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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 $\beta$ 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. Associate Professor, Department of Metallurgical and Materials Engineering, ***Indian Institute of Technology (IIT), Roorkee***, India, December, 2018 onwards.
2. Assistant Professor, Department of Metallurgical and Materials Engineering, ***Indian Institute of Technology (IIT), Roorkee***, India, December, 2012 – December, 2018.
3. Visiting Assistant Professor, Department of Mechanical and Materials Engineering, ***Florida International University***, Miami, Florida, August, 2012 – December, 2012
4. Post Doctoral Researcher, Department of Mechanical and Materials Engineering, ***Florida International University***, Miami, Florida, August, 2011 – August, 2012.
5. Scientific Officer D in **Nuclear Fuel Complex**, Hyderabad, August, 2003 –July,2007
6. Visiting Scientist in ***Nuclear Fuel Complex***, Dept. of Atomic Energy, Govt. of India, Hyderabad, India, July, 2001 - July, 2003.
7. Metallurgist, R&D in ***Indian Aluminium Co. Ltd. (INDAL)***, Belur, India, May, 1999 - January, 2001.

## CURRENT RESEARCH INTERESTS

- Developing biomaterial based systems (implants/scaffolds) for hard and soft tissue engineering and regeneration – e.g., bone, nerve, skin etc.
- Metal/Ceramic/Polymer Matrix composites for structural applications, bioimplants, temporary scaffolds for tissue engineering etc
- 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, dynamic mechanical analysis and tribological studies at nano-scale.

## PUBLICATIONS

***Summary:***

Book - 1
Book Chapters – 6
Peer Reviewed Journal Articles – 108
Patent - 5
h-index – 36 (scopus.com); 39 (google scholar)
Total Citations - 4641 (scopus.com); 5855 (google scholar)
i10 Index – 73 (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.
5. "*3D print technology for Cell Culturing*", S. Haldar, **D. Lahiri**, P. Roy, in "*3D Printing Technology in Nanomedicine*", Editors: N. Ahmad, P. Gopinath, R. Dutta, Elsevier, ISBN: 9780128158906.
6. "*Nutraceuticals in brain health*", S. Haldar, S. Ghosh, V. Kumar, S. Saini, **D. Lahiri**, P. Roy, in "Nutraceuticals in Brain Health and Beyond", Editor: D. Ghosh, Academic Press, ISBN: 978-0-12-820593-8.

## PATENTS

1. 'ORTHOPEDIC METALLIC IMPLANT FOR SUSTAINED DRUG RELEASE': Indian Patent Office - application number '201711024735'.
2. 'A BIODEGRADABLE SKIN SCAFFOLD FOR HEALING DEEP WOUNDS': Indian Patent Office - application number '201911007235'.
3. 'BIOENGINEERED REGENERATIVE SCAFFOLD FOR BURN WOUND HEALING': Indian Patent Office - application number '201911026834'.
4. 'BIOSENSOR FOR DETECTING CANCER USING EXHALED BREATH'. Indian Patent Office - application number '201911030871'.
5. 'IN-SITU CHARGING SYSTEM FOR IMPLANTABLE PACEMAKER'. Indian Patent Office - application number '202011038412'.

**PEER REVIEWED JOURNAL ARTICLES (Published/Accepted)**

108. S. Ghosh, A. Shrivastavaa, P. Jha, P. Roy, **D. Lahiri**, "*Analysis of Neural Cell Behavior on Anisotropic Polymeric biodegradable Scaffolds Reinforced with Carbon Nanotubes*", Medical Devices and Sensors, 2020, DOI: https://doi.org/10.1002/mds3.10152

107. K.N. Sasidhar, P.C. Maity, L. Chakravarty, S. Jaiswal, **D. Lahiri**, I. Lahiri, "*Electrophoretically deposited graphene oxide with modified substrate–suspension interface for tailored field emission response*", **Journal of Applied Electrochemistry**, 2020, DOI: https://doi.org/10.1007/s10800-020-01495-0

106. Abhishek MS, S. Jaiswal, A. Dubey, **D. Lahiri**, A.K. Das, "*Biocompatibility and biodegradability evaluation of magnesium-based intramedullary bone implants in avian model*", **J. Biomedical Materials Research A**, 2020, DOI: https://doi.org/10.1002/jbm.a.37138

