD	2019	Controller Design for delayed processes	No
10.	Mr. Rajiv Dey	PhD	2017	Robust Adaptive Controller Design for Uncertain Dynamical System using Closed Loop Reference MRAC	Dr Sachin Jain
11.	Mr Rahul Upadhyaya	PhD	2016	Feature Extraction And Classification Of Electroencephalogram Signals For Brain Computer Interface	Dr Pavan Kankar
12.	Ms Swapnel Neema	PhD	2015	Relay Based Identification And Evolutionary Controller Design For Processes	No

Research Guidance

(MTech)

S. No.	Name of Student	Masters/PhD	Year of completion	Title of thesis	Co-guides (if any)
1.	Vinay Kumar	MTech	Cont.	System Identification with modified Relay	No

2.	Satyendra Kumar Lokesh	MTech	Cont.	Controller Design	No
3.	Swatika Sinha	MTech	Cont.	Smith Predictor	No
4.	Pooja	MTech	2021	Improved Simplified Model Predictive Controller Design for Processes with Time Delay	No
5.	Alok Kumar	MTech	2020	Relay based Identification for FOPDT system & Comparison on measurement accuracy & sensitivity analysis.	No
6.	Sandeev Yadav	MTech	2020	Controller Design Using Improved Simplified Model Predictive Control for Unstable Process	No
7.	Ankur Yadav	MTech	2020	Indirect IMC-PID Controller with Extended State Observer for FOPTD Process	No
8.	Mohammed Hasrat Mohani	MTech	2020	Classification of Motor Imagery EEG Signal for Brain Computer Interface Application	Dr Varun Bajaj
9.	K Gnaneshwar	MTech	2019	Design of Fractional order PID controller for an AVR system using Firefly algorithm	No
10.	Sanjay Kumar Suryavanshi	MTech	2019	PID Controller for time delayed single input single output processes	No
11.	Chandresh Singh	MTech	2019	Fractional Order Load frequency	No

				controller design for inter connected power system using BAT optimization Algorithm	
12.	Shesnarayan	MTech	2019	Design of PID Controller for power system stabilizer using CUCKOO search algorithm	No
13.	M.D. Lokesh Ready	MTech	2019	Design of PID Controller for delayed MIMO systems using firefly algorithm	No
14.	K. Sudheer Kumar	MTech	2018	Voltage regulation of DC-DC Boost Converter using Modified IMC Controller	No
15.	Roshan Bharti	MTech	2018	Design of new PID controller for Brushless DC motor	No
16.	Bipin Singh	MTech	2018	A reduced steady-state Oscillation peturb and Algorithm for MPPT of PV Cell	No
17.	Vinay K. Singh	MTech	2018	Modified Relay Based System Identification and Controller Design	No
18.	Mayank Sinha	MTech	2017	IMC PID controller for load frequency control	No
19.	Ankita Sharma	MTech	2017	Design of PID controller for MIMO system	No
20.	Deepi Singh	MTech	2017	Designing and tuning of fractional order PID controller for SISO and MIMO system	No

21.	Sunil Kumar Singh	MTech	2017	Design of PID Controller for delayed systems	No
22.	Sujit Mohapatra	MTech	2016	Controller Design for Microgrid System	No
23.	Ms Savita Baraskar	MTech	2015	Fuzzy Logic based Controller for Maximum Power Point Tracking in Photovoltaic system	Dr Sachin Jain
24.	Ms Ajita Gupta	MTech	2015	Design of Smith Predictor Controller using Firefly Algorithm for SISO Systems	No
25.	Ms Rishika Trivedi	MTech	2015	Adaptive fuzzy PID controller for processes	Dr Sachin Jain
26.	Praveen Kumar	MTech	2014	Fuzzy-cokoo based PID controller for nonlinear systems	No
27.	Kirtiman Singh	MTech	2014	Sliding mode PID controller for nonlinear systems	No
28.	Ms Rajim Gupta	MTech	2014	Design and Implementation of Controller for Nonlinear Processes	No
29.	Mr Rahul Upadhyaya	MTech	2013	Feature Extraction and classification of signals	Dr. Pavan Kankar
30.	Asish Bhandari	MTech	2011	Satelite Image Processing: A case study of Jabalpur City	Dr Anil Kumar
31.	Naveen Kumar	MTech	2011	Design of Controller using Particle Swarm Optimization for Stable and Unstable Processes	No
32.	Vinaya K Singh	MTech	2010	PID Controller Design for Two	Dr Sachin Jain

				Pole Unstable SOPDT Process	

Awards & Fellowships:

- GATE fellowship for Master Programme
- Assistance-ship by MHRD for Doctoral Programme
- BOYSCAST fellowship by DST for researcher in University of Tokyo

