

# Srinivasa Rao Bakshi

*Associate Professor*  
*Department of Metallurgical and Materials Engineering*  
*Indian Institute of Technology Madras*  
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## EDUCATION

Doctor of Philosophy ( <b>Ph.D.</b> ) Materials Science and Engineering	<i>Sept. 2005 – Aug. 2009</i> Department of Mechanical and Materials Engineering, Florida International University, Miami, USA CGPA 3.975/4.0
Master in Engineering ( <b>M.E.</b> ) Metallurgy	<i>Aug. 2001 – Jan. 2003</i> Department of Metallurgy, Indian Institute of Science (IISc), Bangalore, India First Class, CGPA 6.5/8
Bachelor of Engineering ( <b>B.E.</b> ) Metallurgical Engineering	<i>Aug. 1997 – Apr. 2001</i> Department of Metallurgical Engineering, Regional Engineering College (now National Institute of Technology, NIT), Rourkela, India First Class with Honors, 78.45% Marks

## PROFESSIONAL EXPERIENCE

July 2016 – Cont.	Associate Professor, Dept. of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai, India
July 2012 – July 2016	Assistant Professor, Dept. of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai, India
Dec. 2010 – July 2012	Assistant Professor (On Contract), Dept. of Metallurgical and Materials Eng., Indian Institute of Technology Madras, Chennai, India
Aug. 2009 – Nov. 2010	Post Doctoral Researcher, Plasma Forming Laboratory, Florida International University, Miami
Jan 2007 – Aug. 2009	Research Assistant, Dept. of Mechanical and Materials Engineering, Florida International University, Miami
Sept 2005 – Dec 2006	Teaching and Research Assistant, Dept. of Mechanical and Materials Engineering, Florida International University, Miami
Sept 2003 – Sept 2005	Scientific Officer 'C', Post-Irradiation Examination Division, Bhabha Atomic Research Centre (BARC), Mumbai, India

## RESEARCH INTERESTS

1. Surface engineering, thermal spray coatings and weld cladding
2. Reactive sintering and Spark Plasma Sintering of in-situ composites
3. Ultra high temperature ceramic composites
4. Dissimilar metal joining and Adhesive Bonding
5. Carbon nanotube reinforced metal-matrix and ceramic matrix composites
6. Nanomechanical and nano-tribological property evaluation
7. Radiation effects on materials

## TEACHING ACTIVITIES

### *At IIT Madras, Chennai, India*

No.	Course	Semesters
1.	Advanced Powder Processing (MM5430)	Jan.-May 2017
2.	Powder Metallurgy, Refractories and Ceramics (MM4010)	Jul.-Nov. 2016, 2017
3.	Welding Processes (MM5012)	Jul.-Nov. 2013, 2014 & 2015
4.	Materials Characterization (MM3030)	Jan.-May 2012, 2013 & 2014
5.	Industrial Lectures (IL4020 and IL7020)	Jan.-May 2014 & 2015
6.	Solidification Processing (MM 3070)	Jan.-May 2012
7.	Introduction to Research (ID 6020)	Jul.-Nov. 2011 & 2012, Jan.-May 2012
8.	Radiation Effects on Materials (NE 6360)	Jan.-May 2011-2014, 2016
9.	Welding Laboratory I	Jan.-May 2015 & 2016
10.	Nuclear Engineering Lab I (NE6070)	Jan.-May 2014 & 2015
11.	Nuclear Engineering Lab II (NE6070)	Jan.-May 2014 & 2015
12.	Joining and NDT Lab (MM3012)	Jul.-Nov. 2014 & 2015
13.	Materials Characterization Lab (MM3030)	Jan.-May 2014, 2015 and 2016
14.	Advanced Materials Characterization laboratory (MM5028)	Jul.-Nov. 2013-2017
15.	Forming and Casting Lab (MM 3013)	Jan.-May 2012
16.	Materials Selection for Nuclear Systems (NE 6010)	Jul.-Nov. 2011 & 2012
17.	Physical Metallurgy of Ferrous Alloys (MM 5025)	Jan.-May 2011

### *At Florida International University, Miami, USA*

1. **Co-instructor** *Materials in Engineering (EGN 3365)*, Spring 2010, Florida International University
2. Conducted lectures on *FactSage<sup>TM</sup> Thermochemical Software and Database* for graduate students as part of the graduate course on *Thermodynamics of Materials*, Oct. 2008, Oct. 2009 and Nov. 2010, Florida International University

- Teaching Assistant for *Materials in Engineering (EGN 3365)*, Spring 2006, FIU, Miami

#### ADMINISTRATIVE ACTIVITIES

- Head, Nanomaterials Laboratory, March 2013 onwards
- Co-coordinator, M.Tech Nuclear Engineering Programme at IIT Madras, 2011-2013
- M.Tech Project Coordinator for Nuclear Engineering, 2011-2013

#### SPONSORED RESEARCH PROJECTS (COMPLETED)

Sl. No.	Title of Project	Funding Agency	Duration
1	Development of nanocrystalline matrix composites/coatings by mechanical alloying followed by spark plasma sintering/cold spraying.	IITM – New Faculty Seed Grant	13.05.2011 – 12.05.2014
2	Synthesis and Multi-scale Property Evaluation of Multi-walled Carbon Nanotube Reinforced Aluminium Composites having Improved Dispersion	ISRO-IITM cell	02.06.2011 – 01.12.2013
3	Thermally Sprayed Fly-Ash Coatings on Mild Steel for Improved Wear Resistance (Jointly with Prof. Kamaraj)	BHEL Ranipet	03.01.2013 – 31.10.2013
4	Silver matrix composites for electrical applications	GE India	01.12.2013-01.06.2013
5	“Multi-join”- Dissimilar metals joining for automotive applications (Jointly with Dr. G.D. Janaki Ram, Dr. G. Phanikumar, and Prof. Abhijit Deshpande)	DST (TDB)	01.09.2012 – 31.08.2014
6	AMC for SPS, XRD and NI	IITM Research Fund	21.07.2014 - 30.09.2015

#### SPONSORED RESEARCH PROJECTS (ONGOING)

Sl. No.	Title of Project	Funding Agency	Duration
1	Synthesis and thermo-mechanical processing effects on the microstructure and mechanical properties of Ti-Al-Ni-Cr-Co-Fe based multi-component/high-entropy alloys (Jointly with Dr. G. Phanikumar)	ISRO-IITM cell	31.10.2013-30.10.2016
2	Characterization of AHSS and their weldments (Jointly with Dr. G.D. Janaki Ram)	JSW Ltd., Dolvi works	01.05.2014-31.03.2015
3	Development of W-Cu functionally graded nanocrystalline material for the first wall component (Jointly with Prof. B.S. Murty)	BRNS	21.01.2016 - 31.03.2018

