

## Srinivasa Rao Bakshi

*Professor*

*Head, Surface Modifications and Additive Research Technologies (SMART) Lab*

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### **ACADEMIC QUALIFICATIONS**

Doctor of Philosophy ( <b>Ph.D.</b> )	<i>Sept. 2005 – Aug. 2009</i>
Materials Science and Engineering	Department of Mechanical and Materials Engineering, Florida International University, Miami, USA CGPA 3.975/4.0
Master in Engineering ( <b>M.E.</b> )	<i>Aug. 2001 – Jan. 2003</i>
Metallurgy	Department of Metallurgy, Indian Institute of Science (IISc), Bangalore, India First Class, CGPA 6.5/8
Bachelor of Engineering ( <b>B.E.</b> )	<i>Aug. 1997 – Apr. 2001</i>
Metallurgical Engineering	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 2021 – Cont.	Professor, Dept. of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai, India
July 2016 – July 2021	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. Mechanical alloying, Reactive sintering, and Spark Plasma Sintering of in-situ composites

3. Ultra-high temperature ceramic composites
4. Dissimilar metal joining and Adhesive Bonding
5. Nano-carbon reinforced metal and ceramic matrix composites
6. Nanomechanical and nano-tribological property evaluation

### **TEACHING ACTIVITIES**

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

No.	Course	Semesters
1.	Surface Modifications (MM3200)	Jan.-May 2023
2.	Thermodynamics of Materials (MM2015)	July-Nov. 2021, 2022, 2023
3.	Advanced Powder Processing (MM5430)	Jan.-May 2017, 2018, 2019, 2020, 2021
4.	Powder Metallurgy, Refractories and Ceramics (MM4010)	July-Nov. 2016, 2017, 2018, 2019, 2020
5.	Welding Processes (MM5012)	July-Nov. 2013, 2014 & 2015
6.	Materials Characterization (MM3030)	Jan.-May 2012, 2013 & 2014
7.	Industrial Lectures (IL4020 and IL7020)	Jan.-May 2014 & 2015
8.	Solidification Processing (MM 3070)	Jan.-May 2012
9.	Introduction to Research (ID 6020)	July-Nov. 2011 & 2012, Jan.-May 2012
10.	Radiation Effects on Materials (NE 6360)	Jan.-May 2011-2014, 2016
11.	Welding Laboratory I	Jan.-May 2015 & 2016
12.	Nuclear Engineering Lab I (NE6070)	Jan.-May 2014 & 2015
13.	Nuclear Engineering Lab II (NE6070)	Jan.-May 2014 & 2015
14.	Joining and NDT Lab (MM3012)	July-Nov. 2014 & 2015
15.	Materials Characterization Lab (MM3030)	Jan.-May 2014, 2015 and 2016
16.	Advanced Materials Characterization laboratory (MM5028)	July-Nov. 2013-2017
17.	Forming and Casting Lab (MM 3013)	Jan.-May 2012
18.	Materials Selection for Nuclear Systems (NE 6010)	July-Nov. 2011 & 2012
19.	Physical Metallurgy of Ferrous Alloys (MM 5025)	Jan.-May 2011

### **ADMINISTRATION SERVICES**

1. **Lead PI**, Surface Engineering Vertical of Centre for Materials and Manufacturing for Futuristic Mobility, IIT Madras, 2021-2022
2. **Head**, Surface Modifications and Additive Research Technologies (SMART) Lab, April 2019- cont.
3. **Head**, Nanomaterials Laboratory, March 2013 – March 2019
4. **Co-coordinator**, M.Tech Nuclear Engineering Programme at IIT Madras, 2011-2013
5. **M.Tech Project Coordinator** for Nuclear Engineering, 2011-2013

## **FACILITIES SET-UP**

1. High-Pressure cold spray coating (Plasma Giken PCS-100 equipment, acoustic chamber with dust collector, grit blaster, 20 x 20 N<sub>2</sub> gas cylinder manifold)
2. High-velocity Oxy-fuel spray coating (AMT AG DJ 2600 using H<sub>2</sub> fuel, 10 x 10 H<sub>2</sub> and O<sub>2</sub> gas cylinder manifolds, Automatic fire safety system)
3. Hi-Watch CS2 Particle velocity measuring system
4. High-temperature particle erosion tester
5. Adhesive bonding lab (test bench for lap specimen preparation, fume hood, heating oven, controlled atmosphere chamber, solid CO<sub>2</sub> blasting system, automatic polishing system)
6. Oscillating set-up for depositing weaving beads
7. Facilities for measuring voltage and current waveform during CMT welding
8. Planetary ball mill with inert gas purging facility
9. Supported servicing of DSC, XRD, Dilatometer, and SPS