Book Chapter

Sl. no	Topic	Book Name	Publisher
1	APPLICATION OF TQWT-ENTROPY FEATURES FOR AUTOMATED EPILEPTIC SEIZURE IDENTIFICATION	Brain and behavior computing	Taylor and Francis
2	Bi-LSTM-deep CNN for schizophrenia detection using MSST-spectral images of EEG signals	Artificial Intelligence based Brain Computer Interface (BCI)	ELSEVIER

Conference/Workshop conducted

Sl. No	Conference/Workshop Name	Conference/Workshop Period	Role	Sponsored
•	IEEE Conference on Control, Automation, Robotics and Embedded system (CARE)	December 16-18, 2013	General Chair	IEEE
•	Indo-US Robo League 2013 and Robotics Workshop	October 5-6, 2013	Coordinator	IIITDM Jabalpur
•	XVI Annual conference of International Academy of Physical Science on	March 20-22, 2014	General Chair	International Academy of

	Physical Science and Technology for Sustainable Development			Physical Science
•	Workshop on Smart Grid and Renewable Energy Integration	March 30-31, 2015	Coordinator	IIITDM Jabalpur
•	Neuro-Fuzzy Systems and Evolutionary Optimization with Application	December 10-15, 2018	Coordinator	ICT Academy
•	Advancements in Signal Processing and Optimization Techniques	June 03-07, 2019	Coordinator	ICT Academy
•	Advanced Optimization Techniques and hands-on with MATLAB/SCILAB	July 13-24, 2020	Academic Coordinator	ICT Academy
•	IEEE conference on Control, Automation, Power and Signal Processing(CAPS)	December 10-12, 2021	General Chair	IEEE

Publications:

Patent

Relay and Adaptive Filter Based On-Line Tuning of PIPD Controller, Published on 27.02.2009, Issue.No.9/2009, The Patent Office Journal, India.

Publications in National/International Journals

1. B Singh, B Verma, S Sharma, PK Padhy, Indirect response-based tuning of PID controller with adjustable robustness, Transactions of the Institute of Measurement and Control, 2023.
2. Prabhakar, Kumar, Sachin K. Jain, and Prabin Kumar Padhy. "Inertia estimation in modern power system: A comprehensive review." *Electric Power Systems Research* 211 (2022): 108222.
3. Sharma, Sudeep, Bharat Verma, and Prabin K. Padhy. "Closed-loop identification of stable and unstable processes with time-delay." *Journal of the Franklin Institute* 359.7 (2022): 3313-3332.
4. Gnaneshwar, K, Trivedi, R, Padhy, PK. Robust design of fractional order IMC controller for fractional order processes with time delay. *Int J Numer Model*. 2022.
5. Sharma, S., Padhy, P.K. Indirect output-error modeling scheme for continuous processes with unknown time delay using iterative instrument variable approach. Int. J. Dynam. Control (2022). https://doi.org/10.1007/s40435-021-00896-z
6. Kurnam Gnaneshwar & P. K. Padhy (2021) Robust Design of Tilted Integral Derivative Controller for Non-integer Order Processes with Time Delay, IETE Journal of Research, DOI: 10.1080/03772063.2021.2004462
7. Bharat Verma & Prabin Kumar Padhy Integral-Square-Error Based Normalized Relative Gain Array for the Input-Output Pairing and Equivalent Transfer Function Design of MIMO Processes, IETE Journal of Research, DOI: 10.1080/03772063.2021.1984996, 2021
8. Sharma, Sudeep, and Prabin K. Padhy. "Extended B-polynomial neural network for time-delayed system modeling using sampled data." *Journal of Intelligent & Fuzzy Systems* Preprint (2021): 1-12.
9. Trivedi, R. & Padhy, P. K. Novel Approximated Fractional Order Lead Compensator", IETE Journal of Research, DOI: 10.1080/03772063.2021.1984996, 2021, Accepted, 2021.
10. Sharma, S., & Padhy, P. K. An indirect approach for online identification of continuous time-delay systems. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, https://doi.org/10.1002/jnm.2947, 2021.
11. Sharma, S., & Padhy, P. K. Extended B-polynomial neural network for time-delayed system modeling using sampled data, Journal of Intelligent & Fuzzy Systems, vol. 41, no. 2, pp. 3277-3288, 2021.

