DEBRUPA LAHIRI
Assistant Professor
Biomaterials and Multiscale Mechanics Laboratory
Department of Metallurgical and Materials Engineering
Indian Institute of Technology (IIT) - Roorkee
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EDUCATIONAL QUALIFICATION

- Ph.D. in Materials Science and Engineering, Florida International University, Fall 2007 – Summer 2011 (GPA 3.93/4.0)
  Dissertation Title: Hydroxyapatite-Nanotube Composites and Coatings for Orthopedic Applications
  (available at: http://digitalcommons.fiu.edu/etd/444)

- M. Tech. (*Master of Technology)*,Materials and Metallurgical Engineering, Indian Institute of Technology (IIT), Kanpur, India (CPI-10.0/10.0) - Aug,1998 – May, 2000
  Thesis Title: Effect of β Processing on Microstructural Evolution of Ti-6Al-4V Alloy

- B.E (*Bachelor of Engineering*), Metallurgical Engineering, from Bengal Engineering College, Shibpur, INDIA (78.82%), Aug, 1994 - June,1998
  Thesis Title: Effect of Thermo-mechanical Treatment on Low Carbon Manganese Micro Alloyed Dual Phase Steel

WORK EXPERIENCE

1. Assistant Professor, Jointly in the Department of Metallurgical and Materials Engineering & Centre of Nanotechnology, ***Indian Institute of Technology (IIT), Roorkee***, India, December, 2012 onwards.
2. Visiting Assistant Professor, Department of Mechanical and Materials Engineering, ***Florida International University***, Miami, Florida, August, 2012 – December, 2012
3. Post Doctoral Researcher, Department of Mechanical and Materials Engineering, ***Florida International University***, Miami, Florida, August, 2011 – August, 2012.
4. Worked as Scientific Officer D in **Nuclear Fuel Complex**, Hyderabad, August, 2003 –July,2007
5. Worked as Visiting Scientist in ***Nuclear Fuel Complex***, Dept. of Atomic Energy, Govt. of India, Hyderabad, India, July, 2001 - July, 2003.
6. Worked as Metallurgist, R&D in ***Indian Aluminium Co. Ltd. (INDAL)***, Belur, India, May, 1999 - January, 2001.

CURRENT RESEARCH INTERESTS

- Bioceramic – nanotube composites and composite coatings for orthopedic implants.
- Metal/Ceramic/Polymer Matrix composites for structural applications, bioimplants, temporary scaffolds for tissue engineering etc
- Composites for Soft Tissue Engineering
- Nano-mechanical properties of biological cells, membranes, bone etc
- Mechanical and tribological properties of materials at different length scales
- Adhesion strength of biological cells and different nanostructures (carbon nanotube, graphene etc.) with substrate
- Understanding Nanomechanical and Nanotribological bahvior of a wide variety of materials – metals, ceramics, diamond, concrete, polymers, composites and other soft materials, 1D/2D nanomaterials,

biological materials – by indentation/compression, creep, fatigue, dynamic mechanical analysis and tribological studies at nano-scale.

OTHER RESEARCH EXPERIENCE

- Residual stress analysis by XRD technique; modification of residual stress measurement technique for textured materials
- Texture analysis for different single phase and two phase hcp materials using ODF and pole figures
- Line profile analysis for determination of crystal size, strains, dislocation density and stacking fault probability for hcp and fcc materials using different analysis techniques like Fourier analysis, integral breadth methods
- Analysis of sintering mechanism for metallic and ceramic materials in different atmospheres using dilatometry technique - studying sintering kinetics and activation energy

PUBLICATIONS

Summary:

Book - 1
Book Chapters – 4
Peer Reviewed Journal Articles – 69
h-index – 22 (scopus.com)
Total Citations - 1490 (scopus.com)
i10 Index – 40 (google scholar)

BOOK

1. "*Carbon Nanotubes Reinforced Metal Matrix Composite*s", A. Agarwal, S.R. Bakshi, **D. Lahiri**, Taylor and Francis Publishers, ISBN: 978-1-4398114-9-8.

BOOK CHAPTERS

1. "*Graphene Reinforced Ceramic and Metal Matrix Composites*", **D. Lahiri**, A. Agarwal, in "*Graphene: Synthesis and Applications*", Editors: W. Choi and J. Lee, Taylor and Francis Publishers, ISBN: 9781439861875.
2. "*Medical Applications of Hierarchical Composites*", Manoj Kumar R, K. Agrawal, **D. Lahiri**, in "*Hybrid and Hierarchical Composite Materials*", Editors: C.-S. Kim, C. Randow, T. Sano, Springer, ISBN: 978-3-319-12867-2.
3. "*Processing and Nanomechanical Properties of Hydroxyapatite-Nanotube Biocomposite*", **D. Lahiri**, A. Agarwal, in "*Biosurfaces: A Materials Science and Engineering Perspective*", Editors: Kantesh Balani, Vivek Verma, Arvind Agarwal, and Roger Narayan, Wiley & Sons, ISBN: 978-1-118-29997-5.
4. "*Boron Nitride Nanotubes as Nanofillers/Reinforcement for Polymer, Ceramic, and Metal Matrix Composites*", **D. Lahiri**, A. Agarwal, in "*Nanotubes and Nanosheets: Functionalization and Applications of Boron Nitride and Other Nanomaterials*", Editor: Ying(Ian) Chen, CRC Press, Taylor and Francis Group, ISBN: 9781466598096.

PEER REVIEWED JOURNAL ARTICLES (Published/Accepted)

69. V. Kumar, N. Kumar, P.Roy, **D. Lahiri**, I Lahiri, "*Emergence of fluorescence in boron nitride nanoflakes and its application in bioimaging*", RSC Advances, Vol. 6, 2016, pp. 48025. **(Journal Impact Factor: 3.840)**
68. P. Gupta, M. Rajput, N. Singla, V. Kumar, **D. Lahiri**, "*Electric field and current assisted alignment of CNT inside polymer matrix and its effects on electrical and mechanical properties*", **Polymer,** Vol. 89, 2016, pp. 119-127. **(Journal Impact Factor: 3.562)**
67. S. Nayak, B. Bhushan, P. Gopinath, R.D. agarwal, R. Jayaganthan, **D. Lahiri**, "*Strengthening of Mg based alloy through grain refinement for orthopae dicapplication*", **Journal of the Mechanical Behavior of Biomedical Materials**, Vol. 59, 2016, pp. 57-70. **(Journal Impact Factor: 3.417)**

66. R.M. Kumar, K.K. Kunat, s. Singh, B. Bhushan, P. Gopinath, **D. Lahiri**, "*Electrophoretic deposition of hydroxyapatite coating on Mg–3Zn alloy for orthopaedic application*", **Surface and Coatings Technology**, Vol. 287, 2016, pp. 82-92. **(Journal Impact Factor: 1.998)**

65. P. Gupta, S. Sharan, P. Roy, **D. Lahiri**, "*Aligned Carbon Nanotube Reinforced Polymeric Scaffolds with Electrical Cues for Neural Tissue Regeneration*", **Carbon**, Vol. 95, 2015, pp. 715-724. **(Journal Impact Factor: 6.190)**

64. K. Saini, R.M. Kumar, **D. Lahiri**, I. Lahiri, "*Quantifying Bonding Strength of CuO Nanotubes with Substrate Using Nano-Scratch Technique",* **Nanotechnology**, Vol. 26, 2015, pp. 305701. **(Journal Impact Factor: 3.672)**