105. A. Dubey, S. Jaiswal, S. Haldar, P. Roy, **D. Lahiri**, "*Functionally gradient magnesium based* composite for temporary orthopedic implant with improved corrosion resistance and osteogenic properties", **Biomedical Materials**, 2020, DOI: https://doi.org/10.1088/1748-605X/abb721

104: S. Ghosh, S. Haldar, S. Gupta, A. Bisht, S. Chauhan, V. Kumar, P. Roy, **D. Lahiri**, "*Anisotropically Conductive Biodegradable Scaffold with Coaxially Aligned Carbon Nanotubes for Directional Regeneration of Peripheral Nerves*", **ACS Applied Biomaterials**, 2020, DOI: https://dx.doi.org/10.1021/acsabm.0c00534

103. A. Dubey, S. Jaiswal, **D. lahiri**, "*Assessment of biomechanical stability and formulation of a statistical model on magnesium based composite in two different milieus*", **Journal of the Mechanical Behavior of Biomedical Materials**, Vol. 111, 2020, pp. 103980

102. S. Jaiswal. S. Agrawal, A. Dubey, **D. Lahiri**, "*Effect of multi-axial hot forging process on mechanical, and corrosion resistance behavior of Mg-3Zn alloy for temporary orthopedic implants*", **Engineering Reports**, 2020, DOI: https://doi.org/10.1002/eng2.12286

101. S. Jaiswal, A.Duey, **D.Lahiri**, "*The influence of bioactive hydroxyapatite shape and size on the mechanical and biodegradation behaviour of magnesium based composite*", **Ceramics International**, 2020, DOI: https://doi.org/10.1016/j.ceramint.2020.07.202

100. A. Bisht, S.S. Samant, S. Jaiswal, K. Dasgupta, **D. Lahiri**, "*Quantifying Nanodiamonds Assisted Exfoliation of Graphene and its Effect on Toughening Behaviour of Composite Structure*", **Composites A**, Vol. 132, 2020, pp. 105840.

99. S. Singh, K.K. Pandey, A.R. OS, S. Haldar, **D. Lahiri**, A.K. Keshri, "*Investigation of crystallinity, mechanical properties, fracture toughness and cell proliferation in plasma sprayed graphene nano platelets reinforced hydroxyapatite coating*", **Materials Research Express**,Vol. 7, 2020, pp. 015415.

98. S. Jaiswal, A. Dubey, S. Haldar, P. Roy, **D. Lahiri**, "*Differential in-vitro degradation and protein adhesion behaviour of SPS fabricated magnesium based temporary orthopaedic implant in serum and simulated body fluid*", **Biomedical Materials**, Vol. 15, 2020, pp. 015006.

97. A. Bisht, K. Dasgupta, **D. Lahiri**, "*Evaluating the effect of addition of nanodiamond on the synergistic effect of graphene-carbon nanotube hybrid on the mechanical properties of epoxy based composites*", **Polymer Testing**, Vol. 81, 2020, pp. 106274.

96. G Kaur, A Baishya, R Manoj Kumar, **D Lahiri**, I. Lahiri, "*Distinct Levels of Adhesion Energy of In-Situ Grown CuO Nanostructures*", **Journal of Nanoscience and Nanotechnology**, Vol. 20, 2020, pp. 3527-3534.

95. S. Haldar, A. Sharma, S. Gupta, S. Chauhan, P. Roy, **D. Lahiri**, "*Bioengineered smart trilayer skin tissue substitute for efficient deep wound healing*", **Materials Science and Engineering C**, Vol.105, 2019, pp. 110140.

94. A. Bisht, K. Dasgupta, **D. Lahiri**, "*Investigating the role of 3D network of carbon nanofillers in improving the mechanical properties of carbon fiber epoxy laminated composite*", **Composites A**, Vol. 126, 2019, pp. 105601.

93. K. Rajesh, M.K. Rangaswamy, C. Zhang, S. Haldar, M. Kumarasamy, A. Agarwal, P. Roy, **D. Lahiri**, "*Surface Modified Metallic Orthopedic Implant for Sustained Drug Release and Osteocompatibility*", **ACS Applied Biomaterials,** Vol. 2, 2019, pp. 4181-4192.

92. R.M. Kumar, K. Rajesh, S. Haldar. S. Ghosh, **D. Lahiri**, "*Comparative study on the efficacy of the UHMWPE surface modification by chemical etching and electrostatic spraying method for drug release by orthopedic implants*", **Materials Science and Engineering C**, Vol.105, 2019, 110117.