12. Trivedi, R., Verma, B., & Padhy, P. K. Indirect optimal tuning rules for fractional order proportional integral derivative controller. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 34(2), e2838, 2021.
13. R. Trivedi and P. K. Padhy, "Design of Indirect Fractional Order IMC Controller for Fractional Order Processes," in *IEEE Transactions on Circuits and Systems II: Express Briefs*, doi: 10.1109/TCSII.2020.3013404, 2020.
14. S. Sharma and P. K. Padhy, "A Novel Iterative System Identification and Modeling Scheme With Simultaneous Time-Delay and Rational Parameter Estimation," in IEEE Access, vol. 8, pp. 64918-64931, 2020, doi: 10.1109/ACCESS.2020.2985132.
15. Rishika Trivedi, Prabin K. Padhy, "Fractional Order Automatic Tuning of PI^λ D Controller for Stable Processes" *ISA Transactions*, Vol 99, 351-360, 2020.
16. Bharat Verma, Prabin K. Padhy, "Robust Fine Tuning of Optimal PID Controller with guaranteed Robustness", IEEE Transaction on Industrial Electronics, VOL. 67, NO. 6,pp. 4911-4920, JUNE 2020.
17. Bharat Verma, Prabin K. Padhy, "Indirect IMC-PID Controller design", IET Control Theory and Applications, Vol. 13 (2), pp. 297-305, 2019.
18. Bharat Verma, Prabin K. Padhy, "A new PIDF controller structure for delayed process", International Journal of Systems, Control and Communications, Vol. 10 (2), pp. 81-94, 2019.
19. R. Dey, S. Jain, P. K Padhy, "Robust flexible adaptation gain based CRM for guaranteed transient performance" Transactions of the Institute of Measurement and Control, vol 41, no. 5, pp. 1233-1242, 2019.
20. Niraj K. Goswami, Prabin kumar Padhy, "Sliding mode controller design for trajectory tracking of a non-holonomic mobile robot with disturbance", Computer and Electricals Engineering, Vol. 72, pp. 307-323, 2018
21. Verma, Bharat, and Prabin K. Padhy. "Optimal PID controller design with adjustable maximum sensitivity." IET Control Theory & Applications Vol. 12, No.8, pp. 1156-1165,2018.
22. A Kumar, A Ojha, PK Padhy, Anticipated trajectory based proportional navigation guidance scheme for intercepting high maneuvering targets, *International Journal of Control, Automation and Systems*, Vol 15, No 3 pp. 1351-1361, 2017.
23. K Singh, PK Padhy, Second order sliding mode PI-PD controller for inverted pendulum, *International Journal of Systems, Control and Communications,* Vol. 8, No. 3, pp. 217-229, 2017.
24. P Kumar, S Nema, PK Padhy, Fuzzy-cuckoo controller for nonlinear system, *International Journal of Systems, Control and Communications*, Vol. 8, No.1, pp. 41-56, 2017.
25. R Dey, S Jain, P Padhy, Robust Closed Loop Reference MRAC with PI Compensator, *IET Control Theory & Applications*, Vol. 10, No. 18, pp. 2378-2386, 2016.
26. R Upadhyay, PK Padhy, PK Kankar, EEG artifact removal and noise suppression by Discrete Orthonormal S-Transform denoising, *Computers & Electrical Engineering*, Vol. 53, pp. 125-142, 2016.
27. R Upadhyay, PK Padhy, PK Kankar, A comparative study of feature ranking techniques for epileptic seizure detection using wavelet transform, *Computers & Electrical Engineering*, Vol. 53, pp. 163-176, 2016.

28. R. Upadhyay, P.K. Padhy, P.K. Kankar, Application of S-Transform for Automated Detection of Vigilance Level using EEG signals, *Journal of Biological Systems*, Vol. 24, No. 1, pp. 1–27, 2016.
29. A Gupta and PK Padhy, Modified Firefly Algorithm based controller design for integrating and unstable delay processes, *Engineering Science and Technology, an International Journal*, Vol. 19 No. 1, 548-558, 2016.
30. Swapnil Nema and Prabin K.Padhy, Identification of two-input two-output process using state-space analysis, *IET Control Theory and Applications*, Vol. 9, No. 13, pp. 2029-2038, 2015.
31. N Chaudhary, R Raj, K Kiran, S Nema and PK Padhy, Design of multivariable PID controller using DE-PSO, *International Journal of Automation and Control*, Vol. 9, No. 3, pp. 173-185, 2015.
32. R Upadhyay, A Manglick, DK Reddy, PK Padhy, PK Kankar, Channel optimization and nonlinear feature extraction for Electroencephalogram signals classification, *Computers & Electrical Engineering*, Vol. 45, pp. 222-334, 2015.
33. Rahul Upadhyay, Swati Jharia, Prabin Kumar Padhy, Pavan Kumar Kankar, Application of Wavelet Fractal Features for the Automated Detection of Epileptic Seizure using Electroencephalogram Signals, *International Journal of Biomedical Engineering and Technology*, Vol. 19, No. 4, pp. 355-372, 2015
34. Swapnil Nema and Prabin K.Padhy, Identification and cuckoo PI-PD controller design for stable and unstable processes, *Transactions of the Institute of Measurement and Control* Vol. 37, pp. 708-720, 2015.
35. Padhy, P. K. and Majhi, S., "Adaptive Integral Filter For The Identification Of Two-Input Two-Output Processes", *Int. J. Systems, Control and Communications*, Vol. 6, No. 2, pp. 136-152, 2014.
36. R K Sundaram, P K Padhy, "GA-Based PI-PD Controller for TCP Routers", *Int. J. of Machine Learning and Computing* , Vol. 3, No. 4, pp. 361-364, 2013.
37. Rahul Upadhyay, P.K.Kankar, Prabin K.Padhy and V.K.Gupta, "Feature Extraction and Classification of Imagined Motor Movement Electroencephalogram signals", *Int. J. of Biomedical Engineering and Technology*, Vol. 13, No. 2, pp. 133-146, 2013.
38. Swapnil Nema and Prabin K.Padhy, "PI-PD controller for stable and unstable processes", *Int. J. Systems, Control and Communications*, Vol. 5, No. 2, pp. 156-165, 2013.
39. A. Kumar, A. K. Bhandari and P.K. Padhy, "Improved Normalized Difference Vegetation Index Method Based on DCT and SVD for Satellite Image Processing" *IET Signal Processing*, Vol. 7 , pp. 617-625, 2012.
40. Padhy, P.K. and Majhi, S., Exact Analysis for the Identification of Non-minimum phase Processes, *Journal of The Franklin Institute* Vol. 348 No. 10 , pp. 2734-2743, 2012.
41. A. K. Bhandari, A. Kumar and P.K. Padhy, "Enhancement of Low Contrast Satellite Images Using Discrete Cosine Transform and Singular value Decomposition" *World Academy of Science, Engineering and Technology*, 79, pp. 35-41, 2011.
42. P. K. Padhy, A Kumar, Avinash Kumar, Vivek Chandra and Kalyan T Rao, " Feature Extraction and Classification of Brain Signal" *World Academy of Science, Engineering and Technology* 79 , pp. 651-652, 2011.

