

Prof. (Dr.) Vikas Chawla, Ph.D (I.I.T. Roorkee, Roorkee)

Dean (Academics & College Development)

Professor, Department of Mechanical Engineering, IKGPTU (Main Campus), Kapurthala (Pb.)



Research Interests

High Temperature Erosion-Corrosion of Materials, Protective Coatings (Nano/Conventional) & Surface Engineering, Joining of Dissimilar Materials by Friction Welding, Friction Stir Welding & Processing, Microwave Absorption Coatings.

Educational Qualification

- **PhD**; Metallurgical & Materials Engineering Department, **I.I.T Roorkee, Roorkee, Uttarakhand**; with **National Doctoral Fellowship** (NDF) sponsored by A.I.C.T.E, New Delhi (2006-2010)
- **M.E.** (Industrial Materials & Metallurgy); Punjab Engineering College (**P.E.C.**), Chandigarh (1997-2000)
- **B.E.**(Mechanical); **G.Z.S. College of Engineering & Technology, Bathinda, Punjab** (1993-1997)

Experience: Teaching & Administrative

- More than 20 Years

PhD / M.Tech Guided: 15 / 21

Total Publications:

- Referred Journals : 110
- Patents Filed: 04 (Now in Public Domain)
- International Conferences: 51
- National Conferences: 45
- Books: 08

Selected Publications:

1. Singh, G., Bala, N. and **Vikas Chawla**, “**Microstructural analysis and hot corrosion behavior of HVOF-sprayed Ni-22Cr-10Al-1Y and Ni-22Cr-10Al-1Y-SiC (N) coatings on ASTM-SA213-T22 steel**” *Int J Miner Metall Mater (Springer, ISSN 1674-4799), Impact Factor 1.221, 27, 401–416* (2020).
2. Amit Handa and **Vikas Chawla**, “**Investigation of mechanical properties and hot corrosion behavior of friction welded AISI304 and AISI 1021 steels**”, Sadhna (Springer, ISSN 0973-7677, SCI, Impact Factor 0.849), Vol. 45, 2020, <https://doi.org/10.1007/s12046-020-01369-3>.
3. Singh, G., Bala, N. and **Vikas Chawla**, “**Oxidation Behaviour of HVOF Sprayed NiCrAlY and NiCrAlY-20SiC Coatings on T-91 Boiler Tube Steel**” *Protection of Metals and Physical Chemistry of Surfaces (Springer, ISSN 2070-2051), Impact Factor 0.787, 56, 134–150* (2020).
4. V Panwar, NK Grover and **Vikas Chawla**, “**Characterization of Plasma Sprayed 87%Al₂O₃–13%TiO₂ and 88%WC–12%Co Coatings on ASTM A36 Steel**”, *Advances in Materials Processing, Select Proceedings of ICFMMP 2019* (Springer) (ISBN 978-981-15-4747-8 / Online ISBN: 978-981-15-4748-5), Vol. 7, 2020, 257-268.
5. Rakesh Goyal, Buta Singh Sidhu, **Vikas Chawla**, “**Hot Corrosion Performance of Plasma-Sprayed Multiwalled Carbon Nanotube- Al₂O₃ composite coatings in a coal-fired boiler at 900°C**” *Journal of Materials Engineering and Performance* (Springer), <https://doi.org/10.1007/s11665-020-05070-8>, 02-09-2020, 1-12.
6. V Panwar, NK Grover and **Vikas Chawla**, “**Erosion studies of plasma sprayed WC-12%Co, Cr₃C₂-25%NiCr, 80%Ni-20%Cr, 87%Al₂O₃-13%TiO₂ coatings on ASTM A36 steel**”, *Materials Research Express* (IOP Publishing Ltd.) (issn.2053-1591 / Online ISSN: 2053-1591), Impact Factor 1.929 (SCI), 2020, Vol. 7.
7. Amardeep Singh Kang, Gurbhinder Singh, **Vikas Chawla**, “**In-vitro performance of reinforced hydroxyapatite coatings deposited using vacuum plasma spray technique on Ti-6Al-4V**”, *Materials Today: Proceedings*, [ISSN: 2214-7853 (Elsevier, Scopus), VOL. 26, 2020, 671-676.
8. Vineet Shibe and **Vikas Chawla**, “**Erosion studies of cermet-coated ASTM A36 steel**”, *Industrial Lubrication and Tribology* (ISSN: 0036-8792), Impact Factor 0.763 (SCI), Vol. 71, No. 2, pp 242-252.
9. Vineet Shibe and **Vikas Chawla**, “**Erosion Studies of D-Gun-Sprayed WC-12%Co, Cr₃C₂-25%NiCr and Al₂O₃-13%TiO₂ Coatings on ASTM A36 Steel**” *Journal of Thermal Spray Technology* (ISSN: 1059-9630 (Print) 1544-1016 (Online)), Impact Factor 2.129 (SCI), Vol. 28, No. 8, pp 2015-2028.

