

KARABI DAS

ADDRESS

Professor
Department of Metallurgical and Materials Engineering
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EDUCATION

- Ph.D. Metallurgical Engineering, University of Wisconsin – Madison, U.S.A., May 1994; G.P.A.= 3.94 out of 4.00
Research Topic: A Study of Metal Matrix Composites Based on Titanium Alloys.
- M.S. Metallurgical Engineering, University of Illinois at Urbana-Champaign, U.S.A., August 1989; G.P.A. = 5.0 out of 5.0
Research Topic: A study of the Effect of Second Phase Ti_3Al and Alloying Elements on the Deformation Mechanisms in $TiAl$.
- B.E. Metallurgical Engineering, BESU, Shibpur, University of Calcutta, India, July 1985. **First in First Class.**

POSITIONS HELD

- Professor**, Department of Metallurgical and Materials Engineering, Indian Institute of Technology – Kharagpur (12/08-present)
- Associate Professor**, Department of Metallurgical and Materials Engineering, Indian Institute of Technology – Kharagpur (8/04-12/2008)
- Assistant Professor**, Department of Metallurgical and Materials Engineering, Indian Institute of Technology – Kharagpur, (2/98-8/04)

RESEARCH AREAS

1. Metal matrix composites
2. Nanostructured materials through electrodeposition and mechanical alloying
3. Wear resistant steels
4. Functionally gradient material

RESEARCH GUIDANCE

Ph.D.	Completed – 11	In Progress – 8
M.Tech	Completed – 38	In progress – 3
M.S.	Completed – 1	
B.Tech	Completed - 41	In progress – 3

Ph.D. Students

Graduated

1. [K. S. Ghosh](#) (Co-Supervisor: Prof. U.K. Chatterjee)
Thesis: Characterisation of retrogression and reaging behaviour of 8090 and 1441 Al-Li-Cu-Mg-Zr alloys and studies on stress corrosion cracking of the retrogressed and reaged alloys
2. [T.K. Bandyopadhyay](#)
Thesis: Synthesis and Characterization of TiC/ZrC reinforced iron-based composites.”
3. [B.B. Panigrahi](#) (Co-Supervisor: Prof. M. M. Godkhindi).
Thesis: Studies on sintering kinetics of nanocrystalline titanium powder
4. [Sanjeev Das](#) (Co-Supervisor: Prof. S. Das).
Thesis: Synthesis and Characterization of Al-4.5 wt%Cu/ZrSiO₄ composite by stir casting route
5. [A.K. Prasada Rao](#) (Co-Supervisor: Prof. M. Chakraborty).
Thesis: On the grain refinement and modification of some hypoeutectic Al-Si alloys
6. [T.G. Durai](#) (Co-Supervisor: Prof. S. Das).
Thesis: Synthesis and characterization of aluminum matrix macro and nano composites reinforced by in-situ alumina particles
7. [A.K. Srivastava](#)
Thesis: Synthesis and characterization of TiC and (Ti,W)C reinforced high manganese austenitic steel matrix composites
8. [Ranjan Sen](#)
Thesis: Synthesis and characterization of pulse electrodeposited Ni-CeO₂ nano-composite coatings
9. [Ashutosh Sharma](#) (Co-Supervisor: Prof. S. Das).
Thesis: Development of ceria reinforced lead free tin based nanocomposites by pulse co-electrodeposition technique.
10. [Satyabati Das](#)
Thesis: Synthesis of negative thermal expansion material Y₂W₃O₁₂ and fabrication of low thermal expansion Cu/ Y₂W₃O₁₂ composite
11. [Renu Prava Dalai](#) (Co-Supervisor: Prof. S. Das)

Thesis: microstructure property relationship in thermo mechanically processed austenitic manganese steel and composites

