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Udaya Bhat K



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Educational Qualifications:

B E (Metallurgical Engg) from NITK (formerly KREC), Mangalore University, 1992.

M E (Metallurgy) from Indian Institute of Science, Bangalore 1994.

Thesis title: "Laser Surface Treatment of Al-SiCp Composites"

MBA (Marketing Management) from IGNOU, New Delhi, 2002.

Thesis title: "A Study on Technology Selection and Management for Rural Areas"

Ph D: From Indian Institute of Science, Bangalore, 2008.

Thesis title "Studies on Dissimilar Metal Welding".

Professional Experience:

Sl No	Organisation	Duration	Position	Responsibilities
1	NITK Suratkal	March 10, 2015	Assoc Professor (AGP 9,500)	Teaching, Research, Consultancy
1	NITK Suratkal	Feb 11-Feb 15	Assoc Professor (AGP 9,000)	Teaching, Research, Consultancy
2	NITK Suratkal	June'08 –Feb' 11	Asst Professor	Teaching, Research, Consultancy
3	NITK Suratkal	Feb'08-May'08	Sel Grade Lecturer	Teaching, Research, Consultancy
4	NITK Suratkal	Feb'03-Feb'08	Senior Lecturer	Teaching, Research, Consultancy
5	NITK Suratkal	Feb '98-Feb '03	Lecturer	-do-
6	KIFL Hospet, Karnataka	July '94- Feb '98	Dy Manager	Incharge Melting shop
7	IISc., Bangalore	Feb '94- July 94	Project Asst	Development of Mg based composites

Research projects involved:

1.KSCST sponsored project on Laser Surface Modification of Rail Steels. Year:1998-99.

2. Co-Investigator in the MHRD sponsored project on Modernisation of Metallographic laboratory. Year:1999-2002.

3. Intra NIT (NITK Surathkal and NIT Tiruchy) research project on “High Temperature Wear and Corrosion Studies of Al-TiB₂ and Al-ZrB₂ Insitu composites”, in 2008.

4. Coordinator for DST-FIST project on Transmission Electron Microscopy, (SR/FST/ETI-257/2009 dtd 13-01-2010)

5. Laser Shock Peening technique for surface treatment of welded SS parts; Sponsor: Institute for Plasma Research, (Role:Co-PI) Amount. Rs. 15.24 lakhs (NFP2010-11/AUG/04 dtd 10-09-10)

5. Friction Stir Processing of Steels for Surface Alloying and Wear Resistance, Sponsor: Ministry of Defence - Naval Research Board, Role: PI, Amount: Rs. 7,95,800=00 (DNRD/05/4003/NRB/211 dtd 23-05-2011)

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Areas of interest: Dissimilar metal welding, Surface Engineering, Rapid solidification, Electron Microscopy.

List of papers(Reviewed):

57. Arun Augustin, K rajendra Udupa, Udaya Bhat K, Crystallite size measurement and micro-strain analysis of electrodeposited copper thin film using Williamson-Hall method, AIP Conf Proceed., 1728, 020492, 2016, <http://dx.doi.org/10.1063/1.4946543>

56. M. Sreejesh, H.S. Nagaraja and K Udaya Bhat, Hydrazine sensing properties of microwave synthesized grapheme/ZnO composites, AIP Conf Proceed., 1728, 020255, 2016, <http://dx.doi.org/10.1063/1.4946306>.

55. Pradeepa, Vidya S M, Srinivas Mutalik, Udaya Bhat K, Prashanth Huilgol, Kiran Avadhani, Preparation of gold nanoparticles by novel bacterial exopolysaccharide for antibiotic delivery, Life Sciences, 153, 2016, 171-179

54. Liju Elias, Udaya Bhat K, A Chitharanjan Hegde, Development of nanolaminated Ni-P alloy coatings for better corrosion protection RSC Advances. 2016, 6, 34005-34013 RA-ART-01-2016-001547.R1

53 R Roopesh, K Geedhika, J D Souza, S Anandhan, K U Bhat, M J Jaya, S B Fathima, R M Balakrishna, Optimised microwave assisted biosynthesis of silver nanoparticles from *Nothapodyles foetida* leaf extracts and its antimicrobial activities, J of Experimental nanoscience, March 2016. <http://dx.doi.org/10.1080/17458080.2016.1169445>

