## Name

CHANDAN CHAKRABORTY

## Office Address

Professor , Electrical Engineering Department
Indian Institute of Technology Kharagpur
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Website : http://www.facweb.iitkgp.ernet.in/~chandan/

## My Parents

Father: Mr. A. N. Chakraborty (Retired Govt. Servant, Served in Indian Postal Service in A & N Islands for major part of his career),
Mother: Ms. M. Chakraborty

## Marital Status

Married to Dr. Indrani Goswami

## Education

| Degree | Subject | Class CGPA/ marks | Year | University | Details (if any) |
|---|---|---|---|---|---|
| B.E | Electrical Engineering | 79.4% | 1987 | Jadavpur University | Developed CAD for machine design in bachelor project Supervisor: Prof. S. Basu |
| M.E | Electrical Machines | 81.8% | 1989 | Jadavpur University | Published **one** IEEE Trans. paper from ME Thesis work Supervisor: Prof. S. K. Biswas |
| Ph D | Induction Generators | | 1997 | IIT Kharagpur | Published **two** IEEE Trans. papers. Supervisors: Prof. A.K. Chattopadhyay & Prof. S. N. Bhadra |
| Ph.D | Resonant Converters | | 2000 | Mie University, Japan | Published **two** IEEE Trans. papers. Supervisor: Prof. M. Ishida |

## Post Doctoral Experience

| Post Doctoral Scheme | Topic | Year | University | Supervisor |
|---|---|---|---|---|
| JSPS Post Doc. Research. | Electric Vehicle | 2000-02 | University of Tokyo, Japan | Prof. Yoichi Hori |

## Positions held

| S No | Period | Place of Employment | Designation | Additional Information (if any) |
|---|---|---|---|---|
| 1. | Oct 93-Oct 02 | JadavpurUniversity | Lecturer | |
| 2. | Apr 97-Sept | Osaka University of Foreign | Researcher | Indo-Japan (Monbusho) |

| | | | | |
|---|---|---|---|---|
| | 97 | Studies, Japan | | Programme |
| 3. | Oct 97- Aug 00 | Mie University, Japan | Researcher | Indo-Japan (Monbusho) Program |
| 4 | Oct.00 - Oct 02 | University of Tokyo, Japan | JSPS Researcher | JSPS Foundation |
| 5 | Oct 02- Sept 10 | IIT Kharagpur | Associate Professor | |
| 6 | Sept 10-Aug 17 | IIT Kharagpur | Professor | |
| 7 | Aug 17-till date | IIT Kharagpur | Professor (HAG) | |

## Subjects taught at IIT Kharagpur

- For 1st year B.Tech-EE11001 (Electrical Technology)
- For 2nd year B.Tech-EE23002 (Electrical Machines)
- For 3rd year B.Tech-EE33006 (Power Electronics & Drives)
- For 4th year B.Tech-EE40002 (Electric Drives)
- For 4th year B.Tech-EE40011 (Advanced Power Electronics & Drives)
- For 4th year B.Tech-EG43001 (Non-conventional Electrical Power Generation)
- For M.Tech-EE60001 (Power Electronic Converters & Machine Drives)
- For M.Tech-EE60003 (Machine Analysis)
- For M.Tech-EE60004 (Advanced Power Electronic Converters)
- For M.Tech-EE60002 (Advanced Machine Drives)
- For M.Tech-EE60082 (Electric Vehicles) proposed this course at IIT Kharagpur
- For M.Tech-EE60016 (Smart Grid) together with other faculty members

## Consortium Lead

UK-India Consortium

**Prof. Chakraborty** is the Lead of a Consortium project titled *UK India Clean Energy Research Institute*

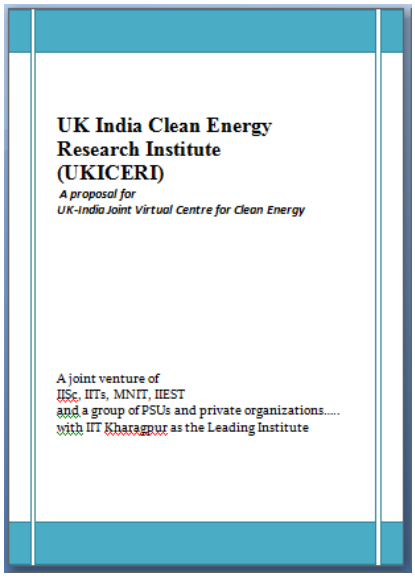
Consortium Details:

Team:

**From India**: IIT Kharagpur, IISc Bangalore, IIT Delhi, IIT Kanpur, IIT Madras, IIT Bhubaneswar, IIEST Shibpur MNIT Jaipur

**From UK**: Imperial College London, Loughborough University, University of Manchester, University of Birmingham, University of Southampton, University of Warwick, Cardiff University, University of Exeter, Swansea University

& Industry Partners



# Sponsored Research

| Sl. No. | Title of the Project | Funding Agency | Responsibility | Status |
|---|---|---|---|---|
| 1. | UK India Clean Energy Research Institute (UKICERI) | DST | **Principal Investigator** and Consortium Lead, India Side | On-going |
| 2 | Reliable and Efficient System for Community Energy Solution (RESCUES)<br>(a collaborative project involving IIT Kharagpur, IIT Delhi, IIT Madras, VNIT Nagpur and DTU and three UK side institutions) | DST (in collaboration with RC UK) | **Principal Investigator** and Lead from India Side | Completed |
| 3. | Energy Storage Integration with the grid at High Power Level | DST | Co-PI | On-going |
| 4. | Opened & Intelligent Plug-in Hybrid Electric Vehicle (PHEV) Technologies for Smart Indian Cities (HEV) | Tata Motors, Pune, MHRD, New Delhi, Ministry of Heavy Industries & Public Enterprises, New Delhi. | Co-PI | On-going |
| 5. | Hybrid Sodium-ion Cell/Super Capacitor Packs for Light Electric Vehicles | MHRD, Ministry of Road Transport and Highways, New Delhi | Co-PI | On-going |
| 6. | Safety Thermal Management & Design of Lithiam Ion battery Module Operating at High & Fluctuating Discharge Rate for Underwater Vehicle Application | Naval Research Board, Ministry of Defence, DRDO, New Delhi | Co-PI | On-going |
| 7. | Stability and Performance on Photovoltaics (STAPP)<br>(a collaborative project involving IIT Kharagpur, IIT Bombay, IIT Kanpur and Solar Energy Centre and four UK side institutions) | DST (in collaboration with RC UK) | **Principal Investigator** | Completed |
| 8. | Renewable Hybrid Energy Power Plant for Telecom station in Isolated Sites | Vodaphone | Co-Principal Investigator | Completed |
| 9. | Development of an Economical Variable Speed Constant Frequency Generation System Suitable for Wind Power Generation | CPRI | Co-Principal Investigator | Completed |
| 10. | Departmental FIST Project | DST | **Co-ordinator** | Completed |
| 11. | Model Reference Adaptive | DIT | **Principal** | Completed |

| | | | | |
|---|---|---|---|---|
| | System(MRAS) Based Speed Estimation of Doubly-Fed Induction Motor (DFIM) Drives Using Reactive Power | | **Investigator** | |
| 12. | Application of Chaos in DC/DC Converters for Reduction of EMI | ISRO | **Principal Investigator** | Completed |
| 13. | Development of an Automotive Electronics Laboratory | MHRD | **Principal Investigator** | Completed |

# Editorial Experience

2019-2022 **Founder EIC** for *IEEE Journal on Emerging & Selected Topics in Industrial Electronics* (JESTIE), http://www.ieee-ies.org/pubs/jestie

2019 **Co-EIC** of *IEEE Trans. on Industrial Electronics.*

2013-15: **Founder EIC**, IEEE IE Tech News

Jan. 2016-2019: **Associate Editor**, *IEEE Journal of Emerging and Selected Topics in Power Electronics* (JESTPE)

