

Dr. RAMESH M.R.
Assistant Professor
Department of Mechanical Engineering
National Institute of Technology Karnataka
Surathkal, PO Srinivasanagara – 575025
Mangalore DK, Karnataka State, INDIA
Phone: +91 094805 40801
+91 824 2473677
Fax: +91 824 2474058
Email: ramesdmt@gmail.com,
rameshmr@nitk.edu.in

RESUME

❖ CURRENT AREA OF RESEARCH :

Thermal Spray Coatings, Advanced Materials Characterization, Biomaterials, Machining, Wear, Erosion, Oxidation & Hot Corrosion, Severe Plastic Deformation, Castings

❖ ACADEMIC RECORD

➤ DEGREE

: **Ph.D**
Institution : **Indian Institute of Technology Roorkee, Roorkee.**
Thesis Title : Studies on the Role of HVOF Coatings in Improving Resistance to Hot Corrosion and Erosion
Year of completion : 2008

➤ POST GRADUATION

: **M.Tech (Mechanical Engineering)**
Specialization : **Manufacturing Science and Engineering**
Institution : M.S. Ramaiah Institute of Technology, Bangalore.
University : Visveswaraiiah Technological University.
Year of Passing : February 2002.
Results : **Ist class with distinction @ 75.20% aggregate (Secured university third rank)**

➤ GRADUATION

: **B.E. (Mechanical Engineering)**
Institution : Siddaganga Institute of Technology, Tumkur.
University : Bangalore University.
Year of Passing : Aug. 1999.
Results : **Ist class with distinction @ 67.03% aggregate**

➤ PRE – DEGREE

- Examination Passed : S.S.L.C.
Year of Passing : 1993
Result : **75.20 %**
- Examination Passed : PUC
Year of Passing : 1995
Result : **71.16 %**

❖ WORK EXPERIENCE: (present to previous)

- Institution : National Institute of Technology Karnataka, Surathkal
Designation : Assistant Professor
Duration : December 2012 – Till date
- Institution : M.S.Ramaiah Institute of Technology, Bangalore.
Designation : Associate Professor
Duration : April 2011 – December 2012
- Institution : Reva Institute of Technology and Management, Bangalore.
Designation : Assistant Professor
Duration : July 2008 – April 2011
- Institution : Nitte Institute of Technology, Bangalore.
Designation : Assistant Professor
Duration : September 2002 – July 2003, February 2008 – July 2008

➤ Institution : Vivekananda Institute of Technology, Bangalore.
Designation : Lecturer
Duration : May 2000 – Oct. 2000

❖ **RESEARCH PUBLICATIONS/BOOKS:**

Research Publications: 25 papers in international journals and 19 papers published in conference proceedings.