43. V. K. Singh and P. K. Padhy., The System Identification and PID Lead-lag Control for Two Poles Unstable SOPDT Process by Improved Relay Method, *World Academy of Science, Engineering and Technology* 79 , pp. 819-823, 2011.
44. V. K. Singh, P. K. Padhy and S.K. Jain., IMC based PID controller tuning for unstable SOPDT processes, *Communications in Computer and Information Science*, vol 102, pp 102-108, 2010.
45. Padhy, P. K. and Majhi, S., Improved automatic tuning of PID Controller for stable Processes, *ISA Transactions*, Vol 48, issue 4, pp423-427, 2009.
46. Padhy, PK and Majhi, S, Relay Based PI-PD Design for Stable and Unstable FOPDT Processes, *Journal of Computers and Chemical Engineering*, vol. 30, pp. 790-796, 2006.
47. Padhy, PK and Majhi, S, Tuning of PI Controller for Stable Systems, *Journal of Systems Science and Engineering*, vol. 13, pp. 55-59, 2006.

National/International Conferences:

1. D Patel, PK Padhy, Optimal Tuning of Fractional Order PID Controller with Metaheuristic Algorithms for High Efficiency High Gain DC-DC Boost Converter, International Conference on Power Electronics and Energy (ICPEE), 1-6, 2023
2. K Gnaneshwar, B Singh, PK Padhy, Indirect design of non-integer order controller for non-integer order plus time delay processes, 2nd Odisha International Conference on Electrical Power Engineering, 2022
3. Pooja Lodhi, Bharat Verma and Prabin Kumar Padhy "Design and Implementation of Simplified Model Predictive Controller for Unstable and Integral Processes with Time Delay", 2021 1st International Conference on Control, Automation, Power and Signal Processing (CAPS-2021), Jabalpur, India
4. Bipin Singh, Bharat Verma and Prabin Kumar Padhy "Tuning of Indirect IMC-PID Controller based on PSO Algorithm", 2021 1st International Conference on Control, Automation, Power and Signal Processing (CAPS-2021), Jabalpur, India
5. Satyendra Kumar Lokesh, Sudeep Sharma and Prabin Kumar Padhy "Study of Different Decoupling Techniques for TITO Time-delay System", 2021 1st International Conference on Control, Automation, Power and Signal Processing (CAPS-2021), Jabalpur, India.
6. Swatika Sinha, Sudeep Sharma and Prabin Padhy "A Comparative Study on Effective Control of Unstable Dead-time Systems", 2021 1st International Conference on Control, Automation, Power and Signal Processing (CAPS-2021), Jabalpur, India.
7. Srishti Srishti, Sudeep Sharma and Prabin K Padhy "Comparative Study of Inverted Pendulum with Various Types of Controllers", 2021 1st International Conference on Control, Automation, Power and Signal Processing (CAPS-2021), Jabalpur, India.
8. Kurnam Gnaneshwar, Rishika Trivedi, Bharat Verma, Prabin Kumar Padhy, "Design of fractional IMC controller for stable fractional order processes using firefly algorithm",

2021 1st International Conference on Control, Automation, Power and Signal Processing (CAPS-2021), Jabalpur, India.