PATENTS

1. A patent (No.233871) entitled “A Process for the Production of Ferrous Based Composite Materials” was granted on 16.04.2009 by the Patent Office, Govt. of India.
2. An electrolyte bath composition for whisker resistant tin plating on metal substrate : Filed (Ref : 1001/KOL/2013)
3. Porous nanostructured tin-antimony-copper based alloy electrodes as anode material for lithium batteries and methods there of : Filed (June 05, 2014) (Ref : 0613/KOL/2014)

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AWARDS AND ACHEIVEMENTS

1. 2015 Extraction & Processing Division Technology Award of the TMS (The Minerals, Metals and Materials Society of the USA).
2. MRSI Medal by the Materials Research Society of India in recognition of his significant contributions to the field of materials science and engineering (2009).
3. The Indranil award for Metallurgy by Mining, Geological and Metallurgical Institute of India for outstanding contribution to ferrous metallurgy (2002).
4. The Indranil Award of Metallurgy by Mining, Geological, and Metallurgical Institute of India for securing first position in B.E. (Metallurgy) from B.E. College, University of Calcutta, India (1985)
5. National Scholarship Scheme Certificate of Merit by Ministry of Education and Culture, Government of India, in recognition of high position secured at school leaving examination (1979 and 1981).

PUBLICATIONS IN REFEREED INTERNATIONAL JOURNALS

International

1. M. Aindow, **K. Chaudhuri (Das)**, S. Das and H.L. Fraser, "On the influence of stoichiometry and purity on the deformation mechanisms in the intermetallic compound TiAl, *Scripta Metallurgica et Materialia*, **24**, 1105-1108, (1990).
2. **K. Chaudhuri (Das)** and S. Das, "Deformation microstructure of Ti-52 at.% Al-3 at.5 V alloy," *Philosophical Magazine Letters*, **67**(3), 143-150, (1993).
3. **K. Chaudhuri (Das)** and J.H. Perepezko, "Microstructural study of the titanium alloy Ti-15Mo-2.7Nb-3Al-0.2Si (TIMETAL 21S)," *Metallurgical and Materials Transactions A*, **25A**, 1109-1118, (1994).
4. S. Das and **K. Chaudhuri (Das)**, "Deformation microstructure of γ -TiAl in the Ti-46Al-2V alloy," *Scripta Metallurgica et Materialia*, **32**, 201-206, (1995).
5. **K. Das** and S. Das, "Deformation mechanisms in the γ -TiAl phase present in the Ti-46Al-2V-0.4Er alloy," *Journal of Materials Science*, **34**, 2345-2349, (1999).
6. **K. Das** and S. Das, "Diffusional reactions during processing of TIMETAL 21S/Al₂O₃ composites," *Metallurgical and Materials Transactions A*, **30A**, 1437-1447, (1999).
7. **K. Das** and T.K. Bandyopadhyay, "Application of differential scanning calorimetry (DSC) kinetic methods to determine the kinetic parameters of a precipitation in a 60/40 brass," *Scripta Materialia*, **44**, 2597-2603 (2001).
8. **K. Das**, T. K. Bandyopadhyay, and S. Das, "A review on the various synthesis routes of TiC reinforced ferrous based composites," *Journal of Materials Science*, **37**, 3881-3892 (2002).
9. **K. Das**, P. Choudhury, and S. Das, "The Ti-Al-O (TITANIUM-ALUMINIUM-OXYGEN) system," *Journal of Phase Equilibria*, **23**, 525-536, (2002).
10. **K. Das** and S. Das, "Order-disorder transformation of the body centered cubic phase in the Ti-Al-X (Ta, Nb, or Mo) system," *Journal of Materials Science*, **38**, 3995-4002, (2003).
11. K.S. Ghosh, **K. Das** and U. K. Chatterjee, "Stress corrosion cracking (SCC) behaviour of retrogressed and reaged 1441 Al-Li-Cu-Mg-Zr alloy, *J Corrosion Sci & Engg.*, 2003 (Print Preview Available).
12. A. K. Prasad Rao, **K. Das**, B. S. Murty, and M. Chakraborty, "Effect of grain refinement on wear properties of Al and Al-7Si alloy," *Wear*, **257**, 148-153, (2004).
13. **K. Das**, T. K. Bandyopadhyay, S. Ghosh and A. B. Chattopadhyay, "Development of a cutting tool from an industrial waste," *Materials and Manufacturing Processes*, **19**, 313-328, (2004).
14. **K. Das** and T. K. Bandyopadhyay, "Synthesis and characterization of ZrC-reinforced iron-based composite," *Materials Science and Engineering A*, **379**, 83-91, (2004).