Journal Publication

- 1) M.R. Ramesh, S. Prakash, S.K. Nath, Pawan Kumar Sapra, B. Venkataraman, Solid particle erosion of HVOF sprayed WC-Co/NiCrFeSiB coatings, *Wear*, Volume 269, p197–205, 2010
- 2) M.R. Ramesh, S. Prakash, S.K. Nath, Pawan Kumar Sapra, and N. Krishnamurthy, Evaluation of thermocyclic oxidation behavior of HVOF-sprayed NiCrFeSiB coatings on boiler tube steels, *Journal of Thermal Spray Technology*, Volume 20, Issue 5, p992-1000, 2011
- 3) N. Krishnamurthy, M. S. Murali, P. G. Mukunda, M. R. Ramesh, Characterization and wear behavior of plasma-sprayed Al₂O₃ and ZrO₂/CaO coatings on cast iron substrate, *J Mater Sci*, Volume 45, p850–858, 2010
- 4) N. Krishnamurthy, M. S. Murali, P. G. Mukunda, M. R. Ramesh, Wear Behavior of Plasma Sprayed Al₂O₃ Coatings on Cast Iron Substrate, *International Journal of Materials Science*, Volume 5, Number 2, p157–165, 2010
- 5) Pawan Kumar Sapra, Surendra Singh, Satya Prakash, M.R. Ramesh, Elevated temperature solid particle erosion performance of Al₂O₃-3 wt% TiO₂ composite coatings, *Int. J. Surface Science and Engineering*, Volume 4, No. 4/5/6, p360-276, 2010
- 6) N Jegadeeswaran, Udaya Bhat K, Ramesh M R, Wear studies on wrought and heat treated Nimonic, Titanium and Superco super alloys, *Int. Journal of Applied Sciences and Engineering Research*, Volume 1, No. 1, p106-117, 2012
- 7) Gopi K.R, Mohandas K.N, Reddappa H.N, M.R. Ramesh, Characterization of As Cast and Heat Treated Aluminium 6061/Zircon sand/Graphite Particulate Hybrid Composites, *International Journal of Engineering and Advanced Technology*, Volume 2, Issue-5, p340-344, 2013
- 8) N. Jegadeeswaran, K Udaya Bhat, M.R Ramesh, Oxidation Studies on As-received and HVOF Sprayed Stellite-6 Coating on Turbine Alloys at 800°C, *International Journal of Scientific Engineering Research*, Volume 4, Issue 6, p214-220, 2013
- 9) Jegadeeswaran, N., Udaya Bhat, K., Ramesh, M.R., Prakarthi, S, Hot corrosion behaviour of HVOF sprayed Stellite-6 coatings on gas turbine alloys. *Transactions of Indian Institute of Metals (Springer)*, Volume 67, Issue 1, p87-93, 2014
- 10) Jegadeeswaran N, Udaya Bhat K, Ramesh M R, Hot Corrosion Studies on As-received and HVOF Sprayed Al₂O₃+CoCrAlTaY on Ti-31 Alloy in Salt Environment, *Procedia Engineering*, Volume 64, p1013-1019, 2013
- 11) N. Jegadeeswaran, M. R. Ramesh, K. Udaya Bhat, Combating Corrosion Degradation of Turbine Materials Using HVOF Sprayed 25% (Cr₃C₂-25(Ni₂₀Cr)) + NiCrAlY Coating, *International Journal of Corrosion*, p1-11, 2013
- 12) B. Somasundaram, Ravikiran Kadoli, and M.R. Ramesh, Evaluation of Cyclic Oxidation and Hot Corrosion Behavior of HVOF-Sprayed WC-Co/NiCrAlY Coating, *Journal of Thermal Spray Technology*, August 2014, Volume 23, Issue 6, pp 1000-1008
- 13) B.Somasundaram, Ravikiran Kadoli, M.R.Ramesh, Hot corrosion behaviour of HVOF sprayed (Cr₃C₂-35% NiCr) + 5% Si coatings in the presence of Na₂SO₄ - 60% V₂O₅ at 700°C, *Transactions of the Indian Institute of Metals*, April 2015, Volume 68, Issue 2, pp 257-268
- 14) B.Somasundaram, Ravikiran Kadoli, M.R. Ramesh, Evaluation of Thermocyclic Oxidation Behavior of HVOF Sprayed (Cr₃C₂-35% NiCr) + 5% Si Coatings on Boiler Tube Steels, *Procedia Materials Science*, Volume 5, 2014, Pages 398-407
- 15) N. Jegadeeswarana, M. R. Ramesh, K. Udaya Bhat, Oxidation Resistance HVOF Sprayed Coating 25% Cr₃C₂-25(NiCr) + 75%NiCrAlY on Titanium Alloy, *Procedia Materials Science*, Volume 5, 2014, Pages 11-20
- 16) S. B. Mishra, Sadhana Sachan, P. K. Mishra, Ramesh M. R, Preparation and characterisation of PPEES-TiO₂ composite micro-porous UF membrane for oily water treatment, *Procedia Materials Science*, Volume 5, 2014, Pages 123-129
- 17) Nagesh S. N., Siddaraju C, S. V. Prakash, M. R. Ramesh, Characterization of brake pads by variation in composition of friction materials, *Procedia Materials Science*, Volume 5, 2014, Pages 295-302
- 18) Shanmukha Priya V, M.R. Ramesh, VPS Naidu, Bearing Health Condition Monitoring: Frequency Domain Analysis, *International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering*, Volume.3, 2014, Pages 260-268
- 19) B. Somasundaram, Ravikiran Kadoli and M.R. Ramesh, Evaluation of Thermocyclic Oxidation behavior of HVOF Sprayed WC-CrC-Ni Coatings, *Bonfring International Journal of Industrial Engineering and Management Science*, Vol. 5, No. 2, June 2015, Pages 83-89
- 20) N. Jegadeeswaran, K. Udaya Bhat and M. R. Ramesh, Improving Hot Corrosion Resistance of Cobalt Based Superalloy (Superco-605) Using HVOF Sprayed Oxide Alloy Powder Coating, *Trans Indian Inst Met*, Volume 68, Suppl 2, pS309–S316, 2015
- 21) Narendra Rathore, M.R.Ramesh, Design of Universal Test Rig and Virtual Experimentation of Hydraulic Circuit for Testing of Line Replacement Units, *International Journal of Scientific & Engineering Research*, Volume 6, Issue 6, 2015

