

. Academic Contribution / Recognition

Supervision of Doctoral Studies

1. Influence of Minor Addition on The Shape Memory Effete of Some Copper Alloys (awarded).
2. Studies on The Mechanically Induced Amorphisation of Al Based Alloys and The Concerned Mechanisms (awarded).
3. Improvement of Mechanical Properties of Some Cu Added TI, B Microalloyed Dual Phase Steels For Automobile and Naval Applications (awarded).
4. Studies on the magnetic behaviour of some Cu-Ni-Co-Fe alloys (awarded).
5. Development of high strength bainitic steel (awarded)
6. A study on the effect of deformation on the performance of Ti-(49 at.% Ni) alloy. (awarded).
7. Structure-property correlation of Al alloys using soft computing technique (awarded).
8. Study on Cryogenic Deformation of copper. (awarded)
9. Development of high strength bainitic/martensitic-austenitic steels. (awarded).
10. Development of conducting polymer composites (awarded).
11. Mechanical alloying of immiscible systems by ternary additions (Submitted).

Projects completed as Principal Investigator/Co-Investigator:

1. University grant commission (UGC) - Development of a web based educational package for the study of surface and interfaces of material - 2001- 2.5 years - 3.65 lakhs
2. Council of Scientific and Industrial Research (CSIR) - Development of particulate dispersed metal matrix composites by thermal treatment of mechanical alloyed precursor – 2002 - 3 years - 5.79 lakhs
3. Indian Space Research Organization (ISRO)-Development of Nanocrystalline Al₂O₃ dispersed Cu – Matrix Composites-2004-3 years-9.0 lakhs
5. All India Council of Technical Education (AICTE) (As Co-PI) - Development of a Novel and Affordable Low Alloy Steel for Wear and Shock-resistant Applications – 2007 – 3 years - 8.0 lakhs
6. Nano Science and Technology Initiative, DST (As Co-PI) - Microscopic Investigation of Luminescence and Mechanical Properties of Nanostructured Porous Silicon - 2007 – 3 years - 69.0 lakhs
7. Tata Steel, Jamshedpur-Development of High Strength Martensite/Bainite – Austenite steels - 2007 - 2 years - 9.5 lakhs
8. Ministry of Steel, GoI, Development of Low Carbon High Strength Multiphase Steels (National facility for augmentation of expertise in steel research) (As Co-PI), Rs. 628.0 lakh.

Awards

1. Eminent Engineer, 2014, The Institution of Engineers (India).
2. MRSI Medal-2014
3. Metallurgist of the year, 2013, Ministry of Steel (GoI).
4. Metallurgical and Materials Division Medal, The Institution of Engineers (I), 2007.
5. Commonwealth Academic Staff Fellowship Award, 2004.
6. Metallurgical and Materials Division Medal, The Institution of Engineers (I), 2003.
7. Metallurgical and Materials Division Medal, The Institution of Engineers (I), 2002.
8. Guest Scientist at the University of Ulm under the financial supports from the Deutsche Forschung Gemeinschaft (G. W. Leibniz program Fe 313/11-1).
9. Best paper prize, at the 51st Annual Technical Meeting of the Indian Institute of Metals, Nov. 14-17, 1997, held in Jamshedpur, India.
10. Fellowship under the Quality Improvement Programme by All India Council of Technical Education.

Professional Membership

Life member, Indian Science congress Association

Member, Institute of Indian Foundrymen

Life Member, Indian Institute of Metal

Member, Institute of Engineers (I)

Member, ISTE

Member, Material Research Society of Indian

Publication

1. B. Mondal, S. Chabri, G. Sardar, N. Bhowmik, A. Sinha, P. P. Chattopadhyay, Magnetic and mechanical properties of Cu (75wt%)–316L grade stainless steels synthesized by ball milling and annealing, *Journal of Magnetism and Magnetic Materials* 381 (2015) 14-20.
2. A. Hazra, B. Bhowmik, K. Dutta, P. P. Chattopadhyay, P. Bhattacharyya Stoichiometry, Length, and Wall Thickness Optimization of TiO₂ Nanotube Array for Efficient Alcohol Sensing, *ACS applied materials and interfaces*, 7(18) (2015) 9336–9348
3. K. Dutta, P. P. Chattopadhyay, C. W. Lu, M. S. Ho, P. Bhattacharyya, A Highly Sensitive BTX Sensor based on Electrochemically Derived Wall Connected TiO₂ Nanotubes, *Applied Surface Science*, 354 (2015) 353–361
4. S. Chakraborty, S. Datta, S. K. Mukherjea, P. P. Chattopadhyay, Cooling Profile Analysis of Hot Strip Coil using Finite Volume Method. *Applied Mechanics and Materials*, 789-790 (2015) 494-500.
5. A. Sinha, G. G. Khan, B. Mondal, J. D. Majumdar, P. P. Chattopadhyay, Effect of Aluminum Coating on the Surface Properties of Ti-(~ 49 at. pct) Ni Alloy, *Metallurgical and Materials Transactions B* 46 (4) (2015) 1951-1958.
6. M. K. Tripathi, P. P. Chattopadhyay, S. Ganguly, Multivariate analysis and classification of bulk metallic glasses using principal component analysis, *Computational Materials Science* 107(2015) 79-87.
7. A. Patra, S. Ganguly, P. P. Chattopadhyay, S. Datta, Computational design and development of novel Al-Mg-Sc-Cr alloy, *Multidiscipline Modeling in Materials and Structures* 11 (3) (2015) 401-412.
8. S. Datta, M. Mahfouf, Q. Zhang, P. P. Chattopadhyay, N Sultana, Imprecise knowledge based design and development of titanium alloys for prosthetic applications, *Journal of the mechanical behavior of biomedical materials* 53 (2015) 350-365.
9. K. Dutta, B. Bhowmik, A. Hazra, P. P. Chattopadhyay, P. Bhattacharyya, An efficient BTX sensor based on p-type nanoporous titania thin films, *Microelectronics Reliability* 55 (3),(2015) 558-564.
10. G.. Anand, K.. Barai, R.. Madhavan P. P. Chattopadhyay, Evolution of Annealing Texture in Cryo-Rolled Copper, *Materials Science Engineering A*, 638 (2015) 114-120.

