

## ACADEMIC PROFILE

<b>Name of the Faculty</b>	Dr. Rathod W.S.	
<b>Date of Birth</b>	09/07/1973	
<b>Date of Joining</b>	27/10/1999	
<b>Designation at the time of Joining</b>	Lecturer	
<b>Current designation</b>	Associate Professor and Head of the Department of Mechanical Engineering	
<b>Personal Homepage</b>	<a href="https://scholar.google.co.in/citations?user=ZCiqIskAAAAJ&amp;hl=en">https://scholar.google.co.in/citations?user=ZCiqIskAAAAJ&amp;hl=en</a>	
<b>Phone (Office)</b>	02224198229	
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## ACADEMIC QUALIFICATIONS

Sr.no.	Name of Examination	Passing Year	Discipline	College/School	University/Board
I.	Ph.D.	21 <sup>st</sup> July-2014	Metallurgical Engineering & Material Science	IIT, Bombay	IIT, Bombay
II.	P.G.	3 <sup>rd</sup> February-2004	Production Engineering	VJTI, Matunga	Mumbai
II.	U.G.	25 <sup>th</sup> July 1998	Metallurgy	COEP, Pune	Pune

## CAREER HISTORY

Sr.no.	Organization/Institution	Position hold	From	To	Nature of appointments
1	VJTI	Lecturer	27/10/1999	1/1/2008	Permanent (Lecturer)
2	VJTI	Associate Professor	1/1/2008	Till date	Permanent (Associate Professor)

## AREAS OF ACADEMIC INTEREST

Physical metallurgy, Nanotechnology, High temperature Coating, Casting, Welding, Corrosion and Production Engg.

### MEMBERSHIP IN ACADEMIC BODIES / BOARD OF STUDIES / EDITORIAL BOARD (JOURNALS)

Sr. no.	Professional Body	Membership Title	Membership No.	Remarks
i	ASM international India chapter	E-membership	912299	Life membership
iii	SSPC	Member	M.MI.215	Life membership
ii	IIIE	Associate Member	AMIIE 9171	Life membership

## MAJOR ACADEMIC PUBLICATIONS

1. Rathod, R.C., Sapate, S.G., Raman, R., & Rathod, W.S. (2013). Stress corrosion cracking study of aluminum alloys using electrochemical noise analysis. *Journal of materials engineering and performance*, 22 (12), 3801-3809
2. Rathod, W.S., Khanna, A.S., Karthikeyan, J. & Rathod, R.C. (2014). Oxidation and corrosion behaviour of CoNiCrAlY bond coats. *Surface Engineering*, 30(6), 432-442.
3. Rathod, W.S., Khanna, A.S., Rathod, R.C., & Sapate, S.G. (2014). Wear and corrosion behavior of CoNiCrAlY bond coats produced by high velocity oxy-fuel and cold gas dynamic sprayed with He and N<sub>2</sub> carrier gases. *Journal of the Institution of Engineers India Ser. C*, 95(3), 261-271.
4. Rathod, W.S., Khanna, A.S., Karthikeyan, J. & Rathod, R.C. (2014). Effect of N<sub>2</sub> and He carrier gases on the oxidation behavior of cold sprayed CoNiCrAlY powder. *Transactions Indian Institute of Metals*, 67(2), 247-262.
5. Khanna, A.S., & Rathod, W.S. (2015). Development of CoNiCrAlY oxidation resistant hard coatings using HVOF and cold spray techniques. *Int. Journal of Refractory Metals and Hard Materials*, 49, 374-382.

