

CURRICULUM VITAE		
Name	: Prof. (Dr.) Pradip Kumar Sadhu	
Present Position	: Professor (HAG) Department of Electrical Engineering Indian Institute of Technology (ISM), Dhanbad	
Date of Joining in IIT(ISM), Dhanbad	: 17 th December, 2002	
Present Address	Qtr No – UGC 18, UGC Colony, Indian Institute of Technology (ISM), Dhanbad Dhanbad-826004, Jharkhand, India Phone No: +91326-2235478 (O) +913262235578 (Res.) Mobile Phone : +919431126076 E-mail : pradip@iitism.ac.in / pradip_sadhu@yahoo.co.in https://www.iitism.ac.in/index.php/electrical/electrical_faculty	
Date of Birth	: 01 st June, 1965	
Marital Status	: Married	
Religion	: Hinduism	
Academic Qualification	:	
Examination	Board / University	Year
Ph.D. (Engineering) Dissertation Title : Application of H.F. Inverter in Induction Heating.	Electrical Engineering, Jadavpur University	2002
M.E.E. (Specialization – Power System) Dissertation Title: Class-A Commutated Inverter.	Electrical Engineering, Jadavpur University	1999
B.E.E. (Hons) Specialization – Electrical Measurements	Electrical Engineering, Jadavpur University	1997
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Ph. D. Thesis Supervised		41 Nos	
		Granted Patents : 30 Nos. Patents under examination : 7 Nos. SCIE Journal Publication : More than 201 Nos. Book Published: 6 Nos. Book Chapter: 16 Nos.	

Year	Title of FDP / EDP / Workshop / Seminar / outreach
2026	“Electrical Safety and Smart Maintenance for Sustainable Mines” at IIT(ISM) Dhanbad - Prof. Pradip Kumar Sadhu (Co-CI) & Dr. Nitai Pal (CI), ; dated 05 th – 09 th January, 2026; (Value: Rs.10,50,000/-)
2025	“Electrical Safety and Precautionary Maintenance for Sustainable Mines” at IIT(ISM) Dhanbad - Prof. Pradip Kumar Sadhu (Co-CI) & Dr. Nitai Pal (CI), ; dated 04 th – 08 th August, 2025; (Value: Rs.24,00,000/-)
2025	“Preventive Maintenance and Electrical Safety in Mines” at IIT(ISM) Dhanbad - Prof. Pradip Kumar Sadhu (Co-CI) & Dr. Nitai Pal (CI), ; dated 20 th – 24 th January, 2025; (Value: Rs.31,50,000/-)
2024	“ Innovation, Design and Entrepreneurship (IDE) Boot Camp for School Teachers of Jharkhand ” under AICTE, & MoE Innovation Cell, Govt. of India, held at IIT(ISM) Dhanbad - Prof. Pradip Kumar Sadhu (CI) & Prof. V. Mahato (Joint CI), ; dated 29 th – 30 th November, 2024; (Value: Rs.15,00,000/-)
2024	“Electrical Safety in Sustainable Mines: Challenges and Mitigation” at IIT(ISM) Dhanbad - Prof. Pradip Kumar Sadhu (Co-CI) & Dr. Nitai Pal (CI), ; dated 22 nd – 26 th July, 2024; (Value: Rs.19,50,000/-)
2018	“Recent Challenges and Mitigation Thereof on Electrical Safety in Mines” at IIT(ISM) Dhanbad - Prof. Pradip Kumar Sadhu (Co-CI) & Dr. Nitai Pal (CI), ; dated 22 nd – 26 th June, 2018; (EDP/0002/18-19) (Value: Rs.6,80,000/-)
2017	“Electrical Safety and Protection in Mines” at IIT(ISM) Dhanbad - Prof. Pradip Kumar Sadhu (Co-CI) & Dr. Nitai Pal (CI), ; dated 17 th – 21 st December, 2017; (CONS/3671/17-18) ; (Value: Rs. 8,22,478/-)
2017	“Electrical Safety in Mines & Future Prospects” at IIT(ISM) Dhanbad – Prof. Pradip Kumar Sadhu (Co-CI) & Dr. Nitai Pal (CI), dated 19 th – 22 nd June, 2017; (CONS/3546/17-18) (Value: Rs. 9,79,611/-)
2016	“Electrical Safety in Mines” at IITF, Kolkata – Prof. Pradip Kumar Sadhu (CI) & Dr. Nitai Pal (Co-CI), dated 26 th – 30 th December, 2016; (CONS/3389/2016-17) (Value: Rs.3,99,983/-)
2015	“Advanced Electrical Power Technology” at IIT(ISM) Dhanbad – Prof. Pradip Kumar Sadhu (CI) & Dr. Nitai Pal (Co-CI), ; dated 12 th – 17 th July, 2015; (CONS/2839/2015-16) ; (Value: Rs.2,26,000/-).
2015	“Advanced Power Electronics and Power Quality” at IIT(ISM) Dhanbad – Prof. Pradip Kumar Sadhu (Co-CI) & Dr. Nitai Pal (CI), dated 05 th –10 th July, 2015; (CONS/2840/2015-16) (Value: Rs.2,18,000/-)
2014	“Application of Power Electronics” at IIT(ISM) Dhanbad – Prof. Pradip Kumar Sadhu (CI) & Dr. Nitai Pal (CI), ; dated 29 th December, 2014 to 03 rd January, 2015; (CONS/2715/14-15) (Value: Rs. 1,64,000/-)
2014	“Application of Power Electronics in Renewable Energy” at IIT(ISM) Dhanbad – Prof. Pradip Kumar Sadhu (CI) & Dr. Nitai Pal (CI), dated 07 th July to 11 th July, 2014; (CONS/2518/13-14) (Value: Rs.1,48,500/-)
2014	“Application of Power Electronics in Renewable Energy” at IIT(ISM) Dhanbad – Prof. Pradip Kumar Sadhu (CI) & Dr. Nitai Pal (CI), ; dated 30 th June to 04 th July, 2014; (CONS/2512/13-14) (Value: Rs.1,22,000/-).
2013	“Advanced Power Electronics and Drives” at IIT(ISM) Dhanbad – Prof. Pradip Kumar Sadhu (CI) & Dr. Nitai Pal (Co-CI), dated 30 th December, 2013 to 04 th January, 2014; (CONS/2403/13-14)