11. A. Hazra, P. P. Chattopadhyay, P. Bhattacharyya, Hybrid Fabrication of Highly Rectifying p-n Homojunction based on Nanostructured TiO₂, IEEE Electron Device Letters (IEEE),36 (5) (2015).
12. Subhas Ganguly, A. Patra, P. P. Chattopadhyay and S. Datta, New training strategies for neural networks with application to quaternary Al-Mg-Sc-Cr alloy design problems, Applied soft computing, 11(3) (2015).
13. B. N. Mondal, G. Sardar, D. N. Nath, P. P. Chattopadhyay, Ferromagnetic behavior of nanocrystalline Cu–Mn alloy prepared by ball milling, Journal of Magnetism and Magnetic Materials 371(2015)139-143.
14. H. Chakraborty, D. Ray, P. P. Chattopadhyay, Bulk and nano-mechanical behavior of silver and silver-CNT reinforced hybrid polymer composites, Polymer Composites, 2015 (DOI: 10.1002/pc.23452).
15. B. Mondal, S. Chabri, G. Sardar, N Bhowmik, A. Sinha, P. P. Chattopadhyay, Magnetic and mechanical properties of Cu (75wt%)–316L grade stainless steels synthesized by ball milling and annealing, Journal of Magnetism and Magnetic Materials 381 (2015) 14-20.
16. K. Dutta, P. P. Chattopadhyay, C. W. Lu, M. S. Ho, P. Bhattacharyya, A Highly Sensitive BTX Sensor based on Electrochemically Derived Wall Connected TiO₂ Nanotubes, Applied Surface Science, 354 (2015) 353–361
17. M. K. Tripathi, P .P. Chattopadhyay, S. Ganguly, Multivariate analysis and classification of bulk metallic glasses using principal component analysis,Computational Materials Science 107(2015) 79-87.
18. A. Patra, S. Ganguly, P. P. Chattopadhyay, S. Datta, Computational design and development of novel Al-Mg-Sc-Cr alloy, Multidiscipline Modeling in Materials and Structures 11 (3) (2015) 401-412.
19. S. Datta, M. Mahfouf, Q. Zhang, P. P. Chattopadhyay, N. Sultana, Imprecise knowledge based design and development of titanium alloys for prosthetic applications,Journal of the mechanical behavior of biomedical materials 53 (2015) 350-365.
20. Subhas Ganguly, A. Patra, P. P. Chattopadhyay and S. Datta, New training strategies for neural networks with application to quaternary Al-Mg-Sc-Cr alloy design problems, Applied soft computing, 11(3) (2015).
21. A. Hazra, B. Bhowmik, K. Dutta, V. Manjuladevi, R. K. Gupta, P. P. Chattopadhyay, P. Bhattacharyya, Structural and Optical Characterizations of Electrochemically Grown Connected and Free Standing TiO₂ Nanotube Array, Journal of Electronic Materials, 43(9) (2014)3229-3235.

22. H. Chakraborty, D. Ray, P. P. Chattopadhyay, Mechanical and tribological behavior of alumina and alumina-CNT reinforced hybrid unsaturated polyester composites, *Polymer Composites*, 2014 (DOI: 10.1002/pc.23329).
23. N. Sultana, S. Sikdar (Dey), P. P. Chattopadhyay, and S. Datta, Informatics based design of prosthetic Ti alloys, *Materials Technology: Advanced Biomaterials* 29(B1) (2014)B69.
24. G. Anand, Partha Dey, P.J.J. Kok, Debalay Chakraborty, Partha Protim Chattopadhyay, Architected Microstructures in Steel, *Material Science and Technology*, 2014, Vol 30 (9) 1086-1093.
25. A. Hazra, B. Bhowmik, K. Dutta, V. Manjuladevi, R. K. Gupta, P.P. Chattopadhyay, P. Bhattacharyya, Formation Mechanism of Anodically Grown Free-standing TiO₂ Nanotube Array under the Influence of Mixed Electrolytes, *Science of Advanced Materials*, 6 (2014) 714. .
26. Himel Chakraborty, Arijit Sinha, Nillohit Mukherjee, Dipa Ray and Partha Protim Chattopadhyay, Indentation and Scratch Behavior of Functionalized MWCNT–PMMA Composites at the Micro/Nanoscale, *Polymer Composites*, Volume 35 (5) (2014) 948–955.
27. P. P. Chattopadhyay, Microstructure based design of formable steels, *The Benaras Metallurgist*, 9 (2014) 43-52.
28. S. Datta and **P. P. Chattopadhyay**, Soft computing techniques in advancement of structural materials, *International Materials Review*, 58 Issue 8 (2013) 475.
29. Arijit Sinha, Bholanath Mondal, Bikas C. Maji, **Partha Protim Chattopadhyay**, Enhanced shape recovery in cryogenically treated martensitic Ti–Ni alloys, *Materials Science and Engineering A* **561** (2013) 338-343.
30. G. Anand, S. Datta, P. P. Chattopadhyay, Deterministic Approach for Microstructurally Engineered Formable Steels, *International Journal of Metallurgical Engineering* **2** (2013) 69-78.
31. B. N. Mondal, A. Basumallick, D. N. Nath, **P. P. Chattopadhyay**, Solubility and magnetic properties enhancement in bi-phase nanostructure Cu-Fe-Mn alloy, *Journal of Magnetism and Magnetic Materials*. **341** (2013) 40-44.
32. S. K. Ghosh, S. Jha, P. Mallick, P. P. Chattopadhyay, Influence of Mechanical Deformation and Annealing on Kinetics of Martensite in a Stainless Steel, *Materials and Manufacturing Processes* **28** (2013) 249-255.
33. Gautam Anand, Arijit Sinha and **Partha Protim Chattopadhyay**, On the plasticity of interstitial free steel subjected to cryogenic rolling followed by annealing, *Materials and Manufacturing Processes* **43** (2013) 242-248.