## HONOURS AND ACHIEVEMENTS

1. **2016 Institute Research and Development Award (Junior Level)** by Indian Institute of Technology Madras
2. **2014 Outstanding Contribution Award** by ASM International Chennai Chapter
3. **2014 MPMD Young Leader Professional Development Award** of TMS, USA
4. **Travel Award** from Science and Engineering Research Board (SERB) to attend 2014 TMS Annual Meeting and Exhibition held in San Diego, USA on 16-20 Feb. 2014
5. **2013 Young Professional Award** by ASM International Chennai Chapter
6. **Certificate of Merit for International Activities** by Division of Materials and Processing of Japan Society of Mechanical Engineers (JSME)
7. Session Chair/Judge for the session **Processing of Metals (PMX)** held in ISRS-2010, IIT Madras, Chennai, December 20-22, 2010
8. Session Chair for **Nanotube Reinforced Metal Matrix Composites II: Processing of Nanotube Reinforced MMCs II** organized in MS&T 2010 conference, Oct. 17-21, Houston, USA
9. **Outstanding Student Award (Ph.D)** from Department of Mechanical and Materials Engineering, Florida International University for 2009
10. **Dissertation Year Fellowship:** University Graduate School, Florida International University for 2008-2009
11. **Presidential Enhanced Assistantship:** University Graduate School, Florida International University, Fall 2005-Summer 2008
12. Team Leader of the **Winning FIU team: First National Materials Bowl Competition** organized at TMS annual meeting 2007 in Orlando on Feb. 25, 2007 [www.eng.fiu.edu/mme/pdf/jom-0706-64.pdf](http://www.eng.fiu.edu/mme/pdf/jom-0706-64.pdf) (An article on this entitled "Converting Trivia to Cash: Alchemists Win the First TMS Materials Bowl" was published in June 2007 issue of JOM)
13. Nominated for membership of **Sigma Xi** Honors Society 2007-2008 by Department of Mechanical and Materials Engineering, FIU
14. Awarded **Diploma in Nuclear Engineering** for successfully completing the 5 months training course offered by Bhabha Atomic Research Centre, India with 83% marks in 2003
15. **GE-Fund Scholarship** for academic excellence for the year 2001-2002
16. **All India Rank 1** (first rank) in **GATE-2001** in Materials Engineering. GATE (Graduate Aptitude Test in Engineering) is equivalent to GRE (subject test) in Materials Science and Engineering in India
17. Awarded **TMS travel grant** to attend 2009 TMS Annual Meeting and Exhibition held on Feb. 15-19 in San Francisco, USA
18. Won several awards at student poster competition and paper presentation competitions organized by Material Advantage chapter of FIU.

## INVITED TALKS

1. Presented a talk on "Introduction to light alloys" in Workshop on Materials for Automotive Applications organized by ASM International Chennai Chapter in Sri Manakula Vinayagar Engineering College, Puducherry on Sept. 12, 2015
2. Presented a talk on "Principles Thermal Characterization of Materials" in Certificate Course on Materials Characterization organized by IIM HRDC at IIT Madras on July 15-18, 2015

3. Presented a talk on "Processing, Properties and Applications of Aluminum Matrix Composites" in NRB Knowledge Dissemination Workshop on Friction Stir Processing of Aluminium alloys and Composites held on 5th March 2015 at IIT Madras
4. Presented a talk on "Carbon Nanotube Reinforced Metal Matrix Composites" in AICTE-CEP sponsored Short Term Training Programme "Recent Advances in Composite Materials and Machining" which was conducted during 2- 6 February 2015 at IIT Madras
5. Presented a talk on "Cold Metal Transfer MIG Welding" in NRB Knowledge Dissemination Workshop on Joining and Surfacing using Friction Stir and Cold Metal Transfer (CMT)-MIG Processes held on 30-31 January 2015 at IIT Madras
6. Presented a talk on "Surface Modifications and Coatings" in Sundaram Clayton Ltd. in Padi on 15<sup>th</sup> May 2014
7. Presented a talk on "High temperature ceramics" in Sri Manakula Vinayagar Engineering College in Pondichery on 5<sup>th</sup> April 2014
8. Invited Talk "Cold Metal Transfer Technique and its application for overlay coatings" presented in TEQIP sponsored Two-day National Seminar on Recent Trends in Welding Technology and Non-Destructive Testing Methods, 20-21 Sept. 2013, Coimbatore Institute of Technology, Coimbatore, India
9. Lecture on "*Surface Engineering*" in Two-Day Workshop on Metallurgy and Materials for Practicing Engineers & Researchers organized by Indian Institute of Metals Chennai Chapter, September 21-22, 2013, IIT Madras, Chennai, India
10. Invited Talk "*Multi-scale tribological properties and plasma sprayed Al-Si-CNT coatings*", in Asia-Pacific International Conference on Surface Engineering for Research and Industrial Applications (Interfinish-SERIA 2013), 7-9 Aug., 2013, Rajalakshmi Engineering College, Chennai, India
11. Lecture on "*Casting Defects and Failures*" delivered in Two-day workshop on Damage Mechanisms and Analysis of Failures at IIT Madras, 2<sup>nd</sup> March, 2013.
12. Invited Talk "*Object Oriented Finite Element Method and its Applications for Composite Materials*", in SA Engineering College, Avadi, Chennai, 29 Jan. 2013
13. Invited Talk "*Development of Al/CNT composites by powder metallurgy techniques-A Review*", in Processing and Fabrication of Advanced Materials XXI (PFAM-21), 10-13 Dec., 2012, IIT Guwahati, India
14. Invited Talk "*Processing and Mechanical Properties of Carbon Nanotube Reinforced Aluminum Matrix Composites*", in 4th International Conference on Advanced Nano Materials (ANM-2012), IIT Madras, Oct. 17-19, 2012
15. Invited Talk "*Introduction to Nano-tribology*", in one day workshop on Recent trends in Engineering Tribology and Surface Characterization, Sri Venkateswara College of Engineering, Sriperumbudur, 29th September, 2012
16. Invited talk "*Carbon Nanotubes as Reinforcement in Composites*", in Two day workshop on Mechanical Behavior of Composite Materials, Sri Venkateswara College of Engineering, Sriperumbudur, 31<sup>st</sup> March, 2012
17. Invited talk "*Carbon Nanotubes Reinforced Metal Matrix Composites*", Anna University, Chennai, 28<sup>th</sup> March, 2012.
18. Invited talk "*Mechanical and Thermal Properties of Carbon Nanotube Reinforced Aluminium Composites at Multiple Length Scales*" in 99<sup>th</sup> Indian Science Congress Association Meeting, Jan. 4-7, 2012 in KIIT University, Bhubaneswar.

19. Invited talk "*Processing and Applications of Carbon Nanotube Reinforced Metal Matrix Composites*" in Processing and Applications of Advanced Composite Materials, St. Joseph's College of Engineering, Chennai, Nov. 7-19, 2011.
20. Lectures on "*Carbon Nanotubes Synthesis, Properties and Applications*" and "*Carbon Nanotube Reinforced Metal Matrix Composites*" in Recent Advances in Nano Technology and its Applications, Pondicherry Engineering College, 19th Oct. - 2nd Nov. 2011.
21. Lectures on "*Processing and Mechanical Properties of Carbon Nanotube Reinforced Aluminum Matrix Composites*" and "*Tribological Behavior of CNT Reinforced Aluminium Matrix Composites*" in Recent Trends in Composite Materials and Its Processing, KPRIET, Coimbatore, Oct. 7-8, 2011.
22. Lecture on "*Carbon Nanotube Reinforced Aluminum Composites: Current Status and Challenges*" in Vellore Institute of Technology, Katpadi, Sept. 7, 2011.
23. Lecture on "*Processing and Applications of Metal Matrix Composites*" in Two day course on Processing and Application of Composite Materials, IIT Madras, August 26-27, 2011.
24. Invited talk "*Carbon nanotube reinforced metal matrix composites*" in One day workshop on Carbon Nanotubes and its Applications, SSN College of Engineering, Kalavakkam, August 12, 2011
25. Lecture on "*Fundamental concepts in steel heat treatment, hardenability, martensitic and bainitic transformations in steels*" in Two day course on Heat Treatment of Industrial Components, IIT Madras, July 29-30, 2011.
26. Invited talk "*Carbon nanotube reinforced Aluminium composites*" in Staff Development Programme on Recent Advances in Engineering Materials, Rajalakshmi Engineering College, Thandalam, Chennai July 19, 2011
27. Invited talk "*Carbon Nanotube reinforced Aluminum composites – factors affecting strengthening and properties at different length scales*" in LACOM-2011 organized by IIM Trivandrum Chapter, April 28-29, 2011.
28. Invited talk "*Towards High Strength Light Weight Materials: Carbon Nanotube Reinforced Aluminum Matrix Composites*" Organized by Material Advantage Chapter of FIU, Nov. 16 2010.