2015: **Guest Editor** for a Special Issue in *IEEE Transactions on Industrial Electronics* published in July 2015 (jointly with Prof. Herbert Iu and Prof. Dylan Lu of Australia)

2011-2019: **Editor**, *IEEE Power Engineering Letters*

2010-2019: **Editor**, *IEEE Transactions on Sustainable Energy*

2009: **Guest Editor** for a Special Issue in *IEEE Transactions on Industrial Electronics* published in October 2009 (jointly with Prof. Greg Asher of University of Nottingham, UK)

2008-2019: **Associate Editor**, *IEEE Industrial Electronics Magazine*

2006-2017: **Associate Editor**, *IEEE Transactions on Industrial Electronics*

# Chair in International Conferences

**2020**

- **General Co-Chair**, IESES2020, Sardinia, Cagliari, **Italy.**
- **Technical Program Co-Chair:**IECON2020**, Singapore**.
- **Special Session Chair:** IEEE International Symposium on Industrial Electronics, ISIE-2020, Delft, the Netherlands.

**2019**

- **Track Chair:**Power Electronics Track,IEEE International Symposium on Industrial Electronics, ISIE-2019, Vancouver, **Canada.**

- **Track Chair:** Power Electronics Track**,** IECON 2019, Lisbon, **Portugal**.

**2018**

- **General Co-Chair**: IEEE International Conference on Industrial Electronics for Sustainable Energy Systems, IESES-2018, Waikato, Hamilton, **New Zealand.**
- **Track Chair:** Power Electronics Track, IEEE International Symposium on Industrial Electronics, ISIE-2018, Cairns, **Australia.**
- **Tutorial Chair**: IECON 2018, Washington DC, **USA.**

**2017**

- **General Co-Chair**: IEEE International Conference on Industrial Technology, ICIT-2017, Toronto, **Canada.**
- **Track Chair:**Power Electronics Track,IEEE International Symposium on Industrial Electronics, ISIE-2017, Edinburg, **UK.**
- **Tutorial Chair**: IECON 2017, Beijing, **China.**

**2016**

- **Track Chair:**Power Electronics Track,IEEE International Symposium on Industrial Electronics, ISIE-2016, Santa Clara, **USA.**
- **Tutorial Chair**: IECON 2016, Florence, **Italy.**

**2015**

- **Technical Program Chair:** IEEE Electric Machines and Drives Conference, IEMDC-2015, Idaho, **USA**.
- **Technical Program Chair:** IEEE International Symposium on Industrial Electronics, ISIE-2015, Rio-de-Janeiro, **Brazil.**
- **Technical Program Chair**: IEEE International Conference on Industrial Technology, ICIT-2015, Seville, **Spain.**
- **Track Chair**, Power Electronics Track, IECON2015, Yokohama, **Japan.**
- **Track Chair**, Power Electronics Systems and Applications, POWERENG 2015, Riga, **Latvia**.

**2014**

- **Technical Program Chair:** IEEE Industrial Electronics Society Annual Conference, IECON-2014, Dallas, **USA**.
- **Track Chair**: IEEE International Symposium on Industrial Electronics , ISIE-2014, Istanbul, **Turkey.**

**2013**

- **Track Chair:** IEEE Industrial Electronics Society Annual Conference, IECON-2013, Vienna. **Austria**.
- **Track Chair**: IEEE International Symposium on Industrial Electronics , ISIE-2013, Taipei, **Taiwan.**

**2012**

- **Technical Program Chair:** IEEE Industrial Electronics Society Annual Conference, IECON-2012, Montreal, **Canada.**
- **Track Chair**: IEEE International Symposium on Industrial Electronics , ISIE-2012, Hangzhou, **China.**

**2011**

- **Track Chair:** IEEE Industrial Electronics Society Annual Conference, IECON-2011, Melbourne, **Australia**

- **Track Chair**: IEEE International Symposium on Industrial Electronics , ISIE-2010, Gdansk, **Poland**