63 R.M. Kumar, S. Sharma, B.V.M. Kumar, **D. Lahiri**, "*Effects of Carbon Nanotube Aspect Ratio on Strengthening and Tribological Behaviour of Ultra High Molecular Weight Polyethylene Composite*", **Composites A**, Vol. 76, 2015, pp. 62-72. **(Journal Impact Factor: 3.012)**

62. S.Singh, R. Manoj Kumar, K.K. Kuntal, P. Gupta, S. Das, R. Jayaganthan, P. Roy, **D. Lahiri**, "*Sol–Gel Derived Hydroxyapatite Coating on Mg-3Zn Alloy for Orthopedic Application*", **JOM**, Vol. 67, 2015, pp. 702-712. **(Journal Impact Factor: 1.401)**

61. **D. Lahiri**, J. Karp, A.K. Keshri, C. Zhang, G.S. Dulikravich, L.J. Kecskes, A. Agarwal, *"Scratch Induced Deformation Behavior of Hafnium Based Bulk Metallic Glass at Multiple Load Scales"*, **Journal of Noncrystalline Solids**, Vol. 410, 2015, pp. 118-126. **(Journal Impact Factor: 1.716)**

60. P. Trivedi, S. Goel, S. Das, R. Jayaganthan, **D. Lahiri**, P. Roy, *"Biocompatibility of Ultrafine Grained Zircaloy-2 Produced by Cryorolling for Medical Applications"*, **Material Science and Engineering C**, Vol. 46, 2015, pp. 309-315. **(Journal Impact Factor: 2.736)**

59. S. Chouksey, A.Sil, **D. Lahiri**, I. Lahiri , "*Atmospheric oxidation effect of silicon-carbon nanotube anode on Li-ion battery performance*", **Nanomaterials and Energy**, Vol. 4, 2015, pp. 1-20.

58. K.S. Suresh, **D. Lahiri**, A. Agarwal, S. Suwas, "*Microstructure Dependent Elastic Modulus Variation in NiTi Shape Memory Alloy*", Journal of Alloys and Compounds, Vol. 633, 2015, pp. 71-74. **(Journal Impact Factor: 2.726)**

57. K.Jha, N. Suksawang, **D. Lahiri**, A. Agarwal, *"A Novel Energy-based Method to Evaluate Indentation Modulus and Hardness of Cementitious Materials from Nanoindentation Load–Displacement Data"*, **Materials and Structures**, 2014, DOI: DOI 10.1617/s11527-014-0367-7. **(Journal Impact Factor: 1.390)**

56. **D. Lahiri**, F. Hec, M. Thiesse, A. Durygin, C. Zhang, A. Agarwal, *"Nanotribological Behavior of Graphene Nanoplatelet Reinforced Ultra High Molecular Weight Polyethylene Composites"*, **Tribology International**, Vol. 70, 2014, pp. 165-169. **(Journal Impact Factor: 2.124)**

55. A. Nieto, A. Kumar, **D. Lahiri**, C. Zhang, S. Seal, A. Agarwal, *"Oxidation Behavior of Graphene NanoPlatelets Reinforced Tantalum Carbide Composites in High Temperature Plasma Flow"*, **Carbon**, 2013, Vol. 67, 2014, pp. 398-408. **(Journal Impact Factor: 6.160)**

54. S. Das, **D. Lahiri**, A. Agarwal, W. Choi, "*Interfacial bonding characteristics between graphene and dielectric substrates*", **Nanotechnology**, Vol. 25, 2014, pp. 045707. **(Journal Impact Factor: 3.672)**

53. S.B. Pitchuka, B. Boesl, C. Zhang, D. Lahiri, A. Nieto, G. Sundararajana, A. Agarwal, "*Dry sliding wear behavior of cold sprayed aluminium amorphous/nanocrystalline alloy coatings*", **Surface and Coatings Technology,** Vol. 238, 2014, pp. 118-125. **(Journal Impact Factor: 2.199)**

52. S.B. Pitchuka, **D. Lahiri**, G. Sundararajan, A. Agarwal, *"Scratch Induced Deformation Behavior of Cold Sprayed Aluminum Amorphous/Nanocrystalline Coatings at Multiple Load Scales"*, **Journal of Thermal Spray Technoogy**, Vol. 23, 2014, pp. 502-513. **(Journal Impact Factor: 1.481)**

51. A. Gupta, S. Barkam, D. Lahiri, R. Balasubramanian, K. Balani, "Effect of Alumina Dispersion on Microstructural and Nanomechanical Properties of Pulse Electrodeposited NickeleAlumina Composite Coatings", **Journal of Materials Science and Technology**, Vol. 30, 2014, pp. 808-813. **(Journal Impact Factor: 1.610)**

50. **D. Lahiri**, V. Singh, G.R. Rodrigues, T. M. Haas Costa, M.R. Gallas, S.R. Bakshi, S. Seal, A. Agarwal, "*Ultrahigh-pressure consolidation and deformation of tantalum carbide at ambient and high temperatures*", **Acta Materialia**, Vol. 61, 2013, pp. 4001-4009. **(Journal Impact Factor: 3.940)**

49. B. Boesl, **D. Lahiri**, S. Behdad, A. Agarwal, "*Direct Observation of Carbon Nanotube Induced Strengthening in Aluminum Composite via In situ Tensile Tests*", **Carbon**, Vol. 69, 2013, pp. 79–85. **(Journal Impact Factor: 6.160)**

48. **D. Lahiri**, A. Hadjikhani, C. Zhang, T. Xing, L. Hua Li, Y. Chen, A. Agarwal, "*Boron nitride nanotubes reinforced aluminum composites prepared by spark plasma sintering: Microstructure, mechanical properties and deformation behaviour*", **Materials Science and Engineering: A**, Vol. 574, 2013, pp. 149-156. **(Journal Impact Factor: 2.409)**

47. **D. Lahiri**, P.K. Gill, S. Scudino, C. Zhang, V. Singh, J. Karthikeyan, N. Munroe, S. Seal, A. Agarwal, "*Cold Sprayed Aluminum Based Glassy Coating: Synthesis, Wear and Corrosion Properties*", **Surfaces and Coating Technoloy**, Vol. 232, 2013, pp. 33-40. **(Journal Impact Factor: 2.199)**

46. S. Das, **D. Lahiri**, A. Agarwal, W. Choi, "*Measurements of the adhesion energy of graphene to metallic substrates*", **Carbon**, Vo. 59, 2013, pp. 121-129. **(Journal Impact Factor: 6.160)**

45. A. Nieto, **D. Lahiri**, A. Agarwal, "*Nano Dynamic Mechanical Behavior of Graphene NanoPlatelets Reinforced Tantalum Carbide*", **Scripta Materialia,** Vol. 69, 2013, pp. 678-681. **(Journal Impact Factor: 2.968)**

44. A. Nieto, **D. Lahiri**, A. Agarwal, "*Graphene NanoPlatelet Reinforced Tantalum Carbide Consolidated by Spark Plasma Sintering: Microstructure and Mechanical Properties*" **Materials Science and Engineering A,** Vol. 582, 2013, pp. 338-346. **(Journal Impact Factor: 2.409)**

43. **D. Lahiri**, E. Khalegi, S.R. Bakshi, W. Li, E.A. Olevsky, A. Agarwal, "*Graphene Induced Strengthening in Spark Plasma Sintered Tantalum Carbide-Nanotube Composite*", **Scripta Materialia,** Vol. 68, 2013, pp. 285-288. **(Journal Impact Factor: 2.968)**

42. C. Zhang, U. Chaudhary, **D. Lahiri**, A. Godavarty, A. Agarwal, "*Photo-catalytic Activity of Spark Plasma Sintered TiO_2-Graphene Nanoplatelet Composite System*", **Scripta Materialia**, Vol. 68, 2013, pp. 719-722 **(Journal Impact Factor: 2.968)**.