#### CONFERENCES, SYMPOSIA AND WORKSHOPS ORGANIZED

1. Conference Secretary, **2<sup>nd</sup> Heat Treatment & Surface Engineering Conference And Expo 2016 & Automotive Materials And Manufacturing (HTSE-2016)**, Organized by ASM International Chennai Chapter, 12-14 May 2016, Chennai, India
2. Joint Organizer, Two-day workshop on **Surface Coatings Technologies**, IIT Madras, December 1-2, 2014
3. Joint Organizer, Symposium on **Advances in Surface Engineering: Alloyed and Composite Coatings III**, 2014 TMS Annual Meeting and Exposition, San Diego, USA, Feb. 16-20, 2014.
4. Joint Organizer, One-day workshop on **Thermal Spraying and Cladding**, IIT Madras, 8th October, 2013
5. Joint Organizer, One-day workshop on **Advanced X-ray Techniques and Analysis (AXTA-2013)**, IIT Madras, 27 April, 2013
6. Lead Organizer, Symposium on **Advances in Surface Engineering: Alloyed and Composite Coatings II**, 2013 TMS Annual Meeting and Exposition, San Antonio, USA, March 4-7, 2013.
7. Joint coordinator, Two-day workshop on **Damage Mechanisms and Analysis of Failures**, IIT Madras, 1-2 March, 2013
8. Conference Secretary, **3<sup>rd</sup> Asian Symposium on Materials & Processing (ASMP-2012)**, Aug. 30-31, 2012.

9. Joint Organizer, Symposium on **Advances in Surface Engineering: Alloyed and Composite Coatings**, 2012 TMS Annual Meeting and Exposition, Orlando, USA, March 11-15, 2012.
10. Organizing Committee Member, Two day workshop on **Advanced Ceramics for the Future (ACF-2012)**, IIT Madras, Jan. 16-17, 2012.
11. Joint Convener, One day workshop (APT-2012) on **Atom Probe Tomography**, IIT Madras, Jan. 9, 2012.
12. Joint Coordinator, Two day course on **Heat Treatment of Industrial Components**, IIT Madras, Aug. 26-27, 2011.

## PROFESSIONAL SERVICE

1. **Joint Secretary**, ASM International Chennai Chapter, 2014-2016
2. **Chair (News Letter)**, ASM International Chennai Chapter, 2012-2016
3. **Treasurer**, Indian Institute of Metals Chennai Chapter, 2013-2016.
4. **Secretary**, Indian Institute of Metals Chennai Chapter, 2011-2013.
5. **Vice Chair**, Surface Engineering Committee, Materials Processing and Manufacturing Division, The Minerals, Metals and Materials Society, Oct. 2010 – Apr. 2016
6. **Faculty Advisor**, Material Advantage Chapter of IIT Madras, 2011-2016
7. **Vice Chair**, *Material Advantage* chapter at FIU, 2007-2008
8. **Secretary and Treasurer**, *Phi Beta Delta* Honors Society Alpha Zeta chapter at FIU, 2007 – 2008
9. **Secretary**, *Material Advantage* chapter at FIU, 2006 – 2007
10. **Secretary**, *Phi Beta Delta* Honors Society Alpha Zeta chapter at FIU, 2006 – 2007

## PUBLICATIONS

### Summary

Books: 1

Patents Filed: 1

Paper in International Journals: 58

Papers in Conference Proceedings: 3

Total No. of Citations: 1522

h-Index: 20

Scopus Id: 24177950800

Researcher Id: F-7002-2010

### Book

1. **Carbon Nanotubes Reinforced Metal Matrix Composites** by Arvind Agarwal, *Srinivasa Rao Bakshi* and Debrupa Lahiri. Taylor and Francis Publishers (CRC Press).  
(<http://www.crcpress.com/product/isbn/9781439811498>)

### Patent

1. N.S. Karthiselva, B. S. Murty and Srinivasa Rao Bakshi. Method for fabricating textured ultrahigh temperature diborides. **Indian Patent** Application No. 201641010562

**Papers in Peer reviewed Journals (\*as corresponding author)**

1. Rajiv Kumar, S. R. Bakshi, Joydip Joardar, S. Parida, V. S. Raja and R. K. Singh Raman. Structural Evolution during Milling, Annealing, and Rapid Consolidation of Nanocrystalline Fe–10Cr–3Al Powder. **Materials** 2017, 10, 272; doi:10.3390/ma10030272
2. K. Vasanthakumar, N.S. Karthiselva, Niraj M. Chawake and Srinivasa R. Bakshi\*. Formation of TiC<sub>x</sub> during reactive spark plasma sintering of mechanically milled Ti/carbon nanotube mixtures. **J. Alloys and Compounds**. doi:10.1016/j.jallcom.2017.03.216
3. R. Khanna, G. P. Rajeev, H. Takadama, and Srinivasa R. Bakshi. Fabrication of dense alumina layer on Ti alloy hybrid by cold metal transfer and micro-arc oxidation methods. **J. Mater. Res.** (2017) doi:10.1557/jmr.2017.105
4. N. S. Karthiselva, Sanjay Kasyap, Devinder Yadav, B. S. Murty, and Srinivasa R. Bakshi\*. Densification mechanisms during reactive spark plasma sintering of Titanium diboride and Zirconium diboride. Accepted in **Philosophical Magazine** (2017)
5. Niraj Nayan, Anoop K. Shukla, Prathap Chandran, Srinivasa Rao Bakshi, S.V.S.N. Murty, Bhanu Pant, and P.V. Venkitakrishnan. Processing and characterization of spark plasma sintered copper/carbon nanotube composites. **Materials Science & Engineering A** 682 (2017) 229–237
6. Biswajyoti Mukherjee, O.S. Asiq Rahman, M Sribalaji, Srinivasa Rao Bakshi, and Anup Kumar Keshri. Synergistic effect of carbon nanotube as sintering aid and toughening agent in spark plasma sintered molybdenum disilicide-hafnium carbide composite. **Materials Science & Engineering A** 678 (2016) 299–307
7. Karthiselva N. S. and Srinivasa Rao Bakshi\*. Reactive Spark Plasma Sintering and Mechanical Properties of Zirconium Diboride–Titanium Diboride Ultrahigh Temperature Ceramic Solid Solutions. **Technologies** 2016, 4, 30; doi:10.3390/technologies4030030
8. Pradip K. Patra, Srimanta Sam, Mrigendra Singhai, Sujoy S. Hazra, G. D. Janaki Ram, and Srinivasa Rao Bakshi. Effect of Coiling Temperature on the Microstructure and Mechanical Properties of Hot-Rolled Ti–Nb Microalloyed Ultra High Strength Steel. **Trans. Indian Inst. Met.** DOI 10.1007/s12666-016-0975-8
9. S.L. Pramod, Ravikiran, A.K. Prasada Rao, B.S. Murty\* and Srinivasa R. Bakshi\*, Effect of Sc addition and T6 aging treatment on the microstructure modification and mechanical properties of A356 alloy, **Materials Science & Engineering A** 674 (2016) 438–450
10. B. Debalina, N. Vaishakh, M. Jagannatham, K. Vasanthakumar, N.S. Karthiselva, R. Vinu, Prathap Haridoss, Srinivasa R. Bakshi\*. Effect of different nano-carbon reinforcements on microstructure and properties of TiO<sub>2</sub> composites prepared by spark plasma sintering. **Ceramics International** doi:10.1016/j.ceramint.2016.06.057
11. N.S. Karthiselva and Srinivasa R. Bakshi\*. Carbon nanotube and in-situ titanium carbide reinforced titanium diboride matrix composites synthesized by reactive spark plasma sintering. **Materials Science & Engineering A** 663 (2016) 38–48
12. S. Ozden, G. Brunetto, N.S. Karthiselva, D.S. Galvao, A. Roy, Srinivasa R. Bakshi\*, C.S. Tiwary\*, and P.M. Ajayan. Controlled 3D Carbon Nanotube Structures by Plasma Welding. **Advanced Materials Interfaces** doi:10.1002/admi.201500755
13. Panta Jojibabu, M. Jagannatham, Prathap Haridoss, G.D. Janaki Ram, Abhijit P. Deshpande\*, Srinivasa Rao Bakshi\*. Effect of different carbon nano-fillers on rheological properties and lap shear strength of epoxy adhesive joints. **Composites Part A** 82 (2016) 53–64