**2010**

- **Technical Program Chair**: IEEE International Conference on Industrial Technology, ICIT-2010, **Chile**
- **Track Chair:** IEEE Industrial Electronics Society Annual Conference, IECON-2010, Glendale, Arizona, **USA**
- **Track Chair**: IEEE International Symposium on Industrial Electronics , ISIE-2010, Bari,**Italy**

**2009**

- **Technical Program Chair**: 2009 IEEE International Conference on Industrial Technology, **Australia**
- **Track Chair**, Power Electronics Track: 2009 IEEE Industrial Electronics Society Annual Conference (IECON), **Portugal**
- **Track Chair**, Power Electronics Track: 2009 IEEE International Symposium on Industrial Electronics (ISIE), **Korea**

**2008**

- **Track Chair**, Electric Machines & Drives Track: 2008 IEEE Industrial Electronics Society Annual Conference, Orlando, **USA**
- **Convenor,** 2008 ICIIS, Kharagpur

**2006**

- **Technical Program Chair**: 2006 IEEE International Conference on Industrial Technology, Mumbai,**India**

** Dr. Chakraborty also took key roles in many national conferences such as NPEC (as Technical Program Chair), NSC(as Registration Chair) in India.*

# Organized/Chaired Special Session

**2011**

- Organized a Special Session for IECON2011 in Melbourne, Australia on **Advanced Topologies & Controllers for Harmonics & Reactive Power Compensation** with Dr. Mariusz Malinowski of WarsawUniversity of Technology, Poland.

- Organized a Special Session for IECON2011 in Melbourne, Australia on **Advanced Motor Control Techniques for Automotive Applications Power** with Prof. Yoichi Hori of University of Tokyo, Japan.

**2010**

- Organized and chaireda Special Session for IECON2010 in Glendale, AZ, USAon **Advanced Power Filtering Solutions** with Dr. Mariusz Malinowski of WarsawUniversity of Technology, Poland.

- Organized and chaireda Special Session IECON2010 in Glendale, AZ, USAon **Increased Penetration of Sustainable Energy Sources intothe Grid: Instruments and Effects** with Dr. Giovanni Spagnuolo, University of Salerno, Italy

**2008**

- Organized and chaired a special session on **Advanced Active Power Line Conditioners** for IECON 2008, at OrlandoUSAjointly with Dr. Marius Malinowski of Warsaw University of Technology, Poland.

- Organized a special session on **Application and Control of Doubly-fed Induction Machines** jointly with Prof. Greg Asher of University of Nottingham, UK, at ISIE2008 Cambridge.

**2007**

- Organized and chaired a special session at IEEE-IECON, 2007, Taipei, Taiwan, with Dr. Udaya K. Madawala of University of Auckland, New Zealand on **Advanced Power Converters and Drives for Automotive Applications**.

**2004**

- Organized and chaired a special session at IEEE-IECON, 2004, Busan, Korea on **Advanced Control of Resonant Converters.**

**2003**

- Organized a special session with Prof. Takamasa Hori, Japan, at IEEE-IECON, 2003, Roanoke, Virginia, USA, on **Advanced Electric Vehicles Drives Technology.**

## Other IEEE Activities

2020-21: **Member**, IEEE Power & Energy Society Fellow Committee
2017-19: **Member**, IEEE Industrial Electronics Society Fellow Committee
**Member**, IEEE IES Publications Committee
2013-14: **Chair**, Power Electronics Technical Committee, IEEE IES
**Elected ADCOM Member** IEEE IES (2007, 2009-10, 2012-13, 2017-19))

## Invited/Keynote lectures

- February 28, 2020 on Renewable Energy Integration: Challenges and Opportunities at **CALCON 2020**, Kolkata

- December 14, 2018 on Brushless and Permanent Magnet Less Generators: An alternative to Traditional Generators at **IICPE18**, Jaipur

- December 3, 2017, on High Performance Induction Motor Drives: Vector Control and Beyond, at **CALCON 17**, Lalit Great Eastern Hotel, Kolkata

- November 27, 2016, on State of the Art of Fault Tolerant Induction Motor Drives, at **PIICON16**, Bikaner, Rajasthan.