52. Udaya Bhat K. Rajendra K Udupa, S Prakrathi, Prashanth Huilgol Microstructure and impression creep behavior of Al based surface composite produced by friction stir

processing, *Trans Indian Inst Metals*, 69(2), 2016, 623-627, doi: 10.1007/s12666-015-0758-7

51. P Namanu, M Jayalakshmi, K Udaya Bhat, Low temperature synthesis of iron pyrite nanorods for photovoltaic applications, *J Mater Sci: Mater Electronics*, 30 July 2015, doi:10.1007/210854-015-525-y

50. Sunil meti, Udaya Bhat K, Rahman M R, Jayalakshmi M, Photocatalytic behavior of nanocomposites of sputtered titanium oxide film on graphene oxide nanosheets, *American Journal of Materials Science*, 2015 5 (3C) 12-18, doi: 10.5923/c.materials.201502.03

49. Arun Augustin, K Rajendra Udupa, Udaya Bhat K, Effect of pre-Zinc coating on the properties and structure of DC magnetron sputtered copper thin film on aluminum, *American Journal of Materials Science*, 2015 5 (3C) 58-61, doi: 10.5923/c.materials.201502.12

48. Komalakrishna H, Arun Augustin, Udaya Bhat K, Electron beam deposition of copper thin film on aluminum substrate and its characterization, *American Journal of Materials Science*, 2015 5 (3C) 19-24, doi: 10.5923/c.materials.201502.04

47. Raviraj M Kulkarni, Ramesh S Malladi, Manjunath SHanagadakar, Mrityunjay R Doddamani, Udaya Bhat K, Ag-TiO₂ nanoparticles for photocatalytic degradation of lomefloxacin. *Desalination and Water Treatment*, Aug 2015, 1-8. Doi:1080/19443994.2015.1076352.

46. Arun M Isloor, Valeen Rashmi Periera, Udaya K Bhat, Abdulrahman M Al-Obaid, Hoong Kun Fun, Ahmad Fauzi Ismail, Preparation and performance studies of polysulfone-sulfated nano-titania nanofiltrate membranes for dye removal, *RSC Advances*, 06/2015, doi: 10.1039/CSRA07994B, 53874-53885

45. Udaya Bhat K Aluminizing of mild steel plates *Encyclopedia of iron, steel and their alloys*, Tay & Franc, p2274-2284 doi 10.1081/E-EISA-120052687

44. N Jegadeeswaran, K udaya Bhat, M R Ramesh Improving hot corrosion resistance of cobalt based superalloy (Superco 605) using HVOF sprayed oxide alloy powder coating, *Trans Indian Inst Metal*, 309-316, 6/215, doi 10.1007/s12666-015-0605-x

43. Prabhukumar C, Jayalakshmi M, Udaya Bhat K Characterization of ZnO films produced by thermal evaporation and oxidation, *Materials Science Forum*, 830-831 2015 pp 403-406.

42. Arun Augustin, Udaya Bhat K, K Rajendra Udupa, A Chitharanjan Hegde, Electron microscopic study of nodules formed during electrodeposition of copper on aluminum, *Materials Science Forum*, 830-831 2015 pp. 371-374