34. A.Sinha, S.Datta, P.C.Chakraborty and **P.P.Chattopadhyay**, Understanding the shape memory behavior in Ti-(~49at.%) Ni alloy by nanoindentation measurement, *Metallurgical and Materials Transactions A* **44** (2013) 1722-1729..
35. Arijit Sinha, Swati Sikdar (Dey), **Partha Protim Chattopadhyay** and Shubhabrata Datta, Optimization of mechanical property and shape recovery behavior of Ti-(~49 at. %) Ni alloy using ANN and GA, *Materials and Design* **46** (2013) 227–234.
36. Arijit Sinha, Bholanath Mondal, **Partha Protim Chattopadhyay**, Mechanical properties of Ti-(~49 at. %) Ni shape memory alloy: Part I Effect of cold deformation, *Materials Science and Engineering A* **561** (2013) 338-343
37. Arijit Sinha, Bholanath Mondal, **Partha Protim Chattopadhyay**, Mechanical properties of Ti-(~49 at. %) Ni shape memory alloy: Part II Effect of ageing treatment, *Materials Science and Engineering A* **561** (2013) 344-351.
38. Himel Chakraborty, Arijit Sinha, Nillohit Mukherjee, Dipa Ray and **Partha Protim Chattopadhyay**, A Study on nanoindentation and tribological behavior of multifunctional ZnO/PMMA nanocomposite, *Materials Letters* **93** (2013) 137-140.
39. B. N. Mondal, S.Chabri, A. Basumallick, **P. P. Chattopadhyay**, Influence of ternary addition of transition elements (Cr, Si and Mn) on the microstructure and magnetic properties of nano-structured Cu-Co alloy *Journal of Magnetism and Magnetic Materials*. **341** (2013) 40-44.
40. S.K.Ghosh, Shikhar, P.Mallick and **P. P. Chattopadhyay**, Influence of Mechanical Deformation and Annealing on Kinetics of Martensite in a Stainless Steel, *Materials and Manufacturing Processes* **28** (2013) 249-255.
41. Gautam Anand, Arijit Sinha and **Partha Protim Chattopadhyay**, Variation of tensile behavior of interstitial free steel rolled at cryogenic and room temperature, *Journal of the Institution of Engineers (India): Series D*, **93** (2012) 97-103.
42. S. Ganguly, O. A. Ojo, P. P. Chattopadhyay, D. Roy, Nano-intermetallic precipitated Al-based amorphous matrix composite design by artificial neural network analysis, *Journal of Materials Science Research* **1**(2012) 59-69.
43. K. Barai, C.S. Tiwary, **P.P. Chattopadhyay**, K. Chattopadhyay, Synthesis of free standing nanocrystalline Cu by ball milling at cryogenic temperature, *Materials Science and Engineering A* **558** (2012) 52.
44. Himel Chakraborty, Arijit Sinha, Nillohit Mukherjee, and **Partha Protim Chattopadhyay**, Exfoliated graphite reinforced PMMA composite: A study on nanoindentation and scratch behavior, *Journal of Nanotechnology*, doi:10.1155/2012/940516.

45. A.Sinha and **P. P. Chattopadhyay**, Nanomechanical response of martensite in Ti-(~49 at. %) Ni alloy, *Materials Science and Engineering A* **552** (2012) 540.
46. B.N. Mondal, S. Chabri, A. Basumallick, **P.P. Chattopadhyay**, Influence of ternary addition of transition elements (Cr, Si and Mn) on the microstructure and magnetic properties of nano-structured Cu–Co alloy, *Journal of Magnetism and Magnetic Materials* **324** (2012) 2776.
47. B.N.Mondal, R.Bhattacharyay, D.N.Nath, **P. P. Chattopadhyay**, Magnetic response of Cu (25 wt.%)–316 grade stainless steel processed by ball milling, *Journal of Non-Crystalline Solids* **358** (2012) 810-813.
48. N.Bhowmik, S.K.Ghosh, A.Halder and **P.P.Chattopadhyay**, Low carbon high manganese bainitic steel, *Materials Science and Technology* **28** (2012) 282-287.
49. S.K.Ghosh, P.Mallick and **P. P. Chattopadhyay**, Effect of Cold Deformation on Phase Evolution and Mechanical Properties in an Austenitic Stainless Steel for Structural and Safety Applications, *Journal of Iron and Steel Research International* **19** (2011) 63-68.
50. S.K.Ghosh, P.Mallick and **P. P. Chattopadhyay**, Effect of reversion of strain induced martensite on microstructure and mechanical properties in an austenitic stainless steel, *Journal of Materials Science* **46** (2011) 3480-3487.
51. A.Sinha, A. Samanta, I.Manna, W. Lojkowski and **P. P. Chattopadhyay**, Micromechanical Characterization of Bulk Composite Prepared by Sintering of Mechanically Alloyed Aluminum-316 Stainless Steel (35wt%) Powder Blend (2011), *Materials Science and Engineering A*, **528** (2011) 6034.
52. D.Roy, A.Sinha, **P. P. Chattopadhyay** and I. Manna, Nanoindentation behavior of bulk metastable Al₆₅Cu₂₀Ti₁₅ alloy prepared by consolidation of the ball milled powder (2011), *Materials Science and Engineering A* **528** (2011) 8047.
53. Arijit Sinha, Shubhabrata Datta and **Partha Protim Chattopadhyay**, Study of Nanomechanical Properties of Ni-Ti Shape Memory Alloy by Instrumented Indentation Technique (2011), *International Journal of Nanoscience*, **10** (2011) 955.
54. Gobinda Gopal Khan, Arijit Sinha, A.Basumullick and **P.P.Chattopadhyay**, Photoluminescence of the electrochemically grown porous oxide layer on the NiTi alloy surface (2011), *Journal of Tribology and Surface Engineering*, **2** (2011)109.
55. N.Bhowmik, S.K.Ghosh, A.Halder and **P.P.Chattopadhyay**, High strength low carbon hot rolled δ -ferritic steel, *Materials Science and Technology* **27** (2011) 1718-1723.