Patent Granted:

1. Granted patent from Government of India (No: 532009, Date of Grant: 5th April 2024, Application No : 201731040764, Dated 15 / 11 / 2017) for “Solar Induction Heating System using High Frequency Modified Half Bridge Series Resonant Inverter under ZSI Mode” in the name of inventors . Rahul Raman, Chayan Chakraborty, Palash Pal, **Pradip Kumar Sadhu**, Bidrohi Bhattacharjee and Swapam Kumar Bakshi, at Patent Office, Kolkata, Government of India.
2. Granted patent from Government of India (No: 522237, Date of Grant: 8th March 2024, Application No : 201731040664, Dated 14 / 11 / 2017) for “Solar Induction Heating System using High Frequency Hybrid Resonant Inverter under ZSI Mode” in the name of inventors . Avijit Chakraborty, Aniruddha Bhattacharjee, Pipul Roy, **Pradip Kumar Sadhu**, Niladri Das and Nitai Pal, at Patent Office, Kolkata, Government of India.
3. Granted patent from Government of India (No : 500376 Date of Grant : 17th January 2024, Application No : 201731028010, Dated 07 / 08 / 2017) for “A System of Photovoltaic-Integrated Solar Induction Heating using High Frequency Full Bridge Series Resonant Inverter Under CSI (Current Source Inverter) Mode and Solar Thermal Heating and Method for the Same” in the name of inventors Bidrohi Bhattacharjee, Riyaz Ahmed, **Pradip Kumar Sadhu**, Ankur Ganguly, Ashok Kumar Naskar and Atif Iqbal at Patent Office, Kolkata, Government of India.
4. Granted patent from Government of India (No : 476712 Date of Grant : 4th December 2023, Application No : 201731040782, Dated 15 / 11 / 2017) for “Solar Induction Heating System using High Frequency Modified Half Bridge Series Resonant Inverter under VSI Mode” in the name of inventors. Parthabrata Choudhury, Moumita Sadhu, Niladri Das, Pradip Kumar Sadhu, Suprava Chakraborty and Soumya Das, at Patent Office, Kolkata, Government of India.
5. Granted patent from Government of India (No : 470425 Date of Grant : 20th November 2023, Applied patent (Application No : 201731035228, Dated 04 / 10 / 2017) for “Solar based Hybrid Heating System and Method with Constant Load Conditions for Low-Wattage Metallic Appliances” in the name of inventors Moumita Sadhu, Niladri Das, Meetarani Tripathy, **Pradip Kumar Sadhu**, Nitai Pal and Utpal Goswami, at Patent Office, Kolkata, Government of India.
6. Granted patent from Government of India (No : 462113 Date of Grant : 26th October 2023 Application No : 201731040411, Dated 13 / 11 / 2017) for “Solar Induction Heating System using High Frequency Hybrid Resonant Inverter under CSI Mode” in the name of inventors Suman Kumar Laha, Md. Tabrez, Pradip Kumar Sadhu, Atif Iqbal, Ankur Ganguly and Ashok Kumar Naskar, at Patent Office, Kolkata, Government of India.
7. Granted patent from Government of India (No : 457401 Date of Grant : 9th October 2023, Application No : 201631000136, Dated 04 / 01 / 2016) for “A High Frequency Fly-Back Multizone Resonant Inverter with AC Input Source for Multi-Area Induction Heating” in the name of inventors **Prof. (Dr.) Pradip Kumar Sadhu**, Kallol Bhaumik, Avik Datta, Palash Pal, Avijit Chakraborty, Titas Kumar Nag, at Patent Office, Kolkata, Government of India.
8. Granted patent from Government of India (No : 453622, Date of Grant : 21ST September 2023, Application No : 201731041196, Dated 17 / 11 / 2017)for “Solar Modules based Heating System and Method using Mirrored Current under Impedence Matched Conditions” in the name of inventors, Apoorva, Prasenjit Das, Deepak Dash, Pradip Kumar Sadhu, Bidyadhar Subudhi and Pratik Biswas, at Patent Office, Kolkata, Government of India.
9. Granted patent from Government of India (No : 451725, Date of Grant : 14th September 2023, Application No : 201731041025, Dated 16 / 11 / 2017) for “Combined Solar and Thermal System and Method for Heating Metallic Appliances under Constant Load Conditions” in the name of inventors, Pipul Roy, Pratik Biswas, Niladri Das, Pradip Kumar Sadhu, Pritish Ghosh and Sarat Kumar Panda, at Patent Office, Kolkata, Government of India.