41. Jalpa Patel, Prashant Huilpol, Nirav Jamnapura, Udaya Bhat K. Hot dip aluminizing of 9Cr-1Mo steels and their heat treatment, *Materials Science Forum*, vol 830-831 2015, pp143-146.
40. Udaya bhat K. Nithin, Suma Bhat, Sudeendran. Heat treatment of friction surfaced steel-aluminum couple, *Materials Science Forum*, 830-831 (2015) pp135-138.
39. Prakrathi S, Vineeth Krishna P, Rajendra Udupa K, Udaya Bhat K. Fabrication of Friction stir processed Al-Ni particulate composite and its impression creep behavior, *J of Composites*, 2015, Article ID 428630, 9 pages, <http://dx.doi.org/10.1155/2015/428630>
38. Sreejesh M, Udaya Bhat K and Nagaraja H S, Preparation and characterization of solar exfoliated grapheme, *AIP Conf Proceed.*, 1620, (2014), 536-540.
<http://doi.org/10.1063/1.4898293>
37. Tarunkumar Jugare, Arun Kumar, Satish V Kailas, Udaya Bhat K. Friction surfacing of mild steel-a feasibility study, *Procedia Materials Science*, 5, 2014, 1300-1307.
Doi:10.1016/j.mspro.2014.07.445, ISSN 2211-8128
36. N. Jegadeeswaran, M. R. Ramesh, K. Udaya Bhat, Oxidation Resistance HVOF Sprayed Coating 25% (Cr₃C₂- 25(Ni₂₀Cr)) + 75%NiCrAlY on Titanium Alloy, *Procedia Materials Science* 5 (2014) 11 – 20.
35. Valeen R Pereira, Udaya K Bhat, A F Ismail, Arun Isloor, “Preparation and antifouling properties of PVDF ultrafiltration membranes with polyaniline (PANI) nanofibers and hydrolysed PSMA (H-PSMA) as additives” *Desalination*, 351, 2014, 220-227
34. Jaya Mary Jacob, Raj Mohan B and Udaya Bhat K, Biosynthesis of Lead Selenide Quantum rods in Marine Environment: *Materials Letters*. Id- MLBLUE-S-13-08141. *Mater Lett* (2014), <http://dx.doi.org/10.1016/j.matlet.2014.03.106i>, 124, 2014, pp 279-281.
33. B. Shivamurthy, S. Anandhan and Udaya Bhat K Sliding Wear and Mechanical Properties of Alumina/Glass Fabric/Epoxy composites, *Polymer Bulletin* (Sept 23, 2013). Id- POBU-D-13-00496.
32. B. Ramachandra Bhat, L S Aravinda, K. Udaya Bhat, Flexible binder free functionalized carbon nanotube electrodes for ultracapacitors, *Proceed of SPIE*, vol 8987, 89871 K-1, 2014. (eds) F H Teherani, D C look, D J Rogers,
31. B. Shivamurthy, K. Udaya Bhat and S. Anandhan. Mechanical properties and sliding wear behavior of Jatropha seed cake waste /epoxy composites, *J of Materials Cycles and Waste management*, JMCW-D-13-00053R2. DOI 10.1007/s10163-014-0235-0

30. Janakiraman S. and Udaya Bhat K. On line Monitoring of Quality of Friction Surfacing, *Advanced Materials Research*, 2014, vol 875-877, 1285-1290. Doi:10.4028/www.scientific.net/AMR.875-977.1285.
29. Jayalakshmi M. and Udaya Bhat K. Effect of Nickel sulphate to Hypophosphite ratio on the electroless deposition of Ni-P coatings on aluminium, *Advanced Materials Research*, 2014, vol 875-877, 1300-1305, Doi:10.4028/www.scientific.net/AMR.875-977.1300.
28. Aravinda L S., Udaya Bhat K. and Ramachandra Bhat B, Porous MnO₂ nano whiskers bunch activated carbon based composite electrodes for high energy density supercapacitor, *ECS Solid State Letters*, 2013, 2, M61-M63. [10.1149/2.010311ssl](https://doi.org/10.1149/2.010311ssl)
- 27 M.S. Raju, H. Prashanth and K Udaya Bhat, Aluminising of mild steel using Al-11Si-1.2Cu baths, *International Journal of Earth Sciences and Engineering*, Aug 2013, vol 06, No 04, pp 717-721.
- 26 B. Shivamurthy, Gibin George, K. Udaya Bhat and S. Anandhan: Influence of nano-aluminum hydroxide on tribological, mechanical and flammability of E glass fabric/epoxy multilayered composites, *Kautschuk Gummi Kunststoffe (KGK)*, 2014, vol 6, p22-31..
25. N.Jegadeeswaran, MR ramesh, Udaya Bhat K, 'Combating corrosion degradation of turbine materials using HVOF sprayed 25% (Cr₃C₂-25(Ni₂₀Cr)) + NiCrAlY coating, *International journal of Corrosion*, 2013, Article ID 824659, 11 pages. <http://dx.doi.org/10.1155/2013/824659>.
24. LS Aravinda, K Udaya Bhat and B Ramachandra Bhat, 'Nano CeO₂/Activated carbon based electrodes for high performance supercapacitors', *Materials Letters*, 2013, vol 112, pp158-161. <http://dx.doi.org/10.1016/j.matlet.2013.09.009>.
23. Prashanth H., Suma Bhat and Udaya Bhat K, "Hot dip aluminizing of Low carbon steel using Al-7Si-2Cu Alloy baths", *Journal of Coatings*, 2013, Article id:180740. <http://dx.doi.org/10.1155/2013/180740> (5 pages)
22. Prakrathi S., Ravikumar Mairipally, K R Udupa and Udaya Bhat K, " Fabrication of hybrid surface composite through friction stir processing and its impression creep behaviour", *ISRN Materials Science.*, 2013. . <http://doi.org/10.1155/2013/541762> (6pages).
21. Prakrathi S., Rajendra Udupa K and Udaya Bhat K, "Microstructural characterization and Indentation creep behavior of friction stir modified Al surface with iron powder", *J of Metallurgy and Materials Science*, vol 55, no. 2, 2013. P 131-140
20. N. Jegadeeswaran¹, 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, June-2013, p214-220, ISSN 2259-5518.