56. S.K.Ghosh,P.Mallick and **P.P.Chattopadhyay**,Effect of reversion of strain induced martensite on microstructure and mechanical properties in an austenitic stainless steel, *Journal of Materials Science*, **46** (2011)3480.
57. B. N. Mandal, A. Basumallick, **P. P. Chattopadhyay**, Effect of Mn on the microstructure and mechanical behavior of Cu-Fe-Co alloy, *Metallurgical and Materials Transaction A*, **42A** (2011) 517.
58. B.N. Mondal, A. Basumallick, **P. P. Chattopadhyay**, Correlation of microstructure and magnetic properties in Cu-Co-Ni alloys, *Materials Science and Engineering B*,**166** (2010) 174.
59. S. K. Ghosh, N. Bhowmik, A. Haldar and **P. P. Chattopadhyay**, Effects of Cu addition on the synergistic effects of Ti - B in thermo mechanically processed low carbon steels, *Materials Science and Engineering A*, **527** (2010) 1082.
60. S. K. Ghosh, A. Haldar and **P. P. Chattopadhyay**: Effect of ageing on the mechanical properties of directly quenched copper bearing microalloyed steels, *Materials Chemistry and Physics*, **119** (2010) 436
61. A. Patra, S. Ganguly, M.S. Kaiser, **P.P. Chattopadhyay** and S. Datta: Effect of Quaternary Zirconium Addition on Mechanical Properties of Al -6Mg-Sc (0.2-0.6 wt %) Alloy Studied by ANN Technique, *Int. J. Mechatronics and Manufacturing Systems*, **3** (2010) 144.
62. D. Das and **P. P. Chattopadhyay**, Influence of martensite morphology on the work-hardening behavior of high strength ferrite–martensite dual-phase steel, *Journal of Materials Science*, **44** (2009) 2957-2965. (*Springer; Impact Factor-1.7*).
63. D. Das and **P. P. Chattopadhyay**, Tensile deformation behavior of bulk ultrafine grained copper, *International Journal of Materials Science*, **4** (2009) 405.
64. D. Das, S. Banerjee and **P. P. Chattopadhyay**, Correlation of microstructure with mechanical properties of high-martensite dual-phase steel, *International Journal of Materials Science*, **4** (2009) 419.
65. S. K. Ghosh, A. Haldar and **P. P. Chattopadhyay**, On the copper precipitation behaviour in thermomechanically processed low carbon microalloyed steels; *Materials Science and Engineering A* **519** (2009) 88.
66. B.N. Mondal, A. Basumallick, D.N.Nath, **P. P. Chattopadhyay**, Phase evolution and magnetic behavior of Cu-Ni-Co-Fe quaternary alloys synthesized by ball milling, *Materials Chemistry and Physics*, **116** (2009) 358.
67. Mallar Ray, Kakali Jana, N.R. Bandyopadhyay, S.M. Hossain, Daniel Navarro-Urrios, **P.P. Chattyopadhyay**, Martin A. Green, Blue-violet Photoluminescence from colloidal Suspension of Nanocrystalline Silicon in Silicon Oxide Matrix, *Solid State Communications*,**149** (2009) 352.

68. S. Ganguly, S. Datta, **P.P. Chattopadhyay** and N. Chakraborti: Designing the Multiphase Microstructure of Steel for Optimal TRIP Effect: A Multi-objective Genetic Algorithm Based Approach, *Materials and Manufacturing Processes*, **24** (2009) 31.
69. K. P. Das, S. Ganguly, **P. P. Chattopadhyay**, S. Tarafder and N. R. Bandyopadhyay: Exploring the Possibilities of Development of Directly Quenched TRIP-aided Steel by ANN Technique, *Materials and Manufacturing Processes*, **24** (2009) 68.
70. M. Kundu, S. Ganguly, S. Datta and **P.P. Chattopadhyay**, Simulating Time Temperature Transformation Diagram of Steel Using Artificial Neural Network, *Materials and Manufacturing Processes*, **24** (2009) 169.
71. S. Dey, S. Datta, **P.P. Chattopadhyay** and J. Sil, Modeling the property of TRIP steel using AFIS: A distributed approach, *Computational Materials Science*, **43** (2009) 501-511.
72. S. K. Ghosh, S. Ganguly, **P. P. Chattopadhyay** and S. Datta, Effect of Copper and Microalloying (Ti, B) Addition on Tensile Properties of HSLA Steels Predicted by ANN Technique, *Iron Making and Steel Making*, **36** (2) (2009) 125.
73. S. K. Ghosh, **P. P. Chattopadhyay**, A. Haldar, The Influence of Cu Addition on Microstructure and Mechanical Properties of Thermomechanically Processed Microalloyed Steel, *J. Mater Sc.*, **44** (2009) 580.
74. S. K. Ghosh, A. Haldar, S. Ganguly and **P. P. Chattopadhyay**, Development of High Strength Cu – Ni - Ti - B Multiphase Steel by Direct Air – Cooling, *Metallurgical and Materials Transaction A*, **39A** (2008) 2555.
75. S. K. Ghosh, A. Haldar and **P. P. Chattopadhyay**, Effect of pre - strain on the ageing behavior of directly quenched copper containing microalloyed steel, *Materials Characterization*, **59** (2008) 1227.
76. I.Manna, **P.P. Chattopadhyay**, F. Banhart, J. Croopnick and H.-J. Fecht, Microstructural Evolution of Wear-resistant FeCrB and FeCrNiCoB Coating Alloys during High-energy Mechanical Attrition, *Wear* **264** (2008) 940.
77. B.N. Mondal, A. Basumallick and **P.P.Chattopadhyay**, Magnetic Properties of Binary Cu₅₀-(Ni, Fe and Co)₅₀ Alloys Prepared by Ball Milling and Isothermal Annealing, *Materials Chemistry and Physics*, **110** (2008) 490.
78. S. K. Ghosh, S. Ganguly, **P. P. Chattopadhyay** and S. Datta, Determination of M_s Temperature In Copper Bearing Microalloyed Steel By ANN Technique, *Canadian Metallurgical Quarterly*, **47** (2008), 91.
79. S. K. Ghosh, **P. P. Chattopadhyay**, A. Haldar, S. Ganguly and S. Datta, Design of the Directly Air – Cooled Pearlite - Free Multiphase Steel from CCT Diagrams