15. **K. Das** and T. K. Bandyopadhyay, "Effect of form of carbon on the microstructure of in situ synthesized TiC-reinforced iron-based composite," *Materials Letters*, **58**, 1877-1880, (2004).
16. T. K. Bandyopadhyay, S. Chatterjee and **K. Das**, "Synthesis and characterization of TiC-reinforced iron-based composites – Part I: on synthesis and microstructural characterization," *Journal of Materials Science*, **39**, 5735-5742, (2004).
17. T. K. Bandyopadhyay and **K. Das**, "Synthesis and characterization of TiC-reinforced iron-based composites – Part II: on mechanical characterization," *Journal of Materials Science*, **39**, 6503-6508, (2004).
18. K. S. Ghosh, **K. Das** and U. K. Chatterjee, "Studies on microstructural changes upon retrogression and reaging (RRA) treatment to 8090 Al-Li-Cu-Mg-Zr alloy," *Mat. Sci. and Tech.*, **20**, 825-834, (2004).
19. K. S. Ghosh, **K. Das** and U. K. Chatterjee, "Characterization of retrogression and reaging (RAA) behaviour of 8090 Al-Li-Cu-Mg-Zr alloy, *Metallurgical and Materials Transactions*, **35A**, 3681-3691, (2004).
20. R. K. Roy, S. Kar, **K. Das** and S. Das, "Microstructures and tensile properties of commercial purity aluminium alloy AA1235 under different annealing conditions," *Mat. Letters*, **59**, 2418-2422, (2005).
21. B. B. Panigrahi, M. M. Godkhindi, **K. Das**, P. G. Mukunda, V. V. Dabhade and P. Ramakrishna, "Sintering mechanisms of attrition milled nanocrystalline titanium powder," *J. of Materials Research*, **20**, 827-836, (2005).
22. B. B. Panigrahi, M. M. Godkhindi, **K. Das**, P. G. Mukunda and P. Ramakrishna, "Sintering kinetics of micrometric titanium powder," *Mat. Sci. and Engg. A*, **396**, 255-262, (2005).
23. **K. Das**, T. K. Bandyopadhyay, and S. Chatterjee, "Synthesis and characterization of austenitic steel matrix composite reinforced with in-situ TiC particles," *J. of Mat. Sci. Letters*, **40**, 5007-5010, (2005).
24. S. Das, S. Ghosh, A. Pandit, T. K. Bandyopadhyay, A. B. Chattopadhyay and **K. Das**, "Processing and Characterization of Plasma Sprayed Zirconia-Alumina-Mullite Composite Coating on a mild steel substrate," *J. of Mat. Sci. Letters*, **40**, 5087-5089, (2005).
25. P. Choudhury, **Karabi. Das** and Siddhartha. Das, "Evolution of as-cast and heat-treated microstructure of a commercial bearing alloy," *Mat. Sci. and Engg. A*, **398**, 332-343, (2005).
26. **K. Das** and S. Das, "The Ti-Al-Ta (Titanium-Aluminium-Tantalum) system," *J. of Phase Equilibria and Diffusion*, **26**, 322-329, (2005).

