

**Dr M S Rawat**  
**Retired General Manager BHEL**  
**Principal Muffakham Jah College of Engineering & Technology(MJCET)**



**Bio-Data**

Name: Dr Mahipal Singh Rawat  
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**Educational Qualification:**

S. No	Degree	Institute	Year	% marks	Remarks
1	BE	IIT Roorkee	1983	91(3.72 / 4.00)	Received Thompson Award for Securing 2 <sup>nd</sup> position in BE. <b>Thomson Award named after founder of Institute J J Thomson.</b>
2	One year course In Quality Reliability & Operations Research	ISI Madras	1985	89	2 <sup>nd</sup> Position
3	Non Destructive Evaluation Certification	EPRI, USA	1994		Received Training in USA
4	Acoustic Emission Testing Certification	Physical Acoustics, UK	2000		Received Training in UK
5	<b>PhD</b>	IIT Mumbai	2002		Topper in Course Work
6	Internal Rotary Tube Inspection Certification	IRIS Inspection Services, USA	2003		Received Training in USA
7	MBA(HR)	IGNOU	2005	62	Completed MBA in shortest possible time as per IGNOU timeline
8	Qualified Certification program of Innovation Ambassador(Innovation cell of MoE & ATAL)	MoE & ATAL	2021		One Month Program
9	Level-I German Course	BHEL Hyderabad	1986		Qualified with A Grade

## **Industrial Experience**

Graduated from **University of Roorkee (Now IIT-R) in 1983** and was recipient of Thomson award for securing second position in class. Thompson Award was instituted in the name of founder of the institute and this award resulted in my getting admission to PhD directly after B.E.

Joined BHEL Corporate R&D Hyderabad in 1983 and was sponsored for one year course in Quality Reliability and Operations Research at Indian Statistical Institute, Madras. Secured second position in the program and received best project award at ISI Madras. **Completed PhD from IIT Bombay “Role of Residual Stresses on Life of 12% Cr Steel Used in Thermal Power Plants” in the year 2002.**

Started career undertaking several developmental projects in the area of Non-destructive testing of power plant components and Residual Life Assessment Studies. Have three patents to the credit and one more patent application has been filed. Have guided number of M.Tech students mainly from NIT Warangal. Was PhD examiner for Jawaharlal Nehru Technological University (JNTU), Hyderabad. Evaluated one PhD thesis for JNTU and was **co- guide for one PhD student who completed his PhD from JNTU Hyderabad**. Was reviewer for International Journal of Industrial Chemistry and editorial board member for **International Journal of Materials Science and Applications**. **Completed a high priority project** Castability studies of castings for Advanced Ultra Super Critical (AUSC) project. This project was monitored by Principal Scientific Adviser's Office (PSA) to Prime Minister. Superannuated from BHEL in August 2019 as General Manager

## **Academic Experience**

After Superannuating from BHEL, Joined Greater Noida Institute of Technology (GNIOT), Greater Noida as **Professor & Head, Mechanical Engineering Department in January 2020**. During my tenure as HoD, organized a number of programs for Mechanical Engineering Department. Organised workshop for students in the area of “3D Modelling and ANSYS Analysis” inviting experts from Hyundai Motors. Organised tailor made internship program for final year students involving industry experts during Corona pandemic. Also organized about 10 webinars for the benefit of our students. **Have 4 Scopus indexed papers**. At GNIOT successfully organized AICTE sponsored **International e-Conference as Conference Co-ordinator** on “Cutting Edges in Mechanical Engineering” on February 20, 2021. **Conference papers have been published in IOP conference series Volume 1168, 2021.**

Successfully completed “**Innovation Ambassador Training**” jointly organized by MoE's Innovation cell & AICTE Training And Learning (ATAL) Academy from 30-06-2021 To 30-07-2021. Also completed faculty development programs sponsored by AICTE Training And Learning (ATAL) Academy in the area of Management Information System and Waste Management.

