Resume of Dr. Suman Maiti

- **Name and Designation:** Dr. Suman Maiti, Assistant Professor, Department of Electrical Engineering
- **Organization:** IIT Kharagpur
- **Educational Qualification (Bachelor to Doctoral):**

Sl No.	Degree	Year	Subject	Institution/University & Location
1	Bachelor of Engineering	2002	Electrical Engineering	Jalpaiguri Govt. Enggineering College, Jalpaiguri
2	Master of Engineering	2004	Electrical Engineering	Bengal Engineering and Science University, Shibpur
3	Ph.D.	2009	Electrical Engineering	IIT Kharagpur, Kharagpur

- **Professional Experience**

Sl No.	Organization	Position	From (Date)	To (date)
1	ABB Ltd.	Associate Scientist	2009	2014
2	ABB Ltd.	Sr. Scientist	2014	2014
2	IIT Kharagpur	Assistant Professor	2014	Till Date

- **Specialization and Expertise:**

Specialization: Machine Drives and Power Electronics

Sl. No.	Area of expertise	Time frame	Attached organisation (Designation)
1.	High Performance Control of Induction Machine Drive	5 years	IIT Kharagpur (Research Scholar)
2.	HVDC and FACTS (High power converters and control, Multi-terminal DC grid, STATCOM)	5 years	ABB (India) Ltd. (Associate Scientist)
		1.3 years	IIT Kharagpur (Assistant Professor)
3.	Solar Power Integration at High Power level	1.3 years	IIT Kharagpur (Assistant Professor)
4.	Micro grid	1.3 years	IIT Kharagpur (Assistant Professor)

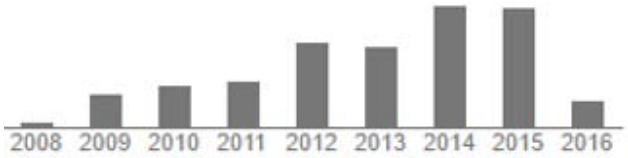
- **Awards and Distinctions:**

Best paper presentation award in the 2nd National Power Electronics Conference, NPEC-2005.
Third Best Prize Paper awarded by the IEEE-IES Electrical Machine Technical Committee, USA, 2009.

- **Publications:**

Summary: Journal – **10**, Conference publications – **11**, Patent – **03,** Invention disclosure – **03**

Citation Indices: Total citation - 419, h-index – 7, i10-index - 7



Journals:

[1] **Suman Maiti**, Vimlesh Verma, Chandan Chakraborty and Yoichi Hori, "An Adaptive Speed Sensorless Induction Motor Drive with Artificial Neural Network for Stability Enhancement" *IEEE Transaction on Industrial Informatics*, vol. 8, no. 4, pp 757-766, 2012.

[2] **Suman Maiti** , Chandan Chakraborty, Yoichi Hori and Minh-C Ta, "Model Reference Adaptive controller based rotor resistance and speed estimation techniques for vector controlled induction motor drives utilizing reactive power," *IEEE Trans on Industrial Electronics*, vol. 55, No. 2, pp. 594-601, Feb. 2008

[3] A. V. Ravi Teja, Chandan Chakraborty, **Suman Maiti** and Yoichi Hori, "A New Model Reference Adaptive Controller for Four Quadrant Vector Controlled Induction Motor Drives," *IEEE Trans on Industrial Electronics*, vol. 59, No. 10, pp. 3757-3767, Oct. 2012.

[4] Vimlesh Verma, Chandan Chakraborty, **Suman Maiti** and Yoichi Hori, "Speed sensorless vector controlled induction motor drive using single current sensor," *IEEE Transaction on Energy Conversion,* vol. 28, No. 4, pp. 938-950, Dec. 2013

[5] **Suman Maiti** and Chandan Chakraborty and Sabyasachi Sengupta, "Simulation Studies on MRAC-Based Speed Estimation Technique for the Vector Controlled Permanent Magnet Synchronous Motor Drive" *Journal of Simulation Modeling Practice and Theory, Elsevier*, vol. 16, No. 4, pp. 585-596, 2009.