6. Rathod, W.S., Khanna, A.S., Karthikeyan, J. & Rathod, R.C. (2013). Oxidation Behaviour of CoNiCrAlY Bond Coats Produced by High Velocity Oxy-Fuel and Cold Gas Dynamic Sprayed nitrogen (N<sub>2</sub>) Gas. *American International Journal of Research in Science, Technology, Engineering and Mathematics*, 3(1), 29-34.
7. Rathod, W.S., Khanna, A.S., & Rathod, R.C. Characterization of bond coats produced by high velocity oxy-fuel and cold gas dynamic sprayed N<sub>2</sub> gas. *International Journal of Engineering and Innovative Technology*, (2013). 2 (12), 121-127.
8. V. Bhosale, W.S. Rathod "Design and development of mechanically operated control toilet discharge toilet system" *International journal of mechanical, civil, automobile and production engineering*, vol. 3 no. (2013), pp.245-254.
9. Khalid Ansari, W.S. Rathod "Modal and harmonic analysis of turbocharger turbine using finite element method" *International journal of application or innovation in engineering & management (IJAIEEM)* volume 2, issue (2013), pp.6-9.
10. Chetan T.Rathod, W.S.Rathod "Design and analysis of two roller sugar mill using FEA techniques", *International journal of scientific engineering and technology (IJSET)*, Issue 3 of Volume 1, (30), (2012), pp.148-152.
11. Mayur S.Aware, W.S.Rathod "Investigation optimise parameter of upper control arm for mining breaker" *International Journal of Research in Engineering and Technology*, volume:7 Issue:6 (2018), pp.101-112
12. Sharad S.Pawar, W.S. Rathod, "Process FMEA Analysis for Reducing Breakdowns of Mixed Model Assembly Line in Automobile Industry" *International Journal of Science and Research (IJSR)*, Volume 5 Issue 4, April 2016, pp.1028-1032.
13. Nitin Rathod, Rohan Panage, W.S.Rathod "Design and Performance Analysis of a Three Way Catalytic Converter", *International Journal of Research and Scientific Innovation (IJRSI) | Volume V, Issue VI, June 2018*, pp. 178-182.
14. Sanjay W Rukhande, Walmik S. Rathod; "Tribological Behaviour of Plasma and HVOF-sprayed NiCrSiBFe Coatings", *Surface Engineering*, vol. 36, no. 7(2020), pp. 745-755.

15. Sanjay W Rukhande, Walmik S. Rathod; "An isothermal oxidation behaviour of atmospheric plasma and high-velocity oxy-fuel sprayed nickel based coating", *Ceramics International*, published online 18 April 2020, vol. 46, pp. 18498-18506, 2020.
16. Digvijay G. Bhosale, Walmik S. Rathod; "Investigation on wear behaviour of SS 316L, atmospheric plasma and high velocity oxy-fuel sprayed WC-Cr<sub>3</sub>C<sub>2</sub>-Ni coatings for fracturing tools"; *Surface and Coatings Technology* 390 (2020), Elsevier. Impact Factor: 3.784, H index: 165. <https://doi.org/10.1016/j.surfcoat.2020.125679>.
17. Digvijay G. Bhosale, Walmik S. Rathod; "Tribological behaviour of atmospheric plasma and high velocity oxy-fuel sprayed WC-Cr<sub>3</sub>C<sub>2</sub>-Ni coatings at elevated temperatures"; *Ceramics International* 46 (8) (2020), pp. 12373-12385.
18. Digvijay G. Bhosale, Walmik S. Rathod; "Ni-alloy C-263 protection by WC-Cr<sub>3</sub>C<sub>2</sub>-Ni coatings against high temperature wear in nuclear applications"; *Surfaces and Interfaces* (2020), Elsevier, Impact Factor:3.724, H index: 16.(Accepted on 05<sup>th</sup> Sept 2020)
19. Digvijay G. Bhosale, T.Ram Prabhu, Walmik S. Rathod; "Sliding and erosion wear behaviour of thermal sprayed WC-Cr<sub>3</sub>C<sub>2</sub>-Ni coatings"; *Surface and Coatings Technology* (2020), Elsevier, Impact Factor: 3.784, H index: 165. <https://doi.org/10.1016/j.surfcoat.2020.126192>
20. Digvijay G. Bhosale, Walmik S. Rathod; "Tribo-behaviour of APS and HVOF sprayed WC-Cr<sub>3</sub>C<sub>2</sub>-Ni coatings for gears"; *Surface Engineering* (2020), Taylor and Francis. Impact Factor: 2.433, H index: 41. <https://doi.org/10.1080/02670844.2020.1742988>
21. Digvijay G. Bhosale, Walmik S. Rathod, N. Mohan; "High-temperature erosion and sliding wear of thermal sprayed WC-Cr<sub>3</sub>C<sub>2</sub>-Ni coatings"; *Journal of Materials Engineering and Performance* (2020), Springer (under review)., Impact Factor: 1.883, H index: 59.