41. A. Gupta, G. Tripathi, **D. Lahiri**, K. Balani, "*Compression Molding of UHMWPE-HA-Al_2O_3-CNT Hybrid Composites for Hard Tissue Replacement*", **Journal of Materials Science & Technology**, Vol. 29, 2013, pp. 514-522. **(Journal Impact Factor: 1.198)**

40. V. Kumar, A. Gupta, **D. Lahiri**, K. Balani, *"Nanomechanical Behavior Eliciting Serrated Yielding in Thermomechanically Processed Novel Mg-9Li-7Al-1Sn and Mg-9Li-5Al-3Sn-1Zn Alloys"*, Accepten for Publication in **Journal of Physics D: Applied Physics,** Vol. 46, 2013, pp. 145304. **(Journal Impact Factor: 2.521)**

39. K.K. Jha, N. Suksawang, **D. Lahiri**, A. Agarwal, "*Evaluating initial unloading stiffness from elastic work-of-indentation measured in a nanoindentation experiment",* **Journal of Materials Research,** Vol. 28, 2013, pp. 789-797. **(Journal Impact Factor: 1.815)**

38. **D. Lahiri**, S. Das, W. Choi, A. Agarwal, *"Unfolding Damping Behavior of Graphene in Low Frequency Regime"*, **ACS Nano**, Vol. 6, 2012, pp. 3992-4000. **(Journal Impact Factor: 12.033)**

37. **D. Lahiri**, R. Dua, C. Zhang, I. Socarraz-Novoa, A. Bhat, S. Ramaswamy, A. Agarwal, "*Graphene Nano Platelet Induced Strengthening of Ultra High Molecular Weight Polyethylene and Biocompatibility in-vitro*", **ACS Applied Materials and Interfaces**, Vol. 4, 2012, pp. 2234-2241. **(Journal Impact Factor: 5.900)**

36. **D. Lahiri**, V. Singh, L. Li, T. Xing, S. Seal, Y. Chen, A. Agarwal, *"Insight into Reactions and Interface Between Boron Nitride Nanotube and Aluminum"*, **Journal of Materials Research**, Vol. 27, 2012, pp. 2760-2770. **(Journal Impact Factor: 1.815)**

35. **D. Lahiri**, S. Ghosh, A. Agarwal, *"Carbon Nanotube Reinfoced Hydrxyapatite composite in Orthopedic Application: A Review"*, **Materials Science and Engineering C**, Vol. 32, 2012, pp. 1727-1758. **(Journal Impact Factor: 2.736) Ranked 11 out of 25 hottest articles published in MSEC for the full year of 2012**

http://top25.sciencedirect.com/subject/materials-science/15/journal/materials-science-and-engineering-c/09284931/archive/42/

34. **D. Lahiri**, A. Agarwal, "*Scratch Based Technique for Quantifying Adhesion at Nano and Micro-scales*", **Advanced Materials and Processes**, April, 2012, pp. 22-27.

33. A. Nieto, **D. Lahiri**, A. Agarwal, *"Synthesis and Properties of Bulk Graphene Nanoplatelets Consolidated by Spark Plasma Sintering"*, **Carbon**, Vol. 50, 2012, pp. 4068-4077. **(Journal Impact Factor: 6.160)**

32. M. Bao, C. Zhang, **D. Lahiri**, A. Agarwal, *"Tribological Behavior of Plasma Sprayed Al-Si Composite Coatings Reinforced with Nanodiamond"*, **JOM**, Vol. 64, 2012, pp. 702-708. **(Journal Impact Factor: 1.401)**

31. K.K. Jha, N. Suksawang, **D. Lahiri**, A. Agarwal, "*Energy Based Analysis of Nanoindentation Curves for Cementitious Materials",* **ACI Materials Journal,** vol. 109, 2012, pp. 81-90. **(Journal Impact Factor: 1.123)**

30. **D. Lahiri**, A.P. Benaduce, L. Kos, A. Agarwal, *"Quantification of Carbon Nanotube Induced Adhesion of Osteoblast on Hydroxyapatite using Nano-Scratch Technique"*, **Nanotechnology**, Vol. 22, 2011, pp. 355703 (9 pp) **(Journal Impact Factor: 3.672)**.

Highlighted in "Nanotech Web" (http://nanotechweb.org/cws/article/lab/46915).

29. I. Lahiri*, **D. Lahiri***, S. Jin, A. Agarwal, W. Choi, *"Carbon Nanotubes: How Strong is Their Bond with the Substrate?"* **ACSNano,** Vol. 5(2), 2011, pp. 780-787. **(Journal Impact Factor: 12.033)**

*** Co-first Authors.**

Highlighted in "Nanowerk" (http://www.nanowerk.com/spotlight/spotid=19707.php).

28. **D. Lahiri**, V. Singh, A.K. Keshri, S. Seal, A. Agarwal, "*Apatite formability of boron nitride nanotube*", **Nanotechnology,** Vol. 22, 2011, pp. 205601 **(Journal Impact Factor: 3.672)**.

27. S. Facca*, **D. Lahiri***, F. Fioretti, N. Messadeq, D. Mainard, N. Jessel, A. Agarwal, "*In Vivo Osseointegration of Nano-Designed Composite Coatings on Titanium Implants*", **ACS Nano**, 2011, Vol. 5, pp. 4790-4799 **(Journal Impact Factor: 12.033)**.
*** Co-first Authors.**

26. **D. Lahiri**, V. Singh, A.P. Benaduce, S. Seal, L. Kos, A. Agarwal, *"Boron nitride nanotube reinforced hydroxyapatite composite: mechanical and tribological performance and in-vitro biocompatibility to osteoblasts",* **Journal of the Mechanical Behavior of Biomedical Materials,** Vol. 4, 2011, pp. 44-56. (***This paper was ranked amongst top 25 hottest articles published in this journal in the year 2011 http://top25.sciencedirect.com/subject/materials-science/15/journal/journal-of-the-mechanical-behavior-of-biomedical-materials/17516161/archive/36/***) **(Journal Impact Factor: 3.048)**.

25. **D. Lahiri**, A.P. Benaduce, F. Rouzaud, J. Solomon, A.K. Keshri, L. Kos, A. Agarwal, "*Wear Behavior and In-vitro Cytotoxicity of Wear Debris Generated from Hydroxyapatite-Carbon Nanotube Composite Coating"* **Journal of Biomedical Materials Research Part A**, Vol. 96A, 2011, pp. 1-12. (***This Paper has been cited in the website of 'The International Council on Nanotechnology' and included in 'nanoEHS Virtual Journal'***.) **(Journal Impact Factor: 2.841)**

24. A.K. keshri, **D. Lahiri**, A. Agarwal, "*Carbon nanotubes improve the adhesion strength of a ceramic splat to the steel substrate*", **Carbon**, Vol. 49, 2011, pp. 4340-4347**. (Journal Impact Factor: 6.160)**

23. K. Balani, R.R Patel, A.K. Keshri, **D. Lahiri**, A. Agarwa, "*Multi-scale Hierarchy of Chelydra serpentina: Microstructure and Mechanical Properties of Turtle Shell*", **Journal of the Mechanical Behavior of Biomedical Materials,** Vol. 4, 2011, pp. 1440-1451. **(Journal Impact Factor: 3.048)**

22. H. Couvy, **D. Lahiri**, J. Chen, A. Agarwal, G. Sen, *"Nano-hardness and Young's modulus of nano-polycrystalline diamond"*, **Scripta Materialia,** 2011, Vol. 64, pp. 1019-1022. **(Journal Impact Factor: 2.968)**