10. Granted patent from Government of India (No : 451268, Date of Grant : 13th September 2023, Application No : 201731035534, Dated 06 / 10 / 2017) for “Solar based Hybrid Heating System and Method with Automatic Load Impedance Matching for Low-Wattage Metallic Appliances” in the name of inventors Kundan Kumar, Anik Goswami, Pradip Kumar Sadhu, Debabrata Roy, Nital Pal and M K Singh, at Patent Office, Kolkata, Government of India.
11. Granted patent from Government of India (No : 429901, Date of Grant : 25th April 2023, Application No : 1221/KOL/2015, Dated 30 / 11 / 2015) for “An Induction Curing System For Roof Treatment With Asphalt Concrete To Cure A Crack On Roof And A Method For The Same” in the name of inventors Prof. (Dr.) Pradip Kumar Sadhu, Mr. Kaushik Neogi, Dr. Atanu Banerjee, Dr. G. Panda, Dr. N. Pal, Dr. K.C. Jana., at Patent Office, Kolkata, Government of India
12. Granted patent from Government of India (No : 423123, Date of Grant : 24th February 2023, Application No : 201731023466, Dated 04 / 07 / 2017) for “A High Frequency Virtual Reactor in Power System with Dispersed Generators to Control Fault Current and Method of Operation” in the name of inventors Alok Kumar Shrivastav, Saumen Dhara, Pradip Kumar Sadhu, Achintya Goswami, Parthabrata Choudhury and Ankur Ganguly at Patent Office, Kolkata, Government of India
13. Granted patent from Government of India (No : 413988, Date of Grant : 8th December 2022, Application No : 25/KOL/2015, dated 07 / 01 / 2015) for “A High Frequency Hybrid Resonant Inverter With AC Input Source” in the name of inventors Prof. (Dr.) **Pradip Kumar Sadhu**, Ananya Bhattacharya , Dr. Vivekananda Mukherjee and Dr. Nitai Pal, at Patent Office, Kolkata, Government of India.
14. Granted patent from Government of India (No : 409799, Date of Grant : 25th October 2022, Application No : 201731040937, Dated 16 / 11 / 2017) for “A Photovoltaic Integrated System and Method for Heating Metallic Appliances under Variable Load Conditions” in the name of inventors, Anand Kumar, Shivprakash Bihari, Pradip Kumar Sadhu, Debabrata Roy, Tapas Roy and Arijit Chakrabarti, at Patent Office, Kolkata, Government of India.
15. Granted patent from Government of India (No : 409428, Date of Grant : 20th October 2022, Application No : 201731025244, Dated 17 / 07 / 2017) for “A System of Photovoltaic Integrated Solar Induction Heating and Solar Thermal Heating using High Frequency Full Bridge Series Resonant Inverter Under VSI (Voltage Source Inverter) Mode and Method for the Same” in the name of inventors Soumya Das, **Pradip Kumar Sadhu**, Palash Pal, Meetarani Tripathy, Titas Kumar Nag and Saunak Bhattacharya at Patent Office, Kolkata, Government of India.
16. Granted patent from Government of India (No : 409320, Date of Grant : 19th October 2022, Application No : 1470/KOL/2013, Dated 31 / 12 / 2013) for “Contactless Emergency Lighting and Communication System with Axial Portability for Underground Mines” in the name of inventors S. Vamsi Krishna, Nitai Pal and **Pradip Kumar Sadhu**, at Patent Office, Kolkata, Government of India.
17. Granted patent from Government of India (No : 405729, Date of Grant : 5th September 2022, Application No : 201731033087, Dated 19 / 09 / 2017) for “A System of Photovoltaic-Integrated Solar Induction Heating and Solar Thermal Heating using High Frequency Full Bridge Series Resonant Inverter Under ZSI (Z-Impedance Source Inverter) Mode for Load Impedance Matching and Method for the Same” in the name of inventors Arijit Chakrabarti, Subhajit Basu, **Pradip Kumar Sadhu**, Palash Pal, Sudipta Chakrabarty and Tamalika Panda at Patent Office, Kolkata, Government of India.
18. Granted patent from Government of India (No : 405442, Date of Grant : 31st August 2022, Application No : 445/KOL/2015, Dated 30 / 04 / 2015) for “A Pacemaker Battery Recharger for Enhancing the Service Life” in the name of inventors Prof. (Dr.) **Pradip Kumar Sadhu**, Animesh Halder, Dr. Nitai Pal, Prof. (Dr.) Ankur Ganguly, Dr. Prabir Bhowmik and Moumita Sadhu, at Patent Office, Kolkata, Government of India.

