



## Jayakrushna Mohanty, Ph.D.

**Designation** : Professor

**Department** : Department of Electrical & Electronics Engineering

(JOINED THE INSTITUTE IN JULY' 2023)

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### ACADEMIC CREDENTIALS

- ✓ Ph D in Mechanical Engineering from VSSUT, Burla on "Fault Diagnosis of Critical Components in Super Thermal Power Plants and Aluminum Smelters"
- ✓ M. Tech. in Manufacturing Management from BITS, Pilani
- ✓ B. Tech. (Mechanical) with Honors from UCE, Burla (VSSUT, Burla)
- ✓ Post Graduate Diploma in Management, Indira Gandhi National Open University (IGNOU)
- ✓ Certification Course on "Condition Monitoring" from Indian Institute of Condition Monitoring
- ✓ NABET Accreditation as a Functional Area Expert In "Vibration"

### PROFESSIONAL EXPERIENCE

**2019 September – Till Date: Co-Founder & Director of SPARKSPOT Talent Management Service Private Limited**

- Consultancy Service to DSL Marketing, Mumbai for ROCOL Synthetic Lubricants
- Consultancy Service to Fichtner for preparation of a Detailed Project Report (DPR) on Ash Management for NALCO
- Consultancy service to Deloitte to prepare a Pre- Feasibility Report ( PFR) to set up an Aluminum Smelter & CPP for Coal India Limited

- Trainings on Operation, Maintenance, Engineering, CBM& Lubrication Management for Vedanta, BALCO, HI NDALCO, HZL etc.
- Conducted elementary courses on core industry for 2<sup>nd</sup> Year students at Silicon Institute of Technology
- HSE Audit for two nos. of OMFED Plants at Keonjhar and Dhenkanal

**2006 November – 2019 August [12 Years 09 Months]: Vedanta Limited, Lanjigarh & Jharsuguda**

- Director & Vice President (Power) of 3615 MW Power Stations
- Head (Engineering), Head of Carbon Plant, Cast House, and Pot Relining Project of Aluminum Smelter
- Head (Engineering & Maintenance) of Alumina Plant & Head (O & M) of Steam and Power Plant

**1984 November – 2006 November [22 Years]: National Aluminum Company Limited (Nalco), Damanjodi & Angul**

- Chief Manager( Mechanical) heading Plant Maintenance, Contract & Condition Based Maintenance( CBM) I n 1200 MW Power Plant and Maintenance ERP I mplementation in Power, Smelter, and Alumina Plant
- Senior Manager( Mechanical) doing Plant Commissioning, Maintenance and CBM in Alumina Plant
- Auditing of Management Systems i .e.,I SO- 9001/14001 and OHSAS-18001

**CORE COMPETENCIES**

- Commissioning, Operation & Maintenance of Alumina and Power Plants at Nalco & Vedanta.
- Commissioning, Operation & Maintenance of Aluminum Smelter of Vedanta
- Condition Monitoring & Reliability Centered Maintenance. A Certified Vibration Analyst
- Expertise in Asset Optimization, Spare Planning, Inventory Management and Contract Management
- Power Regulatory and Advocacy with Government Bodies like SPCB, GRIDCO, SLDC, PGCIL, Factories & Boiler etc.
- Certified Vibration analyst & a Lead Auditor for ISO-9001, ISO-14001 & OHSAS-18001

**KEY ACHIEVEMENTS & SPECIAL TASKS UNDERTAKEN**

- One of the top 50 leaders of Vedanta Resources Plc. identified through AON Hewitt study

- Conversion of 3 Units of 600 MW, Independent Power Plants (IPPs) to Captive Power Plants (CPPs)
- Construction & Commissioning of 400 KV, DC Transmission Lines of 300 Kms from Vedanta Switchyard connecting State & Central grid
- Commissioning and Achieving name plate capacity of Carbon & Cast House of Vedanta Limited
- Invited by GM(NTPC) to resolve High Vibration Problem of their Bowl Mill-1B(Stage-1,500 MW) Motor in NTPC
- Redesigning of Slurry Pump Shafts with improved specifications to prevent failures in NALCO, Damanjodi
- Published four Journal Papers in International Journals and Six Seminar Papers

#### **TRAININGS UNDERTAKEN**

- Five Months Training in Mechanical Maintenance of Alumina Plant Equipment at Aluminum Pechiney, France
- Vibration Technology-I & Vibration Analysis-II by IRD Mechanalysis, UK
- Design & Maintenance of Tribological Systems at NIT, Rourkela
- Training on RCM by NPC
- Leaders Connect Program by Vedanta