21. S.R. Bakshi, V. Musharamthota, D.A. Virzi, A.K. Keshri, **D. Lahiri**, V. Singh, S. Seal, A. Agarwal, *" Spark plasma sintered tantalum carbide-carbon nanotube composite: effect of pressure, carbon nanotube length*

and dispersion technique on microstructure and mechanical properties", **Material Science and Engineering A**, 2011, Vol. 528, 2538-2547. **(Journal Impact Factor: 2.409)**

20. S.R. Bakshi, V. Musaramthota, **D. Lahiri**, V. Singh, S. Seal, A. Agarwal, *"Spark Plasma Sintered Tantalum Carbide: Effect of Pressure and nano-Boron Carbide Addition on Microstructure and Mechanical properties",* **Materials Science and Engineering A,** Vol. 528, 2011, pp. 1287-1295. **(Journal Impact Factor:2.409)**

19. **D. Lahiri**, V. Singh, A. K. Keshri, S. Seal, A. Agarwal, "*Carbon Nanotube Toughened Hydroxyapatite by Spark Plasma Sintering: Microstructural Evolution and Multi-Scale Tribological Properties"*, **Carbon,** Vol. 48, 2010, pp. 3103-3120. **(Journal Impact Factor: 6.160)**

18. **D. Lahiri**, F. Rouzaud, T. Richard, A. K. Keshri, S.R. Bakshi, L. Kos, A. Agarwal, "*Boron Nitride Nanotube Reinforced Polylactide–Polycaprolactone Copolymer Composite: Mechanical Properties and Cytocompatibility with Osteoblasts and Macrophages In Vitro*", **Acta Biomaterialia**, Vol. 6, 2010, pp. 3524-3533. (***This Paper has been cited in the website of 'The International Council on Nanotechnology' and included in 'nanoEHS Virtual Journal'*** ***http://icon.rice.edu/details.cfm?rid=48335***). **(Journal Impact Factor: 5.684)**

17. S.R. Bakshi, **D. Lahiri,** R.R. Patel, A. Agarwal, *"Nanoscratch behavior of carbon nanotube reinforced aluminum coatings",* **Thin Solid Films**, Vol. 518, 2010, pp. 1703-1711. **(Journal Impact Factor: 1.687)**

16. S. R. Bakshi, **D. Lahiri**, A. Agarwal, "Carbon Nanotube Reinforced Metal Matrix Composite – A Review", **International Materials Review,** Vol. 55, 2010, pp. 41-64. **(Journal Impact Factor: 6.552)**

15. S. Kalmodia, S. Goenka, T. Laha, **D. Lahiri**, B. Basu, K. Balani, "*Microstructure, Mechanical Properties and in vitro biocompatibility of spark plasma sintered hydroxyapatite-aluminum oxide-carbon nanotube composite"* **Material Science and Engineering C,** Vol. 30, 2010, pp. 1162-1169. **(Journal Impact Factor: 2.736)**

14. K. Balani, S.R. Bakshi, **D. Lahiri**, A. Agarwal, "*Grain Growth Behavior of Aluminum Oxide Reinforced with Carbon Nanotubes During Plasma Spraying and Post-Spray*", **International Journal of Applied Ceramic Technology,** Vol. 7, 2010, pp. 846-855. **(Journal Impact Factor: 1.215)**

13. **D. Lahiri**, F. Rouzaud, S. Namin, A.K. Keshri, J.J. Valdes, L. Kos, N. Tsoukias, A. Agarwal, "*Carbon Nanotube Reinforced Polylactide-Caprolactone Copolymer: Mechanical Strengthening and Interaction with Human Osteoblasts in Vitro"*, **ACS Applied Materials and Interfaces**, Vol. 1, 2009, pp. 2470-2476. **(Journal Impact Factor: 5.900)**

12. **D. Lahiri**, S.R. Bakshi, A. K. Keshri, Y. Liu, A. Agarwal, *"Dual Strengthening Mechanism Induced by Carbon Nanotube in Roll Bonded Aluminum Composites*", **Materials Science and Engineering A**, Vol. 523, 2009, pp. 263-270. **(Journal Impact Factor: 2.409)**

11. K. Balani, R. Batista, **D. Lahiri**, A. Agarwal, *"The Hydrophobicity of a Lotus Leaf: A Nanomechanical and Computational Approach",* **Nanotechnology**, Vol. 20, 2009, pp. 305707 (9pp). **(Journal Impact Factor: 3.672)**

10. T. Laha, Y. Chen, **D. Lahiri**, A. Agarwal, "*Tensile Properties of Carbon Nanotube Reinforced Aluminum Nanocomposite Fabricated by Plasma Spray Forming*", ***Composite Part A,*** Vol. 40, 2009, pp. 589-594. **(Journal Impact Factor: 3.012)**

9. J. Tercero, S. Namin, **D. Lahiri**, K. Balani, N. Tsoukias, A. Agarwal, *"Effect of Carbon Nanotube and Aluminum Oxide Addition on Plasma Sprayed Hydroxyapatite Coating's Mechanical Properties and Biocompatibility",* **Materials Science and Engineering C**, Vol. 29, 2009, pp. 2195-2202. **(Journal Impact Factor: 2.736)**

8. K. Balani, **D. Lahiri,** A. K. Keshri, S.R. Bakshi, J.E. Tercero, A. Agarwal, "*The Nano-scratch Behavior of Biocompatible Hydroxyapatite Reinforced with Aluminum Oxide and Carbon Nanotubes* ", **JOM**, Vol. 61, 2009, pp. 63-66. **(Journal Impact Factor: 1.401)**

7. **D. Lahiri**, S.V. Ramana Rao, R.K. Srivastava, G.V.S. Hemantha Rao, "*Study on Sintering Kinetics and Activation Energy of UO_2 Pellets using Three Different Methods*", **Journal of Nuclear Materials**, Vol. 357, 2006, pp. 88-96. **(Journal Impact Factor: 2.016)**

6. K. Kapoor, **D. Lahiri**, I.S. Batra, S.V.R. Rao, T. Sanyal, "*X-ray Diffraction Line Profile Analysis for Defect Study in Cu-1%Cr-0.1%Zr Alloy*", **Materials Characterization**, Vol. 54, Feb. 2005, pp.131-140. **(Journal Impact Factor: 1.925)**

5. K. Kapoor, **D. Lahiri**, S.V. Ramana Rao, T. Sanyal, "*X-ray Diffraction Line Profile Analysis for Defect Study in Zr-2.5%Nb Material*", **Bulletin of Materials Science**, Vol. 27, Feb. 2004, pp.39-48. **(Journal Impact Factor: 0.87)**

4. K. Kapoor, **D. Lahiri**, T. Sanyal, B.P. Kashyap, "*Texture Evolution in two phase Zr-2.5 wt.% Nb through Modified Route*", **Material Science and Technology**, Vol. 20, Oct. 2004, pp. 1281-1298. **(Journal Impact Factor: 0.804)**

3. I. Lahiri, **D. Lahiri (Mondal)**, S. Bhargrava, "*Effect of Prior β Processing on Superplasticity of (α+β) Thermomechanically Treated Ti-6Al-4V Alloy*" **Materials & Manufacturing Processes**, Vol. 18, 2003, pp. 621-635. **(Journal Impact Factor: 1.486)**

2. K. Kapoor, **D. Lahiri**, S.V. Ramana Rao, T. Sanyal, "*Influence of Crystallographic Texture on X-ray Residual Stress Measurement for Ti-3Al-2V Tube Material*", **Journal of Testing and Evaluation (ASTM)**, Vol. 31, Nov. 2003, pp.465-471. **(Journal Impact Factor: 0.279)**

1. K. Kapoor, **D. Lahiri**, C. Padmaprabu, T. Sanyal, "*X-ray Measurement of Near Surface Residual Stress in Textured Cold-Worked Stress Relieved Zr-2.5%Nb Pressure Tube Material*", **Journal of Nuclear Materials**, Vol. 303, 2002, pp.147-155. **(Journal Impact Factor: 2.016)**

CONFERENCE PRESENTATIONS

67. **D. Lahiri**, Invited talk on "Evaluation of Cell Adhesion Mechanism at Multiple Scale Lengths" in 8th Indo-German Frontiers of Engineering Symposium – a bilateral symposium between DST, India and Humboldt Foudation Germany, at Potsdam, Germany, 19-22 May, 2016.