- April 4, 2014, "Speed, Parameter Estimation and Fault Tolerant Control of Induction Motor Drives: A Model Reference Adaptive Controller Based Approach,**"** at **IIT Delhi.**

- November 13, 2008, "Speed sensorless control of induction motor drives: A model reference adaptive controller based approach," at **Massachusetts Institute of Technology (MIT), USA**.

- November 7, 2008, "Issues of Induction Motor Drives," at **North Carolina State University, USA**.

- November 11, 2005, on "Some investigations on the Controlled Capacitor Charging (CCC)-type Inverter," at **GE Global Research, NY, USA**.

- November 10, 2005, on "Some aspects of control and topological developments of resonant DC/DC converters and Inverters," at **Syracuse University, NY, USA**,

- December 17, 2004, on "Dynamic Pulse Modulation to Control Resonant DC/DC Converters," at the **University of Nottingham, UK**

- December 15, 2004, on "Control of Resonant Converters," at **ImperialCollege, London, UK**

- July 4, 2003, on "Some aspects of Induction Motor Drives for Electric Vehicles Applications," at the **University of Tokyo, Japan**.

## Activities in IEEE Kharagpur Section

- 2010 **Chair**, IEEE Kharagpur Section
- 2009 **Vice Chair**, IEEE Kharagpur Section
- 2008 **Secretary & Treasurer**, IEEE Kharagpur Section

## Awards/Recognition

2019 **IEEE Bimal Bose Energy Systems Award**,
http://www.ieee-ies.org/about/awards/awards-info/191-dr-bimal-bose-energy-systems-award
2019-22: **Founder EIC**, IEEE Journal on Emerging & Selected Topics in Industrial Electronics,
http://www.ieee-ies.org/pubs/jestie
2019: **Co-EIC**, IEEE Trans. on Industrial Electronics
2015: **Fellow IEEE**
2010: **Fellow INAE**
2008: **Best Paper Third Prize** by the IEEE IES Electrical Machine Technical Committee.
2000-02: **JSPS Post Doctoral Fellowship** to work at the University of Tokyo
1997-00: **Monbusho (Japanese Government) Scholarship** for doctoral study in Japan

## Visits Abroad

| S No | Month/Time | Institute/ country visited | Purpose of visit |
|---|---|---|---|
| 1 | October 2019 | **Lisbon, Portugal** | To attend IECON2019 as one of the Track Chairs, present papers and also to attend the ADCOM meeting. |
| 2 | June 2019 | **Vancouver, Canada** | To attend ISIE2019 as one of the Track chairs, present paper and attend the ADCOM meeting |
| 3 | October 2018 | **Washington DC, USA** | To attend IECON2018 as Tutorial Chair, present papers and also to attend the ADCOM meeting. |
| 4 | Oct.-Nov.2017 | **Beijing, China** | To attend IECON2017 as one of the Track Chairs, present papers and also to attend the ADCOM meeting. |
| 5 | June 2017 | **Edinburgh, UK** | To attend ISIE2016 as one of the Track chairs, present paper and attend the ADCOM meeting |
| 6 | November, 2016 | **Florence, Italy** | To attend IECON2016 as one of the Track Chairs, present papers and also to attend the ADCOM meeting. |