- Developed Using ANN and Dilatometric Methods, *ISIJ International*, **48** (2008) 649.
80. B.N.Mondal, A. Basumallick, **P. P. Chattopadhyay**, Magnetic Behavior of Nanocrystalline Cu-Ni-Co Alloys Prepared by Mechanical alloying and Isothermal Annealing, *Journal of Alloys and Compounds* **457** (2008)10.
 81. S. K. Ghosh, A. Haldar and **P. P. Chattopadhyay**, Dilatometric Studies on Copper Added Titanium – Boron Steels, *Steel Research International*, **78** (2007) 903.
 82. S. K. Ghosh, A. Haldar and **P. P. Chattopadhyay**, Effect of Pre - strain on the Ageing Behaviour of Directly Air–Cooled Copper Added Titanium–Boron Microalloyed Steels, *Materials Science and Technology*, **23** (2007) 929.
 83. S. K. Ghosh, A. Haldar and **P. P. Chattopadhyay**, Effect of Copper Additions in Directly Quenched Titanium – Boron Steels, *Journal of Materials Science*, **42** (2007) 9453.
 84. S. K. Ghosh, A. Haldar and **P. P. Chattopadhyay**, Mechanical Properties of Directly Air Cooled Copper Added Microalloyed Steels, *Materials Science and Technology*, **23** (2007)1375.
 85. B.N.Mondal, A. Basumallick and **P. P. Chattopadhyay**, Effect of Isothermal Treatment on the Magnetic Behavior of Nanocrystalline Cu – Ni – Fe Alloy Prepared by Mechanical Alloying, *Journal of Magnetism and Magnetic Materials*, **307** (2007)290.
 86. A. Samanta, I. Manna and **P. P. Chattopadhyay**, Phase Evolution in Al – Ni – (Ti, Nb, Zr) Powder Blends by Mechanical Alloying, *Materials Science and Engineering A*, **464** (2007)306.
 87. D. Das, A. Samanta and **P. P. Chattopadhyay**, Synthesis of Bulk Nano-Al₂O₃ Dispersed Cu-Matrix Composite Using Ball Milled Precursor, *Materials and Manufacturing Processes*, **22** (2007) 517.
 88. A. Samanta, **P. P. Chattopadhyay**, H. –J. Fecht and I. Manna, Development of Amorphous Phase Dispersed Al-Rich Composites by Rolling of Mechanically Alloyed Amorphous Al-Ni-Ti Powders with Pure Al, *Materials Chemistry and Physics*, **104** (2007) 434.
 89. **P. P. Chattopadhyay**, A. Samanta, W. Lojkowski H. –J. Fecht and I. Manna, Microstructure/Phase Evolution in Mechanical Alloying/Milling of Stainless Steel and Aluminium Powder Blends, *Metallurgical and Materials Transaction A*, **38** (2007) 2298.
 90. A. Sinha, S. Datta and **P.P. Chattopadhyay**, Development and Characterization of Ni-Ti dispersed Aluminum matrix composite, (received the best paper award) *J.IE (I), MM Div*, **87** (2006), 7.

91. D. Das, A. Samanta and **P. P. Chattopadhyay**, Mechanical Properties of Bulk Ultrafine-Grained Copper, *Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry*, **36** (2006) 221.
92. D. Das, A. Samanta, **P. P. Chattopadhyay**, Deformation behavior of bulk ultra fine grained Cu prepared by sub – zero rolling and controlled recrystallisation, *Materials and Manufacturing Processes*, **21** (2006) 698.
93. Debdulal Das, Asis Samanta and **Partha Protim Chattopadhyay**, Properties of Bulk Ultrafine-Grained Copper, *Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry* (SRINMC), USA, **36** (2006) 221.
94. S.K. Ghosh, S. Ganguly, **P.P. Chattopadhyay** and S. Datta: Modelling the effect of Cu in microalloyed DP steel through neural network and neuro-fuzzy systems – *ISIJ International*, **45** (2005), 1345.
95. A. Samanta, **P. P. Chattopadhyay**, W. Lojkowski , H. J. Fecht and I. Manna, Microstructural Evolution During Mechanical Alloying and Hot Pressing of Aluminium and 316 Stainless Steel Powder Blend, *High Pressure Technology of Nanomaterials*, September, (2005) 211.
96. A.K. Bhuniya, **P.P.Chattopadhyay**, S.Datta and M.K.Banerjee, Study on the effect of trace Zirconium addition on the microstructural evolution in Cu-Zn-Al shape memory alloy, *Material Science and Engineering A* **391** (2005) 34.
97. A.K. Bhuniya, **P.P.Chattopadhyay**, S.Datta and M.K.Banerjee, On the degradation of shape memory effect in trace Ti - added Cu-Zn-Al alloy, *Materials Science and Engineering A*, **393** (2005) 125.
98. I. Manna, **P. P. Chattopadhyay**, P. Nandi, P. M. G. Nambissan, Positron lifetime studies of the hcp to fcc transformation induced by mechanical attrition of elemental titanium, *Physics letter A*, **328** (2004) 246.
99. I. Manna, **P. P. Chattopadhyay**, F. Banhart, H.–J. Fecht, Development of Al-Cu-Zr Amorphous Alloy and Nano-dispersed Composites by Mechanical Attrition, *Materials Science and Engineering .A* **397** (2004), 360.
100. S. K. Ghosh, A. Samanta and **P. P. Chattopadhyay**, Effects of ageing treatment on the microstructure and mechanical properties of Cu-added Ti, B microalloyed steels, *Transaction of the Indian Institute of Metals* **57** (2004) 171.
101. S. K .Ghosh , N. R. Bandopadhyay and **P. P.Chattopadhyay**, Effects of finish rolling temperature on the microstructures and mechanical properties of as hot rolled Cu – added Ti, B microalloyed dual phase steels, *Journal of the Institution of Engineers (India)*, vol. **85** (2004) 41.
102. I. Manna, **P. P. Chattopadhyay**, F. Banhart, H. –J. Fecht, Solid state synthesis of amorphous and/or nanocrystalline Al₄₀Zr₄₀Si₂₀ alloy by mechanical alloying, *Materials Letters*, **58** (2004) 403.