66. P. Gupta, S. Sharan, P. Roy, **D. Lahiri**, Invited talk on "Aligned Carbon Nanotube Reinforced Polymeric Scaffolds With Electrical Cues for Neural Tissue Engineering", Challenges in Product Development of Medical Implants and Devices, IIEST, Shibpur, India, 18-19 Dec., 2015.

65. **D. Lahiri**, Invited talk on "Nano-Scratch Based Technique: Novel Method for Quantifying Adhesion Strength at Sub-Micron Scale", Nanoyantrika-2015, Trivundrum, India, 20-22 Sep., 2015.

64. Manoj Kumar R, S.K. Sharma, V. Kumar, B.V. Manoj Kumar, **D. Lahiri**, "Surface modification of ultra high molecular weight polyethylene for drug eluting orthopaedic implant applications", 53rd National Metallurgists' Day, Coimbatore, India, 13-16 Nov., 2015.

63. Manoj Kumar R, P.K. Gupta, **D. Lahiri**, "Study on Mechanical and Tribological Properties of Graphene Nanoplatelet Reinforced Ultra High Molecular Weight polyethylene Composite", 53rd National Metallurgists' Day, Coimbatore, India, 13-16 Nov., 2015.

62. V. Kumar, N. Kumar, P. Roy, **D. Lahiri**, I. Lahiri, "Synthesis and Emergence of Fluorescence Behavior in h-BN Nanoflakes", 53rd National Metallurgists' Day, Coimbatore, India, 13-16 Nov., 2015.

61. A. Bisht, D. Lahiri, "Carbon Nanofiller Reinforced Epoxy Composites for Structural Application", 53rd National Metallurgists' Day, Coimbatore, India, 13-16 Nov., 2015.

60. S. Jaiswal, Manoj Kumar R, **D. Lahiri**, "Corrosion and Mechanical Behaviour of Magnesium-based Biodegradable composite for Orthopaedic application", 53rd National Metallurgists' Day, Coimbatore, India, 13-16 Nov., 2015.

59. P. Gupta, M. Rajput, N. Singla, V. Kumar, **D. Lahiri**, "Electric field and current assisted alignment of CNTs inside polymer matrix and its effects on electrical and mechanical properties", 53rd National Metallurgists' Day, Coimbatore, India, 13-16 Nov., 2015.

57. P. Gupta, A. Agrawal, R. Varshney, S. Beniwal, S. Manhas, P. Roy, **D. Lahiri**, "Comparison of Neural Cell Adhesion and Neurite Outgrowth on Carbon Nanofiller Reinforced Biomimetic Polymeric Substrates", International Conference on Nanostructured Polymeric Materials and Polymer Nanocomposites, Kottayam, India, 13-15 Nov., 2015.

56. P. Gupta, S. Sharan, P. Roy, **D. Lahiri**, "Aligned Carbon Nanotube Reinforced Polymeric Scaffolds with Electrical Cues for Neural Tissue Engineering", International Conference on Nanostructured Polymeric Materials and Polymer Nanocomposites, Kottayam, India, 13-15 Nov., 2015.

55. **D. Lahiri**, Keynote Talk on "*Biomechanical Evaluation at Bone-Implant Interface*", in International Conference on Emerging trends in Manufacturing, Engines and Modelling, Dhule, Maharashtra, 27-28 February, 2015.

54. **D. Lahiri**, A. Agarwal, Invite talk on "*Nano-Scratch Based Technique: Novel Method for Quantifying Adhesion Strength at Sub-Micron Scale*", 12th Asian Forum for Materials Testing, Zwick-Roell, Gurgaon, India, 19-23 January, 2015.

53. **D. Lahiri**, Invited talk on "*Probing Into Bone-Implant Interface: Materials Engineering Approach", Invited Talk in* Molecualr Signalling: Recent Trends in Biomedical and Translational Research - ICMS: RTBTR-2014, IIT Roorkee, India, 17-19 December, 2014.

52. Manoj Kumar R, S.K. Sharma, A.D. Ray, D. Natu, S. Tikko, B.V. Manoj Kumar, **D. Lahiri**, "*Effects of Carbon Nano Tube Morphology on Tribological Behavior of UHMWPE Composite for Total Hip Joint*", International conference on Polymeric Biomaterials, Bioengineering and Biodiagnostics, New Delhi, India, 27 – 30 Oct., 2014.

51. P. Gupta, V. Kumar, **D. Lahiri**, "*The effects of CNT alignment on electrical conductivity and mechanical properties of CNT/chitosan nanocomposite*", International conference on Polymeric Biomaterials, Bioengineering and Biodiagnostics, New Delhi, India, 27 – 30 Oct., 2014.

50. Manoj Kumar R, K. Agarwal, S.K. Sharma, .D. Ray, D. Natu, S. Tikko, B.V. Manoj Kumar, **D. Lahiri**, "*Carbon Nanotube/Ultra High Molecular Weight Polyethylene Composite for Hip Joint – Influence of CNT Morphology on Wear Behavior*", 52nd Annual Technical Meeting of Indian Institute of Metals, Pune, India, 12-15 Nov., 2014.

49. P. Gupta, S. Das, P. Roy, **D. Lahiri**, "*Aligned Multiwalled Carbon Nanotubes/Chitosan Electrospun Nanofibrous Scaffold for Neural Tissue Regeneration*", 52nd Annual Technical Meeting of Indian Institute of Metals, Pune, India, 12-15 Nov., 2014.

48. S.Singh, K.K. Kuntal, K. Agarwal, **D. Lahiri**, *"Sol-gel Coated Hydroxyapatite on Magnesium-Zinc Alloy for Orthopaedic Applications"*, 52nd Annual Technical Meeting of Indian Institute of Metals, Pune, India, 12-15 Nov., 2014.

47. S. Nayak, K. Agarwal, R.D. Agarwal, R. Jayagantha, **D. Lahiri**, *"Grain refinement of Mg-Zn Alloy processed through hot rolling for Orthopaedic Applications: Mechanical and corrosion Properties"*, 52nd Annual Technical Meeting of Indian Institute of Metals, Pune, India, 12-15 Nov., 2014.

46. **D. Lahiri**, A. Agarwal, "*Carbon Nanotubes: How Strong is their Bond with Substrate*", Zwick Forum on Mechanical testing of Lightweight Materials at Universidad Rey Juan Carlos, Madrid, Spain, Madrid, Spain, 9 April 2014.

44. **D. Lahiri**, C. Zhang, R. Dua, F. Hec, M. Thiesse, A. Durygin, S. Ramaswamy, A. Agarwal, "*Graphene Reinforced Ultra High Molecular Weight Polyethylene for Orthopedic Application*", TMS Annual Meeting 2014, San Diego, USA, 16-20 Feb., 2014.