9. Sudeep Sharma, Prabin Kumar Padhy, “A Two Stage Identification Approach for Processes with Dead-time using Step Input”, 2021 1st International Conference on Control, Automation, Power and Signal Processing (CAPS-2021), Jabalpur, India.
10. Alok Kumar, Prabin Kumar Padhy, “Relay Based Identification for FOPDT System & Comparison on Measurement Accuracy & Sensitivity Analysis”, 2021 1st International Conference on Power Electronics and Energy (ICPEE-2021), Bhubaneswar.
11. Ankur Yadav, Prabin Kumar Padhy, “Indirect IMC-PID controller with extended state observer for FOPTD plants”, 2021 1st International Conference on Power Electronics and Energy (ICPEE-2021), Bhubaneswar.
12. S. Sharma and P. K. Padhy, "A data driven approach to identify continuous-time systems with dead-time using step input," TENCON 2019 - 2019 IEEE Region 10 Conference (TENCON), Kochi, India, 2019, pp. 632-636, doi: 10.1109/TENCON.2019.8929381.
13. S. Sharma and P. K. Padhy, "Discrete transfer function modeling of non-linear systems using neural networks," 2019 Fifth International Conference on Image Information Processing (ICIIP), Shimla, India, 2019, pp. 558-563, doi: 10.1109/ICIIP47207.2019.8985827.
14. R. Trivedi and P. K. Padhy, "Improved Fractional Order Relay For Unstable and Higher Order Stable Processes," 2019 IEEE International WIE Conference on Electrical and Computer Engineering (WIECON-ECE), Bangalore, India, 2019, pp. 1-4, doi: 10.1109/WIECON-ECE48653.2019.9019897.
15. Kurnam Gnaneshwar, Rishika Trivedi, Prabin Kumar Padhy, “Optimal Tuning of FOPID Parameters with SFL Algorithm for an AVR System”, International Conference in Intelligent Computing and Control System, ICICCS, Madhurai,2019.
16. M D Lokesh Reddy, Prabin Kumar Padhy, Irshad Ahmed Ansari, “A Method for Decentralised PID Controller of TITO Systems Using Firefly Algorithm”, International Conference in Intelligent Computing and Control System, ICICCS, Madhurai,2019.
17. Sanjay Kumar Suryavanshi, Sudeep Sharma, Prabin Kumar Padhy, “Tuning of IMC Based PID Controller for Stable and Unstable Processes”, International Conference in Intelligent Computing and Control System, ICICCS, Madhurai,2019.
18. Chandresh Singh, Sudeep Sharma, Prabin Kumar Padhy, “Bat Optimisation Algorithm Based Fractional Order Load Frequency Controller for Inter-Connected Power Systems”, International Conference in Intelligent Computing and Control System, ICICCS, Madhurai,2019.
19. Shesh Narayan Dewangan, Bharat Verma, Prabin Kumar Padhy, “Design of PID Controller Based PSS using Cuckoo Search Optimization Technique”, 4th IEEE

International Conference On Recent Trends On Electronics, Information & Communication Technology, Bengaluru, 2019.

20. Vinay Kumar, Sudeep Sharma, Prabin K. Padhy, "Controlling of AVR voltage and speed of DC motor using modified PI-PD controller", Second IEEE International Conference on Power Electronics, Intelligent Control and Energy systems, ICPEICES, New delhi, 2018.

21. Bipin Sing, Bharat Verma, Prabin Kumar Padhy," Study of P&O And INC PV MPPT Techniques For Different Environment Conditions", Second IEEE International Conference on Power Electronics, Intelligent Control and Energy systems, ICPEICES, New delhi, 2018.

22. Kelam Sudheer Kumar, Bharat Verma, Prabin Kumar Padhy," Internal Model Controller Design for Boost Converter by Stochastic Optimisation", Second IEEE International Conference on Power Electronics, Intelligent Control and Energy systems, ICPEICES, New delhi, 2018

23. Roshan Bharti, Rishika Trivedi Prabin Kumar Padhy,"Design of FPIPD controller for brushless DC Motor", Second IEEE International Conference on Power Electronics, Intelligent Control and Energy systems, ICPEICES, New delhi, 2018

24. Bipin Singh, Bharat Verma and Prabin Kumar Padhy, "A Reduced Steady-State Oscillation P&O Algorithm for MPP Tracking of PV cell" 3rd IEEE International Conference on Recent Trends in Electronics, Information & Communication Technology, May 2018.

25. Bharat Verma, Sudeep Sharma, Rishika Trivedi and Prabin Kumar Padhy, "Controller design for TITO Process using Equivalent Transfer Function with new Relative Derivative Normalised Gain Array", IEEE International Conference on Power Energy, Environment and Intelligent Control, April 2018.

26. Sudeep Sharma, Bharat Verma, Rishika Trivedi and Prabin Kumar Padhy, "Identification of Stable FOPDT Process Parameters using Neural Networks", IEEE International Conference on Power Energy, Environment and Intelligent Control, April 2018.

27. Rishika Trivedi, Bharat Verma, Sudeep Sharma and Prabin Kumar Padhy, "Maximum Sensitivity Based Controller for FOPDT Processes", IEEE International Conference on Power Energy, Environment and Intelligent Control, April 2018.