22. Digvijay G. Bhosale, T. Ram Prabhu, Walmik S. Rathod; "High temperature solid particle erosion behaviour of SS 316L, and thermal sprayed WC-Cr<sub>3</sub>C<sub>2</sub>-Ni coatings"; *Wear* (2020), pp.462-469

### PAPER PRESENTATIONS IN INTERNATIONAL/ NATIONAL JOURNALS

#### INTERNATIONAL CONFERENCES ATTENDED AND PAPER PRESENTED:

1. W.S.Rathod, "Tribological Behaviour of AlTiN, AlCrN and CrN Coated High Speed Tool Steel", 12<sup>th</sup> International symposium on Surface Protection Coatings & International Expo.-Oct.7-9, 2015, India Expo Centre, Greater Noida, NCR Delhi.
2. W.S.Rathod, A.S.Khanna, "Wear and oxidation behavior of CoNiCrAlY coatings sprayed with HVOF and CGDS" 6<sup>th</sup> Asian thermal spray conference, November 24 -26<sup>th</sup>, 2014 at Hyderabad, India.
3. W.S.Rathod, A.S.Khanna, "Comparative study of oxidation behavior of CoNiCrAlY bond coats produced by cold gas dynamic spray and high velocity oxy-fuel process" North American cold spray conference, April 3-4, 2013 in Bellevue, Washington, USA.
4. W.S.Rathod, A.S.Khanna, R.C.Rathod, "Oxidation and electrochemical behavior of CoNiCrAlY bond coats produced by high velocity oxy-fuel and cold gas dynamic sprayed with N<sub>2</sub> carrier gases", HT&SE, conference & expo, 16-18 May-2013, Chennai trade center, Chennai.
5. W.S.Rathod, U.V.Rathod, B.E.Narkhede, "Failure investigation of last stage (3R) LP turbine blade of 500MW thermal power station", International conference on advanced in mechanical engineering, (2010), pp.36-40.
6. U.V.Rathod, W.S.Rathod, "Real time colour based obstacle detection and avoidance system for wheeled mobile robot", International conference on advanced in mechanical engineering, (2009), pp.762-766.

7. W.S.Rathod, B.E.Narkhede, N.S.Poonawala, "Electrochemical machining- A critical review", International conference on advanced manufacturing technology, (2003), pp.118-127.

### NATIONAL CONFERENCES:

- [1] S.N.Visave, W.S.Rathod, "Stress analysis & optimization of drive shaft and switch ON spring of circuit breaker", Proceeding of national conference on recent research in mechanical engineering, (2011), pp.417-425
- [2] J.J.Sawant, W.S.Rathod, "Finite Element Analysis and Optimization of Plug Valve Body", National conference on emerging trends in mechanical engineering, (2011), pp.66-75.
- [3] U.V.Rathod, W.S.Rathod, B.E.Narkhede, "Real time path following and control system for vision-based A.G.V", National conference on trend in engineering and technology (2009), pp.12.