43. **D. Lahiri**, A. Agarwal, "*Nano-Scratch Based Technique: Novel Method for Quantifying Adhesion Strength at Sub-Micron Scale*", Zwick Roell Forum on 'Latest Trends in Materials Testing', IIT Kanpur, India, 27 Jan., 2014.

42. **D. Lahiri**, A. Agarwal, "*Nano-Scratch Based Technique: Novel Method for Quantifying Adhesion Strength at Sub-Micron Scale*", 51st Annual Technical Meeting of Indian Institute of Metals, Varanasi, India, 12-15 Nov., 2013.

41. A. Niteto, C. Zhang, **D. Lahiri**, A. Agarwal, "*Spark Plasma Sintered Tantalum Carbide with Graphene NanoPlatelets Reinforcement*", The 8th Pacific Rim International Conference on Advanced Materials and Processing, Hawaii, 4-9 August, 2013.

40. A. Nieto, **D. Lahiri**, A. Agarwal, *"Effect of Graphene NanoPlatelets on Consolidation and Mechanical Properties of Spark Plasma Sintered Tantalum Carbide",* TMS Annual Meeting 2013, San Antonio, Texas, 3-7 Mar, 2013.

39. A. Nieto, **D. Lahiri**, C. Zhang, A. Agarwal, *"Enhancement of Tantalum Carbide Oxidation Resistance in a High Temperature Plasma Flow by Additon of Graphene NanoPlatelets*", TMS Annual Meeting 2013, San Antonio, Texas, 3-7 Mar, 2013. (to be presented)

38. A. Nieto, **D. Lahiri**, A. Agarwal, "*Oxidation Behavior of Graphene NanoPlatelets Reinforced Tantalum Carbide composites in High Temperature Plasma Flow*", 37th International Conference and Expo on Advanced Ceramics and Composites, Daytona Beach, Florida, 27 Jan - 1 Feb, 2013.

37. A. Nieto, **D. Lahiri**, C. Zhang, A. Agarwal, Graphene NanoPlatelets Reinforced Tantalum Carbide Consolidated by Spark Plasma Sintering, 37th International Conference and Expo on Advanced Ceramics and Composites, Daytona Beach, Florida, 27 Jan - 1 Feb, 2013.

36. **D. Lahiri**, V. Singh, M. Bao, L. Li, S. Seal, Y. Chen, A. Agarwal "*Boron Nitride Nanotube Reinforced Aluminum Nanocomposites*", TMS Annual Meeting & Exhibition, Orlando, Florida, 11-15 Mar., 2012.

35. M. Bao, C. Zhang, **D. Lahiri**, A. Agarwal, " *Tribological Behavior of Plasma Sprayed Al-Si Composite Coatings Reinforced with Different Carbon Allotropes",* TMS Annual Meeting & Exhibition, Orlando, Florida, 11-15 Mar., 2012.

34. N. Mahato, **D. Lahiri**, A. Agharwal, K. Balani, "*Microstructure and Mechanical Properties of Multistructured Peacock Feathers",* TMS Annual Meeting & Exhibition, Orlando, Florida, 11-15 Mar., 2012.

33. **D. Lahiri**, S. Facca, N. Benkirane-Jessel, A. Agarwal, "*In-vivo Modification of Elastic Modulus Gradient atImplant-Bone Interface*", Materials Science & Technology 2011 Conference and Exhibition, Columbus, Ohio, 16-20 Oct. 2011.

32. **D. Lahiri**, A.P. Benaduce, S. Facca, L. Kos, N. Benkirane-Jessel, A. Agarwal, "*In-Vitro and In-Vivo Osteocompatibility Assessment forCarbon Nanotube Reinforced Hydroxyapatite Coatings*", Materials Science & Technology 2011 Conference and Exhibition, Columbus, Ohio, 16-20 Oct. 2011.

31. **D. Lahiri**, A.P. Benaduce, L. Kos, A. Agarwal, "*Carbon Nanotube Induced Enhancement of Osteoblast Adhesion on Bioimplant Surface*" TMS Annual Meeting & Exhibition, San Diego, California, 27 Feb. – 3 Mar., 2011.

30. **D. Lahiri**, V. Singh, A.K. Keshri, S. Seal. A. Agarwal, "*Precipitation and Crystallization of Hydroxyapatite on Boron Nitride Nanotubes Immersed in Simulated Body Fluid*", TMS Annual Meeting & Exhibition, San Diego, California, 27 Feb. – 3 Mar., 2011.

29. **D. Lahiri**, A.P. Benaduce, L. Kos, A. Agarwal, "*Quantification of Osteoblast Adhesion Strength on Hydroxyapatite-Carbon Nanotube Coated Bioimplant Surfaces*", TMS Annual Meeting & Exhibition, San Diego, California, 27 Feb. – 3 Mar., 2011.

28. I. Lahiri, **D. Lahiri**, S. Jin, A. Agarwal, W.B. Choi, "*Carbon Nanotubes: How strong is their bond with the substrate?*" TMS Annual Meeting & Exhibition, San Diego, California, 27 Feb. – 3 Mar., 2011.

27. A. Gupta, **D. Lahiri**, S. Ghosh, G. Tripathi, B. Basu, A. Agarwal, K. Balani, "*Micro Tribology of Compression Molded Ultrahigh Molecular Weight Polyethylene Reinforced with Aluminum Oxide, Hydroxyapatite and Carbon Nanotubes",* TMS Annual Meeting & Exhibition, San Diego, California, 27 Feb. – 3 Mar., 2011.

26. T. Laha, L. Reddy, A. Keshri, **D. Lahiri**, A. Maiti, "*Synthesis of MWCNT Reinforced Al Based Nanocomposite Via Spark Plasma Sintering*", TMS Annual Meeting & Exhibition, San Diego, California, 27 Feb. – 3 Mar., 2011.

25. A. P. Benaduce, **D. Lahiri**, A. Agarwal, L. Kos, "*Melanocytes and melanoma cells present different mechanical properties that can be modulated by Endothelin 3*", XXIst International Pigment Cell Conference (IPCC) ''Skin and Other Pigment Cells: Bridging Clinical Medicine and Science'', Bordeaux, France, 20-24 September, 2011.

24. **D. Lahiri**, F. Rouzaud, A. Keshri, L. Kos, A. Agarwal, "*Biocompatibility of Hydroxyapatite-Carbon Nanotube Composite for Orthopedic Implants with Improved Mechanical Properties*", Second Annual Retreat of the Biomedical Nanoscience (BioNIUM), Miami, Florida, 9 - 10 Dec., 2010.

23. A.P Benaduce, **D. Lahiri**, L. Kos, A. Agarwal, "*Nanoindentation reveals differences in the mechanical properties of melanocytes and melanoma cells*", ASCB 50th Annual Meeting, Philadelphia, Pennsylvania, 11 - 15 Dec., 2010.

22. **D. Lahiri**, A. P. Benaduce, L. Kos, A. Agarwal, "*Boron Nitride Nanotube: A Novel Reinforcement for Hydroxyapatite*", Materials Science & Technology 2010 Conference and Exhibition, Houston, Texas, 17-21 Oct. 2010.

21. **D. Lahiri**, A.K. Keshri, A.Agarwal, "*Quantifying Mechanical Properties and Adhesion Strength of a Single Splat – Building Blocks of Thermal Sprayed Coatings*", Materials Science & Technology 2010 Conference and Exhibition, Houston, Texas, 17-21 Oct. 2010.