28. Bharat Verma, Prabin K. Padhy, "PID controller design with Hyperbolic Tangent weighted error function using", IEEE, 5th International Conference on Signal Processing and Integrated Networks, Feb-2018.

29. Madhurima Peram, Sandhyarani Mishra, Madhuri Vemulapaty, Bharat Verma, Prabin K. Padhy, “Optimal PI-PD and I-PD Controller Design Using Cuckoo Search Algorithm”, IEEE, 5th International Conference on Signal Processing and Integrated Networks, Feb-2018

30. Bharat Verma, Prabin K. Padhy, “Design of a New Linear Robust Controller Structure”, IEEE, International Conference on Information, Communication, Instrumentation and Control, August-2017.

31. Bharat Verma, Prabin K. Padhy, “Tuning of PID Controller Using Sigmoidal Weighted Error Function”, IEEE, International Conference on Innovations in Power and Advanced Computing Technologies, April-2017.

32. Rajiv Dey, Bharat Verma, Sachin K. Jain and Prabin K. Padhy, “Proportional Learning Rate Model Reference Adaptive Control for Fast Adaptation”, IEEE, International Conference on Information, Communication, Instrumentation and Control, August-2017.

33. Rajiv Dey, Bharat Verma, Sachin K. Jain and Prabin K. Padhy, “Fast Adaptation Model Reference Adaptive Control”, IEEE conference, ICPCES-17, Feburary-2017.

34. R. Dey, S. K. Jain, P. K. Padhy, Rohrs benchmark problem revisited by adaptive control with closed loop reference model, in: 2017 International Conference on Information, Communication, Instrumentation and Control (ICICIC), 1–4, 2017.

35. D. Singh and P. K. Padhy, “Design and tuning of pi x03bc; controller for higher order process using pso-nm,” in 2017 Innovations in Power and Advanced Computing Technologies (i-PACT), April 2017, pp. 1–5.

36. S. K. Singh and P. K. Padhy, “Design of pid controller for delayed systems using gain margin and phase margin criteria,” in 2017 4th International Conference on Power, Control Embedded Systems (ICPCES), March 2017, pp. 1–6.

37. A. Sharma and P. K. Padhy, “Design and implementation of pid controller for the decoupled two input two output control process,” in 2017 4th International Conference on Power, Control Embedded Systems (ICPCES), March 2017, pp. 1–6.

38. S Mohapatra, PK Padhy, Deadbeat controller for SOPDT processes, *International conference on Recent Advances and Innovations in Engineering (ICRAIE)*, pp. 1-4, 2016

39. R. Upadhyay, P.K. Padhy, P.K. Kankar, Ocular Artifact Removal from EEG signals using Discrete Orthonormal Stockwell Transform. *IEEE India Conference(INDICON-2015)*, pp. 1-5, 2015.

40. R Trivedi, PK Padhy, SK Jain, Design of fuzzy PID controller using modified firefly algorithm, IEEE Students Conference on Engineering and Systems (SCES), pp. 1-6, 2015.

41. A. Shukla, H. Goyal, S. Agarwal, S. Nema, P.K. Padhy, Path control of Mobile Robot Using Cuckoo-PID, *IEEE International Conference on Computer Communication and Control* (IC4), pp. 1-5, 2015, India.

42. Simmi Kumari, Rahul Upadhyay, Prabin Kumar Padhy, Pavan Kumar Kankar, Application of Emperical Mode Decomposition for Feature Extraction from EEG Signals, *IEEE International Conference on Computer Communication and Control* (IC4), pp. 1-5, 2015,India.

43. Ajita Gupta and Prabin Kumar Padhy, New controller design for integrating and unstable delay processes, IEEE International Conference on Computer Communication and Control (IC4), pp. 1-5, 2015, India.

44. S Nema, PK Padhy, MPSO PI-PD controller for SISO processes, IEEE 9th International conference on Intelligent Systems and Control (ISCO), pp. 1-6, 2015

45. Praveen Kumar, Swapnil Nema, PK Padhy, PID controller for nonlinear system using cuckoo optimization, *International Conference on Control, Instrumentation, Communication and Computational Technologies* (ICCICCT), pp. 711-716, India, 2014

46. Praveen Kumar, Swapnil Nema, PK Padhy, Design of Fuzzy Logic based PD Controller using cuckoo optimization for inverted pendulum, *International Conference on Advanced Communication Control and Computing Technologies* (ICACCCT), pp. 141-146, India, 2014.

47. K Singh, S Nema, PK Padhy, Modified PSO based PID sliding mode control for inverted pendulum, *International Conference on Control, Instrumentation, Communication and Computational Technologies* (ICCICCT), pp. 722-727, India, 2014

48. S K Dwivedi, RK Meena, R Upadhyay, PK Padhy, Tracking of mobile robot using hybrid controller, *International Conference on Advances in Engineering and Technology Research* (ICAETR), pp. 1-4, Unnao, India, May 2014.