14. N.S. Karthiselva, B.S. Murty, Srinivasa R. Bakshi\*. Low temperature synthesis of dense and ultrafine grained zirconium diboride compacts by reactive spark plasma sintering. **Scripta Materialia** 110 (2016) 78–81
15. Srinivasa.R. Bakshi\* and S.P. Harimkar. Surface Engineering for Extreme Conditions. **JOM** 67 (2015) 1526-1527
16. S.L. Pramod, A.K. Prasada Rao, B.S. Murty, and Srinivasa R. Bakshi\*. Effect of Sc addition on the microstructure and wear properties of A356 alloy and A356-TiB<sub>2</sub> in situ composite. **Materials and Design** 24 (2015) 2185-2207
17. S.L. Pramod, Srinivasa R. Bakshi, and B.S. Murty. Aluminum-Based Cast In Situ Composites: A Review. **Journal of Materials Engineering and Performance** 78 (2015) 85-94
18. S. Karthiselva, B.S. Murty and Srinivasa R. Bakshi\*. Low temperature synthesis of dense TiB<sub>2</sub> compacts by reaction spark plasma sintering. **Int. Journal of Refractory Metals and Hard Materials** 48 (2015) 201–210
19. Rajeev G.P., Kamaraj M., and Srinivasa R. Bakshi\*. Al-Si-Mn Alloy Coating on Aluminum Substrate Using Cold Metal Transfer (CMT) Welding Technique. **JOM** 66[6] (2014) 1061-1067
20. Prathap Chandran, Tadepalli Sirimuvva, Niraj Nayan, A.K. Shukla, S.V.S.Narayana Murty, S.L. Pramod, S.C. Sharma, and Srinivasa R. Bakshi\*. Effect of Carbon Nanotube Dispersion on Mechanical Properties of Aluminum-Silicon Alloy Matrix Composites. **Journal of Materials Engineering and Performance** 23 (2014) 1028-1037
21. A.K. Shukla, Niraj Nayan, S.V.S.N. Murty, K. Mondal, S.C. Sharma, Koshy M. George and Srinivasa R. Bakshi. Processing copper–carbon nanotube composite powders by high energy milling. **Materials Characterization** 84 (2013) 58-66
22. D. Lahiri, V. Singh, G.R. Rodrigues, T.M.H. Costa, M.R. Gallas, Srinivasa R. Bakshi, S. Seal, and A. Agarwal. Ultrahigh-pressure consolidation and deformation of tantalum carbide at ambient and high temperatures. **Acta Materialia** 61 (2013) 4001–4009
23. Sandip P. Harimkar, Srinivasa R. Bakshi and Arvind Agarwal. Recent Developments in Surface Engineering of Materials. **JOM** 65 (2013) 739-740
24. Debrupa Lahiri, Evan Khaleghi, Srinivasa R. Bakshi, Eugene A. Olevsky, Arvind Agarwal. Graphene Induced Strengthening in Spark Plasma Sintered Tantalum Carbide-Nanotube Composite. **Scripta Materialia** 68 (2013) 285-288
25. A.K. Shukla, Niraj Nayan, S.V.S.N. Murty, S.C. Sharma, Prathap Chandran, Srinivasa R. Bakshi, Koshy M. George. Processing of copper–carbon nanotube composites by vacuum hot pressing technique. **Materials Science & Engineering A** 560 (2013) 365-371
26. Srinivasa R. Bakshi\*, Sandip P. Harimkar, Arvind Agarwal. Advances in Surface Engineering: Alloyed and Composite Coatings. **JOM** 64 (2012) 680-681
27. Kantesh Balani, Srinivasa R. Bakshi, Tarang Mungole, and Arvind Agarwal. Ab-initio molecular modeling of interfaces in tantalum-carbon system. **Journal of Applied Physics** 111 (2012) 063521
28. Srinivasa R. Bakshi, Akanksha Bhargava, Seyedreza Mohammadzadeh, Arvind Agarwal, Igor Tsukanov, “Computational Estimation of Elastic Properties of Spark Plasma Sintered TaC by Meshfree and Finite Element Methods” **Computational Materials Science** 50 (2011) 2615-2620
29. Srinivasa R. Bakshi, Anup K. Keshri, and Arvind Agarwal, “A Comparison of Mechanical and Wear Properties of Plasma Sprayed Carbon Nanotube Reinforced Aluminum Composites at Nano and Macro Scale”, **Materials Science and Engineering A** 528 (2011) 3375-3384