27. K.S. Ghosh, **K. Das** and U. K. Chatterjee, "Studies of Retrogression and Reaging (RRA) Behaviour in a 1441 Al-Li-Cu-Mg-Zr Alloy," Metallurgical and Materials Transactions A, **36**, 3477-3487, (2005).
28. R. K. Roy, S. Kar, **K. Das** and S. Das, "A study of precipitation and recrystallization behaviour of aluminium alloy AA1235," J. of Mat. Sci., **41**, 1039-1045, 2006.
29. K.S.Ghosh, **K.Das** and U.K. Chatterjee, "Retrogression and reaging and mechanical behaviour of a 1441 Al-Li-Cu-Mg-Zr alloy," Z of Metalkunde, 36, 1404-12, 2006.
30. Sanjeev Das, Siddhartha Das and **Karabi Das**, "Ageing behavior of Al-4.5 wt%Cu matrix alloy reinforced with Al₂O₃ and ZrSiO₄ particulate varying particle size", J. of Mat Sci. Lett., **41**, 5402-5406, 2006.
31. A. K. Prasad Rao, **K. Das**, B. S. Murty, and M. Chakraborty, "Microstructural and wear behaviour of hypoeutectic Al-Si alloy (LM25) grain refined and modified with Al-Ti-Cr-Sr master alloy," Wear, **261**, 133-139, 2006.
32. A. Anal, T. K. Bandyopadhyay, and **Karabi Das**, "Synthesis and characterization of TiB₂-reinforced iron-based composite," J. of Materials Processing and Technology, J. of Mat. Processing and Technology, **172**, 70-76, 2006.
33. Sanjeev Das, V. Udhayabanu, S. Das and **K. Das**, "Synthesis and characterization of zircon sand/Al-4.5wt%Cu composite produced by stir casting route", J. of Materials Science, **41**, 4668-4677, 2006.
34. K.S. Ghosh, **K. Das** and U. K. Chatterjee, "Electrochemical behaviour of Retrogressed and Reaged (RRA) 1441 Al-Li-Cu-Mg-Zr Alloys," J. of Applied Electrochemistry, **36**, 1057-1068, 2006.
35. T. K. Bandyopadhyay and **Karabi Das**, "Processing and characterization of ZrC-reinforced steel-based of composite," J. of Materials Processing and Technology, 178, 335-341, 2006.
36. Sanjeev Das, Siddhartha Das and **Karabi Das**, "Abrasive wear of zircon sand and alumina reinforced Al-4.5wt% Cu alloy matrix composites - a comparative study," Composite Science and Technology, 67, 746-751, 2007.
37. K.S. Ghosh, **K. Das** and U. K. Chatterjee, Calorimetric studies of 8090 and 1441 Al-Li-Cu-Mg-Zr alloys of conventional and retrogressed and reaged tempers, J. of Materials Science, 42, 4276-4290, 2007.
38. K.S. Ghosh, **K. Das** and U. K. Chatterjee, "Correlation of Stress Corrosion Cracking Behaviour with Electrical Conductivity and Open Circuit Potential in Al-Li-Cu-Mg-Zr Alloys, Materials and Corrosion, **58**, No. 3, 181-188, 2007.