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|---|---|---|---|
| 7 | June, 2016 | **Santa Clara, USA** | To attend ISIE2016 as one of the Track chairs, present paper and attend the ADCOM meeting |
| 8 | Nov. 2015 | **Yokohama, Japan** | To attend IECON2015 as Tutorial Chair, one of the Tracks Chair, present papers and also to attend the ADCOM meeting. |
| 9 | July, 2015 | **Cambridge, UK** | To attend INDIN2015. present paper and also attend the ADCOM meeting |
| 10 | Oct. 2014 | **Dallas, USA** | To attend IECON2014 as Technical Program Chair, present papers and also to attend the ADCOM meeting. |
| 11 | June, 2014 | **Istanbul, Turkey** | To attend ISIE2013 as one of the Track chairs, present paper and attend the ADCOM meeting |
| 12 | Nov, 2013 | **Vienna, Austria** | To attend IECON2013 as Track Chair, present papers and also to attend the ADCOM meeting. |
| 13 | May, 2013 | **Taipei, Taiwan** | To attend ISIE2013 as one of the Track chairs, present paper and attend the ADCOM meeting |
| 14 | Oct, 2012 | **Montreal, Canada** | To attend IECON2012 as technical program Chair and also to attend the ADCOM meeting. |
| 15 | May, 2012 | **Hangzhou, China** | To attend ISIE2012 as one of the Track chairs, present paper and attend the ADCOM meeting |
| 16 | Nov, 2011 | **Melbourne, Australia** | To attend IECON2011 as one of the Track Chairs and to present a paper |
| 17 | June, 2011 | **Gdansk, Poland** | To attend ISIE2011 as one of the Track Chairs and to present two papers |
| 18 | Nov, 2010 | **Glendale, AZ, USA** | To attend IECON2010, present papers and attend the ADCOM meeting |
| 19 | July, 2010 | **Bari, Italy** | To attend ISIE2010, present papers and attend the ADCOM meeting |
| 20 | Feb, 2009 | **Monash University, Melbourne, Australia** | To attend ICIT2009 as Technical Program Chair |
| 21 | Nov, 2008 | **MIT, USA**<br>**NCSU, USA**<br>**IECON2008, at Orlando, Florida, USA** | To look for possible collaboration with NCSU and MIT and to attend IEEE IECON2008 as Track Co-Chair and chair 2 technical sessions |
| 22 | Nov, 2007 | **Taipei, Taiwan** | To attend IECON2007 and chair 2 technical sessions |
| 23 | April , 2005 | **Nagaoka, Japan** | To attend IPEC2005 at Nagaoka Japan and chair 2 technical sessions |
| 24 | Nov, 2005 | **IEEE IECON2005 at Raleigh, NC, USA**<br>**Syracuse University, NY, USA**<br>**GE Global Research, NY** | To attend IECON2005, chair 2 technical sessions and deliver lectures at SyracuseUniversity and GE Global Research Centre |
| 25 | Dec, 2004 | **Imperial College, London** | To work at Imperial College London under the grant from one-to-one-meeting project scheme supported by the DST, India and the Royal Society, UK |
| 26 | Nov, 2004 | **IEEE IECON2004 Busan, Korea** | To attend IECON2004 and chair 2 technical sessions |
| 27 | May, 2003 | **University of Tokyo, Japan** | As a visiting faculty at University of Tokyo |
| 28 | Oct. 2000 to | **University of Tokyo,** | JSPS Researcher |

| | | | |
|---|---|---|---|
| | Oct. 2002 | **Japan*** | |
| 29 | Oct.1997 to Aug. 2000 | **Mie University, Japan*** | Monbusho Researcher |
| 30 | April 1997 to Oct. 1997 | **Osaka University of Foreign Studies, Osaka, Japan** | Monbusho Researcher |
| 31 | April, 2000 | **Toronto, Canada Vancouver, Canada** | To present a paper at INTERMAG2000 and to visit SimonFraserUniversity |
| 32 | July, 1999 | **HongkongPolytechnique University, Hongkong** | To attend PEDS99 and present 2 papers |

# Research Supervision

**PDF/Ph.D Students graduated**

**POST DOCTORAL FELLOW**

2016-18
**Dr. Sumit K. Chattopadhyay** (presently a faculty in IIT Delhi)
Worked on Topology and Control of Multi Level Converters

**PHD STUDENTS (Thesis Submitted)**

12. **Yalla Tirumala Rao** (Presently at Ola Electric Bangalore)
Thesis Title: Analysis, Design and Control of Brushless Induction Excited Synchronous Generator

**PHD STUDENTS GRADUATED**

- **2020**
  **11. Noel Richard Merritt**
  Thesis Title: Performance and Control of Renewable Energy Fed Microgrids Under Unbalanced and Nonlinear Conditions