30. Srinivasa R Bakshi, Vishal Musaramthota, David A. Virzi, Anup K. Keshri, Debrupa Lahiri, Virendra Singh, Sudipta Seal and Arvind Agarwal. "Spark plasma sintered tantalum carbide-carbon nanotube composite: Effect of pressure, carbon nanotube length and dispersion technique on microstructure and mechanical properties" **Materials Science and Engineering A** 528 (2011) 2538-2547
31. Srinivasa R. Bakshi and A. Agarwal. "An analysis of the factors affecting strengthening in carbon nanotube reinforced aluminum composites", **Carbon** 49 (2011) 533-544
32. Srinivasa R. Bakshi, V. Musaramthota, D. Lahiri, V. Singh, S. Seal and 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** 528 (2011) 1287-1295
33. Ashish Singh, Srinivasa R. Bakshi, David A. Virzi, Anup K. Keshri, Arvind Agarwal, and Sandip P. Harimkar, "In-situ Synthesis of TiC/SiC/Ti<sub>3</sub>SiC<sub>2</sub> Composite Coatings by Spark Plasma Sintering", **Surface and Coatings Technology** 205 (2011) 3840-3846
34. Srinivasa R. Bakshi, Riken R. Patel and Arvind Agarwal. "Thermal Conductivity of Carbon Nanotube Reinforced Aluminum Composites: A Multi-scale Study using Object Oriented Finite Element Method", **Computational Materials Science** 50 (2010) 419-428
35. Srinivasa R. Bakshi, Debrupa Lahiri and Arvind Agarwal, "Carbon Nanotube Reinforced Metal Matrix Composite - A Review", **International Materials Review** 55 (2010) 41-64
36. Srinivasa R. Bakshi, Debrupa Lahiri, Riken R. Patel and Arvind Agarwal, "Nanoscratch Behavior of Carbon Nanotube Reinforced Aluminum Coatings" **Thin Solid Films** 518 (2010) 1703-1711
37. Yao Chen, Srinivasa R. Bakshi and A. Agarwal, "Correlation between Nanomechanical and Nanotribological Properties of Carbon Nanotube Reinforced Aluminum Composite Coatings", **Surface and Coatings Technology** 204 (2010) 2709-2715
38. Ashish Singh, Srinivasa R. Bakshi, Arvind Agarwal and Sandip P. Harimkar. "Microstructure and Tribological Behavior of Spark Plasma Sintered Iron-based Amorphous Coatings", **Materials Science and Engineering A** 527 (2010) 5000-5007
39. Debrupa Lahiri, Shabnam Namin, Tanisha Richard, Anup K. Keshri, Srinivasa R. Bakshi, Nikolaos Tsoukias, Arvind Agarwal, "Mechanical Properties and Biocompatibility of Polylactide-Polycaprolactone Copolymer Reinforced with Boron Nitride Nanotubes", **Acta Biomaterialia** 6 (2010) 3524-3533
40. K. Balani, Srinivasa R. Bakshi, D. Lahiri, and Arvind Agarwal, "Grain Growth Behavior of Aluminum Oxide Reinforced with Carbon Nanotubes During Plasma Spraying and Post-Spray Consolidation", **International Journal of Applied Ceramic Technology** 7[6] (2010) 846-855
41. Srinivasa R. Bakshi, Yao Chen, Timothy Price, Deen Zhang, Anup Kumar Keshri, D. Graham McCartney, Phil Shipway and Arvind Agarwal, "Microstructure and Wear Properties of Aluminum/Aluminum-Silicon Composite Coatings Prepared by Cold Spraying", **Surface and Coatings Technology** 204 (2009) 503-510
42. Srinivasa R. Bakshi, Ruben G. Batista and Arvind Agarwal, "Quantification of Carbon Nanotube Dispersion in Randomly Oriented Nanocomposites", **Composites Part A** 40 (2009) 1311-1318
43. Srinivasa R. Bakshi, Anup K. Keshri, Virendra Singh, Sudipta Seal, Arvind Agarwal, "Interface in Carbon Nanotube Reinforced Aluminum Silicon Composites: Thermodynamic Analysis and Experimental Verification", **Journal of Alloys and Compounds** 481 (2009) 207-213
44. Srinivasa R. Bakshi, Virendra Singh, Sudipta Seal, Arvind Agarwal, "Aluminum Composite Reinforced with Multiwalled Carbon Nanotubes from Plasma Spraying of Spray Dried Powders", **Surface and Coatings Technology** 203 (2009) 1544-1554
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47. Anup Kumar Keshri, Kantesh Balani, Srinivasa R. Bakshi, Virendra Singh, Tapas Laha, Sudipta Seal and Arvind Agarwal, "Structural Transformation in Carbon Nanotubes During Thermal Spraying", **Surface and Coatings Technology** 203 (2009) 2193-2201
48. Yao Chen, Srinivasa R. Bakshi and A. Agarwal, "Inter-Splat Friction Force for Splat Sliding in Plasma Sprayed Aluminum-alloy Coating During Nanoindentation and Microindentation" **ACS Applied Materials & Interfaces** 1(2) (2009) 235-238
49. Venkata Pasumarthi, Yao Chen, Srinivasa R. Bakshi and Arvind Agarwal. "Feasibility study of  $Ti_3SiC_2$  Phase Synthesis via Reactive Plasma Spraying" **Journal of Alloys and Compounds** 484 (2009) 113-117
50. Anup Kumar Keshri, Srinivasa R. Bakshi, Yao Chen, Tapas Laha, Xiaohua Li, Cesar Levy and Arvind Agarwal, "Nanomechanical Behavior of Plasma Sprayed PZT Coatings", **Surface Engineering** 25[4] (2009) 270-275
51. Srinivasa R. Bakshi, Virendra Singh, Kantesh Balani, D. Graham McCartney, Sudipta Seal and Arvind Agarwal, "Carbon Nanotube Reinforced Aluminum Composite Coating via Cold Spraying", **Surface and Coatings Technology** 202 (2008) 5162-5169
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53. Srinivasa R. Bakshi, K. Balani, and A. Agarwal, "Thermal Conductivity of Plasma Sprayed Aluminum Oxide-Multiwalled Carbon Nanotube Composites", **Journal of American Ceramic Society** 91[3] (2008) 942–947
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57. K. Balani, Srinivasa R. Bakshi, Y. Chen, T. Laha and A. Agarwal, "Role of Powder Treatment and CNT Dispersion in the Fracture Toughening of Plasma-Sprayed Aluminum Oxide – Carbon Nanotube Ceramic Nanocomposite," **Journal of Nanoscience and Nanotechnology** 7[10] (2007) 3553–3562
58. Dheeraj Jain, C.G.S. Pillai, Srinivasa R. Bakshi, R.V. Kulkarni, E. Ramdasan and K.C. Sahoo, "Thermal diffusivity and thermal conductivity of thoria–lanthana solid solutions up to 10 mol.%  $LaO_{1.5}$ ", **Journal of Nuclear Materials** 353 (2006) 35–41

#### **Conference Proceedings Publications**

1. N.S. Karthiselva, B.S. Murty, and Srinivasa R. Bakshi\*. Densification and mechanical properties of ZrB<sub>2</sub>-TiB<sub>2</sub> ultra high temperature ceramic composites. **Ceramic Engineering and Science Proceedings** 35[8] (2014) 275-285

2. Srinivasa R. Bakshi\*, Prathap Chandran, M. Jagannatham. Development of Al/CNT composites by powder metallurgy techniques-A Review. **Processing and Fabrication of Advanced Materials XXI (PFAM-21)**, 10-13 Dec., 2012, IIT Guwahati, India, Paper 28 (5 pages)
3. Srinivasa R. Bakshi and Arvind Agarwal, "Multiwalled Carbon Nanotubes Reinforced Aluminum Silicon Composites by Plasma Spraying of Spray Dried Powders", **Proceedings of the 2008 NSF Engineering Research and Innovation Conference**, Knoxville, Tennessee, Jan 7 -10<sup>th</sup> 2008

### Technical Reports

1. "IREE Proposal DMI-0634949 - Multi-walled Carbon Nanotube Reinforced Aluminum Nanocomposites by Cold Kinetic Spraying", **National Science Foundation**, Oct 2007  
<http://globalhub.org/resources/880/download/Bakshi.pdf>