91. A. Bisht, V. Kumar, P.C. Maity, I. Lahiri, **D. Lahiri**, "*Strong and transparent PMMA sheet reinforced with amine functionalized BN nanoflakes for UV-shielding application*", **Composites B**, Vol. 176, 2019, pp. 107274.

90. A. Dubey, S. Jaiswal, S. Haldar, P. Roy, **D Lahiri**, "*Mg-3Zn/HA Biodegradable Composites Synthesized via Spark Plasma Sintering for Temporary Orthopedic Implants*", **Materials Engineering and Performance,** Vol. 28, 2019, pp. 5702-5715.

89. S. Haldar, S. Ghosh, V. Kumar, P. Roy, **D. Lahiri**, "*The Evolving Neural Tissue Engineering Landscape of India*", **ACS Applied Biomaterials**, Vol. 2, 2019, pp. 5446-5459.

88. S. Jaiswal, A. Dubey, **D. Lahiri**, "*In Vitro Biodegradation and Biocompatibility of Mg–HA-Based Composites for Orthopaedic Applications: A Review*", **Journal of the Indian Institute of Science**, Vol. 99, 2019, pp. 303-327.

87. A. Samanta, S. Podder, M. Kumarasamy, C.K. Ghosh, **D. Lahiri**, P. Roy, S. Bhattacharjee, J. Ghosh, A.K. Mukhopadhyay, "*Au nanoparticle-decorated aragonite microdumbbells for enhanced antibacterial and anticancer activities*", **Materials Science and Engineering C**, Vol. 103, 2019, pp. 109734.

86. A. Bisht, R.M. Kumar, K. Dasgupta, **D. Lahiri**, "*Spatial distribution of nanodiamond and its effect on mechanical behaviour of epoxy based composite using 2D modulus mapping*", **Mechanics of Materials**, Vol. 135, 2019, pp. 114-128.

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84. R.M. Kumar, K. Rajesh, S. Haldar, P. Gupta, K. Murali, P. Roy, **D. Lahiri**, "*Surface modification of CNT reinforced UHMWPE composite for sustained drug delivery*", **Journal of Drug Delivery Science and Technology**, Vol. 52, 2019, pp. 748-759.

83. P. Gupta, A. Agrawal, K. Murali, R. Varshney, S. Beniwal, S. Manhas, P. Roy, **D. Lahiri**, "*Differential neural cell adhesion and neurite outgrowth on carbon nanotube and graphene reinforced polymeric scaffolds*", **Materials Science and Engineering C**, Vol. 97, 2019, pp. 539-551.

82. A. Dubey, S. Jaiswal, **D. Lahiri**, "*Mechanical Integrity of Biodegradable Mg–HA Composite During In Vitro Exposure*", **Materials Engineering and Performance**, Vol. 28, 2019, 800-809.

81. A. Dubey, S. Jaiswal, S. Ghosh, P. Roy, **D. Lahiri**, "*Protein adsorption and biodegradation behaviour of Mg–3Zn/HA for biomedical application*", **Nanomaterials and Energy**, Vol. 8, 2019, pp. 23-33.

80. A. Bisht, V. Kumar, L.H. Li, Y. Chen, A. Agarwal, D. Lahiri, "*Effect of warm rolling and annealing on the mechanical properties of aluminum composite reinforced with boron nitride nanotubes*", **Materials Science and Engineering A**, Vol. 710, 2018, pp. 366-73 **(Journal Impact Factor: 3.414)**

79. V. Kumar, P. Maity, **D. Lahiri**, I. Lahiri, *"Copper Catalyzed Growth of Hexagonal Boron Nitride Nanotubes on Tungsten Substrate"*, **CrystEngComm**, Vol. 20, 2018, pp. 2713-19. (**(Journal Impact Factor: 3.304)**

78. S. Jaiswal, R. Manoj Kumar, P. Gupta, M. Kumaraswamy, P. Roy, **D. Lahir**i, "*Mechanical, corrosion and biocompatibility behaviour of Mg-3Zn-HA biodegradable composites for orthopaedic fixture accessories*", **Journal of the Mechanical Behavior of Biomedical Materials**, Vol. 78, 2018, pp. 442-54. **(Journal Impact Factor: 3.239)**