19. Granted patent from Government of India (No : 403045, Date of Grant : 4th August 2022, Application No : 1052/KOL/2014, dated 16 / 10 / 2014) for “A System for Induction Heated Sterilization of Surgical Instruments and A Method for the Same” in the name of inventors Prof. (Dr.) **Pradip Kumar Sadhu**, Agamani Chakraborty, Atanu Bandyopadhyay and Dr. Nitai Pal, at Patent Office, Kolkata, Government of India.
20. Granted patent from Government of India (No : 400850, Date of Grant : 8th July 2022, Application No : 201731025438, Dated 18 / 07 / 2017) for “A Hybrid Particulate Matter (PM) Emission Control Device Having Electrostatic Precipitator and High Frequency Induction Heating Coil for Diesel Engine and Method for the Same” in the name of inventors Mr. Kaushik Sit, **Prof. (Dr.) Pradip Kumar Sadhu**, Dr. Arijit Baral, Kallol Bhaumik, Moumita Chakraborty, Sudipta Chakraborty and Nitai Pal at Patent Office, Kolkata, Government of India.
21. Granted patent from Government of India (No : 399304, Date of Grant : 17th June 2022, Application No : 201731040658, Dated 14 / 11 / 2017) for “Solar Induction Heating System using High Frequency Hybrid Resonant Inverter under VSI Mode” in the name of inventors Paromita Sadhu, Achintya Goswami, **Pradip Kumar Sadhu**, Sarat Kumar Panda, Avik Datta and Ananyo Bhattacharya, at Patent Office, Kolkata, Government of India.
22. Granted patent from Government of India (No : 395435, Date of Grant : 26th April 2022, Application No : 682/KOL/2015, Dated 19 / 06 / 2015) for “Photovoltaic-Thermoelectric-Photovoltaic (Pv-Te-Pv) Multilayer Device for Enhancing Solar Electric Power Generation with Reduced Area Requirement” in the name of inventors Suprava Chakraborty, **Prof. (Dr.) Pradip Kumar Sadhu**, Utpal Goswami, at Patent Office, Kolkata, Government of India.
23. Granted patent from Government of India (No : 393014, Date of Grant : 25th March 2022, APPLICATION NO : 1081/KOL/2014, DATED 24 / 10 / 2014) for “A High Frequency Full Bridge Series Resonant Inverter with AC Input Source” in the name of inventors Prof. (Dr.) **Pradip Kumar Sadhu**, Debabrata Roy, Dr. Nitai Pal and Arijit Baral.
24. Granted patent from Government of India (No : 359838, Date of Grant : 26th February 2021, APPLICATION NO : 1240/KOL/2012, DATED 30 / 10 / 2012) for “Emission Control Device for Diesel Engine to Reduce the Particulate Matters in Exhaust Gases and the Method for the Same” in the name of inventors **Pradip K. Sadhu**, Nitai Pal and Atanu Bandyopadhyay.
25. Granted patent from Government of India (No : 359490, Date of Grant : 25th February 2021, Application No : 201731040675, Dated 14 / 11 / 2017) for “Solar Induction Heating System using High Frequency Modified Half Bridge Series Resonant Inverter under CSI Mode” in the name of inventors Soham Dutta, Tamalika Panda, **Pradip Kumar Sadhu**, Paromita Sadhu, Palash Pal and Chayan Chakraborty.
26. Granted patent from Government of India (No : 341969, Date of Grant : 20th July 2020, APPLICATION NO : 1321/KOL/2014, DATED 17 / 12 / 2014) for “A High Frequency Modified Half Bridge Resonant Inverter With AC Input Source” in the name of inventors **Prof. (Dr.) Pradip Kumar Sadhu**, Palash Pal, Dr. Nitai Pal and Arijit Baral.
27. Granted patent from Government of India (No : 244527, Date of Grant : 09th December 2010) for “An improved high frequency inverter circuit arrangement” in the name of inventors **Pradip Kumar Sadhu**, Rupendranath Chakrabarti and S. P. Chowdhury.
28. Granted patent from Government of India (No : 216361, Date of Grant : 12th March, 2008) for “A cooking apparatus using high frequency induction heating” in the name of inventors **Pradip Kumar Sadhu**, Rupendranath Chakrabarti and S. P. Chowdhury.
29. Granted patent from Government of India (No : 205322, Date of Grant : 30th March, 2007) for “An induction heating device for heating fluids in a non-metallic vessel or pipeline” in the name of inventors **Pradip Kumar Sadhu**, Rupendranath Chakrabarti and S. P. Chowdhury.