### CONFERENCE PRESENTATIONS

1. Tanmay Waghmare, Rajeev G.P, Viswanathan R., Lakshman Neelakantan, and Srinivasa R. Bakshi. Al-Si alloy cladding on AZ91 Magnesium Alloy using Cold Metal Transfer MIG Welding. Presented in International Conference on Magnesium (**iMagCon-2016**) held in VIT University, Chennai on 4-6 February, 2016
2. N.S. Karthiselva, B.S. Murty and Srinivasa Rao Bakshi. Reaction spark plasma sintering of ZrB<sub>2</sub>-TiB<sub>2</sub> ultra high temperature ceramics and their solid solutions. Presented in Advances in Refractory and Reactive Metals and Alloys (**ARRMA – 2016**) Jan. 27-29, 2016 in BARC, Mumbai.
3. Haveela P, Manoj Prabakar, Pramod SL, Nitin Wasekar, Seshadri SK, Lakshman Neelakantan and Srinivasa R. Bakshi. Effect of texture and grain size on the nanomechanical properties of electrodeposited Ni coatings. Nanomechanical Testing Workshop & Hysitron User Meeting (**Nanoyantrika-2015**), 20-22 September 2015, Trivandrum, India.
4. Anand Sekhar R, Niraj Nayan, G Phanikumar, Lakshman Neelakantan and Srinivasa Rao Bakshi. Microstructure and Mechanical, Corrosion and Oxidation Properties of NiTiCuFe Multi-Component Alloy. Presented in **National Workshop on High Entropy Alloys** organized on March 28-29, 2015 IIT Madras
5. N.V.V.V.R. Rajesh, B. Pravallika, N.S. Karthiselva, K.Vasanthakumar, Debalina Bhattacharjee, M. Kamaraj and Srinivasa R. Bakshi. Thermally Sprayed Fly-Ash Coatings on Mild Steel Substrates. **6<sup>th</sup> Asian Thermal Spray Conference** in Hyderabad held on 24-26th Nov. 2014
6. Rajeev G.P., Kamaraj M., and Srinivasa R. Bakshi. Al-Si-Fe Coatings on 6061 Aluminium Alloy Using Cold Metal Transfer Technique. **2014 TMS Annual Meeting and Exhibition**, Feb. 16-20, 2014, San Diego, USA
7. Rajeev G.P., Kamaraj M., and Srinivasa R. Bakshi. Comparison of Stellite Coatings on Valve Steel Material Prepared by Plasma Transferred Arc and Cold Metal Transfer Techniques. **2014 TMS Annual Meeting and Exhibition**, Feb. 16-20, 2014, San Diego, USA
8. Satish Gautam, Christopher David, Karthiselva N.S., B.K. Panigrahi, Nitin Wasekar and Srinivasa R. Bakshi. Effect of Nanocrystalline Grain Size on Mechanical Property Variation during Irradiation of Electrodeposited Nickel Coatings. **2014 TMS Annual Meeting and Exhibition**, Feb. 16-20, 2014, San Diego, USA
9. Srinivasa R. Bakshi, Anup K. Keshri, Debrupa Lahiri and Arvind Agarwal. "Microstructural evolution and multi-scale wear properties of Al-Si-CNT composites coating prepared by plasma spraying". **Heat Treatment and Surface Engineering Conference and Expo 2013**, Chennai, India, 16-18 May, 2013

10. K. Vasanthakumar, N. S. Karthiselva, Niraj Chawake, Prathap Chandran and Srinivasa Rao Bakshi. "Synthesis of Ti/TiC composites by mechanical milling followed by spark plasma sintering of Ti-CNT mixtures". **2013 TMS Annual Meeting and Exhibition**, March 3-7, 2013, San Antonio, USA
11. G. Gautham Prakash, S. L. Pramod, Prathap Chandran, Cheng Zhang, Arvind Agarwal, Daniel Fabijanic, and Srinivasa Rao Bakshi. "Microstructure and wear properties of Ni-Cu-Cr-Al multi-component coatings prepared by plasma spraying". **2013 TMS Annual Meeting and Exhibition**, March 3-7, 2013, San Antonio, USA
12. Prathap Chandran, Shyam Kumar, Niraj Chawake, N. Karthiselva, Niraj Nayan, SVS Narayana Murty and Srinivasa Rao Bakshi. "Mechanical properties and dispersion characteristics of aluminum composites reinforced with carbon nanotubes of different diameters". **2013 TMS Annual Meeting and Exhibition**, March 3-7, 2013, San Antonio, USA
13. Srinivasa R. Bakshi. "Development of Al/CNT composites by powder metallurgy techniques-A Review". **Processing and Fabrication of Advanced Materials XXI (PFAM-21)**, 10-13 Dec., 2012, IIT Guwahati, India
14. Prathap Chandran, Sunita Patra, Niraj Chawake, Shyam Kumar, N. Karthiselva, S. L. Pramod, Niraj Nayan, Srinivasa R. Bakshi. "An attempt on synthesis of Fe-Cementite nanocomposites from Fe-CNT powders by powder metallurgy techniques". **Processing and Applications of Advanced Materials XXI (PFAM-21)**, December 10-13, 2012, Guwahati, India
15. Prathap Chandran, Shyam Kumar, Niraj Chawake, N. Karthiselva, Niraj Nayan, S.V.S.N. Murty, Srinivasa R. Bakshi. "Effect of carbon nanotube (CNT) diameter on the dispersion by ball milling and mechanical properties of Al-CNT composites". **Processing and Applications of Advanced Materials (PFAM-21)**, December 10-13, 2012, Guwahati, India
16. Srinivasa Rao Bakshi. "Processing and Mechanical Properties of Carbon Nanotube Reinforced Aluminum Matrix Composites". **4<sup>th</sup> International Conference on Advanced Nano Materials (ANM-2012)**, Oct. 17-19, 2012, IIT Madras, Chennai, India
17. G. Gautham Prakash, S. L. Pramod, Prathap Chandran, Cheng Zhang, Arvind Agarwal, Daniel Fabijanic, Srinivasa R. Bakshi. "Microstructure and properties of Ni-Cu-Cr-Al multi-component coatings prepared by plasma spraying followed by surface mechanical attrition". **3<sup>rd</sup> Asian Symposium on Materials and Processing (ASMP2012)**, August 30-31, 2012, IIT Madras, Chennai, India
18. Prathap Chandran, T. Sirimuvva, S. L. Pramod, Srinivasa R. Bakshi, Niraj Nayan, S.V.S. Narayana Murty. "Effect of Carbon Nanotube Dispersion on Mechanical Properties of Powder Metallurgy Processed Al-CNT Composites". **International Conference on Strength of Materials (ICSMA-16)**, August 19-24, 2012, Bangalore India.
19. Srinivasa Rao Bakshi and Arvind Agarwal. "Multiscale mechanical and tribological behavior of plasma sprayed carbon nanotube reinforced aluminum composites". **2012 TMS Annual Meeting and Exhibition**, Orlando, USA, 11-15 March, 2012
20. Srinivasa Rao Bakshi and Arvind Agarwal. "Mechanical properties at different length scales and factors affecting strengthening in carbon nanotube reinforced aluminium composites". **49<sup>th</sup> National Metallurgists' Day and 65<sup>th</sup> Annual Technical Meeting of The Indian Institute of Metals**, Hyderabad, 13-16 November, 2011.
21. Srinivasa R. Bakshi and Arvind Agarwal. "Correlation Between Tribological Properties of Carbon Nanotube Reinforced Aluminium Composites at Nano and Macro Length Scales". **Workshop on Mechanical Behaviour of Systems at Small Length Scales**, Trivandrum, 18-21 September, 2011.
22. Srinivasa R. Bakshi and Arvind Agarwal. "Microstructure and Mechanical Properties of Tantalum Carbide Reinforced with Carbon Nanotubes". **AFOSR Biennial Review Meeting**, Dayton, Ohio, 21-22 Sept., 2010