77. A. Bisht, K. Dasgupta, **D. Lahiri**, "Effect of Graphene and CNT Reinforcement on Mechanical and Thermomechanical Behaviour of Epoxy - A Comparative Study", **Journal of Applied Polymer Science**, Vol. 135, 2018, pp. 46101. **(Journal Impact Factor: 1.900)**

76. R. Kumar, R.M. Kumar, P. Bera, S. Ariharan, **D. Lahiri**, I. Lahiri, "*Temperature-time dependent transmittance, sheet resistance and bonding energy of reduced graphene oxide on soda lime glass*", **Applied Surface Science**, Vol. 425, 2017, pp. 1558-63. **(Journal Impact Factor: 4.439)**

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74. R.M. Kumar, P. Gupta, S.K. Sharma, A. Mittal, M. Sekhar, V. Kumar, B.V. Manoj Kumar, P. Roy, **D. Lahiri**, "*Sustained drug release from surface modified UHMWPE for acetabular cup lining in total hip implant*", **Materials Science and Engineering C**, Vol. 77, 2017, pp. 649-661. **(Journal Impact Factor: 5.080)**

73. A. Nieto, A. Bisht, **D. Lahiri**, C. Zhang, A. agarwal, "*Graphene reinforced metal and ceramic matrix composites: a review*", **International Materials Review**, Vol. 62, 2017, pp. 241-302**. (Journal Impact Factor: 12.703)**

72. R. Kumar, R.M. Kumar, **D. Lahiri**, I. Lahiri, "*Thermally reduced graphene oxide film on soda lime glass as transparent conducting electrode*", **Surfaces and Coatings Technology**, Vol. 309, 2017, pp. 931-937**. (Journal Impact Factor: 2.906)**

71. P. Gupta, **D. Lahiri**, "Aligned *carbon nanotube containing scaffolds for neural tissue regeneration*", **Neural Regeneration Research**, Vol. 11, 2016, pp. 1062-1063. **(Journal Impact Factor: 2.234)**

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68. 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: 3.239)**

67. 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: 2.906)**

66. A.K.Keshri, L. Behl, **D. Lahiri**, G.S. Duikravich, A. Agarwal, *"Dry Sliding Wear Behavior of Hafnium-Based Bulk Metallic Glass at Room and Elevated Temperatures"*, **Journal of Materials Engineering and Performances**, Vol. 25, 2016, pp. 3931-3937. **(Journal Impact Factor: 1.340)**

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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: 3.404)**

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: 4.514)**

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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: 3.779)**

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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: 7.082)**

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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: 2.906)**

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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 Technolog**y, Vol. 30, 2014, pp. 808-813. **(Journal Impact Factor: 3.609)**

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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: 7.082)**

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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: 3.609)**

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"*, **Journal of Physics D: Applied Physics,** Vol. 46, 2013, pp. 145304. **(Journal Impact Factor: 2.521)**

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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. Receipient of Zwick Science Award and Paul Roell Medal – 2013. (https://doi.org/10.1365/s35784-014-0301-y)

2. 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.

3. 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)

4. Recognized as best Doctoral Graduate for Summer-2011 in College of Engineering and Computing, FIU.

5. Recognized for outstanding performance as Doctoral Graduate by Department of Mechanical and Materials Engineering, FIU in Summer-2011.

6. 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

7. Recognized by University Graduate School, FIU as "Student Spotlight" – for excellent academic achievements (http://gradschool.fiu.edu/student_spotlight.html)

8. 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.

9. 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.

10. 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).

11. Recipient of Dissertation Year Fellowship (DYF) by University Graduate School, FIU for Spring-Summer, 2011.

12. Recipient of Dissertation Evidence Acquisition (DEA) Fellowship by University Graduate School, FIU for 2009-2010.
13. Several Travel Awards from
    - Biological Materials Science Division, TMS to attend TMS-2011 conference.
    - Graduate Student Association, FIU – 4 times
14. 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).
15. 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.
16. Best member award by Materials Advantage, FIU Chapter for 2010-2011, 2009-10 and 2008-09.
17. Outstanding Member Award for Materials Advantage, Council of Student Organizations, FIU, 2008-2009 (among more than 175 student clubs).
18. Best paper award in IIM-ATM (Indian Institute of Metals - Annual Technical Meeting)-2001.
19. Ranked 1st in M.Tech, MME Dept., IIT Kanpur, India.
20. Ranked 3rd in B.E, Metallurgy Dept., B.E. College, Shibpur, India.
21. 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 542 – Biomaterials (Electives for Undegraduates and Graduates)
2. MT 501 – Structure of Materials (Graduate course)
3. MT 411/MT 530 – Nanomaterials and Application – (Electives for Undegraduates and Graduates).
4. MT 201B / MT 106 – Material Science (undergraduate course).
5. NT 501 – Nanoscale Materials (graduate course).
6. NT 502 – Strutural Analysis of Nanomaterials (graduate course).
7. MT 308 – Communications Skills (undergraduate course).