49. R Upadhyay, PK Padhy, PK Kankar, Alcoholism diagnosis from EEG signals using continuous wavelet transform, *India Conference (INDICON)*, 2014 Annual IEEE, pp.1-5, Pune, Dec 2014.

50. Swapnil Nema, P K Padhy, "Cuckoo Optimization based PID-P controller for Nonlinear Processes", *XVI Annual Conference of International Academy of Physical Science on Physical Sciences and Technology for Sustainable development*, March 20-22, 2014.

51. Swapnil Nema, P K Padhy, "Cuckoo PID-P controller for Nonlinear Processes", *IV International Conference on Digital Information and Communication Technology and Applications* (DICTAP), pp. 242-246, May 6-8, 2014.

52. Praveen Kumar, Swapnil Nema, P K Padhy, "Design of fuzzy logic based PD controller using Cuckoo optimization for Inverted Pendulum", *IEEE International Conference on Advanced Communication Control and Computing Technologies* (ICACCCT), May 8-10, 2014.

53. R. Upadhyay , D. K. Reddy, A. Manglick, and P. K. Padhy "Noise Cancellation from electroencephalogram Signals using Adaptive Filter Technique", *CONIAPS*-2014.
54. Prabin K.Padhy and Rajim Gupta, "Design of PID-P Controller for Non-Linear System using PSO", *Proceeding on NUiCONE-2013,* Ahmedabad, India, Dec 2013.
55. N Chaudhary, R Raj, K Kiran, S Nema, PK Padhy, "Improved asynchronous PSO based design of multivariable PID controller", IEEE conference on Control, Automation, Robotics and Embeded systems, 2013.
56. A Singh, G Bisht, PK Padhy, "Neural network based adaptive non linear PID controller for non-holonomic mobile robot", IEEE conference on Control, Automation, Robotics and Embeded systems, 2013.
57. D Nangru, DK Bairwa, K Singh, S Nema, PK Padhy, "Modified PSO based PID controller for stable processes", IEEE conference on Control, Automation, Robotics and Embeded systems, 2013.
58. D. K. Reddy, A. Manglick, R. Upadhyay and P. K. Padhy "Feature Extraction and Classification of Electroencephalogram Signals for Vigilance level Detection", IEEE conference on Control, Automation, Robotics and Embeded systems, 2013.
59. R Upadhyay, PK Kankar, PK Padhy, VK Gupta, "Robot motion control using Brain Computer Interface", IEEE conference on Control, Automation, Robotics and Embeded systems, 2013.
60. A.Vyas, G.Mishra, S.Tiwari, R.Upadhyay and P.K.Padhy "Classification of two mental states using electroencephalogram siganls", IEEE conference on Control, Automation, Robotics and Embeded systems, 2013.
61. Naveen Ku.Vastrakar and Prabin K.Padhy, "simplified PSO PI-PD controller for Unstable FOPTD Processes", *Proceeding on IEEE ISMS-2013,* Bangkok, Jan 2013.
62. Swapnil Nema and Prabin K.Padhy, "PSO Based PID Tuning TITO Process", *Proceeding on IEEE ICCIC-2012,* Tamilnadu, India, Dec 2012.
63. Rahul Upadhyay, P.K.Kankar, Prabin K.Padhy and V.K.Gupta, "Extraction and classification of electroencephalogram signals", *Proceeding on IEEE ICCIC-2012*, Tamilnadu, India, Dec 2012.
64. Swapnil Nema and Prabin K.Padhy, "Relay Based Identification of TITO Process", *Proceeding on NUiCONE-2012,* Ahmedabad, India, Dec 2012.
65. Naveen Ku.Vastrakar and Prabin K.Padhy, "PSO Based PI-PD Tuning for Stable and Unstable FOPTD Processes", *Proceeding on ARTCOM-2012, 18-20 Oct.2012,* Bangalore, India, Dec 2012.