20. A.K. Keshri, **D. Lahiri**, A. Agarwal, "*Nanoindentation and Nano-scratch Approach to Determine the Mechanical Properties of Plasma Sprayed Al_2O_3-CNT Splat*", Materials Science & Technology 2010 Conference and Exhibition, Houston, Texas, 17-21 Oct. 2010.

19. **D. Lahiri**, A.P. Benaduce, S. Facca, L. Kos, N. Jessel, A. Agarwal, *"Mechanical Properties and Biocompatibility in-vitro and in-vivo of Plasma Sprayed Carbon Nanotube Reinforced Hydroxyapatite Coatings for Orthopedic Implants",* 1st TMS-ABM International Materials Congress, Rio de Janeiro, Brazil, 26-30 Jul.2010.

18. H. Couvy, J. Chen, **D. Lahiri**, A. Agarwal, G. Sen, "*Nanohardness and Young's Modulus of nanopolycrystalline diamond"*, 2010 Annual Meeting of COMPRES, Stevenson, Washington, 22-25 June, 2010.

17. **D. Lahiri**, A.P. Benaduce, F. Rouzaud, J. Solomon, A. Keshri, L. Kos, A. Agarwal, "*Investigation on Wear Resistance of Plasma Sprayed Hydroxyapatite-Carbon Nanotube Composite Coating on Orthopedic Implant and Cytotoxicity of Wear Debris*", International Conference and Exposition on Advanced Ceramics and Composites -2010, Daytona, Florida, 24-29 Jan.2010.

16. **D. Lahiri**, F. Rouzaud, S. Namin, T. Richard, A. Keshri, S.R. Bakshi, N. Tsoukias, L. Kos, A. Agarwal, "*Poly Lactide-Caprolactone Copolymer-Boron Nitride Nanotube: A Novel Polymer Composite for Biodegradable Scaffold Application*", The International Conference on the Mechanics of Biomaterials and Tissues -2009, Clearwater, Florida, 13-17 Dec.2009.

15. **D. Lahiri**, F. Rouzaud, A. Keshri, L. Kos, A. Agarwal, "*Biocompatibility of Hydroxyapatite-Carbon Nanotube Composite for Orthopedic Implants with Improved Mechanical Properties*", The International Conference on the Mechanics of Biomaterials and Tissues -2009, Clearwater,Florida, 13-17 Dec.2009.

14. K. Balani, A.K. Keshri, **D. Lahiri**, S.R. Bakshi, J.E. Tercero, A. Agarwal, "*Nanotribology of Plasma Sprayed Hydroxyapatite Reinforced with Aluminum Oxide and Carbon Nanotubes*", International Conference on Advanced Nanomaterials and Nanotechnology, Indian Institute of Technology Guwahati, India 9-11 Dec. 2009.

13. K. Balani, R. G. Batista, **D. Lahiri**, A. Agarwal, "*Non-wetting of Lotus Leaf*", National Metallurgist's Day, Indian Institute of Metals Kolkata, Kolkata, India, 14 Nov. 2009.

12. K. Balani, J. Tercero, S. Kalmodia, S. Namin, D. Lahiri, T. Laha, N. Tsoukias, B. Basu, A. Agarwal, E. Lavernia, "*Cytocompatibility of Hydroxyapatite Reinforces with Aluminium Oxide and Carbon Nanotubes*",

The Fourth Asian Particle Technology Symposium (APT 2009), New Delhi, India, 14-16 Sept. 2009 (Invited).

11. F. Rouzaud, **D. Lahiri**, A. Agarwal, L. Kos, "*Study of Melanocytes Mechanical Properties by Nano-indentation Uncover Membrane Plasticity Behavior*", Meeting of PanAmerican Society of Pigment Cell Research-2009,, Memphis, Tennessee, 4-7 Sep.2009.
10. **D. Lahiri**, S. Namin, T. Richard, A. Keshri, S. Bakshi, N. Tsoukias, A. Agarwal, "*Copolymer-Boron Nitride Nanotube Composite for Biodegradable Scaffold application*", Southern Biomedical Engineering Conference-2009, Miami, 15-17 May.2009.
9. S. Kalmodia, **D. Lahiri**, A. Agarwal, B. Basu, K. Balani, "*Superior Wear Resistance of Biocompatible UHMWPE Reinforced with Hydroxyapatite and CNTs*", Southern Biomedical Engineering Conference-2009, Miami, 15 -14 May.2009.
8. **D. Lahiri**, A. Agarwal, "*Dual Strengthening Mechanism Induced by Carbon Nanotube in Roll Bonded Aluminum Composites*", TMS Annual Meeting-2009, San Francisco, 14 – 18 Feb.2009.
7. S. R. Bakshi, D. Lahiri, A. Agarwal, *"Nanotribological Properties of Carbon Nanotube Reinforced Plasma Sprayed Aluminum-Silicon alloy Composite Coatings"*, 2009 TMS Annual Meeting and Exposition, San Francisco, California, 15-19 Feb, 2009.
6. S.V.R. Rao, **D. Lahiri**, M. Anuradha, J.V. Rajkumar, P. Balakrishna, R.K. Srivastava, "*Investigation on the Effect of Heating Rate on Sintering of Uraniumi Dioxide*", PM2006, India, Jan.2006
5. K. Kapoor, S.V.R. Rao, **D. Lahiri**, T. Sanyal, "*Characterization of Microstructure, Texture and Residual Stress of Fuel Clad Material using X–Ray Diffraction*", **Advanced X-ray techniques in research and industry**, Ed. A.K. Singh, Capital Pub. Co., India, 2006.
4. **D. Lahiri**, S.V.R. Rao, R.K. Srivastava, "*Measurement of Surface Residual Stress in Textured Materials*", Stress tech Conf. on measurement of residual stress, Mumbai, Sept, 2005.
3. **D. Lahiri**, K. Kapoor, S.V.R. Rao, T. Sanyal, "*X-ray Measurement of Near Surface Residual Stress in Textured Cold-Worked Stress Relieved Zirconium Alloy Component for Nuclear Applications*", ZIRC'2002, BARC, India.
2. K. Kapoor, **D. Lahiri**, S.V.R. Rao, T. Sanyal, "*Effect of Hot and Cold Deformation on Texture Evolution in Two Phase Zr-2.5wt%Nb Pressure Tubes for PHWR*", ZIRC'2002, BARC, India.
1. K. Kapoor, **D. Lahiri**, S.V.R. Rao, T. Sanyal, "*Influence of Crystallographic Texture on X-ray Residual Stress Measurement for Ti-3Al-2V Tube Material*", IIM –ATM, 2001