  Jointly with Prof. Prabodh Bajpai

  **2019**
  **10. Dr. Saptarshi Basak** (presently at Shakti Pumps, Indore)
  Thesis Title: New Brushless Generation Systems for DC Microgrid

- **2018**
  **9. Dr. Santu Giri** (presently at CMRI Durgapur)
  Thesis Title: Some Studies on Control and Modulation Strategies for Neutral-Point-Clamped Converters Addressing Capacitor Voltage Balancing

  Jointly with Prof. Subrata Banerjee of NIT Durgapur

- **2017**
  **8. Dr. Saroj K. Sahoo** (presently working in DELTA Electronics, Bengaluru)

Thesis Title: Synchronous PMM Strategies for Low Switching Frequency Operation of Vector Controlled Induction Motor Drives

Jointly with Dr. Tanmoy Bhattacharya

- **2016**
  **7. Dr. A. V. Ravi Teja** (presently a faculty at IIT Ropar)
  Thesis Title: *Adaptive Sensorless Induction Motor Drive with Sliding Mode Controllers: Analysis, Simulation, and FPGA based Implementation*

  **6. Dr. Sumit K. Chattopadhyay** (presently a faculty at IIT Delhi)
  Thesis Title: *Investigations on Topological Variations and Applications of Multi Level Inverters*

- **2014**
  **5. Dr. Vimlesh Verma** (presently a faculty at NIT Patna)
  Thesis Title: *Fault Detection and System Reconfiguration for Vector Controlled Induction Motor Drives*

- **2013**
  **4. Dr. Kuntal Mandal** (presently a faculty at NIT Sikkim)
  Thesis Title: *Dynamical Analysis of Resonant DC-DC Converters*

- Jointly with Prof. Soumito Banerjee

- **2011**
  **3. Dr. Avik Bhattacharya** (presently a faculty at IIT Roorkee)
  Thesis Title: *Investigations on Shunt Active Power Filters*

- **2009**
  **2. Dr. Suman Maiti** (presently a faculty at IIT Kharagpur)
  Thesis Title: *Reactive Power Based Model Reference Adaptive System for Sensorless Induction Motor Drive*

  **2008**
  **1. Dr. Suvarun Dalapati** (presently a faculty at IIEST Shibpur)
  Thesis Title: *Power Converters Based On Controlled Capacitor Charging Technique*

**Ph.D Students (On going)**

1. M Venkatanarasimharao
   **Area of Research:** Electric Vehicles Control

2. JeemutBahanSangiri
   **Area of Research:** Battery management system and integration to power grid

3. UmamaheswararaoVuyyuru
   **Area of Research:** Series Voltage Regulator in DC Grid

4. TuhinSubhraBasu
   **Area of Research:** AC/DC Microgrid

5. Upama Bose
   **Area of Research:** Micro-Grid Control and Storage Optimization

6. Rajesh V
   **Area of Research:** Multi level converters for Solar PV Applications

7. Haimanti Bhattacherjee
   **Area of Research:** Brushless Induction Excited Synchronous Motor

8. Nagarjun S
   **Area of Research:** Solar Power Converters (DC/DC Comverters)

9. Preeti Kumari Sahu
   **Area of Research:** Performance of Bifacial Solar PV Systems

10. Saikat Ghosh
    **Area of Research:** Solar Photovoltaic (Degradation and Performance Evaluation)

11. Amit Kumar Mondal
    **Area of Research:** Brushless Synchronous Machines

12. Bonu Ramesh Naidu
    **Area of Research:** Fault tolerant operation of Microgrid

13. K Sivakrishna
    **Area of Research:** String Inverter Using Wide Band-gap Devices for PV Integration

14. Nirmalya Dhal
    **Area of Research:** Energy Storage Integration at High Power Level

15. RuturajGarnayak
    **Area of Research:**Converters (using WBG devices) for Solar Energy Systems

16. Praveen Verma
    **Area of Research:** Smart Electrical Grids

17. Sagar Dash
    **Area of Research:** Efficient Solar Pumping System in a Microgrid

18. SupratimBhowmick
    **Area of Research:**SiC based Solar Converter

19. Surbhi Simoliya
    **Area of Research:** Wireless charging for E-Transportation

# Selected Publications

## Electric Machines (10 selected publications):

1. C. Chakraborty and Y. T. Rao, "Performance of Brushless Induction Excited Synchronous Generator***, IEEE Journal of Emerging and Selected Topics in Power Electronics,*** Vol.7, No.4, pp. 2571-2582, 2019.