### GUIDANCE / SUPERVISION OF M.TECH& PH.D. DISSERTATIONS

#### DETAILS OF Ph. D. AND M.TECH. DISSERTATIONS GUIDED

Sr. no.	Activity Type	Number	Remarks (Details)
i	Students Guided at Doctoral Level	07	Two students submitted their thesis and remaining in process
ii	Students Guided at Master's Degree Level	50	Completed

## REVENUE GENERATION (CONSULTANCY/TESTING ASSIGNMENTS UNDERTAKEN)

### TECHNICAL TEST REPORT

Sr. no.	Name of company	Name of Testing
1	Savla Marketing, Vidyavihar, Mumbai- 400 024.	Thermocol has been tested for confirmation of flame resistance test.
2	TRADEMADE INC., Adke Compound, Near Surya Nagar Police Station, Off L.B.S Marg, Vikhroli (West), Mumbai - 400083.	1 1/2 Hour Fire Rated Door (90 Minute) -
3	Sanghvi Furniture Pvt. Ltd. Off L.B.S. Road, Vikroli (w), and Mumbai - 400083.	1 Hour fire rated door sample
4	Popular Furniture, Delite Palace, Near Bank of India, M.G.Road, Ghatkopar (west), Mumbai - 400086.	Revolving Chair samples for chemical test
5	Dhamanand Gramin Pani Puravatha va Swachhata Samiti Dhamanand .	GI Pipe samples
6	TRADEMADE INC., Adke Compound, Near Surya Nagar Police Station, Off L.B.S Marg, Vikhroli (West), Mumbai - 400083.	1 Hour fire rated door (60 Minute)
7	K.R.Dhiwar, Assistant Manager, Reserve Bank of India, Estate Cell, C-7, 3 <sup>rd</sup> Floor, Bandra Kurla Complex, Mumbai - 400 051.	Plywood samples
8	Quantum Technologies, 876, sector- 8, Faridabad - 121 006 (Haryana)	Confirmation of the Epoxy material, its Characteristics and required quality standard material
9	Bharat Sarkar, Kendriya Lok Nirman Vibhag, Chintamani Plaza, Tesari Manzil, 'B' Wing, 306, Andheri-Kurla Road, Andheri(E), Mumbai - 400 099.	Anodic coating of Aluminium samples
12	Bharat Sarkar, Kendriya Lok Nirman Vibhag, Chintamani Plaza, Tesari Manzil, 'B' Wing, 306, Andheri-Kurla Road, Andheri(E), Mumbai - 400 099.	Ceramic glazed wall tiles samples
13	Bharat Sarkar, Kendriya Lok Nirman Vibhag, Chintamani Plaza, Tesari Manzil, 'B' Wing, 306, Andheri-Kurla Road, Andheri(E), Mumbai - 400 099.	Ceramic glazed floor tile samples

14	Reserve Bank of India, Officers Quarters, Santacruz (west), Mumbai - 400 054.	Stainless steel wire basket
15	Idesign Modular Furniture Systems, D.G.M., Estate Cell, Byculla, Mumbai Central	Boiling water proof ply sample
16	Mumbai port trust, Civil Engineering Department superienending Engineer GWSD, Nirman Bhavan, Mujawar Pakhadi Road, Mazgaon, Mumbai-400 010.	Zinc coating of galvanized steel channel 27x25x16 mm section.
17	Mumbai port trust, Civil Engineering Department superienending Engineer GWSD, Nirman Bhavan, Mujawar Pakhadi Road, Mazgaon, Mumbai-400 010.	Laminate (Greenlam make) testing
18	Mumbai port trust, Civil Engineering Department superienending Engineer GWSD, Nirman Bhavan, Mujawar Pakhadi Road, Mazgaon, Mumbai-400 010.	Salwood sample size of 50 mm x 50 mm
19	The Deputy General Manager, Estate cell, Reserve Bank of India, Mumbai Central, mumbai - 4000 08.(Representative of Idesign Modular Furniture Systems)	Plywood & Stainless steel wire basket
20	Government of India, Central Public Works Department, O/o. Assistant Engineer - IV, MCD II, CPWD, Mumbai 400 037.	Hard wood samples
21	Sona doors Pvt. Ltd., 2, Savitri Appt. Ashoka Marg, Nashik-422 006.	One Hour Fire Rated Door (60 Minute), sample (thikness 30 mm)
22	The Deputy General Manager, Estate Cell, Reserve Bank of India, Mumbai Central, Mumbai-400008. (Reserve Bank of India staff Quarters, Santacruz (west), Mumbai - 400 054.)	Stainless steel railing pipe
23	K.R.Dhiwar, Assistant Manager, Reserve Bank of India, Estate Cell, C-7, 3 <sup>rd</sup> Floor, Bandra Kurla Complex, Mumbai - 400 051. (Sleek International Pvt.Ltd.)	Plywood samples