Presently Principal at Muffakham Jah College of Engineering & Technology(MJCET), Hyderabad  
(Since Nov 2021)

### Recognition in Industry:

S.No	Recognition	Institute	Year	Remarks
1	Was Invited as chairperson of technical session at International Conference on Shot Peening (ICSP-7)	Shot Peening conference, Warsaw, Poland	1989	
2	Organised International Conference on Life Extension & Prediction(LIPREX) at Hyderabad	Organised on Behalf of BHEL at Hyderabad	1989	
3	Member for Design & Development of GTCompressor blades.	BHEL, Trichy	1995	Received Appreciation letter from CMD, BHEL
4	Development of Automated Ultrasonic Scanning System for examination of Generator End Retaining Rings	BHEL Corporate R&D Hyderabad	1995	Facility developed for the first time in India. Implemented at a power station
5	Received Appreciation letter from MP Electricity Board	Madhya Pradesh Electricity Board	2000	Completing RLA Studies in shortest possible time of 10 days.
6	Team leader for development of Internal Rotary Inspection System of heat Exchanger Tubes	BHEL Hyderabad	2003	System developed using water spray around the probe as medium for UT energy Transmission
7	<b>PhD examiner</b>	<b>JNTU Hyderabad</b>		
8	<b>PhD Co Guide</b>	<b>JNTU Hyderabad</b>		One student completed PhD
9	Principal Investigator in a project on Castability studies of castings for Advanced Ultra Super Critical Power Plant(AUSC)	Monitored by Principal Scientific Adviser's Office(PSA) to Prime Minister	2016-2019	Project completed on April 30 <sup>th</sup> ,2019
10	Life member of ISNT	ISNT	Current	
11	Reviewer	<b>International Journal of Industrial Chemistry.</b>	Current	
12	Reviewer	2 <sup>nd</sup> International Conf. on Meh, Electric & Industrial Engg.		Conference at Hangzhou, China, May 25-27, MEIE 2019,
13	Reviewer	2 <sup>nd</sup> International Conf.on Numerical Modelling in Engg.		Conf,Beijing, China, Aug. 19-22, <a href="#">NME2019</a>
14	Reviewer	5th Annual International Workshop on Materials Science and Engineering		May 17-18, 2019, Hunan, Changsha, China, IWMSE-2019

## Recognition in Academia

1	Organised International e-Conference on “Cutting Edges in Mechanical Engineering”, as <b>Conference Co-ordinator</b>	GNIOT Greater Noida	2021	Feb 20, 2021, GNIOT, Greater Noida. <b>Sponsored by AICTE</b>
2	Session Co-Chair in technical session in International e-Conference on “Cutting Edges in Mechanical Engineering”,	GNIOT Greater Noida	2021	Feb 20, 2021, GNIOT, Greater Noida
3	Reviewer for technical papers in International e-Conference on “Cutting Edges in Mechanical Engineering”,	GNIOT Greater Noida	2021	Feb 20, 2021, GNIOT, Greater Noida
4	Reactivated innovation cell at MJCET	<b>MJCET Hyderabad</b>	2022	
5	Established ideation & startup center namely SU Knowledge Hub Foundation	<b>MJCET Hyderabad</b>	2023	January 2023
6	Established Drone center for training students in flying & manufacturing of drones.	<b>MJCET Hyderabad</b>	2023	March 2023
7	Improvement of NAAC accreditation grade	<b>Improved grade of MJCET from B++ to A+</b>	2024	Feb 2024
8	Encouraged students for generating new Ideas. One student received Government funding of Rs 15 Lakhs	<b>MJCET</b>	2024	March 2024
9	Encouraged ECE department to receive 2.0 Lakhs funding from AICTE under Vaani program.	<b>MJCET</b>	2004	June 2024
10	Two faculty members got AICTE funding of 5 & 4 lakhs for start up projects	<b>MJCET</b>	2004	June 2024

## Papers Published during stay in Industry

- 1) Effect of various Heat Treatments on Mechanical Properties of a Steam Turbine Blading Steel Containing Delta Ferrite: BHEL Journal Vol 10 No 2, 1989
- 2) Effect of Heat Treatment on Mechanical Properties and Fracture Behaviour of a 12 Cr Mo V steel: Journal of Material Science & Engineering A 127, 7-15, 1990
- 3) Effect of Surface Stresses on Corrosion Properties of Low Carbon Manganese Steel: 7<sup>th</sup> National Congress on Corrosion Control, 1997
- 4) Influence of Shot Peening on Corrosion Properties of Steam Turbine Blading Steel: 7<sup>th</sup> International Conference on Shot Peening, Warsaw, Poland, 1999
- 5) Role of Shot Peening on Life Extension of 12% Cr Turbine, Blading Martensitic Steel Subjected to SCC and Corrosion Fatigue: : 7<sup>th</sup> International Conference on Shot Peening, Warsaw, Poland, 1999
- 6) Renovation, Modernisation and Uprating of Hydro Power Plants: BHEL Journal Vol 20, No 1, 1999