10. Subhash Chander and **Vikas Chawla**, “**Characterization and Industrial Performance Evaluation of Duplex-Treated AISI H21 Die Steel during Hot Forging Process**,” Materials Performance and Characterization (ASTM; E-ISSN: 2165-3992; ISSN: 2379-1365), Scopus Indexed; 2019, Vol. 8: No 1, pp 1-11 (available online at www.astm.org).
11. **Vikas Chawla**, Buta S. Sidhu, Amita Rani and Amit Handa, “**High-temperature corrosion behavior of some post-plasma-spraying-gas-nitrided metallic coatings on a Fe-based superalloy**,” Materials and Corrosion (IOP Publishing Ltd.) (Online ISSN: 1521-4176), Impact Factor 1.458 (SCI), 2019, DOI:10.1002/maco.201910971, 2019, Vol. 70, No. 12, pp. 2157-2178.
12. Amardeep Singh Kang, Gurbhinder Singh, **Vikas Chawla**, “**Characterization and Mechanical Behavior of Reinforced Hydroxyapatite Coatings Deposited by Vacuum Plasma Spray on SS-316L Alloy**”, Journal of the Mechanical Behavior of Biomedical Materials., [ISSN: 1751-6161(Elsevier) Impact Factor 3.110], Vol. 79, 2018, pp 273-282.
13. Amardeep Singh Kang, Gurbhinder Singh, **Vikas Chawla**, “**Influence of post coating heat treatment on microstructural, mechanical and electrochemical corrosion behaviour of vacuum plasma sprayed reinforced hydroxyapatite coatings**”, Journal of the Mechanical Behavior of Biomedical Materials., [ISSN: 1751-6161(Elsevier) Impact Factor 3.110], Vol. 85, 2018, pp 20-36.
14. Vineet Shibe and Vikas Chawla, “**Characterization of Fe-C-Cr Based Hardfacing Alloys**”, Transactions of the Indian Institute of Metals, Springer, (ISSN: 0972-2815); Vol. 71 No, 9, September 2018 Issue, 2211-2220. (S.C.I. Indexed, Impact Factor 0.910 according to the Journal Citation Reports released by Thomson Reuters, <https://doi.org/10.1007/s12666-018-1352-6>, At Serial No. 36591 of the UGC list of approved journals, dated 10.01.2017. Vol. 71, No. 9, pp 2211-2220
15. Amardeep Singh Kang, Gurbhinder Singh, **Vikas Chawla**, “**Mechanical properties of vacuum plasma sprayed reinforced hydroxyapatite coatings on Ti-6Al-4V alloy**”, Journal of the Australian Ceramic Society (SCI, Impact Factor 0.76) , 2017, Volume 53, Issue 2, pp 795–810.

Academic Achievements & Awards:

- I.S.T.E. BEST ENGINEERING COLLEGE TEACHER AWARD FOR THE YEAR 2010; Indian Society for Technical Education (I.S.T.E.), New Delhi .
- YOUNG SCIENTIST AWARD (Engineering Section)-2011; Punjab Academy of Sciences, Patiala.
- BHARAT VIDYA SHIROMANI AWARD (Engineering Section)-2011; Indian Solidarity Council, New Delhi.
- INTERNATIONAL ACHIEVERS' AWARD for EDUCATION EXCELLENCE (Engineering Section)-2012; Indian Achievers Forum (www.iafindia.org), New Delhi.

Project Grants:

- Study of Plasma Sprayed Coatings with Nano-structured Materials; a project funded by A.I.C.T.E., New Delhi under NCP (Nationally Coordinated Programme) Scheme, 2006-2011 [Rs. 17.10 Lakhs].

Industrial Collaboration:

- ◆ Development of high temperature erosion-corrosion resistant thermal spray coatings for the power plant boilers in collaboration with Karan Boilers, Ambala (Hr.).
- ◆ Combating erosion of induced (I.D.) fans with some surface modification techniques for the power plant boilers in collaboration with Pressure & Process Boilers, Saharanpur (U.P).
- ◆ Development of high temperature erosion-corrosion resistant thermal spray coatings for the power plant boilers and similar applications in collaboration with the following industries:
 - Guru Nanak Dev Thermal Power Plant, Bathinda, Punjab, India
 - Anod Plasma Spray Pvt. Ltd., Kanpur, Uttar Pradesh, India
 - Oerlikon Balzers Coating India Limited, Gurgaon, Haryana, India

Membership of Professional Bodies:

- Life Member of Indian Society for Technical Education [I.S.T.E.], New Delhi.
- Life Member of Electron Microscope Society, Kolkata, West Bengal.
- Registered Graduate member of Panjab University, Chandigarh.
- Member of International Association of Engineers (IAENG membership No. 63531), U.S.A.
- Life Member of Punjab Academy of Sciences, Patiala, Punjab.

Contact Details:

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