AWARDS & ACHEIVEMENTS

1. Best paper award (third) in IIM-ATM (Indian Institute of Metals - Annual Technical Meeting)-2015.
2. Receipient of Zwick Science Award – 2013. (http://www.zwick.co.in/en/news/news-detail/article/zwick-science-award-foerderung-der-wissenschaft.html)
3. Invited by Provost, FIU to present the research work in Board of Trustees meeting – as recognition to excellent research achievements at FIU – 17 August, 2011.
4. Selected by President, FIU as 'World's Ahead FIU Graduate' for the class of Summer-2011 – recognized in person during Commencement on 13 August, 2011 (http://commencement.fiu.edu/worldsaheadgraduates_Form.php)
5. Recognized as best Doctoral Graduate for Summer-2011 in College of Engineering and Computing, FIU.
6. Recognized for outstanding performance as Doctoral Graduate by Department of Mechanical and Materials Engineering, FIU in Summer-2011.
7. Research works have been highlighted as news (twice) in 'Nanowerk' and 'Nanotech Web' - popular Nanotechnology websites

   http://nanotechweb.org/cws/article/lab/46915

http://www.nanowerk.com/spotlight/spotid=19707.php

8. Recognized by University Graduate School, FIU as "Student Spotlight" – for excellent academic achievements (http://gradschool.fiu.edu/student_spotlight.html)
9. Second best oral presentation award for symposium on "Surfaces and Heterostructures at Nano- or Micro-Scale and Their Characterization, Properties, and Applications" in TMS-2011, San Diego, USA.
10. First place in student poster competition, MS&T-2010, Houston, USA (http://ceramics.org/acers-blog/and-the-winners-are) - American Ceramic Society Bulletin, 2011, Vol. 90, No. 1.
11. First place in student poster competition – Materials Processing and Manufacturing Division, TMS-2009, San Francisco, USA (http://materialstechnology.tms.org/edu/article.aspx?articleID=2475).
12. Recipient of Dissertation Year Fellowship (DYF) by University Graduate School, FIU for Spring-Summer, 2011.
13. Recipient of Dissertation Evidence Acquisition (DEA) Fellowship by University Graduate School, FIU for 2009-2010.
14. Several Travel Awards from
    - Biological Materials Science Division, TMS to attend TMS-2011 conference.
    - Graduate Student Association, FIU – 4 times
15. Selected and served as student delegate to PCSA - President's Council of Student Advisors, American Ceramic Society for 2009-2010 (selected from several material science student applicants, from universities over USA).
16. Several awards in technical competitions in FIU
    - Second place, Scholarly Forum for technical poster presentation, Graduate Student Association, FIU, Spring-2011.
    - Second place, technical poster competition, Material Advantage, FIU Chapter, Spring-2011.
    - Second place, technical oral presentation competition, Material Advantage, FIU Chapter, Fall-2011.
    - Second place, 'Art inside Materials' contest, Material Advantage, FIU Chapter, Spring-2011.
    - First place, technical poster competition, Material advantage, FIU chapter, Spring-2010.
    - Second place, 'Art inside Materials' contest, Material Advantage, FIU Chapter, Spring-2010.
    - Second place, Scholarly Forum for technical presentation, Graduate Student Association, FIU, Spring-2010.
    - First place, technical oral presentation competition, Material Advantage, FIU Chapter, Fall-2009.
    - First place, 'Art inside Materials' contest, Material Advantage, FIU Chapter, Spring-2009.
17. Best member award by Materials Advantage, FIU Chapter for 2010-2011, 2009-10 and 2008-09.
18. Outstanding Member Award for Materials Advantage, Council of Student Organizations, FIU, 2008-2009 (among more than 175 student clubs).
19. Best paper award in IIM-ATM (Indian Institute of Metals - Annual Technical Meeting)-2001.
20. Ranked 1st in M.Tech, MME Dept., IIT Kanpur, India.
21. Ranked 3rd in B.E, Metallurgy Dept., B.E. College, Shibpur, India.
22. Nominated for membership of Sigma Xi Honors Society by Department of Mechanical and Materials Engineering, FIU and sponsored for the same.

TEACHINNG EXPERIENCE

1. MT 411 – Nanomaterials and Application – (undergraduate course)..
2. MT 201B / MT 106 – Material Science (undergraduate course).
3. NT 501 – Nanoscale Materials (graduate course).
4. NT 502 – Strutural Analysis of Nanomaterials (graduate course).
5. MT 308 – Communications Skills (undergraduate course).
6. EGN 3365 – Materials Engineering (undergraduate course) as sole instructor in Fall, 2012 (FIU).
7. Nanoindentation and X-ray Diffraction for EMA 5507C - Analytical Techniques in Materials Science (graduate course) – (FIU).

SUPERVISING PHD THESIS FOR

- Mr. Manoj Kumar R – Topic: Drug Releasing Orthpedic Implant
- Mr. Vijayesh Kumar – Topic: Synthesis of BNNT and its Application in Compsites
- Ms. Pallavi Gupta – Topic: Functionalized Scaffold for Nerve Tissue Engineering
- Ms. Ankita Bisht – Topic: Nanophase Reinforced Polymer Based Composite for Aerospace Application

ADVISING M. TECH CANDIDATES

- **Graduation in Summer 2014:**

  Pramanshu Trivedi: Mg Based Implant for Orthopedic Application

  Sameer Couksey: Carbon Nanotube Based Composites for Li-ion Battery Application

- **Graduation in Summer 2015:**

  Sanjay Singh: Surface Modification of Magnesium Based Alloy for Orthopedic Application

  Kishor Kumar Kuntal: Corrosion Behavior of Surface Modified Mg-Zn Alloy for Orthopedic Application

  Soumyaranjan Nayak: Modification of Mechanical Behavior of Mg-Zn Alloy for Hard Tissue Engineering

FUNDED RESEARCH

1. Polymer Based Orthopedic Implant (PI) – SRIC-IITR – 10 lakhs – 2013-2016
2. Developing Polymer Based Surface Modified Composite for Drug Eluting Orthopedic Implants (PI) – DST, SERB – 24.67 lakhs – 2014-2017
3. Magnesium Based Functionally Gradient Material System for Orthopedic Application (PI) – DST, SERB – 53.91 lakhs – 2015-2018
4. Surface Modified Metallic Orthopedic Implant for Sustained Drug Release (PI) – DST, TSDP – 92.49 lakhs - 2016-2019

OTHER PROFESSIONAL ACTIVITIES

1. Reviewer for –
    - ACS Applied Materials and Interfaces

- Acta Biomaterialia
- Advances in Tribology
- Carbon
- Ceramics International
- Crystal Growth and Design
- Current Applied Physics
- Journal of Alloys and Compounds
- Journal of Crystal Growth and Design
- Journal of Materials Engineering and Performances
- Journal of Thermal Spray Technology
- JOM
- Materials Chemistry and Physics
- Materials Express
- Materials Science and Engineering A
- Metallurgical and Materials Transaction A (received letter of appreciation from the Editor for excellent review)
- Surface and Coatings Technology
- Surface Engineering
- Wear

2. Reviewer for funding agencies from Dept. of Science & Technology and Dept. of Biotechnology, India.
3. Faculty Advisor METES (Metallurgical Engineering Society) at IITR.
4. Visited University of Southampton, UK in summer, 2014 as a part of IIT-Roorkee team.
5. Visited University of Strasbourg, France for one week in February, 2010 as visiting researcher to have exposure on animal studies for bio-implants.
6. Served as in-charge of X-ray Residual Stress Measurement facility and Dialatometry facility in Advanced materials Characterization lab, Nuclear Fuel Complex, Hyderabad, India.
7. Invited speaker and a part of DST, India Delegate in INDOGFOE-2016 – a bilateral symposium between DST, India and Humboldt Foudation Germany, at Potsdam, Germany.

CONTRIBUTIONS TO CONTINUING EDUCATION PROGRAMMES

(i) Offered free tutorship in 'Materials Engineering' course – to undergraduate students in spring-2010, on behalf of Material Advantage, FIU – for better understanding of the subject for students in one to one close supervision.

(ii) Offered seminar on Nanotechnology and its impact on community to high school students at "Coral Park Senior High School" several times during 2009-2010 with interesting demonstration. Received 'letter of appreciation' from Office of Intergovernmental Affairs and Community Engagement, Miami-Dade County, Florida, USA – for community service through outreach activities.

AFFILIATION TO PROFESSIONAL SOCIETIES

1. American Ceramic Society (ACerS)
2. The Minerals, Metals & Materials Society (TMS)
3. Materials Research Society India (MRSI) –Life Member
4. Indian Institute of Metals (IIM) – Life Member

As on 25 May, 2016