[6] **Suman maiti** and Chandan Chakraborty, "A New Instantaneous Reactive Power Based MRAS for Sensorless Induction Motor Drive", Journal of *Simulation Modelling Practice and Theory, Elsevier*, vol. 18, pp. 1314–1326, 2010.

[7] **Suman Maiti**, Vimlesh Verma, and Chandan Chakraborty, "Sensorless Control of Grid-connected Doubly-fed Slip-Ring Induction Motor Drive," Journal of *Simulation Modelling Practice and Theory, Elsevier*, vol. 18 pp. 984–997, 2010

[8] **Suman Maiti** and Chandan Chakraborty, "An alternative adaptation mechanism for sensorless induction motor drive," Journal of *Electric power Components and Systems, Taylor and Francis*, vol. 38, pp. 710–736, 2010

[9] Chandan Chakraborty and **Suman Maiti**, "Performance of a Reactive Power Based Adaptive Estimation of Inverse Rotor Time Constant for Vector Controlled Induction Motor Drives" *International Journal of Automation and Control, Indurscience Publisher*, vol. 3, No.1, pp. 41-55, 2009

[10] **Suman Maiti** and Chandan Chakraborty, "An adaptive stator resistance estimation technique for sensorless permanent magnet synchronous motor drive," *International Journal of Automation and Control, Inderscience Publisher*, Vol. 3, Nos. 2/3, pp. 189-201, 2009.

Conferences:

[1]. Mainak Sengupta and Suman Maiti, "Design fabrication and Running of a Switched Reluctance Motor Drive without Shaft Mounted Position Encoder" Conf. Proc. of India International Conference on Power Electronics (IICPE) 2004, Munbai, India, pp. 79-83.

[2].Mainak Sengupta, Suman Maiti, and Sabyasachi Sengupta., "Design Fabrication and Testing of Power Converter and its Associated Circuits for a 4KW SRM Drive" Conf. Proc. of IEEE - INDICON 2004, Kharagpur, India, pp. 581-585.

[3]. Suman Maiti, Chandan Chakraborty and Sabyasachi Sengupta, "A Reactive Power Based Model Reference Adaptive Controller for Speed Estimation of Induction Motor Drives,." Conf. Proc. of NPEC'05, December 22-24, 2005, Kharagpur, India, pp. 53-58.

[4]. Suman Maiti and Chandan Chakraborty, "A New Rotor Resistance Estimation Technique for Vector Controlled Induction Motor Drive," Conf. Proc. NPEC'05, December 22-24, 2005, Kharagpur, India, pp. 293-298.

[5]. Suman Maiti, and Chandan Chakraborty, "Reactive Power Based Speed Sensorless Controller for Permanent Magnet Synchronous Motor Drive," Conf. Proc. of IEEE-ICIT-2006, Mumbai, India, pp. 247-252.

[6]. Suman Maiti, Chandan Chakraborty and Sabyasachi Sengupta, "Adaptive Estimation of Speed and Rotor Time Constant for the Vector Controlled Induction Motor Drive Using Reactive Power," Conf. Proc. of IECON 2007, Taipei, Taiwan, Nov. 5-8, 2007, pp. 286-291.

[7]. Suman Maiti and Chandan Chakraborty, "MRAS-based Speed estimation Techniques for Vector Controlled Double-Inverter-fed Slip-ring Induction Motor Drive" Conf. Proc. of IEEE-IECON 2008. Nov. 10-13, 2008, pp. 1275 - 1280 , Orlando, USA.

[8] Suman Maiti and Chandan Chakraborty, "Experimental Validation of Very-Low and Zero Speed Operation of a Flux-Eliminated Adaptive Estimator for Vector Controlled IM Drive," Conf. Proc. IEEE-ICIT 2009, Feb. 10-13, Gippsland, Australia.

[9] Chandan Chakraborty, Ravi Teja, Suman Maiti and Yochi Hori, "A four quadrant sensorless Induction Motor Drive" IPEC 2010, pp. 3041-3048.