39. T.G. Durai, **Karabi Das** and Siddhartha Das, "Synthesis and characterization of Al matrix composites reinforced by in-situ alumina particulates," *Mat. Sci. and Engg. A* 445-446,100-105, 2007.
40. T.G. Durai, **Karabi Das** and Siddhartha Das, "Synthesis and characterization of Al-Zn/Al₂O₃ nano powder composites, *J. of Nanoscience and Technology*, **7**, 1-5, 2007.
41. B.S.B.Reddy, **Karabi Das**, S. K. Pabi and Siddhartha Das, "Mechanical-Thermal Synthesis of Al-Ce/Al₂O₃ Nanocomposite powders," *Mat. Sci. and Engg. A*, 445-446, 341-346, 2007.
42. B.S.B.Reddy, I. Mal, S. Tewari, **Karabi Das** and Siddhartha Das, "Aqueous Combustion synthesis and characterization of nano-sized tetragonal zirconia single crystals," *Metallurgical and Materials Transactions A*, **38A**, 1786-1793, 2007.
43. T.G.Durai, **Karabi Das** and Siddhartha Das, "Effect of Mechanical Milling on the Corrosion Behavior of Al-Zn / Al₂O₃ p in NaCl Solution," *J. of Mat. Science*, **42**, 8209-8214, 2007.
44. B. B. Panigrahi, **K. Das**, M. M. Godkhindi, "Dilatometry of ball milled nickel nano powder during non-isothermal sintering," *Science of sintering*, **39**, 25-29, 2007.
45. B.S.B.Reddy, **Karabi Das**, and Siddhartha Das "A review on the synthesis of in-situ aluminum based composites by thermal, mechanical and mechanical-thermal activation of chemical reactions," *J. of Mat. Sci.*, **42**, 9366-9378, 2007.
46. T.G.Durai, **Karabi Das** and Siddhartha Das, "Wear Behavior of Nanostructured Al (Zn) / Al₂O₃ and Al (Zn)-4Cu / Al₂O₃ Composites Materials by Mechanical and Thermal Process," *Mat. Sci. and Engg. A*, **471**, 88-94, 2007.
47. B. B. Panigrahi, N.S. Reddy, **K. Das** and M. M. Godkhindi, Dilatometric sintering of Ti-2Al and Ti-5Al elemental powders, *J. of Mat. Sci. and Technol.*, **23**, 363-366, 2007.
48. K.S. Ghosh, **K. Das** and U. K. Chatterjee, "Kinetics of Solid State Reactions in Al-Li-Cu-Mg-Zr Alloys from Calorimetric Studies," *Metallurgical and Materials Transactions A*, **38**, 1965-1975, 2007.
49. A. K. Prasad Rao, **K. Das**, B. S. Murty, and M. Chakraborty, "Microstructure and the Wear Mechanism of grain refined Aluminum during Dry-sliding against steel disc," *wear*, **264**, 638-647, 2008.
50. A. K. Prasad Rao, **K. Das**, B. S. Murty, and M. Chakraborty, "Microstructural Features of as-cast A356 alloy inoculated with Sr, Sb modifiers and Al-Ti-C grain refiner simultaneously," *Materials Letters*, **62**, 273-275, 2008.
51. A. K. Prasad Rao, **K. Das**, B. S. Murty, and M. Chakraborty, "On the modification and segregation behavior of Sb in Al-7Si alloy during solidification," *Materials Letters*, **62**, 2013-2016, 2008.