66. Naveen Ku.Vastrakar and Prabin K.Padhy, “Simplified PSO-PID Controller for Stable Processes”, *Proceeding on NUiCONE-2012,* Ahmedabad, India, Dec 2012.
67. Rahul Upadhyay, P.K.Kankar, Prabin K.Padhy and V.K.Gupta, “Classification of drowsy and controlled EEG signals”, *Proceeding on NUiCONE-2012,* Ahmedabad, India, Dec 2012.
68. Prabin K.Padhy and Rajim Gupta, “Design of PID controller for Non-Linear System using PSO”, *Proceeding on ICECIT-2012, 21-23 Dec.2012,* Ahmedabad, India, Dec 2012.
69. A. K. Bhandari, A. Kumar and P. K. Padhy, “Satellite Image Processing using Discrete Cosine Transform and Singular value Decomposition”, *Proceeding on the Communications in Computer and Information Science (CCIS) Springer (LNCS) Series*, Sep 2011.
70. A. K. Bhandari, A. Kumar and P.K. Padhy, “Satellite Image Processing using Normalized Difference Vegetation Index: A Case Study of Paris City”, *Proceeding in ITBHU National Conference on Mathematical Modeling and Computer Simulation*, Vol. 1, (25-27 March 2011), pp.147-153.
71. P. K. Padhy, Avinash Kumar, Vivek Chandra and Kalyan T Rao, " Feature Extraction and Classification of EEG Signal” *Proceedings of International Conference on Computers, Communications,Control and Automation (CCCA 2011), Feb 2011.*
72. P. K. Padhy and R K Sundaram, " GA-based PI-PD Controller for TCP Routers” *Proceedings of International Conference on Machine Learning and Computing (ICMLC 2011), Feb 2011.*
73. V. K. Singh and P. K. Padhy, "Measurement Noise and Disturbance Rejection for Unstable SOPDT Process” *Proceedings of International Conference on Power, Control and Embedded Systems ICPCES-2010,* Nov 2010.
74. P. K. Padhy and R K Sundaram, "Analysis and Design of improved PI-PD controller in TCP router” *Proceedings of International Conference on Power, Control and Embedded Systems ICPCES-2010,* Nov 2010.
75. V. K. Singh, P. K. Padhy and S.K. Jain, “IMC Based PID Controller Tuning for Unstable SOPDT Processes” *PEIE2010, CCIS 102, pp. 110 –114, 2010* © Springer - Verlag Berlin Heidelberg 2010
76. P K Padhy, Takeshi Sasaki , Sousuke Nakamura and Hideki Hashimoto, Modeling and Position Control of Mobile Robot, *Proceedings of International workshop on motion control (AMC 2010),* Nagaoka, Japan, Mar 2010.
77. Padhy, P.K., Chaturvedi, A and Majhi S., Design of PI-PD controller for active queue management (AQM), *Proceedings of National Conference on Advances in Computational Intelligence Applications in Power, Control, Signal Processing and Telecommunications (NCACI-2009),* Bhubaneswar, Mar 2009.

78. Padhy, P.K. and Majhi S., PID controller for stable processes, *Proceedings of National Conference on Advances in Computational Intelligence Applications in Power, Control, Signal Processing and Telecommunications (NCACI-2009)*, Bhubaneswar, Mar 2009.
79. Padhy, P.K. and Majhi S., An exact method for on-line identification of FOPDT processes, *Proc. of IEEE International Conference on Industrial Technology*, IIT Bombay, pp. 1528-1532, Dec. 2006.
80. Padhy, P.K. and Majhi S., Identification of TITO processes, *Proc. of IEEE International Conference on Industrial Technology*, IIT Bombay, pp. 664-669, Dec. 2006.
81. Padhy, P.K. and Majhi, S., IMC based PID controller for FOPDT stable and unstable processes, *Proc. of 30th National System Conference*, Dona Paula, Goa, Nov. 2006.
82. Majhi, S. and Padhy, P.K., Relay based identification of time delay processes, *Proc. of 30th National System Conference*, Dona Paula, Goa, Nov. 2006.
83. Padhy, P.K. and Majhi S., On-line mobile robot path tracking using PI controller, *Proc. of IEEE INDICON*, Delhi, Sept. 2006.
84. Padhy, P.K. and Majhi, S., Automatic tuning of fuzzy PID controller, *Proc. of 29th National System Conference*, IIT Bombay, Dec. 2005.
85. Padhy, P.K. and Majhi, S., Relay based PI-PD design for stable FOPDT processes, *Proc. of DICHCAT*, Korea, Oct. 2005.
86. Padhy, P.K., Majhi, S. and Atherton, D.P., PID-P controller for TITO systems, *Proc. of 16th IFAC World Congress*, May. 2005.
87. Padhy P.K. and Majhi S., Closed loop identification of TITO systems, *Proc. of SICPRO*, Moscow, pp. 849-856, Jan. 2005.
88. Padhy P.K. and Majhi S., Relay based PID controller tuning of a TITO system, *Proc. of SICPRO*, Moscow, pp. 857-865, Jan. 2005.
89. Padhy, P.K. and Majhi, S., Parametric identification of nonlinear systems, *Proc. of IEEE INDICON*, IIT, Kharagpur, pp. 220-224, Dec. 2004.
90. Padhy, P.K. and Majhi, S., PI-PD controller for unstable FOPDT systems, *Proc. of National Conference on Recent Advances in Power, Signal Processing and Control*, NIT, Rourkella, Nov. 2004.

Personal Profile

Name:	Prabin Kumar Padhy
Date of Birth:	6th June
Category:	General
Sex:	Male
Marital Status:	Married

Nationality:	Indian
Mailing Address:	Professor Department of Electronics and Communication Engineering, Indian Institute of Information Technology Design and Manufacturing Jabalpur, MP, India, Mob: +91 9425155297. Email: prabin16@iiitdmj.ac.in, prabin16@gmail.com