[10] T. U. Jonsson, P. Lundberg, S. Maiti and Y. J. Hafner, "Converter Technologies and Functional Requirements for Reliable and Economical HVDC Grid Design," 2013 CIGRÉ Canada Conference.

[11] Tuhin S. Basu, Suman Maiti and Chandan Chakraborty, "A New Dual Converter Based Solar PV System with Maximum Power Point Tracking Capability," 24th IEEE International Symposium on Industrial Electronics (ISIE), 3-5 June 2015, pp. 172-177, Buzios, Brazil.

Patents:

[1] Voltage source converter and associated method : Filed (Ref : PCT/EP2014/069532)

[2] Method and device for damping voltage harmonics in multilevel power converter : Filed (Ref : PCT/EP2015/057244)

[3] Method and device for damping voltage harmonics in multilevel power converter : Filed (Ref : PCT/EP2015/060873)

- **Technology development/translation/initiation:**

Next Generation Topologies for HVDC and FACTS Converters at high power level

- **Sponsored R&D projects completed/handled/applied:**

S No	Title of the Project	Funding Agency	Responsibility	Project Amount	Status
1.	Solar power integration with the grid at high power level	SRIC, IIT Kharagpur	PI	28 Lacs	On-going
2.	Reliable and Efficient System for Community Energy Solution (RESCUES) (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)	Co-PI	Rs.539 Lacs (for IIT Kharagpur)	On-going

- **Academic experience:**

Sl. No.	Course taught	L-T-P	Session
1.	ELECTRIC DRIVES (EE40002)	3-0-0	2014-15 (SPRING)
2.	ELECTRICAL MACHINES LAB. (EE29002)	0-0-3	2014-15 (SPRING)
3.	ELECTRIC DRIVE SYSTEMS (EE60035)	3-1-0	2015-16 (AUTUMN)
4.	ELECTRICAL TECHNOLOGY LAB.(EE19001)	0-0-3	2015-16 (AUTUMN)
5.	POWER ELECTRONICS LAB. (EE39006)	0-0-3	2015-16 (AUTUMN)
6.	ADVANCED MACHINE DRIVES (EE60002)	3-1-0	2015-16 (SPRING)
7.	MACHINE DRIVES LABORATORY (EE69004)	0-0-3	2015-16 (SPRING)

- **Research Guidance:**

Sl. No.	Level	Area of research	Name of student	Supervisor(s)	Status
1	Ph.D.	Modular Multilevel Converters with Energy Storage	Anil Bharadwaj Chivukula	Dr. S. Maiti	Attending course works.
2	Ph.D.	Modular Multilevel Current-Source/Voltage-Source Converter for HVDC Tapping	Akhil C.	Dr. S. Maiti	Attending course works.
3	Ph.D.	Solar Power Integration Using Multilevel Converters	Tuhin S. Basu	Dr. S. Maiti , Prof. C. Chakraborty	Attending course works.
4	Ph.D.	Control of DC micro-grid	UmaMaheswar Rao V.	Prof. C. Chakraborty, Dr. S. Maiti	Attending course works.
5	M.Tech	DC breaker	Shuvam Chakraborty	Dr. S. Maiti	Completed

- **Administrative Responsibilities:**

Sl. No.	Assignment	From Date	To Date	Remarks
1	FACULTY ADVISOR/COURSE CO-ORDINATOR, ELECTRICAL ENGINEERING	01 JUL 2015	30 JUN 2019	
2	LABORATORY IN-CHARGE(POWER ELECTRONICS LAB), ELECTRICAL ENGINEERING	15 JUL 2015	14 JUL 2016	
3	MEMBER, DEPARTMENTAL ACADEMIC COMMITTEE(PG & R), ELECTRICAL ENGINEERING	15 JUL 2015	14 JUL 2016	Faculty in-charge, MS
4	RESEARCH SCHOLAR CO-ORDINATOR, ELECTRICAL ENGINEERING	15 JUL 2015	14 JUL 2016	MS, co-ordinator