8. EGN 3365 – Materials Engineering (undergraduate course) in Fall, 2012 (FIU).
9. 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. Ankita Bisht – Topic: Nanophase Reinforced Polymer Based Composite for Aerospace Application
- Ms. Anshu Dubey – Topic: Functionally Gradieng Mg-HA composite for Orthopaedic Application
- Mr. .Satish Jaiswal – Topic: Mg Based Scaffold for Orthoepdic Application
- Mr. Vaibhav Jain – Topic: Multiscale Carbon Filler Reinforced Epoxy Composites for Structural Application
- Mr. Souvik Ghosh – Topic: Developing Scaffolds for NeuralTissue Engineerng
- Mr. Kanike Rajesh – Topic: Drug Releasing Metallic Implants
- Mr. Siddharth Sharma – Topic: Nenogenerators for Helathcare Application
- Mr. Nitam Tayade – Topic: Polymer Matrix Composite for Damping Application
- Mr. Arabinda Maji – Topic: Regenerative Template for Motor Neuronal Regeneration
- Dr. Nishit Palo – Topic: Temporary Orthopedic Implants
- Ms. Kay Khaing Soe – Topic: Coating in Mg Based Orthopedic Implants

**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

- **Graduation in Summer 2016:**

  Satish Jaiswal: Mg Based Material System for Orthopedic Application

  Mukul Srivastava: Graphene Reinforced Composite for Structural Application

- **Graduation in Summer 2017:**

  Akriti Sharma: Scaffolds for Deep Wound Healing

  Bhagyadhar Das: Synthesis and Characterization of Spark Plasma Sintered $Al_2O_3$-$ZrO_2$-CNT Composites

  Ketan Khamgaonkar: Polymer Based Composite for Structural Application

  Subham Aggarwal: Hot Working of Mg Alloys

- **Graduation in Summer 2018:**

  Jijo Christodus: Hot Worked Al-GNP Composite for Structural Application

  Deepa Garg: Synthesized PHA for Orthopedic Fracture Fixing Application

- **Graduation in Summer 2019:**

  Jose Santo: Carbon Nanofiller Reinforced Epoxy Coating on Steel for Surface Protection

  Isha Goel: Developing Scaffold for Burnt Wound Healing

**AWARDS/ACHIEVEMENTS OF RESEARCH SCHOLARS**

1. Best Paper Award in Materials Science and Engineering at IIM-ATM (Indian Institute of Metals - Annual Technical Meeting) 2019 – Ms. Anshu Dubey
2. Best Poster Award in NANOBIOTECK – 2018, 24th-27th October, 2018 at AIIMS, New Delhi – Ms. Anshu Dubey
3. Best Poster Award in Composite section at IIM-ATM (Indian Institute of Metals - Annual Technical Meeting) 2017 – Mr. Satish Jaiswal
4. Best Poster Award in Biomaterials Section at TMS Annual Meeting 2017, San Diego – Ms. Pallavi Gupta
5. Prestigious EMBO Scholarship for Research Work in European University – 2017 – Ms. Pallavi Gupta
6. Best Paper Award in Material Science at International Conference on Material Sciences (SCICON 16) organized during 19-21 December 2016 at Coimbator – Dr. Vijayesh Kumar
7. Best Paper award in IIM-ATM (Indian Institute of Metals - Annual Technical Meeting)-2015 – Dr. Manoj Kumar R
8. A.K. Bose Gold Medal-2015, by Indian Institution of Metals (IIM) for the best M. Tech Thesis in Metallurgy, Materials Science and Engineering, through a nationwide competition - Mr. Soumya Ranjan Nayak

