

Brief Biography of Amit Patra

Amit Patra received the B.Tech., M.Tech. and Ph.D. degrees from the Indian Institute of Technology, Kharagpur in 1984, 1986 and 1990 respectively. During 1992-93 and in 2000 he visited the Ruhr-University, Bochum, Germany as a Post-Doctoral Fellow of the Alexander von Humboldt Foundation. He joined the Department of Electrical Engineering, Indian Institute of Technology, Kharagpur in 1987 as a faculty member, and is currently a Professor in the Higher Academic Grade Pay. He visited the Georgia Institute of Technology, Atlanta in 2003 and University of Maryland, College Park in 2016. He was the Professor In-Charge, Advanced VLSI Design Lab, at IIT Kharagpur during 2004-07. Between 2007 and 2013 he served as the Dean (Alumni Affairs and International Relations) at IIT Kharagpur. Since 2013 he has been serving in a voluntary role of the Executive Advisor, Institutional Development at IIT Kharagpur along with his regular role of a Professor of Electrical Engineering. His current research interests include power management circuits, mixed-signal VLSI design, Fault Diagnostics, Prognostics and embedded control systems.

He has guided/co-guided about 20 doctoral students and published more than 200 research papers in various Journals and Conferences. He is the co-author of two research monographs entitled *General Hybrid Orthogonal Functions and Their Applications in Systems and Control*, published by the Springer Verlag in 1996, and *Nano-Scale CMOS Analog Circuits – Models and CAD Tools for High-Level Design*, published by CRC Press in 2014. His current Google Scholar h-index is 20. He has filed about a dozen patents and has a granted patent in his name. He has carried out more than 45 sponsored projects mostly in the areas of VLSI and power management circuits and control systems. He has collaborated with National Semiconductor Corporation, Infineon Technologies, Freescale Semiconductor, Maxim Corporation, NXP Semiconductor and a few start-up companies in the Power Management area. In the area of control systems he has worked with ISRO, DRDO, ADE, ADA, General Motors and Tata Motors.

As the Professor In-Charge of the Advanced VLSI Design Laboratory he was instrumental in expanding the chip design activity of the laboratory and also setting up an advanced test facility. During his tenure, the laboratory received a funding of about USD 1 Million from major multinational corporations like National Semiconductor, Intel, Synopsys etc. He took a major initiative to create a consortium of leading VLSI companies to support the chip design and CAD activity of the laboratory. More than a dozen companies including National Semiconductor, Texas Instruments, Agilent Technologies, Sun Microsystems, Cadence Design Systems, Synopsys Inc., Infineon Technologies, etc. joined this consortium. During his tenure, more than 15 faculty members and about 30 PhD/MS students were engaged with this laboratory who helped the laboratory receive international recognition by their work.

In his role as the Dean (Alumni Affairs and International Relations) at IIT Kharagpur he was responsible for developing alumni relations and leveraging them for the growth of the Institute and also for creating relationships with Universities outside India.

Dr. Patra created a program for Institutional Development, which would develop alumni relations, connect them with the faculty and students of the Institute, engage them for fund-raising, connect with the corporate world for research funding, and above all improve the international ranking of the Institute through effective branding and

communications. This program was initiated in 2010 with the approval of the Board of Governors which had the following major outcomes:

- **Team Building for Institutional Development:** A team of professionals has been created who can assist the Director and the Deans in reaching out to alumni, corporates and other stakeholders of the Institute and leverage their time, talent and treasure for the benefit of the Institute.
- **Improved Alumni Connectivity:** The size of the Alumni database was raised from the existing 7,000 (in 2007) to about 30,000 (in 2013). Mechanisms were created to send email newsletters and quarterly hardcopy magazines. The alumni were also connected through social networking websites like Linked-In and Facebook.
- **Achieving Sustainable fund-raising through grass-root campaign:** Alumni at the grass-root level were contacted to raise funds for the creation of an Endowment. From a negligible level of annual collection from the grass-roots, the collection reached a level of Rs. 3.0 Crores in the FY 2012-13.
- **Engagement of major donors:** New schools came up with alumni support like the Ranbir and Chitra Gupta School of Infrastructure Design and Management, P K Sinha Center for Bio-Energy and the Rajendra Mishra School of Engineering Entrepreneurship. Shri Gopal Rajgarhia came forward to support a program for Internationalization of the academic programmes of the Institute.
- **Branding and Communications:** Achievements of the faculty and students were published in various media, including the social media. Effort was also made to collect appropriate data from the Institute and communicate them to international ranking agencies such as QS, Times Higher Education, etc. This helped IIT Kharagpur to be ranked consistently as one of the top academic institution in India.
- **Relationship with Foreign Universities:** A large number of MoUs were signed with reputed Universities like University of California, San Diego, Technical University, Munich, Leibniz University, Hannover, Tokyo Institute of Technology, University of Western Australia during Dr. Patra's tenure. Collaborations were initiated with universities like University of California, Berkeley, Curtin University and several others in various forms like students exchange, joint project proposal submissions, etc.

As the Executive Advisor, Institutional Development, Dr. Patra has been helping the serving Dean (AA&IR) stay connected with the distinguished alumni and the major donors of the Institute. He has also been assisting the Director and other officials in this capacity as and when required.

Dr. Patra received the Young Engineer Award of the Indian National Academy of Engineering in 1996 and the Young Teachers' Career Award from the All India Council for Technical Education in 1995. He has been a Young Associate of the Indian Academy of Sciences during 1992-97. He is a member of IEEE (USA), Institution of Engineers (India) and a life member of the Systems Society of India. His students have received a number of awards in national competitions like the Cadence Design Contest and Samsung Innovation Award. Dr. Patra has recently been listed as one the top contributors of engineering publications in the country by a DST-conducted survey spanning the period 2002-2014.