- 22) B. Somasundaram, Ravikiran Kadoli, M.R. Ramesh and C.S. Ramesh, High temperature corrosion behaviour of HVOF sprayed WC-CrC-Ni coatings, *Int. J. Surface Science and Engineering*, Vol. 10, No. 4, PP400-413, 2016
- 23) Hargovind Soni, Narendranath S. and Ramesh M. R., "Effect of machining parameters on wire electro discharge machining of shape memory alloys analyzed using Grey entropy method" is published in *Journal of material science and mechanical Engineering (JMSME)* Vol.2, Issue 13 October-December, 2015 p-ISSN:2393-9095 e-ISSN: 2393-9109. And presented in the 10th INTERNATIONAL CONFERENCE on "Advances in Mechanical, Material Science, Manufacturing, Automobile, Aerospace Engineering and Applied Physics" (AMAEAP-2015) at J N U New Delhi India on 07 Nov. 2015.
- 24) B.R. Bharath Kumar, Mrityunjay Doddamani, Steven E. Zeltmann, Nikhil Gupta, M.R. Ramesh, Seeram Ramakrishna, Processing of cenosphere/HDPE syntactic foams using an industrial scale polymer injection molding machine, *Materials and Design*, Volume 92, p414-423, 2016
- 25) Gajanan Anne, M R Ramesh, H Shivananda Nayaka, Shashi Bhushan Arya, Investigation of microstructure and mechanical properties of Mg-Zn/Al multilayered composite developed by accumulative roll bonding, *Perspectives in Science*, 2016, Article in Press, <http://dx.doi.org/10.1016/j.pisc.2016.04.008>

Conference proceedings

1. Hanumanthlall S, Prasanna N D, Ramesh M R, Studies on HVOF Sprayed Coatings, *Proceedings of International Conference on Challenges and Opportunities in Mechanical Engineering, Industrial Engineering and Management Studies*, M.S. Ramaiah Institute of Technology, Bangalore, p319-329, 2012
2. Chiranth B.P, Siddaraju C, Shobha R, Ramesh M R, Severe Plastic Deformation of 2 % Titanium Boride, *Proceedings of International Conference on Challenges and Opportunities in Mechanical Engineering, Industrial Engineering and Management Studies*, M.S. Ramaiah Institute of Technology, Bangalore, p428-432, 2012
3. Balakrishna, Ramesh M R, Studies on the role of HVOF sprayed carbide coatings to combat erosion of boiler tube steels, *National conference on development and opportunities in civil Engineering, Applied Sciences and Mechanical Engineering*, East west Institute of Technology, Bangalore, p38, 2012
4. Jegadeeswaran, N., Udaya Bhat, K., Ramesh, M. R., Prakarathi, S, Hot corrosion behavior on as-received and HVOF cermets coated Ti-6Al-4V alloy, *Proceedings of international Symposium for Research Scholars on Metallurgy, Materials Science and Engineering*, Indian Institute of Technology Madras, Chennai, p82, 2012
5. Jegadeeswaran N, Nagasuresh Babu N, Ramesh M R, Abrasive Wear Behaviour of Al-SiC Composite Developed by Powder Metallurgy Route, *Proceedings of the International Conference on Recent Trends In Materials And Characterization*, National Institute of Technology Karnataka, Surathkal, p258-262, 2010
6. Jegadeeswaran N, Ramesh M R, Udaya Bhat K, Adhesive and Abrasive Wear Performance of HVOF Sprayed NiCrAl Coatings On Ni-Based Superalloy, *Proceedings of the International Conference on Frontiers in Mechanical Engineering*, National Institute of Technology Karnataka, Surathkal, p238-243, 2010
7. N. Jegadeeswaran, B. Somasundar, Ramesh M.R, Studies on the application of Rapid Prototype for the Medical field", *National Conference on Design, Manufacture and Management for Next Generation*, Kongu Engineering College, Erode, p17, 2009
8. Jegadeeswaran, N., Udaya Bhat, K., Ramesh, M. R, Wear behavior on as-received and heat treated turbine blade alloys, *Proceedings of Joint Inter. Conf on Advanced Materials*, BTL Inst. of Tech., Bangalore, p19-20, 2011
9. Jegadeeswaran N, Ramesh M.R, Udaya Bhat K, Improving Hot Corrosion Resistance of Cobalt Based Superalloys Using HVOF Sprayed Oxide Alloy Powder Coating, *Proceedings of International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering*, Department of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, p24-30, 2014
10. Ramesh Babu N, Ramesh M R, Kiran Aithal S, U N Kempaiah, Experimental study of process variables on the bead geometry through flux cored arc welding, *International Conference on Mechanical Engineering*, Vijaya Vittala Institute of Technology, Bangalore, 21-23, August 2014
11. M.R. Ramesh, S. Prakash, S.K. Nath, Mrityunjay Doddamani, Hot Corrosion-Erosion Behaviour of HVOF Sprayed NiCrFeSiB Coatings on Boiler Tube Steels, *4th International Engineering Symposium*, Kumamoto University, Japan, March 4-6, 2015
12. Dharmendra. M, Jegadeeswaran. N, Ramesh. M. R, Udaya Bhat. K, A comparative study of oxidation resistance of Ti-31, HVOF sprayed stellite-6 and fused Al₂O₃-CoCrAlTaY coated Ti-31 alloy at 800°C, *International conference on advances in materials, manufacturing and applications*, National Institute of Technology, Tiruchirappalli, April 9-11, 2015
13. B. Somasundaram, Ravikiran Kadoli, M. R. Ramesh, High temperature oxidation studies of HVOF sprayed WC-CrC-Ni coating on boiler tube steels, *International conference on advances in materials, manufacturing and applications*, National Institute of Technology, Tiruchirappalli, April 9-11, 2015
14. Siddaraju C , N D Prasanna, M R Ramesh, M K Muralidhara, Studies on structure and corrosion characteristics of IS 400/15 ductile iron subjected austempering heat treatment, *International conference on advances in materials, manufacturing and applications*, National Institute of Technology, Tiruchirappalli, April 9-11, 2015
15. Bhaskar.M, M.R.Ramesh, Srikanth Bontha, M.Krishna, Vamsi Krishna Balla, Solid state amorphization of Mg-Zn-Ca system studied through planetary ball milling, *International conference on advances in materials, manufacturing and applications*, National Institute of Technology, Tiruchirappalli, April 9-11, 2015
16. Shanmukha Priya V, M.R. Ramesh and VPS Naidu, Bearing Fault Classification Using Support Vector Machines, *National conference on health monitoring and fault detection in aerospace systems*, Vikram sarabhai space centre, Thiruvananthapuram, May 22-23, 2015