## **PARTICIPATION IN PROFESSIONAL DEVELOPMENT PROGRAMMES**

- [1] One week short term course on "Fluid Flow Behavior Using Computational Methods" from 28<sup>th</sup> Dec 2015 to 1<sup>st</sup> Jan-2016 sponsored by AICTE under QIP, organized by Mechanical Engineering Dept, VJTI, Matunga, Mumbai-19.
- [2] Short Term Course on " Industrial Tribology" from 7<sup>th</sup> -11<sup>th</sup> Dec 2015 SPONSORED BY AICTE(under QIP), organized by Mechanical Engineering Dept, VJTI, Matunga, Mumbai-19.
- [3] Short term training program on "Workshop training" organized by Mechanical Engg. dept, VJTI, Matunga for Laliji Mehrotra Technical Institute opp. Hema Industrial Estate, Sarvodya Nagar Jogeshwari (E) from 20<sup>th</sup> to 23<sup>rd</sup> and 27<sup>th</sup> to 28<sup>th</sup> April-2015.
- [4] One week short term course on "Advanced Machine Design" Sponsored by AICTE under QIP from 18<sup>th</sup> - 22<sup>nd</sup> Nov2013, organized by Mechanical Engineering Dept, VJTI, Matunga, Mumbai-19.

## **ORGANIZATION OF ACADEMIC CONFERENCES / WORKSHOPS / DESIGNING COURSES**

1. One week short term course on "Fluid Flow Behavior Using Computational Methods" from 28<sup>th</sup> Dec 2015 to 1<sup>st</sup> Jan-2016 sponsored by AICTE under QIP, organized by Mechanical Engineering Dept, VJTI, Matunga, Mumbai-19.
2. Short Term Course on " Industrial Tribology" from 7<sup>th</sup> -11<sup>th</sup> Dec 2015 SPONSORED BY AICTE(under QIP), organized by Mechanical Engineering Dept, VJTI, Matunga, Mumbai-19.
3. Short term training program on "Workshop training" organized by Mechanical Engg. dept, VJTI, Matunga for Laliji Mehrotra Technical Institute opp. Hema

Industrial Estate, Sarvodya Nagar Jogeshwari (E) from 20<sup>th</sup> to 23<sup>rd</sup> and 27<sup>th</sup> to 28<sup>th</sup> April-2015.

4. One week short term course on "Advanced Machine Design" Sponsored by AICTE under QIP from 18<sup>th</sup> - 22<sup>nd</sup> Nov2013, organized by Mechanical Engineering Dept, VJTI, Matunga, Mumbai-19.

#### **INVITED LECTURES / CHAIRING / RESOURCE PERSON / KEYNOTE ADDRESS**

1. One week short term course on "Fluid Flow Behavior Using Computational Methods" sponsored by AICTE under QIP from 28<sup>th</sup> Dec 2015 to 1<sup>st</sup> Jan-2016, organized by Mechanical Engineering Dept, VJTI, Matunga, Mumbai-19.
2. One week short term course on "Industrial Tribology" Sponsored by AICTE under QIP from 7<sup>th</sup> - 11<sup>th</sup> Dec 2015, organized by Mechanical Engineering Dept, VJTI, Matunga, Mumbai-19.
3. One week short term course on "Advanced Machine Design" Sponsored by AICTE under QIP from 18<sup>th</sup> - 22<sup>nd</sup> Nov2013 organized by Mechanical Engineering Dept, VJTI, Matunga, Mumbai.
4. One week short term training program on Computational Methods in Mechanical Engineering from 6<sup>th</sup> July to 11<sup>th</sup> July, 2015, organized by Department of Mechanical Engineering, Pillai HOC College of Engineering & Technology, Rasayani, Dist. Raigad, Maharashtra - 410207.