

## Faculty Profile

**1. Name:** Dr. Amit Kumar Choudhary

**2. Department:** Electrical Engineering

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**5. Office Address:** E-14, Dept. of Electrical Engineering,  
BIT Sindri, Dhanbad (828123), Jharkhand



### **6. Qualification:**

S. No.	Degree(UG, PG, PhD)	Specialization	Institute
01.	Ph.D.	Control System	IIT (BHU) Varanasi
02.	M.Tech	Control System	NIT, Kurukshetra
03.	B.Tech	Electronics & Instr. Engg.	UPTU, Lucknow

**7. Area of Specialization:** Model Order Reduction, Control System

### **8. M.Tech (Guided):**

S.No.	Registration No.	Name	Area of Work	Status
01.	22030750107	Sharvan Deo Prakash	Development & Analysis of Sheep Herd Optimization	Pursuing
02.	21030750126	Shweta Kumari	Stability Preservation Method For Order Reduction Of Discrete-Time Interval System.	Passed
03.	21030750102	Ajay Kumar	Model Order Reduction Using Cuckoo Search Optimization Technique	Passed
04.	20030750013	Ritesh Kumar Rana	Sliding Mode Control: An Approach for Therapy of HIV/AIDS Infection Using AntiRetroviral Drugs	Passed
05.	19030750024	Vikash Kumar	SEPIC converter based solar Powered water pumping model for Water filter application	Passed
06.	19030750020	Rohit Kumar	Analysis of multi network system load frequency Control with different adaptive controllers	Passed
07.	18030750013	Gaurav Prasad	Development of predictive model for Particulate Matter Emission in Sinter Plant	Passed

**9. Subjects Taught:** Non-Linear System, Process Instrumentation & Control, Measuremne & Instrumentation, Model Reduction in Control, Optimal Control Theory

**10. Professional Experience: 12.11 Years****I) Teaching Experience: 6.11 Years**

Sl. No.	Position held	Name of Organization	From	To
1	Assistant Professor	BIT Sindri	15.03.2018	Till Date

**II) Research Experience: 6 Years**

Sl. No.	Position held	Name of Organization	From	To
1.	Research Scholar	IIT (BHU) Varanasi	13.08.2011	16.06.2017

**11. Publications:****I) International Journal: 09**

Sl. No.	Title of the paper	Name of the journal	Vol/No.	Publication Year	Pages
01.	Solar Water Pumping Model Using Zeta Converter for Irrigation Application	Int. J. of Electrical and Electronics Research (IJEER)	9 (3)	2022	84-88
02.	An appropriate discrete-transformation technique for order reduction methodology	Array	14	2022	
03.	Order reduction techniques via Routh approximation: a critical survey	IETE Journal of Research	65 (3)	2019	365-379
04.	Order Reduction of z-domain Interval System using an Arithmetic Operator	Circuits, Systems, and Signal Processing, Springer	38 (3)	2019	1023-1038
05.	Model order reduction of discrete-time interval system based on Mikhailov stability criterion	Journal of Dynamics and Control	6 (4)	2019	1558-1566
06.	Model order reduction of discrete-time interval systems by differentiation calculus	Automatic Control and Computer Sciences	52 (5)	2018	402-411
07.	Novel arrangement of Routh array for order reduction of z-domain uncertain system	Systems Science & Control Engineering	5 (1)	2017	232-242
08.	Revisiting approximation techniques to reduce order of interval system	IFAC-PaperOnline	49 (1)	2016	241-246
09.	Application of Various Order Reduction Methodologies over Power System Components	IFAC-PaperOnline	48 (30)	2015	185-190