30. Granted patent from Government of India (No : 156681, Date of Grant : 04th May, 1982) for “A burglar proof electric lock cum alarm device” in the name of inventors **Pradip Kumar Sadhu**.

Patent Applied:

1. Applied patent (Application No : 202231032196 Dated 06 / 06 / 2022) for “A hybrid renewable energy driven bidirectional wireless charging system for dynamic and static electric vehicle” in the name of inventors, Pradip Kumar Sadhu, Anik Goswami, Sonal Mishra, Nitai Pal, Arijit Baral, Anirban Ghoshal and Kartick Chandra Jana, at Patent Office, Kolkata, Government of India.
2. Applied patent (Application No : 201731034927, Dated 03 / 10 / 2017) for “Solar based Hybrid Heating System and Method with Variable Load Conditions for Low-Wattage Metallic Appliances” in the name of inventors Tapas Roy, Swapan Kumar Bakshi, **Pradip Kumar Sadhu**, Suman Kumar Laha, Avijit Chakraborty and Abhijit Dasgupta at Patent Office, Kolkata, Government of India.

<u>R & D Projects :</u>	Project Ongoing.
Project Title :	A Circulating Power Test Setup to Evaluate Key Aspects of Static and Dynamic Wireless Power Transfer Technologies for Electric Vehicle.
Objective :	Prototype development and analysis for Static and Dynamic Wireless Power Transfer Technologies of Electric Vehicle
Status :	Ongoing (w.e.f. <u>ANRF/ARG/2025/011257/ENS</u> , Approved on 18/12/2025).
Project Value:	Rs. 98,00,000/- (Approx.)
Sponsoring Agency:	Anusandhan National Research Foundation (ANRF)
Working Experience :	As a Co-Principal Investigator of ANRF supported Major Research Project.

<u>R & D Projects :</u>	Project Completed One Number.
Project Title :	Dynamic Charging of Electric Vehicles Using Wireless Power Transfer Technique.
Objective :	Prototype development and determination of system efficiency.
Status :	Completed (w.e.f. 10.08.2021 to 10.08.2024). IIT(ISM)/2021-2022/808/INSTITUTE
Project Value:	Rs. 10,00,000/-
Sponsoring Agency:	Indian Institute of Technology (Indian School of Mines), Dhanbad

Working Experience :		As a Principal Investigator of IIT (ISM) supported Major Research Project.
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<u>R & D Projects :</u>		Project Completed One Number.
Project Title :		Simulation of high-frequency mirror inverter for energy efficient induction heated cooking oven using PSPICE.
Objective :		Simulation of mirror inverter circuit for energy efficient induction heated cooking oven.
Status :		Completed (w.e.f. 01 / 04 / 2008 to 31 / 03 / 2011).
Project Value:		Rs. 6,98,000/-
Sponsoring Agency:		University Grant Commission (UGC), New Delhi, India.
Working Experience :		As a Principal Investigator of UGC supported Major Research Project.