52. T.G.Durai, **Karabi Das** and Siddhartha Das, "Corrosion Behavior of Al-Zn/Al₂O₃ and Al-Zn-X/Al₂O₃ (X= Cu, Mn) Composites Synthesized by Mechanical-Thermal Treatment," J. of Alloys and Compounds, **462**, 410-415, 2008.
53. B. S. B. Reddy, K. Rajasekhar, Mangam Venu, J. J. S. Dilip, Siddhartha Das, **Karabi Das**, "Mechanical activation assisted solid state combustion synthesis of in-situ aluminum matrix hybrid (Al₃Ni/Al₂O₃) nanocomposites," J. of Alloys and Compounds, **465**, 97-105, 2008.
54. T.G.Durai, **Karabi Das** and Siddhartha Das, "Al (Zn) – Cu / Al₂O₃ p insitu Metal- Matrix Composite Synthesized by displacement reactions," J. of Alloys and Compounds, **457**, 435-439, 2008.
55. B.S.B.Reddy, **Karabi Das**, Amal Kumar Dutta and Siddhartha Das "Pulsed co-electrodeposition and characterization of Ni based nanocomposites reinforced with combustion-synthesized, undoped, tetragonal-ZrO₂ particulates," Nanotechnology, **19**, 115603, 2008.
56. A.K. Srivastava and **Karabi Das**, "Microstructure and abrasive wear study of (Ti,W)C-reinforced high manganese austenitic steel matrix composite," Materials Letters, **62**, 3947-50, 2008.
57. A.K. Srivastava and **Karabi Das**, "Microstructural characterization of Hadfield austenitic manganese steel", Journal of Materials Science Letters, **43**, 5654-5658, 2008.
58. **Karabi Das** and L.K. Narnaware, "Synthesis and characterization of Al-4.5% Cu/Al₃Ti composites: Microstructure and ageing behaviors," Materials Science & Engineering A, **497**, 25-30, 2008.
59. Probir Saha, Debashis Tarafdar, Surjya K. Pal, Partha Saha, Ashok K. Srivastava and **Karabi Das**, "Modeling of wire-electro-discharge machining of TiC/Fe in-situ metal matrix composite using normalized RBFN with enhanced k-means clustering technique," Int. J. of Manufacturing Sci. and Technol., **43**, 107-116, 2009.
60. J. John Samuel Dilip, B.S.B. Reddy, Siddhartha Das, **Karabi Das**, "In-situ Al based bulk Nanocomposites by Solid-State Aluminothermic reaction in Al-Ti-O system," Journal of Alloys and Compounds, **475**, 178-183, 2009.
61. **Karabi Das** and L.K. Narnaware, "A Study of Microstructure and Tribological Behaviour of Al-4.5% Cu/Al₃Ti Composites," Materials Characterization, **60**, 808-816, 2009.
62. A. K. Prasad Rao, **K. Das**, B. S. Murty, and M. Chakraborty, "Al-Ti-C-Sr master alloy - A melt inoculant for simultaneous grain refinement and modification of hypoeutectic Al-Si alloys," Journal of Alloys and Compounds, **480**, 49-51, 2009.

63. A.K. Srivastava and **Karabi Das**, "Microstructural and mechanical characterization of in-situ TiC and (Ti,W)C-reinforced high manganese austenitic steel matrix composites," *Materials Science & Engineering A*, 516, 1-6, 2009.
64. A.K. Srivastava and **Karabi Das**, "In-situ synthesis and characterization of TiC-reinforced Hadfield austenitic manganese steel matrix composite," *ISIJ international*, 49, 1372-1377, 2009.
65. Sanjeev Das, **Karabi Das** and Siddhartha Das, "Abrasive wear behavior of Al-4.5wt.%Cu/(Zircon sand+Silicon carbide) Hybrid Composite," *Journal of Composite Materials*, 43, 2665-2672, 2009.
66. A.K. Srivastava and **Karabi Das**, "The abrasive wear resistance of TiC and (Ti,W)C – reinforced austenitic high manganese steel matrix in-situ composite," *Tribology International*, 43, 944-950, 2010.
67. Ranjan Sen, Ashutosh Sharma, Sumit Bhattacharya, Siddhartha Das and **Karabi Das**, "Synthesis and characterization of pulse co-electrodeposited nickel/ceria nanocomposites, *J. of Nanoscience and Nanotechnology*, 10, 4998-5003, (2010).
68. Ranjan Sen, Sumit Bhattacharya, Siddhartha Das and **Karabi Das**, "Effect of surfactant on the co-electrodeposition of the nano-sized ceria particle in the nickel matrix," *Journal of Alloys and Compounds*, 489, 650-658, 2010.
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71. Venu mangam, **Karabi Das** and Siddhartha Das, "Structure and properties of electrocodeposited Cu-CeO₂ nanocomposite thin films, *Materials Chemistry and Physics*, 120, 631-635, 2010.
72. Ranjan Sen, Siddhartha Das and **Karabi Das**, "Effect of current density on microstructure and hardness of Ni-CeO₂ nanocomposite coating synthesized by pulsed electrodeposition technique", *J. of Nanoscience and Nanotechnology*, 10, xx-xx, 2010.
73. Venu Mangam, Sumit Bhattacharya, **Karabi Das** and Siddhartha Das, "Friction and wear behavior of Cu-CeO₂ nanocomposite coatings synthesized by pulsed electrodeposition," *Surface Coating and Technology*, 205, 801-805, 2010.
74. Ranjan Sen, Siddhartha Das and **Karabi Das**, "Microstructural characterization of nano-sized ceria powders by X-Ray Diffraction analysis," *Met. Trans. A*, 42, 1409-1417, 2011.