103. I. Manna, **P. P. Chattopadhyay**, F. Banhart, H. –J. Fecht, Solid State Synthesis of Al-based Amorphous and Nanocrystalline Al-Nb-Si and Al-Zr-Si Alloys, *Zeitschrift für Metallkunde* **94** (2003) 835.
104. P. Nandi, **P. P. Chattopadhyay**, S. K. Pabi and I. Manna, Solid State Synthesis of Al-based Amorphous and Nanocrystalline Al-Cu-Nb Alloys, *Materials Science and Engineering A* **359** (2003) 11.
105. I. Manna, **P. P. Chattopadhyay**, P. Nandi, F. Banhart, H. –J. Fecht, A Polymorphic HCP to FCC Change in Titanium by Mechanical Milling, *Journal of Applied Physics*, **93** (2003) 1520.
106. D. Das, **P. P. Chattopadhyay** and N. R. Bandopadhyay, On the Modification of Martensite Morphology in High-Martensite Dual Phase Steels for the improvement of Mechanical Properties, *Journal of the Institution of Engineers (India)*, **84** (2003), 84
107. I. Manna, **P. P. Chattopadhyay**, F. Banhart and H. –J. Fecht, Formation of face-centered-cubic zirconium by mechanical attrition, *Applied Physics Letter* **81** (2002) 4136.
108. **P. P. Chattopadhyay** and I. Manna, Effect of Partial Substitution of Cu in Al₆₅Cu₃₅ by Transition Metal in Mechanical Alloying of Al₆₅Cu₂₀TM₁₅, *Materials and Manufacturing Processes* **17** (2002) 583.
109. **P. P. Chattopadhyay**, S. Datta, M. K. Banerjee, On the Formation of V-Phase in Mechanically Alloyed AlSiMg-SiC_p Metal Matrix Composite with Trace Scandium Addition, *Material Science and Engineering A*, **333** (2002) 67.
110. **P. P. Chattopadhyay** and I. Manna, A Thermodynamic Model on the BCC to FCC Polymorphic Change in Niobium due to Nanocrystallization by Mechanical Alloying, *Key Engineering Materials* **227** (2002) 87.
111. **P. P. Chattopadhyay**, S. K. Pabi, H. J. Fecht and I. Manna, Phase Evolution in Binary Al-Cu (20 – 70 at. % Al) and Ternary Al₆₅Cu₂₀TM₁₅ Alloys by Mechanical Alloying (invited article and received the best paper award), *Journal of Institute of Engineers (I)* **83** (2002) 35.
112. S. K. Ghosh, D. Das and **P. P. Chattopadhyay**, Structure Property Correlation of Ti, B Microalloyed Dual Phase Steels, (received the best paper award), *Journal of Institute of Engineering (I)*, **82** (2001) 50.
113. P. Nandi, **P. P. Chattopadhyay**, S. K. Pabi and I. Manna, Development of Amorphous and Nano-aluminide Dispersed Al-matrix Composites By Mechanical Alloying, *Materials Physics and Mechanics*, **4** (2001) 116.
114. I. Manna, **P. P. Chattopadhyay**, B. Chatterjee, S. K. Pabi, Codeposition of nanocrystalline aluminides on a copper substrate, *Journal of Materials. Science*, **36** (2001) 1419.

115. **P. P. Chattopadhyay**, R. N. R. Gannabattula, S. K. Pabi and I. Manna, Development of Amorphous Al₆₅-Cu_{35-x}-Ti_x Alloys by Mechanical Alloying, *Scripta Materials*, **45** (10) (2001) 1191.
116. **P. P. Chatterjee**, I. Manna, S. Talapatra and S. K. Pabi, A Mathematical Analysis of Milling Mechanics in a Planetary Ball Mill, *Materials Chemistry and Physics*, **68** (2001) 85.
117. **P. P. Chattopadhyay**, P. M. G. Nambissan, S. K. Pabi and I. Manna, A Polymorphic bcc to fcc Transformation of Nanocrystalline Niobium Studied by Positron Annihilation, *Physical Review B*, **63** (2001) 54107.
118. **P. P. Chattopadhyay**, P. M. G. Nambissan, S. K. Pabi and I. Manna, Polymorphic Transformation and Lattice Expansion in Nanocrystalline Niobium Revealed by Positron Annihilation at Grain Boundary, *Applied Surface Science* **182** (2001) 308.
119. **P. P. Chattopadhyay**, S. K. Pabi, I. Manna, On the enhancement of diffusion kinetics in nanocrystalline materials, *Materials Chemistry and Physics*, **68** (2001) 80.
120. S.K. Ghosh, D. Das, **P. P. Chattopadhyay**, Structure Property Correlation of Ti, B Microalloyed Dual Phase Steels, *Journal of the Institution of Engineers (India)*, **82** (2001) 50.
121. **P. P. Chatterjee**, S. K. Pabi and I. Manna, A Metastable Allotropic Transformation in Nb Induced by Planetary Ball Milling, *Materials Science and Engineering A* **304-306** (2001) 424.
122. **P. P. Chattopadhyay**, S. K. Pabi and I. Manna, On the Inverse Hall-Petch Relationship in Nanocrystalline Materials, *Z. Metallkde.* **91** (2000) 1049.
123. I. Manna, **P. P. Chatterjee**, V. Srinivasa Rao and S. K. Pabi, Codeposition of Nanocrystalline NbAl₃ Particles on Cu, *Scripta Materials*, **40** (1999) 409.
124. D. Das, **P. P. Chatterjee**, I. Manna and S. K. Pabi, A Measure of Enhanced Diffusion Kinetics in Mechanical Alloying of Cu-18 at.% Al by Planetary Ball Milling, *Scripta Materialia*, **41**(1999) 861.
125. **P. P. Chatterjee**, S. K. Pabi and I. Manna, An Allotropic Transformation Induced by Mechanical Alloying, *Journal Applied Physics*, **86** (1999) 5912.
126. **P. P. Chattopadhyay**, Study of Directional Growth Behavior in Zn-Al alloy withy chill based solidification, *Journal of Institute Indian Foundrymen*, **22** (1994).
127. **P. P. Chattopadhyay** and B. Ghosh, A Computer Aided Study of Solidification in Steel Casting, *Transaction of Indian Insttitude of Metals*, **4** (1991) 475.