## II) International Conference: 15

S. No.	Title of the paper	Conference Detail	Publication Year
01.	Stability Preservation Technique for Order Reduction of z-domain Interval Structure	5th International Conference Recent Developments in Control, Automation and Power Engineering: RDCAPE-2023	2023
02.	Exploration of Starting Methods of Induction Motor	International Conference on Recent Developments in Control, Automation & Power Engineering (RDCAPE -2023)	2023
03.	A Novel Model Order Reduction Technique for Approximation & Analysis of Hydropower System	2023 First IEEE International Conference on Advances in Electrical, Electronics and Computational Intelligence (ICAECCI 2023)	2023
04.	Performance Analysis of NN Controller Based Multiport Converter for EV Application	2023 International Conference on Evolutionary Algorithms and Soft Computing Techniques (EASCT)	2023
05.	Comparison of Order Reduction Techniques for Automatic Voltage Regulator	2023 International Conference on Evolutionary Algorithms and Soft Computing Techniques (EASCT)	2023
06.	Model Order Reduction Using Cuckoo Search Optimization Technique	2023 International Conference on Ambient Intelligence, Knowledge Informatics and Industrial Electronics (AIKIE)	2023
07.	Comparative Assessment of ANN-based MPPT Algorithm for Solar PV System	2022 IEEE North Karnataka Subsection Flagship International Conference (NKCon)	2022
08.	Performance Enhancement of Fractional PID Controllers using Modified Grey Wolf Optimization	2 <sup>nd</sup> International Conference on Data Science and Applications (ICDSA 2021)	2021
09.	A Novel Technique for Order Reduction of Discrete-Time Interval System	4 <sup>th</sup> SICE Int. Symp. on Control Systems (ISCS), at Setagaya Campus, Tokyo City University, Tokyo, Japan, March 9-11, 2018.	2018
10.	Simplification of Uncertain System to Their Approximate Model	SIAM Conf. on Uncertainty Quantification (UQ16), SwissTech Convention Center, EPFL Campus, Lausanne, Switzerland, April 5-8.	2016
11.	Revisiting approximation techniques to reduce order of interval system	ACODS, NIT Tiruchirappalli, Feb 1-5	2016
12.	Order Reduction of Uncertain System using the Advantages of Two Varied Approximations	Michael Faraday IET International Summit (MFIS-2015), Kolkata, India, pp. 49-51, Sept. 12-13	2015
13.	Application of Various Order Reduction Methodologies over Power System Components	9 <sup>th</sup> IFAC Symposium on Control of Power and Energy Systems, IIT Delhi, India, Dec 9-11	2015
14.	Direct Truncation Method for Order	IEEE INDICON-2013, IIT (Bombay),	2013

	Reduction of Discrete Interval System	India, pp. 1-4, Dec.13-15	
15.	Gamma Delta Approximation for Reduction of Discrete Interval System	Inter. Conference on Advances in Recent Technologies in Electrical and Electronics (ARTEE-13), Bangalore, India, Elsevier, pp. 91-94, Sept. 20-21	2013

### 12. Conference/ Workshop/Seminar/ Organized: 03

S. No.	Title of Seminar / Conferences / Short - term Courses	Funding / Sponsoring Agency	Date of Seminar / Conferences / Short - term Courses	No. of Participants
01.	One Week Workshop on Research Methodology & Research Paper Writing (RMRPW-2023)	BIT Sindri	13-17 February, 2023	160
02.	One week workshop on Electric Vehicle: Challenges and opportunities (EVCO-2022)	BIT Sindri	22nd – 26th August, 2022	90
03.	“Challenges in Integration of Large-Scale Renewables in Indian Power System” A Sustainable Solution using Artificial Intelligence	TEQIP III	27 <sup>th</sup> August 2020	175

### 13. Symposium/ Workshop/Seminar/ Attended:48

S.N	Title of Symposium/Workshop/ Seminar/ Short-term Courses/ Webinar/NPTEL etc.	Date	Organizing Institute
1.	5 days' workshop Current Industrial Alacrity and Career Opportunity in the Field of Mechanical Engineering	Nov. 02 - 06, 2020	BIT Sindri
2.	Fractional Order Robust Control System Design (Series-I)	Oct. 26– 31, 2020	Department of Electrical and Electronics Engg., Vardhaman College Of Engg. Shamshabad, Hyderabad
3.	Faculty Development Programme on Python 3.4.3	Oct. 05– 16, 2020	B.I.T Sindri, Dhanbad and Spoken Tutorial Project, IIT Bombay
4.	Faculty Development Program cum Workshop Sustainable Environmental Engineering Practices (SEEP 2020)	Sep. 21- 25, 2020	Dept. of Civil Engg., National Institute of Technology Rourkela, India
5.	STTP on Applications of MATLAB in Mathematics, Science and Engineering	15-17 Sept., 2020	Dept. of Electrical Engineering, St. Vincent Pallotti College of Engg, & Tech., Nagpur and IE (I), Nagpur Local Chapter