#### **RESEARCH AND CONSULTANCY PROJECTS:**

- Redesigning of Slurry Pump Shafts with improved specifications to prevent failures
- Enhancement of Turbine Performance using RCFA and LPDE Correction
- FMECA analysis and Condition monitoring of critical equipments in super thermal power plant
- Integrated Condition Monitoring of Large Captive Power Plants & Aluminium Smelters
- Fly Ash Management & Condition Monitoring of Ash Ponds
- Pre-Feasibility Study (PFR) along with Deloitte for Establishing a 0.5 MTPA Aluminium Smelter & 04 nos. of 350 MW Super Critical Thermal Power Plants in Odisha, which shall be a Joint venture of Coal India & NALCO.
- Detailed Project Report (DPR) of Ash Management for 04 nos. of 350 MW CPP Expansion Project of NALCO in collaboration with Fichtner, India
- Online Changeover of Two Standalone 11 k V Switchgears at RS# 2 and RS# 3 for Contingency Management of HINDALCO, Hirakud

## PUBLICATIONS

- J. K. Mohanty, Mantosh Sihna, A. Adarsh, N. Prabhakaran, P. R. Dash & P. K. Pradhan. Enhancement of Turbine Performance Using Root Cause Failure Analysis and LPDE Correction. Journal of Failure Analysis and Prevention I SSN 1547- 7029 Volume 20 Number 5 J Fail. Anal. and Preven. (2020) 20:1704-1710 DOI 10.1007/s11668-020-00977-9. Springer
- J. K. Mohanty, P. R. Dash, & P. K. Pradhan, (2020 ). FMECA analysis and condition monitoring of critical equipments in super thermal power plant. International Journal of System Assurance Engineering and Management, 1-17.
- J.K. Mohanty, A. Adarsh, P.R. Dash, K. Parida, P.K. Pradhan, (2019), Integrated Condition Monitoring of Large Captive Power Plants and Aluminum Smelters, Sound & Vibration, Vol. 53, No.5, Pg. 223-235.
- J K Mohanty, S R Guru, P R Dash, P K Pradhan, (2020 ), Fly Ash Management and Condition Monitoring of Ash Pond, Earth Systems and Environment, Vol. 5, Pg. 445-457.
- J K Mohanty, I Hota, P Sarkar, A K Sahu, P R Dash, P K Pradhan, (2019) FMECA Analysis and Condition Monitoring of Kneader in Green Anode Plant of an Aluminium Smelter. ICAMPD - 2019, KIIT, Bhubaneswar. Advances in Mechanical Processing and Design, Lecture Notes in Mechanical Engineering, Pg. 305 - 317. ([https://doi.org/10.1007/978-981-15-7779-6\\_26](https://doi.org/10.1007/978-981-15-7779-6_26)),
- A K Sahu, S K Nayak, J K Mohanty, P K Pradhan, C R Mohanty, (2019) Evaluation of noise and air pollution during Diwali in Berhampur city, India: An inclusive annoyance study, ICAMPD - 2019 , KIIT, Bhubaneswar. Advances in Mechanical Processing and Design, Lecture Notes in Mechanical Engineering, Pg. 95-105. ([https://doi.org/10.1007/978-981-15-7779-6\\_8](https://doi.org/10.1007/978-981-15-7779-6_8)).
- J K Mohanty, M K Panda, Mrutunjay Das, P R Dash, P K Pradhan, (2020), Sensitive Load Management in Captive Power Plant - Aluminum Smelter, 115 International conference on advances in energy technology (ICAET - 2020), GIET, Bhubaneswar. Advances in Energy Technology, Advances in Sustainability Science and Technology, Pg. 211-220. ([https://doi.org/10.1007/978-981-15-8700-9\\_20](https://doi.org/10.1007/978-981-15-8700-9_20)).
- D Panda, J K Mohanty, S S Das, Anupam Mishra, P K Pradhan, (2020), Condition Monitoring of Induced Draft Fan in a Super Thermal Power Plant using Vibration Analysis, IOP Conf. Series: Materials Science and Engineering 998(2020) 012007 , (doi:10.1088/1757-899X/998/1/012007).
- S S Das, J K Mohanty, D Panda, Pratima Sarkar, P K Pradhan, (2020), Health Monitoring of Induced Draft Fan in an Aluminium

Smelter, I OP Conf. Series: Materials Science and Engineering 998 (2020) 012008, (doi:10.1088/1757-899X/998/1/012008).

- D. Panda, J. K. Mohanty, S. S. Das, P. Sarkar, and P. K. Pradhan, (2020), Detection of Inadequate Lubrication in I D Fan of a Super Thermal Power Plant Using Vibration Analysis, Current Advances in Mechanical Engineering, Lecture Notes in Mechanical Engineering, Pg. 437 - 445 , (https://doi.org/10.1007/978-981-33-4795-3-40).