CONFERENCE PROCEEDINGS (PEER REVIEWED):

1. K. Dutta, A. Hazra, B. Bhowmik, **P.P. Chattopadhyay**, P. Bhattacharyya, Mixed Electrolyte: A Controllable Route for Achieving Better Aspect Ratio of TiO₂ Nanotubes, International Union of Materials Research Society - International Conference in Asia - 2013 (IUMRS-ICA 2013), Indian Institute of Science, Bangalore, India, December 16-20, 2013.
2. Gautam Anand, Debalay Chakraborty, **Partha Protim Chattopadhyay**, Architected Microstructures in Steel, Adventures in Physical Metallurgy of Steels, 23-25 July, 2014 Christ College, University of Cambridge, U. K.
3. Arijit Sinha, Shubhabrata Datta and **Partha Protim Chattopadhyay**, Nanomechanical response of martensite in cryogenically rolled Ti-(~49 at. %) Ni alloy at the 3rd Asian Symposium on Materials and Processing (ASMP) organized by Division of Materials and Processing, Japan Society of Mechanical Engineers and Indian Institute of Technology Madras, Chennai, India, August 30-31, 2012.
4. N. Bhowmik, S Das, S. K. Ghosh, **P. P. Chattopadhyay** and A. Haldar, Evolution of microstructures and properties in high Mn bainitic steel, International Conference on High Manganese Steels, May 15-18, Seoul, South Korea, 2011.
5. N. Bhowmik, S. Das, S. K. Ghosh, **P. P. Chattopadhyay** and A.Haldar, Development of low carbon high strength high ductility steel, International Conference on High Manganese Steels, May 15-18, Seoul, South Korea, 2011.
6. A.Sinha, S.Datta.and **P.P.Chattopadhyay**, Nano-mechanical Characterization of Ni-Ti Alloy, at the 63rd Annual Technical Meeting of the Indian Institute of Metals (IIM) held in Kolkata during 16th -17th November, 2009.
7. A.Sinha, S.Datta.and **P.P.Chattopadhyay**, Understanding Shape Memory Effect of Ni-Ti Alloy by Nano-indentation Study, at First Nano Today Conference at the Biopolis, Singapore, August 2-5, 2009.
8. A.Sinha,S.Datta.and **P.P.Chattopadhyay**, Improvement of Recoverable Strain of Ni-Ti Shape Memory Alloy by Microstructural Refinement, at International Conference on “Nanomaterials and Device Processing and Applications (NADPA)” organized by Indian Institute of Technology, Roorkee, India, December 11-13, 2008.
9. A.Sinha, S.Datta and **P.P.Chattopadhyay**, Effect of Thermo-mechanical Treatment on the Recoverable Strains of Ni-Ti Shape Memory Alloy, Proceedings of 21st National Convection of Metallurgical and Materials Engineers organized by I.E. (I) Karnataka State Centre, Bangalore, India, 10-11 January 2008, pp. 38-46.

10. S. K. Ghosh, A. Haldar and **P. P. Chattopadhyay**, Ageing Behaviour of Directly Quenched Copper Added Titanium - Boron Microalloyed Steels, Proc. Int. Conf. on Microalloyed Steels: Emerging Technologies and Applications, Kolkata, 2007, pp. 298 – 305.
11. S. K. Ghosh, S. Ganguly, P. Pal, A. Haldar and **P. P. Chattopadhyay**, Cu – Ni - Ti – B Multiphase Steel, Proc. Int. Conf. on Microalloyed Steels: Emerging Technologies and Applications, Kolkata, 2007, pp. 269 – 280.
12. D. Das, A. Samanta and **P. P. Chattopadhyay**, Development of Bulk nano- Al_2O_3 Dispersed Cu-Matrix Composite Using Ball Milled Precursor, in: International Conference on Advanced Materials and Material Processing IIT Kharagpur 3-5 February 2006 pp 133-140.
13. S. K. Ghosh, A. Halder and **P. P. Chattopadhyay**, Effect of Cu Addition in Multiphase Ti, B Microalloyed Steel, in: International Conference on Advanced Materials and Material Processing IIT Kharagpur 3-5 February 2006 pp 551-560.
14. S. K. Ghosh, P. Pal, **P. P. Chattopadhyay** and S. Dutta, ANN Model for Assessment of M_s Temperature in Copper Added Ti, B Microalloyed Steel, in: International Conference on Advanced Materials and Material Processing IIT Kharagpur 3-5 February 2006 pp 561-566.
15. M. Kundu, S. Dutta and **P. P. Chattopadhyay**, Development of High Strength Bainitic Steel, in: International Conference on Advanced Materials and Material Processing IIT Kharagpur 3-5 February 2006 pp 567-574.
16. S. K. Ghosh, S. Ganguly, S. Datta and **P.P. Chattopadhyay**, Design of pearlite free air-cooled Cu added Ti, B microalloyed steel from ANN prediction of CCT diagrams – Proc. Int. Workshop NN & GA in Mat. Sc. & Eng. (NGMS-2006), Howrah, India, 11-13 January, 2006, Eds. N.R. Bandyopadhyay et al, pp. 397-411.
17. K. P. Das, S. Tarafder, **P. P. Chattopadhyay** and N. R. Bandyopadhyay, An Approach Towards Development of As-Rolled High Formable Steel, The Third International Conference on Advanced Structural Steels, Gyeongju, Korea, August 22-24, 2006, 861.
18. A. Samanta, **P. P. Chattopadhyay**, W. Lojkowski, H. –J. Fecht and I. Manna, Microstructural Evolution During Mechanical Alloying and Hot Pressing of Aluminium and 316 Stainless Steel Powder Blend, in E-MRS FALL MEETING 2005 – SYMPOSIUM I, Warsaw, Poland.
19. K. P. Das, **P. P. Chattopadhyay**, S. Datta, S. Tarafder, N.R. Bandyopadhyay, Study on the mechanical behaviour of low carbon TRIP steel – Proceedings of