<b>6.</b>	Indigenous Instrumentation for Nano-Technology (IINT-2020)	Sep. 11, 2020	Dept. of Metallurgical Engg., BIT Sindri, Dhanbad, JHD
<b>7.</b>	e-FDP on "Renewable Energy for Sustainable Development: Opportunities and Challenges"	Sep. 8-12,2020	Department of Electrical and Electronics Engineering, Govt. Engineering College, Raipur.
<b>8.</b>	Online Workshop on The Art Of Technical Writing	Aug. 7- 8, 2020	Dept. of Mechanical Engg., Jyothi Engg. College, Thrissur in association with ISTE -JECC chapter
<b>9.</b>	International Workshop on Thermal Management Of Electronics	Jul. 27-28, 2020	Dept. of Mechanical Engg., Jyothi Engineering college, Thrissur inAssociation with ISTE JECC & Mechanical Engg. students, JECC
<b>10.</b>	National Webinar on SPACE - 2.0	Jul. 25, 2020	Department of Science, St. Joseph'sCollege of Engg., OMR, Chennai - 600 119
<b>11.</b>	Recent Research Trends in Electrical Engineering	Jun. 14-Jul. 18 2020	Gautam Buddha University, Greater Noida, India
<b>12.</b>	One Day Faculty Development Programme on Free Open Source Tools for Education and Research	Jul. 07, 2020	BIT Sindri, Dhanbad and FOSSEE, IIT Bombay
<b>13.</b>	FDP for Engineering Colleges on Virtual Labs	Jun. 29, 2020	Jharkhand Education Grid, Rashtriya Uchcharatar Shiksha AbhiyanJharkhand, JUT, RNC and BIT Sindri, in association with NIT Karnataka, Surathkal
<b>14.</b>	Electric Vehicles: New Trends and Technologies	Jun. 22-26, 2020	Department of Electrical & Electronics Engg., ABES Engg. College, Gzb
<b>15.</b>	E-Mobility and Solar Charging for E-Mobility	Jun. 24, 2020	Dept. of Electrical Engg., Chouksey Group of Colleges, Bilaspur, Chhattisgarh
<b>16.</b>	A Two Day Workshop on Developing an E-Content	Jun. 18-19, 2020	Dept. of Computer Science & Engg., Vaagdevi Engineering College, Bollikunta, Warangal.
<b>17.</b>	4-Days e-FDP on "Role of Artificial Intelligence in Future Microgrid Control"	Jun. 17-20, 2020.	Department of Electrical Engg, Silicon Institute of Technology, Sambalpur, Odisha
<b>18.</b>	One Week FDP on eSim-A Free and Open Source EDA Tool	Jun. 15-19, 2020.	Department of EEE in association with Spoken Tutorial IIT Bombay, Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT)
<b>19.</b>	Outcome Based Education Software	Jun. 11, 2020	Vmedulife software services
<b>20.</b>	Basics of Fire and Safety Engineering	Jun. 10, 2020	Department of Fire Technology