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76. Ranjan Sen, Siddhartha Das and **Karabi Das**, "Effect of stirring rate on the microstructure and microhardness of Ni-CeO₂ nanocomposite coating and investigation of the corrosion property", *Surface and Coating Technol*, 205, 3847-3855, 2011.
77. Ranjan Sen, Siddhartha Das and **Karabi Das**, "Electrical resistivity measurement of micro/nano crystalline Ni and Ni-CeO₂ nanocomposite coatings using four probe method," *International Journal of Nanotechnology and Applications*", 4, 207-212, 2010.
78. Ranjan Sen, Siddhartha Das and **Karabi Das**, "Combustion and ball milled synthesis of rare earth nano-sized ceria powder," *Materials Sciences and Applications*", 2, 416-420, 2011.
79. Haribabu Palneedi, Venu Mangam, Siddhartha Das and **Karabi Das**, "Effect of fuel-to-nitrate ratio on the powder characteristics of nanosized CeO₂ synthesized by mixed fuel combustion method," *Journal of Alloys and Compounds*, 509, 9912-9918, 2011.
80. Ashutosh Sharma, Sumit Bhattacharya, Ranjan Sen, B.S.B. Reddy, H.-J. Fecht, **Karabi Das**, and Siddhartha Das, "Influence of current density on microstructure of pulse electrodeposited tin coatings," *Materials Characterization*, 68, 22-32, 2012
81. Ranjan Sen, Siddhartha Das and **Karabi Das**, "Influence of duty cycle on the microstructure and microhardness of pulse electrodeposited Ni-CeO₂ nanocomposite coating," *Materials Research Bulletin*, 47, 478-485, 2012.
82. A.K. Srivastava and **Karabi Das**, " In-situ synthesis, microstructure and properties of TiC & (Ti,W)C-reinforced Fe-Mn-Al austenitic steel matrix composites," *Journal of Materials Engineering and Performance*, Volume 21, Issue 11, pp.2438-2445, 2012.
83. Ranjan Sen, Siddhartha Das and **Karabi Das**, "Synthesis and properties of pulse electrodeposited Ni-CeO₂ nanocomposite," *Metallurgical Transactions A*, 43A, 3809-3823, 2012.
84. Ranjan Sen, Siddhartha Das and **Karabi Das**, "Influence of sodium saccharin on the microstructure of pulse electrodeposited Ni-CeO₂ nanocomposite coating" *J. of Nanoscience and Nanotechnology*, 12(10), 7944-49, 2012.
85. Probir Saha, Debashis Tarafdar, Surjya K. Pal, Partha Saha, Ashok K. Srivastava and Karabi Das, "Multi-objective optimization in wire-electro-discharge machining of TiC reinforced composite through Neuro-Genetic technique," *Applied Soft Computing* , 13, 2065-2074, 2013.
86. Ashutosh Sharma, Sumit Bhattacharya, Siddhartha Das, H.J. Fecht, Karabi Das, "Development of lead free pulse electrodeposited tin based composite solder coating

- reinforced with ex-situ cerium oxide nanoparticles," J. of Alloys and Compounds, 574, 609-616, 2013.
87. Ashutosh Sharma, Sumit Bhattacharya, Siddhartha Das and Karabi Das, "Fabrication of Sn-Ag/CeO₂ Electro-Composite Solder by Pulse Electrodeposition," Metallurgical and Materials Transactions A, 44, 5587-5601, 2013.
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 92. R. prava Dalai, Siddhartha Das and Karabi Das, "Development of TiC reinforced austenitic manganese steel," Canadian Metallurgical Quarterly, 53, 2014, 317-325.
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