23. Srinivasa R. Bakshi, Vishal Musaramthota and Arvind Agarwal. "Synthesis and Characterization of Multi-walled Carbon Nanotube Reinforced Tantalum Carbide Composites via Spark Plasma Sintering". **12<sup>th</sup> International Conference on Modern Materials and Technologies CIMTEC-2010**, Tuscany, Italy, June 6-11, 2010
24. Srinivasa R. Bakshi, Ruben G. Batista and Arvind Agarwal. "Quantification of Carbon Nanotube Distribution and Property Correlation in Nanocomposites". **2010 TMS Annual Meeting and Exposition**, Seattle, Washington, Feb 14-18, 2010
25. Srinivasa R. Bakshi, Yao Chen, Anup K. Keshri, D. Graham McCartney, Phil Shipway and Arvind Agarwal. "Wear Behavior of Aluminum/Aluminum-Silicon Composite Coatings Prepared by Cold Spraying". **International Thermal Spray Conference ITSC-2009**, Las Vegas, Nevada, May 4-7, 2009
26. Srinivasa R. Bakshi, Virendra Singh, Sudipta Seal, and Arvind Agarwal. "Synthesis and Characterization of Multiwalled Carbon Nanotube Reinforced Aluminum Nanocomposite Via Plasma Spraying of Spray Dried Powders". **International Thermal Spray Conference ITSC-2009**, Las Vegas, Nevada, May 4-7, 2009
27. Srinivasa R. Bakshi, Debrupa Lahiri and Arvind Agarwal. "Nanotribological Properties of Carbon Nanotube Reinforced Plasma Sprayed Aluminum-Silicon alloy Composite Coatings". **2009 TMS Annual Meeting and Exposition**, San Francisco, California, Feb 15-19, 2009
28. Srinivasa R. Bakshi, Virendra Singh, Sudipta Seal, D. Graham McCartney, and Arvind Agarwal. "Multiwalled Carbon Nanotube Reinforced Aluminum Composite Coating via Cold Kinetic Spraying". **MS&T 2008**, Pittsburgh, California, Oct 5-9<sup>th</sup> 2008
29. Srinivasa R. Bakshi, On "The Role of Secretary and Treasurer" on behalf of Material Advantage Chapter of FIU. **MS&T 2008 Chapter Leadership Workshop**, Pittsburgh, California, Oct 5-9<sup>th</sup> 2008
30. Srinivasa R. Bakshi, Tapas Laha, Kantesh Balani, Arvind Agarwal and J. Karthikeyan. "Effect of carrier gas on microstructure, electrochemical and mechanical properties of cold sprayed Al 1100 coating on Al 1100" **International Thermal Spray Conference ITSC-2006** Seattle, Washington, May 15-18<sup>th</sup> 2006
31. D. Lahiri, S. Namin, T. Richard, A. K. Keshri, Srinivasa R. Bakshi, N. Tsoukias, and A. Agarwal. "Copolymer-Boron Nitride Nanotube Composite for Biodegradable Scaffold application". **Southern Biomedical Engineering Conference-2009**, Miami, May 15-17, 2009
32. A. K. Keshri, K. Balani, T. Laha, Srinivasa R. Bakshi, and A. Agarwal, "Comparative Study of Carbon Nanotubes/Plasma Interaction during Various Thermal Spray Processes". **International Thermal Spray Conference ITSC-2009**, Las Vegas, Nevada, May 4-7, 2009
33. Kantesh Balani, Tao Zhang, Srinivasa R. Bakshi, Wenzhi Li, and Arvind Agarwal. "Fracture Toughness Enhancement via Plasma Spraying of Insitu Grown CNT - Al<sub>2</sub>O<sub>3</sub> Nanocomposite Coating". **2007 TMS Annual Meeting and Exposition**, Orlando, FL, Feb. 25- Mar. 1, 2007.
34. Kantesh Balani, Tapas Laha, Srinivasa R. Bakshi, and Arvind Agarwal. "CNT Dispersion in Plasma Sprayed Nano-Al<sub>2</sub>O<sub>3</sub> – CNT Nano-Composite Coating". **MS&T 2006**, Cincinnati, OH, Oct. 15-19, 2006.

#### POSTER PRESENTATIONS

1. Srinivasa R. Bakshi. Effect of Carbon Nanotube (CNT) Diameter on the Microstructure and Properties of Al-CNT Composites. **2014 TMS Annual Meeting and Exhibition**, Feb. 16-20, 2014, San Diego, USA
2. Srinivasa R. Bakshi and Karthiselva. N.S. Reactive Spark Plasma Sintering of TiB<sub>2</sub>-CNT Ultra-high Temperature Ceramic Composites. **2014 TMS Annual Meeting and Exhibition**, Feb. 16-20, 2014, San Diego, USA

3. Srinivasa R. Bakshi, Kantesh Balani, Graham McCartney and Arvind Agarwal. "Carbon nanotubes reinforced aluminum composite coating by cold spray technique". **Heat Treatment and Surface Engineering Conference and Expo 2013**, Chennai, India, 16-18 May, 2013
4. Srinivasa R. Bakshi, Vasanthakumar K, and Karthielva N.S. "Synthesis of Ti-TiC Nanocomposites by in-situ Reaction of Ti-Carbon Mixtures". In TMS Technical Division Young Professional Poster Contest. **2013 TMS Annual Meeting and Exhibition**, March 3-7, 2013, San Antonio, USA
5. Prathap Chandran, Shyam Kumar, Niraj Chawake, N. Karthiselva, Sriram Lunavath, Niraj Nayan, SVS Narayana Murty and Srinivasa Rao Bakshi. "Effect of carbon nanotube (CNT) diameter on the microstructure and mechanical properties of Al-CNT composites". **International Conference on Recent Advances in Composite Materials (ICRACM-2013)**, Feb, 18-21, 2013, Goa, India
6. K. Vasanthakumar, Karthiselva S., Niraj Chawake, Prathap Chandran, Srinivasa R. Bakshi. "Synthesis of Ti/TiC composites by mechanical milling followed by spark plasma sintering of Ti-CNT mixtures". **50<sup>th</sup> National Metallurgists Day Meeting**, Nov. 16-19, 2012, Jamshedpur, India
7. N.S. Karthiselva, S. Praveen, B. S. Murty, Srinivasa R. Bakshi. "Reactive sintering and mechanical properties of ZrB<sub>2</sub>/TiB<sub>2</sub> composites processed by Spark Plasma Sintering". **50<sup>th</sup> National Metallurgists Day Meeting**, Nov. 16-19, 2012, Jamshedpur, India
8. S.L. Pramod, A. Elsayed, Srinivasa R. Bakshi, B.S. Murty, C. Ravindran. "Processing and mechanical properties evaluation of in-situ AZ91- TiB<sub>2</sub>/TiC reinforced composites". **5<sup>th</sup> International Conference on Solidification Science and Processing (ICSSP-5)**, 19-22 Nov. 2012, Bhubaneswar, India
9. Srinivasa R. Bakshi, Riken R. Patel and Arvind Agarwal. "Carbon Nanotube Reinforced Aluminum Coatings and Near Net Shape Structures with Improved Dispersion by Plasma Spraying of Spray Dried Powders". **2009 NSF Engineering Research and Innovation Conference**, June 22-25, 2009, Honolulu, Hawaii, USA
10. Srinivasa R. Bakshi and Arvind Agarwal. "CNT Reinforced Aluminum Nanocomposite with Improved Dispersion by Plasma Spray Forming of Spray Dried Powders". In Students Technical Poster Competition at **2009 TMS Annual Meeting and Exhibition**, Feb 15-19, 2009, San Francisco, California, USA
11. Srinivasa R. Bakshi and Arvind Agarwal. "Near Net Shape Forming of Carbon Nanotube reinforced Aluminum Nanocomposites by Plasma Spray Forming". **2008 NSF Engineering Research and Innovation Conference**, Jan 7 -10, 2008, Knoxville, Tennessee, USA
12. Srinivasa R. Bakshi and Arvind Agarwal. "Multi-walled Carbon Nanotube Reinforced Aluminum Nanocomposites by Cold Kinetic Spraying", **2007 NSF Grantee conference on International Research and Education in Engineering**, Oct. 30 - Nov. 1, 2007, Purdue University, West Lafayette, Indiana, USA
13. Srinivasa R. Bakshi and Arvind Agarwal. "Effect of carrier gas on microstructure, electrochemical and mechanical properties of cold sprayed Al 1100 coating on Al 1100". In Students Technical Poster Competition at **TMS-2006 Annual Meeting and Exhibition**, Mar. 12-16, 2006, San Antonio, Texas, USA