2. **C. Chakraborty**, S. Basak and Yalla Tirumala Rao "Synchronous Generator with Embedded Brushless Synchronous Exciter," ***IEEE Transactions on Energy Conversion***, Vol.34, No.3, pp.1242-1254, 2019.

3. S. Basak, A. K. Mondal and **C. Chakraborty**, "Performance and Analysis of a New Brushless Synchronous Generator for DC Microgrid Application," ***IEEE Transactions on Industry Applications***, vol. 56, no. 3, pp. 3137-3148, 2020.
4. Y. T. Rao, **C. Chakraborty** and S. Basak, "Brushless Induction Excited Synchronous Generator With Induction Machine Operating in Plugging Mode," ***IEEE Transactions on Industry Applications***, Vol.54, No.6, pp. 5748-5759, 2018

5. S. Basak, **C. Chakraborty**, and B. C. Pal, "A New Configuration of Dual Stator Induction Generator Employing Series and Shunt Capacitors," ***IEEE Transactions on Energy Conversion***, Vol.33, No.2, pp. 762-772, 2018.

6. S. Basak and **C. Chakraborty**, "A New Optimal Current Control Technique for Dual Stator Winding Induction Generator," ***IEEE Journal of Emerging and Selected Topics in Power Electronics***, Vol.5, No.2, pp. 820-832, 2017.

7. **C.Chakraborty**, S.N.Bhadra and A.K.Chattopadhyay, "Analysis of Parallel-Operated Self-Excited Induction Generators," ***IEEE Trans. on Energy Conversion***, Vol.14, No.2 pp.209-216, 1999.

8. **C.Chakraborty**, S.N.Bhadra and A.K.Chattopadhyay, "Excitation Requirements of Three Phase Induction Generators," ***IEEE Trans. on Energy Conversion***, Vol.13, No.4 pp.358-365, 1998.

9. A. V. Ravi Teja, **C. Chakraborty**, and B. C. Pal, " Disturbance Rejection Analysis and FPGA-Based Implementation of a Second-Order Sliding Mode Controller Fed Induction Motor Drive," ***IEEE Transactions on Energy Conversion***, Vol.33, No.3, pp. 1453-1462, 2018.

10. S. Basak and **C. Chakraborty**, "Dual Stator Winding Induction Machines: Problems, Progress and Future Scope," ***IEEE Trans. on Industrial Electronics***, Vol.62, No.7, pp.4641-4652, 2015.

## Industrial Drives (10 selected publications):

1. **C. Chakraborty** and V. Verma, "Speed and Current Sensor Fault Detection and Isolation Technique for Induction Motor Drive Using Axes Transformation," ***IEEE Trans. on Industrial Electronics***, Vol.62, No.3, pp.1943-1954, 2015.

2. S.Maiti, **C. Chakraborty**, Y. Hori and M. C. Ta, "Model Reference Adaptive Controller-Based Rotor Resistance and Speed Estimation Techniques for Vector Controlled Induction Motor Drive utilizing Reactive Power," ***IEEE Trans. on Industrial Electronics*** , Vol.55, No.2, pp.594-601, 2008.

3. **C.Chakraborty** and Y.Hori, "Fast Efficiency Optimization Techniques for the Indirect Vector-Controlled Induction Motor Drives," ***IEEE Trans. on Industry Applications***, Vol.39, No.4, pp.1070-1076, 2003.

4. A.V.RaviTeja, V. Verma and **C. Chakraborty**, "A New Formulation of Reactive Power Based Model Reference Adaptive System for Sensorless Induction Motor Drive," ***IEEE Trans. on Industrial Electronics***, Vol.62, No.11, pp.6797-6808, 2015.

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