			and Safety Engineering, Noorul Islam Centre for Higher Education, Kanyakumari, Tamil Nadu
<b>21.</b>	Smart Energy Solutions to Boost Power Sector Economy During Pandemic	Jun. 06, 2020	Dept. of Electrical Engg., Teerthanker MahaveerUniversity Moradabad
<b>22.</b>	How to Get More Marks in Mathematics	Jun. 5, 2020	Amity School of Engg and Tech. (ASET) , Amity Univ. MP (AUMP), Gwalior
<b>23.</b>	Energy Regulations Webinar: Challenges to Energy Regulations beyond Corona 2020	May24, 2020	IEEE Uttar Pradesh Section (India Council)
<b>24.</b>	Autonomy and Control for Robotic Systems using MATLAB	May15, 2020	ELMAX Systems & Solutions
<b>25.</b>	Response Of Indian Power Sector During Covid-19 Lockdown	Apr. 23, 2020	Dept. Electrical Engg., Univ. School of Engg., Gautam Buddha Univ., Gr. Noida, U.P.
<b>26.</b>	Digital Transformation in Teaching Learning Process	Apr. 06-22, 2020	TEQIP Online Certification & Swayam & IIT Bombay
<b>27.</b>	Intl. Symp. On 5G & Beyond for Rural Upliftment	Feb. 08-09, 2020	BIT, Sindri and IIT (ISM) Dhanbad
<b>28.</b>	One week FDP on ICT Tools for Teaching, Learning Process & Institutes	Jan. 13-17, 2020	Jointly organized by Electronics and ICT Academics at BIT Sindri
<b>29.</b>	Five Days Workshop on Internet of Things (IoT)	Oct.14-18, 2019	BIT Sindri
<b>30.</b>	One Week FDP on Wireless and Mobile Communication	Dec. 03-07, 2018	IIT Guwahati
<b>31.</b>	Recent Advances on Passive and Active Components	Jun. 25-30, 2018	Dept. of Electronics Engg., IIT (BHU) Varanasi
<b>32.</b>	SICE 4th International Symposium on Control Systems (SICE-ISCS 2018)	Mar. 9-11, 2018	Tokyo City University, Setagaya Campus, Tokyo, Japan
<b>33.</b>	Faculty Induction Workshop	Jan 29 - Feb 02, 2018	TEQIP Office, IIT Indore, Indore
<b>34.</b>	SIAM Conference on Uncertainty Quantification (UQ16), SwissTech Convention Center	Apr. 5-8, 2016	EPFL Campus, Lausanne, Switzerland
<b>35.</b>	Fourth International Conference on Advances in Control and Optimization Of Dynamical Systems	Feb. 1-5, 2016	NIT Tiruchirappalli, India,

	(ACODS 2016)		
36.	9th IFAC Sym. on Control of Power and Energy Systems (CPES-15)	Dec. 9-11, 2015	IIT Delhi, India,
37.	Michael Faraday IET Intl. Summit (MFIIS-2015)	Sept. 12-13, 2015	Kolkata University, India
38.	One day international workshop on "How to do a Good PhD"	Sept. 11, 2015	Dept. of Physics, University of Calcutta and IET UK Kolkata Local Network
39.	IEEE Authorship Workshop on	Aug. 11, 2014	IIT, Delhi, India.
40.	Training on Indusoft SCADA	Jun. 23-24, 2014	Control and System (I) Pvt. Ltd. at Dept. of Elect. Engineering, IIT(BHU) Varanasi
41.	INDICON-2013, (IEEE Bombay Section)	Dec. 13-15, 2013	IIT Bombay
42.	International Conference on Advances in Recent Technologies in Electrical and Electronics- ARTEE- 2013	Sep. 20-21, 2013	Bangalore
43.	Workshop on Lab view	Mar. 08, 2013	Dept. of Elect. Engineering, IIT(BHU) Varanasi
44.	National Power Systems Conference, NPSC-2012	Dec. 12-14, 2012	Dept. of Elect. Engineering, IIT(BHU) Varanasi
45.	Course on "Control System Design (CSD-2012)"	Dec. 4-8, 2012	Dept. of Avionics, Indian Institute of Space Science and Technology (IIST), Valiamala, Kerala.
46.	Advanced Workshop on Mathematical Theory of Control and Numerics (MTCN-2012)	Nov. 21-30, 2012	Dept. of Mathematics, IIT, Bombay and Dept. of Mathematics, Indian Inst. of Space Science and Tech. (IIST), Valiamala, Kerala.
47.	CSIR sponsored IX Control Instrumentation System conference CISCON-2013(A National Conference)	Nov. 16-17, 2012	Manipal Inst. of Technology, Manipal University, Manipal,
48.	SERC School on Adaptive Control of Nonlinear Systems Using Fuzzy and Neural Networks	Oct. 5-9, 2011	Department of Electrical Engineering, Indian Institute of Technology, Kanpur.