## TRAINING/MENTORING

### Continuing

Sl. No.	Name	Date of joining	Area of research/project topic
<b>Ph.D</b>			
1	Vasanth Kumar	January 2012	Hard metal matrix composites by reaction sintering

2	Anand Sekar	July 2013	Thermo-mechanical processing, joining and irradiation resistance of high entropy alloys
3	Rajeev G. J. (Jointly guided by Prof. M. Kamaraj)	August 2012	Surface coatings by Cold Metal Transfer technique
4	Amit Kuril (Jointly guided by Dr. G. D. Janaki Ram)	January 2014	Welding of Dual Phase Steels
5	K.R. Manivannan (External Ph.D, Jointly with Lakshman Neelakantan)	January 2015	CMT welding and Brazing of dissimilar aluminum alloys
6	Anil Bandi	August 2015	Surface Engineering of Magnesium Alloys
7	Rahul Ravi	Oct. 2015	High entropy alloys for low friction applications
8	Revathi Gorla	July 2016	Reactive spark plasma sintering
<b>M. Tech/Dual Degree</b>			
1	Rajath Alexander	June 2016	B <sub>4</sub> C-carbon composites
2	Manoj Hajare	June 2016	UHTC coatings
3	Varun Reddy	June 2016	FSP of Mg matrix composites
4	Pavan Kumar	June 2016	Max phase coatings
5	Vishal Verma	June 2016	A-TIG welding
6	Ravi Kiran D	June 2016	Dissimilar joining of SS
<b>B.Tech</b>			
1	Gita Gyaneshwari	August 2016	Synthesis of Graphene foams

### **Graduated**

Sl. No.	Name	Year of passing	Area of research/project topic
<b>Ph.D</b>			
1	S. L. Pramod (Jointly guided by Prof. B. S. Murty)	July 2016	Effect of Sc addition on microstructure modification and properties of A356 and A356-TiB <sub>2</sub> composites
2	N. S. Karthiselva	July 2016	Reactive spark plasma sintering of ultra high temperature ceramics
<b>M.S.</b>			
1	Joji Babu Panta (Jointly with Prof. Abhijit Deshpande of Chem. Eng.)	July 2016	Effect of nano-fillers addition on adhesive bonds of dissimilar materials
<b>M.Tech</b>			
1	G. Gautham Prakash	2012	Multi-component Ni-Cu-Cr-Al alloy coatings by plasma spraying
2.	Arun Gopu	2012	Microstructural and Mechanical properties of normalized and tempered RAFM steel.
3	G. Avinash	2013	Fracture toughness evaluation of ferritic steels by



			master curve approach
4	Asif Rizwan	2013	Effect of grain size of nano-mechanical properties of Ni coatings
5	Satish Gautham	2013	Effect of grain size of irradiation behavior of Ni coatings
6	NVVVR Rajesh	2014	Processing of fly-ash for use as structural ceramics
7	Manoj Kumar Velamala	2014	Quantification of nano-filler distribution in nanocomposites
8	Sachin Kola (Jointly with Dr. Saroja Saibaba of IGCAR)	2014	High temperature phase stability, thermal properties and evolution of metallurgical compatibility with 9Cr-1Mo(Gr.91) steels
9	Anoop K.	2015	High Entropy Alloys
10	Vigneswaran B.	2015	Brazing of Ti and Stainless Steels
11	N.S.C Srikanth (Jointly with Dr. G.D. Janaki Ram)	2015	Joining Ti-alloy to Stainless Steels
12	Anvesh G.V.V.S.P. (Civil Eng.)	2015	Studies on Flash Butt Welding
13	Narayana R.C.R.V.S (Civil Eng.)	2015	Al-Steel welding by CMT
14	Sivaramasudhan	June 2015	ZrB <sub>2</sub> -SiC composites
15	PRK Chaitanya (Civil)	June 2015	Welding SS with CMT process
16	Abhishek Gupta	June 2015	Dissimilar SS welding
17	Harlal Choudhary	June 2015	Welding of Mg and Al alloys
<b>B.Tech</b>			
1	Sunita Patra	2012	Preparation and properties of cementite nanorods reinforced Fe composites
2	Chinta Kranthi Kumar	2013	Al-Al <sub>2</sub> O <sub>3</sub> composites by SPS
3	VV Siva Ram	2014	TiO <sub>2</sub> -CNT composites and their photocatalytic properties
4	Chinmoy Harshe	2014	A356-Graphite composites
5	Tanmay W.	2015	Al coatings on Magnesium Alloys
6	Haveela P.	2015	Nanomechanical and Nanotribological studies on nanocrystalline Nickel coatings
7	Nishant K.	August 2015	Oxidation of High Entropy Alloys
<b>IITM Summer Fellows</b>			
1	Sirimuvva T.	2011	Al-CNT composites
2	Shantanu Das	2012	Grain refinement of A356 using CNTs
3	Bhoopathy Bereka	2014	Al-Graphite composites
4	Priyanka V.	2015	ZrB <sub>2</sub> based composites

5	Satyakam Kar	2016	ZrB <sub>2</sub> based composites
6	Shashank DVN	2016	Properties of TiC <sub>x</sub>

### PEER REVIEW ACTIVITIES

Publons Profile: <https://publons.com/author/494488/srinivasa-rao-bakshi#profile>

1. Review of Scientific Instruments (American Institute of Physics)
2. Surface and Coatings Technology (Elsevier)
3. Metallurgical and Materials Transactions A (TMS and Springer)
4. Surface Engineering (Maney Publishing)
5. Journal of Thermal Spray Technology (ASM International)
6. Journal of Composite Materials (SAGE Publications)
7. Materials Chemistry and Physics (Elsevier)
8. Composites Part A (Elsevier)
9. Bulletin of Materials Science (Indian Academy of Sciences and Springer)
10. Journal of Alloys and Compounds (Elsevier)
11. Nanomaterials and Energy (Institute of Civil Engineers Publishing)
12. Nanoscience and Nanotechnology Letters (American Scientific Publishers)
13. Carbon (Elsevier)
14. Materials Science and Engineering A (Elsevier)
15. Composites Science and Technology (Elsevier)
16. Transactions of The Indian Institute of Metals (Springer)
17. Materials Characterization (Elsevier)
18. Intermetallics (Elsevier)
19. Sadhana (Springer)
20. Bulletin of Materials Science (Springer)
21. Journal of Materials Engineering and Performance (Springer)
22. Journal of Nuclear Materials (Elsevier)

### MEMBERSHIPS OF PROFESSIONAL SOCIETIES

1. Life Member, Indian Institute of Metals (CO6-LM-46501)
2. Life Member, Indian Welding Society (L01124)
3. Member, The Minerals, Metals and Materials Society, USA (452054)
4. Member, ASM International, USA (709380)
5. Life Member, Electron Microscopy Society of India (LM-1105)