**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
5. Development of Hybrid Multiscale Carbon Filler Reinforced Epoxy Composites for Structural Application (PI) – BRNS, DAE – 35.42 Lakhs – 2016-2019
6. Developing Polymer Based Scaffold with Electrical and Topographical Cue for Neural Tissue Engineering (PI) – ICMR – 52.69 lakhs – 2017-2020
7. Development of functional scaffolds for soft tissue engineering using 3D bioprinter (PI) – SMILE Grant by SRIC-IITR – 100 Lakhs – 2018-2019
8. A multilayered regenerative scaffold engineered to heal deep wound by mimicking anatomical architecture of natural tissue (PI) – LSRB, DRDO – 29.85 lakhs – 2020–2022
9. Bilayer functionalized scaffold for peripheral nerve and guided motor neuron regeneration (PI) – DST, SERB – 48.62 lakhs – 2020-2023

10. 3D Bio-Stereolithography for Engineering Functional Tissues (PI – IIT Roorkee, Co Ordinator – Prof. K. Chatterjee, IISc) – DST, SERB–IRPHA – 46.68 lakhs – 2020-2025

**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)
    - Acientific Reports
    - Surface and Coatings Technology
    - Surface Engineering
    - Wear
    - And several others
2. Reviewer for proposals from Dept. of Science & Technology and Dept. of Biotechnology, India, ICMR, BRNS.
3. Visited University of Southampton, UK in summer, 2014 as a part of IIT-Roorkee team.
4. Visited University of Strasbourg, France for one week in February, 2010 as visiting researcher to have exposure on animal studies for bio-implants.
5. Invited talk at CSIR-CGCRI, Kolkata on “Hydroxyapatite Modified Mg Alloy for Orthopedic Application” – 30 December, 2015.
6. 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.
7. Invited Talk in Tenth National Frontiers of Engineering Symposium - IIT Kanpur, India – June, 2016
8. Invited Talk at Nanoyantrika by Hysitron India at Trivandrum, India in September, 2017

9. Invited Talk at 19th International Symposium On Eco-materials Processing And Design, Jaipur, India – February, 2018
10. Invited Talk at New Materials for Healthcare- Idea Generation Workshop, Bengaluru, India – May, 2018
11. Invited Talk at BioMET 2018 - International conference on BioMaterials, BioEngineering, and BioTheranostics, VIT, Vellore, India – July, 2018
12. Invited Talk at Biomaterial Implant Consortium meeting at Kalam Institute of Health Technologies, Vishakhapatnam, India – 19 November, 2018.
13. Keynote Lecture at Advancement in Experimental and Clinical Pharmacology - AECP-20K9, MM University, Ambala, India - 16 February, 2019
14. Guest Editor for the special issue on 'Nano-scale Mechanics of Biological Materials' in the Nanomaterials Journal (ISSN 2079-4991)
15. Guest Editor for special issue on 'Recent innovations in Materials for Healthcare' in The Journal of the Indian Institute of Science by Springer, 2019
16. Member of Orthopaedic Instruments, Implants and Accessories Sectional Committee - BUREAU OF INDIAN STANDARDS, Ministry of Consumer Affairs, Food & Public distribution, Govt. of India.
17. Invited talk at Bioterm-2019, IIT Kanpur, 30 November, 2019.
18. Invited Talk at Recent Trends in Biomedical Engineering, NIT Durgapur, India, 4 January, 2020.
19. Invited Talk at Opportunities in Bioceramic Materials in Orthopedic, Dental and Tissue Engineering Application(OBMODTEA 2020), NIT Rourkela, 28 September, 2020
20. Invited Talk at International Conference On Biomedical Materials Innovations ICBMI-2020, IIT Delhi, 9 December, 2020

**ADMINISTRATIVE RESPONSIBILITIES**

1. SPARK Internship Program – IITR Committee Member (2019-2020) and Coordinator (2021).
2. OC, Website - MMED, IITR from 2014 to 2020
3. Member, Printing and Production Committee, Samvad at IITR from 2013 to 2018.
4. Member-Secretary, DRC at MMED, IITR from 2013 to 2018.
5. Faculty Advisor, METES - Students Society at MMED, IITR from 2013 to 2015
6. Stuff Advisor – Sports Council at IITR from 2013 to 2014.
7. Served as OCs and Addl. OCs in different labs and programs at MMED, IITR

**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
5. Society for Tissue Engineering and Regenerative Medicine (India) – Life Member
6. Society for Biomaterials and Artificial Organs India – Life Member