19. N. Jegadeeswaran, M.R. Ramesh, and K. Udaya Bhat. "Hot corrosion studies on as-received and HVOF sprayed $\text{Al}_2\text{O}_3+\text{CoCrAlTaY}$ on Ti-31 alloy in salt environment *Procedia Engineering*, 2013, vol 64, pp1013-1019

18 N Jegadeeswaran, M R Ramesh, Udaya Bhat K and Prakrathi S, Hot corrosion behavior of HVOF sprayed Stellite-6 coatings on gas turbine alloys, *Trans Indian Institute of metals (TIIM-D-12-00159R)*, DOI: 10.1007/s12666-013—0317-z (7pages)2014 67 (1), ISSN: 0792-2815

17 Aravinda l S, Udaya Bhat k, Badekai Ramachandra Bhat, Binder free MoO_3 /multiwalled carbon nanotube thin film electrode for high energy density supercapacitors, *Electrochimica Acta*, 2013, vol 112, pp663-669. (No: *Electrochimica Acta*-S-13-01344)

16 L S Aravinda, K K nagaraja, K Udaya Bhat, badekai Ramachandra Bhat, Magnetron sputtered MoO_3 /carbon nanotube composite electrodes of electrochemical supercapacitors, *J of electroanalytical chemistry*, vol. 699, 2013, 28-32.

15 N. Sridhar and K Udaya Bhat, Effect of deposition time on the morphological features and corrosion resistance of electroless Ni-High P coatings on Aluminum, *J of Materials*, Vol. 2013, paper id: 985763 (7 pages), [http://dx. Doi. Org/10.1155/2013/985763](http://dx.doi.org/10.1155/2013/985763).

14. L S Aravinda, K K Nagaraja, H S Nagaraja, K Udaya Bhat, Ramachandra Bhat, ZnO /carbon nanotube nanocomposite for high energy density supercapacitors, *Electrochimica Acta*, 95, 2013, p119-124.

13. K. Udaya Bhat, Prashant Huilgol and J. Jithin. Aluminising of Mild Steel Plates, *ISRN Metallurgy*, Vol 2013, article ID 191723, 6 pages, doi. 10.1155/2013/191723

12. S Ramesh Bhat, K Udaya Bhat, A Chitharanjan Hegde, Layered coating of Zn-Co alloys on mild steel using triangular current pulses for better corrosion protection, *Trans Indian Institute Metals*, DOI 10.1007/s12666-013-0242-1.

11. Vaishaka R Rao, Chitharanjan hedge and K Udaya Bhat, Effect of heat treatment on structure and properties of multilayer Zn-Ni alloy coatings, *J Electrochem Sci Eng (jESE-6753872)*, open access: ISSN 1847-9286, pp1-15.

10. B. Shivamurthy, K. Udaya Bhat, S. Anandhan: Mechanical and sliding wear properties of multi-layered laminates from glass fabric/graphite/ epoxy composites, *Materials and Design*, 44 (2013), 136-143.