- Fifth International Conference on HSLA Steels in Iron and Steel, Supplement vol. 40, November 8-10, 2005, Sanya, China, pp. 328-332.
20. Debdulal Das, Asis Samanta and **Partha Protim Chattopadhyay**, Mechanical properties of Bulk Ultrafine-Grained Copper, Published in the International Conference on Nanomaterials, NANO – 2005, Tamilnadu, p 403.
 21. Samanta, **P. P. Chattopadhyay**, and I. Manna, Amorphisation of Al-Ni-Ti Ternary Blend by Mechanical Alloying, in: NANO-2005, Tamilnadu, pp 397-404
 22. A. Samanta, **P. P. Chattopadhyay**, H. –J. Fecht and I. Manna Microstructural Evolution During Mechanical Alloying of Aluminium and 316 Stainless Steel Powder Blend, in: NANO-2004, Kolkata, pp 547-551.
 23. D. Das, A. Samanta and **P. P. Chattopadhyay**, Deformation Behaviour of Bulk Ultrafined Grained Copper Prepared by Sub-zero Rolling and Controlled Recrystallization, Published in the International Conference on Nano - Materials: Synthesis, Characterization and Applications, NANO – 2004, Kolkata, p 542.
 24. D. Das, **P. P. Chattopadhyay**, Effect of Martensite Morphology and Volume fraction on the Mechanical Behavior of High Martensitic Dual Phase Steel, Proc. of Int. Conf. On Advances in materials & processes for industrial application, 2003, ASM international (Pune chapter), India, Tech. Vol., 2003, 50-58.
 25. S. K. Ghosh, **P. P. Chattopadhyay**, Microstructural evolution in Cu- added Ti, B microalloyed dual phase steel, Proc. of Int. Conf. On Advances in materials & processes for industrial application, 2003, , ASM international (Pune chapter), India, Tech. Vol., 2003, p. 35.
 26. D. Ghosh, **P. P. Chattopadhyay**, A Model for Reconstruction of Indian Foundry Industry Under the Context of Globalization, Proc. of Indian Foundry Congress, Jaipur, 2003, p.26.
 27. D. Das, **P. P. Chattopadhyay** and N. R. bandyopadhyay, A study on the effect of martensite morphology on mechanical properties of high martensitic dual phase steel, Proc. of seminar on Resurgence of Metallic Materials, Jamshedpur, 2003, p.68
 28. A. K. Bhuniya, S. Dutta. **P. P. Chattopadhyay** and M. K. Banerjee, Effect of trace addition on the microstructural degradation of Cu-Zn-Al shape memory alloy, Proc. of seminar on Resurgence of Metallic Materials, Jamshedpur, 2003, p. 85.
 29. F. Banhart and H. –J. Fecht I. Manna, P. Nandi, **P. P. Chattopadhyay**, S. K.Pabi, Synthesis of Amorphous and Nano-aluminide Dispersed Al-based Composites by Mechanical Alloying, Advances in Materials and Materials Processing (ICAMMP-2002) – Conference Proceedings (Eds.: N. Chakraborti and U. K.

- Chatterjee), Tata McGraw Hill Publishing Company Ltd., New Delhi (2002).pp. 410-414
30. S. K. Ghosh, **P. P. Chattopadhyay**, Effect of minor Cu-addition on microstructural evolution in Cu- added Ti, B microalloyed dual phase steel, *Proc. of Asia Steel Int. Conf. 2003, Tata Steel, Jamshedpur, India*, Vol. 3, 2002, 3.c.4.1-8.
 31. I. Manna, P. Nandi, **P. P. Chattopadhyay**, S. K. Pabi, F. Banhart and H. –J. Fecht, Synthesis of Amorphous and Nano-aluminide Dispersed Al-based Composites by Mechanical Alloying, in: *Advances in Materials and Materials Processing (ICAMMP-2002) – Conference Proceedings* (Eds.: N. Chakraborti and U. K. Chatterjee), Tata McGraw Hill Publishing Company Ltd., New Delhi (2002) pp. 410 – 414.
 32. **P. P. Chattopadhyay**, S. K. Pabi and I. Manna, Some Aspects of Nanocrystalline Materials Prepared by Ball Milling, Published in the Conference Proceedings of the International Conference on "Trends in Mechanical Alloying: Science, Technology and Application", held in Jaipur, India during February 21-23, 2001, pp. 96 – 105.
 33. S. Datta, **P. P. Chattopadhyay** and M. K. Banerjee, Development of Mechanically Alloyed AlMgSi-SiC_p Metal Matrix Composite with Trace Scandium Addition, Conf. Proc. of the Intl. Conf. On: "Trends in Mechanical Alloying: Science, Technology and Application", Jaipur, India, 2001, 173.

Other academic and research outcome

- Book Chapters:
 - P. P. Chattopadhyay and G. Anand: Deterministic approach in Microstructure based design (Book Chapter), in Computational Approaches to Materials Design: Theoretical and Practical Aspects, Shubhabrata Datta and J. Paulo Davim (Editors) – **in press**.
 - P. Bhattacharyya, B. Bhowmik, A. Hazra and P P. Chattopadhyay: Potentiality of semiconducting metal oxide nanotubes as gas sensors (Book Chapter), published in 'Sensing Technology: Current Status and Future Trends IV', Edited by Alex Mason, Subhas Chandra Mukhopadhyay, P. Krishanthi Jayasundera, Springer, UK (2015).
- Member, Editorial Board:
 - Proc. International Workshop on Neural Network and Genetic Algorithm in Materials Science and Engineering (NGMS 2006)' Organised by School of Materials Science and Engineering, Bengal Engineering and Science University, Shibpur, January 2006, Tata McGraw-Hill.
 - Principal Editor of Metal News (2006-2009), published by Indian Institute of Metals.
- Patent:

Development of Nano-intermetallic Dispersed Al-matrix Composites from the Al-Cu-X Ternary Metastable Precursors, *An application for an Indian patent (355/Cal/2000) filed in June 2000, under review by I. Manna, P. P. Chattopadhyay and S. K. Pabi.*