#### 14. Administrative Position Held:

S. No.	Position Held	From (date/month/year)
01.	IEEE Student Branch Counselor, IEEE Student Branch	09-Feb-2024
02.	Asst. Prof. In Charge, Examination Section, BIT Sindri	17-Nov.-2020

<b>03.</b>	Member in Nano Technology Centre, BIT Sindri	28-Sep.-2020
<b>04.</b>	Prof. In Charge, Department Library	06-Aug.-2019
<b>05.</b>	Member in institute NAAC committee	02-Aug.-2019
<b>06.</b>	Department GATE Coordinator	24-Jun.-2019
<b>07.</b>	Member Secretary in Departmental Research Committee for PG candidates	07-Jun.-2019
<b>08.</b>	PG Coordinator, Dept. of Electrical Engg., BIT Sindri	16- Feb.-2019

### 15. Award / Recognition Bestowed on Faculty (State / National / International)

<b>S. No</b>	<b>Award/ Recognition</b>	<b>Year</b>
<b>01.</b>	IETE Jury under the Best General Interest Paper for the IETE-Gowri Memorial Award-2020 for “Order Reduction Techniques via Routh Approximation: A Critical Survey” published in IETE Journal of Research, May-June 2019 issue.	2020
<b>02.</b>	Received CSIR Foreign Travel Grant to present a research paper in Japan	2018
<b>03.</b>	Best Volunteer at 3rd IEEE UP Section International Conference on Electrical, Computer and Electronics Engineering at Indian Institute of Technology (Banaras Hindu University) Varanasi, Varanasi, U.P., India, Dec. 9-11, 2016.	2016
<b>04.</b>	Selected for the Society of Industrial and Applied Mathematics (SIAM) Travel Support for attending the SIAM Conference on Uncertainty Quantification (UQ16), at SwissTech Convention Center, EPFL Campus, Lausanne, Switzerland, April 5-8, 2016.	2016

### 16. Additional Activities

<b>S. No.</b>	<b>Activity Arena</b>	<b>Organized at</b>	<b>Date</b>	<b>Acted as</b>
<b>01.</b>	10th Int. Conference on Signal Processing and Integrated Networks (SPIN 2023) held on	Amity University, UP. Noida	23-24 March, 2023	Session Chair
<b>02.</b>	Recent Development on Control Automation & Power Engg. (RDCAPE 2023)	Dept. of Electrical & Electronics Engg., AMITY School of Engg. & Tech., UP	12th -13 th October 2023	Session Chair
<b>03.</b>	3rd International Conference on Information Technology (InCITe 2023)	Amity University, UP. Noida	2nd -3rd March 2023	Reviewer
<b>04.</b>	Nav Ujjwal e-innovation Hackathon	Model Club, BIT Sindri	Aug. 4-6,2020	Judge
<b>05.</b>	6thStudents’ Conference on	Dept. of Electrical Engg.,	Jul. 12, 2020	Reviewer



	Engg.& Systems(SCES)	MNNIT, Allahabd, Prayagraj		
<b>06.</b>	Recent Development on Control Automation & Power Engg. (RDCAPE 2019)	Dept. of Electrical & Electronics Engg., AMITY School of Engg. & Tech., UP	Oct. 10-11, 2019	Reviewer

#### 17. Members of Professional Bodies:

S. No.	Professional Body	Membership Number
<b>01.</b>	ACDOS: Automatic Control & Dynamic Optimization Society: An Indian NMO of IFAC (International Federation of Automatic Control)	NA
<b>02.</b>	IDES: Institute of Doctors, Engineers and Scientists	1442
<b>03.</b>	IEEE	93284704
<b>04.</b>	IET: Institution of Engineering and Technology	1100322629
<b>05.</b>	SIAM: Society for Industrial and Applied Mathematics	020103848-0

#### 18. Personal Profile:

<b>Date of birth</b>	:	08 <sup>th</sup> September 1984
<b>Gender</b>	:	Male
<b>Nationality</b>	:	Indian
<b>Languages Known</b>	:	Hindi, English
<b>Correspondence Address</b>	:	Qtr. No.: O-78, Professor Colony, B-Zone Near Hostel No.: 14, BIT Sindri, Dhanbad, Jharkhand (828123)

#### Declaration:

I hereby declare that the above furnished particulars are true and the best of my knowledge and belief

Place: BIT, Sindri, Dhanbad

**(Dr. Amit Kumar Choudhary)**