9. Janakiraman S. and Udaya Bhat K, Formation of composite surface during friction surfacing of steel with aluminium, *Advances in Tribology*, vol 2012, article ID 614278, 5 pages doi:10.1155/2012/614278.
8. B. Shivamurthy, S. Anandhan, K. Udaya Bhat.: Epoxy/glass fabric/silica hybrid composites: Mechanical properties and three body abrasive wear behavior; *Advanced Science, Engineering and Medicine*, vol 5, pp 1-6, 2013.
7. Jegadeeshwaran, Ramesh, Udaya Bhat K. Wear Studies On Wrought and Heat Treated Nimonic, Titanium and Superco Super Alloys, *Int J of Applied Sciences and Engineering Research (IJASER)*, February- May , 2011- Volume 1 Issue 1, 2012, pp106-117.
6. Venkat Ram Reddy, Bharath Dixit, Udaya Bhat K: Effect of deposition time on the characteristics of high phosphorous nickel deposit, deposited using electroless route; *Materials Science Forum*, v710 (2012) pp. 671-676.
5. Janakiraman S. Jayachandra Reddy, Sathish V Kailas and Udaya Bhat K.: Surface modification of steels using Friction stir surfacing; *Materials Science Forum*, v 710 (2012) pp258-263.
4. B. Shivamurthy, S. Anandhan and K Udaya Bhat. Fretting Wear of Composites, *Manufacturing Technology Today (MTT)*, v10, No 9, 2011pp17-21.
3. Ramesh Bhat, Udaya Bhat K. and A. Chitharanjan Hegde, Optimisation of Deposition Conditions for Bright Zn-Fe coatings and its Characterisation, *Protection of Metals and Physical Chemistry of Surfaces (New Substances, Materials, and Coatings)*, 2011, vol 47, No 5, pp 645-653.
2. Ramesh S. Bhat, Udaya Bhat K. A. Chittaranjan Hegde, Corrosion behaviour of electrodeposited Zn-Ni, Zn-Co and Zn-Ni-Co alloys, *Analytical and Bioanalytical Electrochemistry*, vol.3, No3, 2011, pp302-315.
1. S. Yogesha, K. Udaya Bhat and A Chitharanjan Hegde “ Effect of Current Density on Deposit Characters of Zn-Co alloy and their Corrosion Behaviours” *Synthesis and reactivity in Inorganic, Metal-Organic, and nano-metal chemistry*, 41, 7, March 9 2011, pp1-7

Papers (unreviewed)

6. Suma Bhat and Udaya Bhat K “ Cellular Materials”, *IIM Metal News*, Vol 12, No.2 April 2009, pp8-12.
5. Praveen, Abhinav Sharma and Udaya Bhat K, “ Characterisation of Aluminium Montoxic Polyethylene Composite’, *NITK Research Bulletin*, v17, No 2, Dec 2008, p1-4.

4. Udaya Bhat K “Smart Materials and Applications”, IIM Metal News, Vol 11, No.5, October 2008. p17-21.

3. Udaya Bhat K and M K Surappa: Laser surface modification of Al SiCp composites, J of Mat Sci., v39, No 8, 15April 2004, p 2795-2799.

2. Udaya Bhat K: Laser and its Applications in Materials Processing, IIM Metal News, v6, No 2 April 2003, p5-7.

1. Udaya Bhat K: Press-Pour: A boon for Indian Industries, in KREC research bulletin, vol 7, No 1, June 1998. Pp 19-21.

List of Ph.D guidance:

1. Prakruthi S (Full time) (along with Dr. K.R. Udupa): Topic: Friction stir processing of Al-Ni and Al-Fe for surface composites: Registration: 14-07-2008. **Defense:** Aug 2015
2. N Jegadeeshwaran (Part time, MT09P01) (along with Dr. Ramesh, Reva inst): Topic: Studies on the role of HVOF coatings to combat hot corrosion, oxidation, and erosion of materials used in turbine components, Registration: Aug 2009. **Defense:** Oct 2014
3. B Shivamurthy (Part time, MT09P03) (along with Dr. Anandhan S): Topic: Structure property relationship of Glass fabric/epoxy composites containing some micro and nanofillers. Registration: Jan 2010, **Defense** : Feb 18, 2015.
4. Aravinda (Full time, CY10F05) (along with Dr. Ramachandra Bhat, Chemistry dept): Topic: Carbon nanocomposite materials for supercapacitor. Registration: Aug 2010: **Defense:** Dec 2014
5. Prashanth H (Full time). Topic: Aluminising, Registration: Aug 2012.
6. Arun Augustin (Full time) (Along with Dr. K. R. Udupa), Topic: Copper deposition on Stainless steel for Bio-fouling applications, Registration: Aug 2012.
7. Jayalakshmi (Full time)(Along with Dr. R. Bhat, Chemistry dept), Topic: Solar energy harvesting for water treatment: Registration: Jan 2013.
8. Prabhukaumr (Full time), Microelectronics material synthesis: Registration: Aug 2014.
9. Manjunath (full time, Along with Dr. Pritham Kumar) ECAP of Al-Zn-Mag alloys, Registration: Jan 2014
10. Nandana M S (full time) Fatigue and Fracture, Registration Jan 2015.