- 7) Lowering of Boronisation Temperature for Application to Hydro Turbine Components: 37<sup>th</sup> NMD & 53<sup>rd</sup> ATM of IIM at IIT Kanpur, 1999
- 8) Effect of Pitting Corrosion on Fatigue Resistance of Shot Peened 12% Cr steel: 37<sup>th</sup> NMD & 53<sup>rd</sup> ATM of IIM at IIT Kanpur, 1999
- 9) Failure Analysis of Differential Pressure Control Valve Spring-A Case Study: 37<sup>th</sup> NMD & 53<sup>rd</sup> ATM of IIM at IIT Kanpur, 1999
- 10) Effect of Shot Peening on Chrome Plating: 38<sup>th</sup> NMD & 54<sup>th</sup> ATM of IIM at Bhilai, 2000.
- 11) Condition Assessment of Condenser Tubes through Eddy Current Examination: 38<sup>th</sup> NMD & 54<sup>th</sup> ATM of IIM at Bhilai, 2000
- 12) Influence of Residual Stresses and Environment on Electrochemical Behaviour of Steam Turbine Blading Steel: BHEL Journal, Vol 23, No2, 2002
- 13) Corrosion Fatigue and its Prevention in Power Plant Components through Shot Peening: BHEL Journal, Vol 24 No1, 2003
- 14) Monitoring Crack Initiation in Metallic Components through Acoustic Emission, 3rd MENDT - Middle East Nondestructive Testing Conference & Exhibition - Bahrain, Manama, 27-30 Nov2005
- 15) Failure of Condenser Tubes in a Thermal Power Plant Caused by De-Nickelification: National Conference on Failure Analysis (NCFA) - 2006, conducted by DMRL, at Hyderabad, Dec 2006
- 16) Failure Analysis of Input Shaft of Planetary Gear Box of a Bowl Mill- A Case Study: 5th International Conference on Creep, Fatigue and Creep-Fatigue Interaction (CF-5) at IGCAR Kalpakkam, Tamil Nadu, September 24-26, 2008
- 17) Preventive Maintenance of Kiln Furnace used for Production of Ceramic Insulators using Thermography, National Seminar & Exhibition on Non-Destructive Evaluation NDE 2009, December 10-12, 2009
- 18) Active Infrared Thermography for Non Destructive Evaluation Of Defects In Wear Resistance And Thermal Barrier Coatings, National Seminar & Exhibition on Non-Destructive Evaluation NDE 2011, December 8-10, 2011
- 19) Theoretical estimation of thickness variation in thermal barrier coatings by using Pulse Phase Thermography, 11th International Conference on Quantitative InfraRed Thermography, Naples, Italy, 11-14 June 2012
- 20) Effect of steam side oxidation and fireside corrosion degradation processes on creep life of service exposed boiler tubes, International Journal of Pressure Vessels and Piping 144, May 2016.

#### **Papers published during stay in Academic Institute**

- 1) Artificial Intelligence in Mechanical Engineering and material science International e-Conference on "Cutting Edges in Mechanical Engineering", Feb 20, 2021, GNIOT, Greater Noida.
- 2) Development of NDT technique for reliable identification of defects in FRP-Silicone shred interface in composite insulators, International e-Conference on "Cutting Edges in Mechanical Engineering", Feb 20, 2021, GNIOT, Greater Noida.

3) Experimental analysis of a Double Slope Active Solar Still under forced circulation mode International e-Conference on “Cutting Edges in Mechanical Engineering”, Feb 20, 2021, GNIOT, Greater Noida.

4) Optimization of FDM 3D Printing process parameters using Taguchi Technique, International e-Conference on “Cutting Edges in Mechanical Engineering”, Feb 20, 2021, GNIOT, Greater Noida.

**Patents:**

- 1) A method for improving fatigue & stress corrosion properties of leading edge of steam turbine blades
- 2) Method of manufacturing carbide insert roll
- 3) A process of forming metal boride coating on surface of steel and alloyed components for Improved Wear Properties.
- 4) “Method of Calibration Block Preparation for TBC Coating Thickness Measurement using Thermography”