

Ratan Das

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Technology Leader

- ✓ Expertise in power system modeling, simulation, analysis, protection, automation and control
- ✓ Results-driven technology leader in power system generation, transmission & distribution PAC solutions
- ✓ Contribution outcomes include new R&D center, products, solutions and intellectual property

Key Competencies

- Strategy & Planning
- System Architecture
- System Engineering
- Technology/Project Evaluation
- System Specification
- Project Management
- Technology/Product/Solution Development
- System/Product Performance Analysis
- Training/Education and Mentoring

Tools

- PSCAD
- RTDS
- ARENE
- ASPEN
- MATLAB
- MS Project

Experience

icaPower LLC (icapower.com)

2016 - Present

Founder
Consulting utilities & manufacturers for digital substation solutions including microgrid/DER integration strategy. 2016 - Present

ABB Inc. (abb.com)

1998 - 2016

Senior Principal Engineer - Distribution Automation 2012 - 2016

- Resolved a multi-million dollar product performance issue as a member of EPMV International Team of Experts
- Coordinated research activities for future technologies and products for distribution protection and control

R&D Manager - Distribution Automation 2008 - 2012

- Created and managed US DA R&D center and doubled the R&D budget between 2008 and 2012
- Built a strong R&D team and hired 22 people during 2010-2011
- Delivered eight products for protection and control system for Feeder, Recloser, Motor & Transformer

Principal Engineer - Distribution Automation 2004 - 2008

Principal Engineer - Substation Automation and Protection 2003 - 2004

Senior Engineer - Substation Automation and Protection 1998 - 2003

- Lead the R&D effort for the high impedance fault detection system
- Developed new algorithms for transformer protection system and distribution system fault location
- Contributed to the improvement of generator, phase comparison & distance protection system
- Established, operated and managed a state-of-the-art real-time digital simulation laboratory
- Modeled the 500 kV transmission system of a major US utility in PSCAD for a protection system retrofit project
- Contributed to the reorganization of ABB's Utility Engineers Training Program

NTPC Limited (ntpc.co.in)

1981 - 1995

Deputy Chief Design Engineer - Power Systems (Study Leave 1992 – 1995) 1992 - 1995

Assistant Chief Design Engineer - Power Systems 1989 - 1992

Senior Design Engineer - Power Systems 1986 - 1989

Design Engineer - Substation Design 1982 - 1986

Executive Trainee - Electrical 1981 - 1982

- Supervised eight projects on protection & control systems, and metering & oscillography systems
- Designed protection and control systems for seven projects and evaluated technical bids for one SVC system
- Analyzed four major grid disturbances and suggested remedial measures
- Assisted in commissioning of protection and control systems for two 400 kV lines and one 500 MW generator

April 2018

Standard/Guide/Report Contributions (Selected)

- Chair, IEEE PES Power System Relaying and Control (PSRC) Committee Working Group (WG):
 - H45: PC37.300 Guide for Centralized Protection and Control (CPC) Systems within a Substation **(2018-)**
 - K15: Report on Centralized Substation Protection and Control (2013-2017)
 - H4: Dual Logo COMTRADE Std IEEE C37.111-2013/IEC 60255-24:2013 (2005-2013)
- Vice-Chair, IEEE PES PSRC WG
 - J7: IEEE C37.101 Generator Ground Protection Guide (2000-2007)
 - I16 & I1: Report on Understanding Microprocessor-based Technology Applied to Relaying (2000-2009)
- Member of numerous IEEE PES PSRC WGs for the development of Standard, Guide and Report
- Member of CIGRÉ Working Group (Output - Technical Brochure):
 - B5.60: Protection, Automation & Control Architectures with Functionality Independent Hardware **(2017-)**
 - B5/C4.61: Impact of Low Inertia Network on Protection and Control **(2017-)**
 - B5.63: Protection, Automation and Control System Asset Management **(2017-)**
 - B5.64: Methods for Specification of Functional Requirements of Protection, Automation & Control **(2017-)**
 - B5.52: Analysis and comparison of fault location systems in AC power networks **(2013-)**
 - C4.24: Power Quality & EMC issues with future electricity networks (2013-2018)
 - C4.34: Application of PMUs for Monitoring Power System Dynamic Performance (2013-2017)

Honor and Award (Selected)

- IEEE PES Technical Committee (PSRC) Distinguished Individual Service Award "For Contributions to the Power Systems Industry and the revision and promotion of the COMTRADE 2013 Std. C37.111/IEC60255-24", **2017**.
- IEEE PES Prize Paper Award for the IEEE Transactions on Power Delivery paper by PSRC WG K15, "Advancements in Centralized Protection and Control within a Substation", **2017**.
- IEEE PES Technical Committee (PSRC) Prize Paper Award for the IEEE Transactions on Power Delivery papers:
 - "Advancements in Centralized Protection and Control within a Substation", WG K15, **2016**,
 - "Performance of Generator Protection During Major System Disturbances", WG J6, **2004**.

Training and Education

- Maximizing Your Leadership Potential, Center for Creative Leadership, Greensboro, NC, USA, 2011
- Ph.D. and M.Sc. in Electrical Engineering, University of Saskatchewan, Saskatoon, Canada, 1998 & 1995
- Bachelor of Electrical Engineering, Jadavpur University, Kolkata, India, 1981

Affiliations

- Senior Member-IEEE; Member-CIGRÉ; Member IEEE PES and IEEE PSRC
- P.Eng., Association of Professional Engineers & Geoscientists of Saskatchewan (APEGS), Canada

Patent

1. Method and System for Through Fault Detection in Electrical Devices, With Sethuraman Ganesan and John M. Peterson, U.S. Patent No. 8,451,574 B2, May 28, 2013
2. Dynamic Energy Threshold Calculation for High Impedance Fault Detection, with John M. Peterson and Mohamed Y. Haj-Maharsi, U.S. Patent No. 7,085,659 B2; August 1, 2006
3. Fault Locator for Radial Sub-Transmission and Distribution Systems, with Joe Benco, U.S. Patent No. 6,591,203 B1; July 8, 2003
4. Current Based Frequency Tracking and Apparatus, with Joe Benco and Cliff Downs, U.S. Patent No. 6,298,309 B1; October 2, 2001

Over 40 Journal & Conference Publications; Numerous Workshop & Seminar Presentations