17. Nithin H.S, Vijay Desai and Ramesh M.R, An investigation on high temperature erosion behaviour of Plasma sprayed CoCrAlY/Al₂O₃/YSZ on Fe and Ni based alloys, International conference on computational methods in engineering and health sciences, University putra malaysia, Malaysia, December 19-20, 2015
18. Athul Sathyanath, Eswaran M, M.R. Ramesh and G.R. Reddy, Numerical Study On Tuned Liquid Damper For Mitigation Of Structural Response, 42nd National Conference on Fluid Mechanics and Fluid Power, National Institute Of Technology Karnataka Surathkal, December 14-16, 2015
19. Gajanan Anne, M R Ramesh, H Shivananda Nayaka, Shashi Bhushan Arya, Investigation of microstructure and mechanical properties of Mg-Zn/Al multilayered composite developed by accumulative roll bonding, International Conference on Recent Trends in Engineering and Material Sciences, Jaipur National University, Jaipur, India, March 17-19, 2016

Book:

Co-authored book titled “**Elements of Mechanical Engineering**” – A text book for I/II semester B.E. of VTU syllabus, Suggi Publishing, Bangalore.

❖ **RESEARCH PROJECT:**

Principle investigator for the project “Development of HVOF sprayed cermets coatings in improving resistance to hot corrosion and erosion of gas turbine alloys” granted by All India Council for Technical Education during 2013 with funding of Rs 18,10,000

❖ **RESEARCH STUDENTS REGISTERED FOR PhD UNDER GUIDANCE:**

- Mr. Jegadeeswaran N. awarded PhD at NITK, Surathkal in the year 2014.
- Mr. Somasundar B. awarded PhD at NITK, Surathkal in the year 2015.
- Mr. Gajanan Anne Registered for PhD at NITK, Surathkal in the year 2013 (Supervisor)
- Mr. Veeresh Nayak Registered for PhD at NITK, Surathkal in the year 2014 (Supervisor)
- Mr. Nitin Gowda Registered for PhD at NITK, Surathkal in the year 2014 (Co-supervisor)
- Mr. Ramesh Babu N. Registered for PhD at NITK, Surathkal in the year 2013 (Supervisor)
- Mr. Mahantayya Mathapati Registered for PhD at NITK, Surathkal in the year 2014 (Supervisor)
- Mr. Timothy Harold Gonsalves Registered for PhD at NITK, Surathkal in the year 2014 (Co-supervisor)

❖ **PERSONAL DETAILS**

Father's Name	:	Rangarasaiah M.R.
Date of Birth	:	7 th October 1977
Nationality	:	Indian
Gender	:	Male
Marital Status	:	Married
Languages Known	:	Kannada, English & Hindi