## **HONORS AND AWARDS**

1. Ranked 3564 (**Top 2%**) among 267149 researchers in the Materials field in the list published by Stanford University on 10-10-2022.  
(<https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/5>)
2. **2022 Institute Research and Development Award (Mid-career Level)** by Indian Institute of Technology Madras
3. **Editorial Board Member**, Composite Interfaces, Taylor and Francis. 2021 onwards
4. Invited to serve as **Reviewer** for **Fulbright-Nehru Postdoctoral Research Fellowship** by United States-India Educational Foundation (USIEF) for 2020-2021
5. **2016 Institute Research and Development Award (Junior Level)** by Indian Institute of Technology Madras
6. **2014 Outstanding Contribution Award** by ASM International Chennai Chapter
7. **2014 MPMD Young Leader Professional Development Award** of The Minerals, Metals and Materials (TMS) Society, USA
8. **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
9. **2013 Young Professional Award** by ASM International Chennai Chapter
10. **Certificate of Merit for International Activities** by Division of Materials and Processing of Japan Society of Mechanical Engineers (JSME)
11. Session Chair/Judge for the session **Processing of Metals (PMX)** held in ISRS-2010, IIT Madras, Chennai, December 20-22, 2010
12. 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
13. Review paper published in International Materials Review during Ph.D. is **3<sup>rd</sup> highest cited paper**
14. **Outstanding Student Award (Ph.D)** from Department of Mechanical and Materials Engineering, Florida International University for 2009
15. **Dissertation Year Fellowship:** University Graduate School, Florida International University for 2008-2009
16. **Presidential Enhanced Assistantship:** University Graduate School, Florida International University, Fall 2005-Summer 2008

17. 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)
18. Nominated for membership of **Sigma Xi** Honors Society 2007-2008 by Department of Mechanical and Materials Engineering, FIU
19. 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
20. **GE-Fund Scholarship** for academic excellence for the year 2001-2002
21. **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
22. Awarded **TMS travel grant** to attend 2009 TMS Annual Meeting and Exhibition held on Feb. 15-19 in San Francisco, USA
23. Won several awards at student poster competition and paper presentation competitions organized by Material Advantage chapter of FIU.

#### **HONORS AND AWARDS (STUDENTS)**

1. S.L. Pramod (Ph.D) - **Canadian Commonwealth Scholarship** from Canadian Bureau for International Education (CBIE) and Foreign Affairs and International Trade Canada (DFAIT) to undergo research work in Ryerson University, Toronto, Canada for four months (15 March – 15 July, 2012).
2. N.S. Karthiselva (Ph.D) - Ph.D thesis was selected for **Innovative Student Project Award - 2017** (Doctoral Level) by Indian National Academy of Engineering (INAE), India
3. N.S. Karthiselva (Ph.D) - **Institute Research award – 2016** by Indian Institute of Technology of Madras in recognition of quality and quantity of the research work.
4. N.S. Karthiselva (Ph.D) - **First Prize** for Poster Presentation in Advances in Refractory and Reactive Metals and Alloys (ARRMA-2016) conference organized by Baba Atomic Research Centre (BARC) on 27-29 January 2016, Mumbai, India
5. N.S. Karthiselva (Ph.D) - **Young Scientist Oral Award 2015** from Materials Research Society of India (MRSI) – Kolkata Chapter at the Young Scientists' Colloquium at Central Glass and Ceramic Research Institute (CGCRI) on 11th September, 2015, Kolkata, India
6. N.S. Karthiselva (Ph.D) - **Travel Grant** from Science and Engineering Research Board (SERB), Department of Science and Technology (DST), Government of India for attending MS&T Conference and Exhibition in Columbus, October 4-8, 2015, Ohio, USA
7. N.S. Karthiselva (Ph.D) - Indian Institute of Metals (IIM) Swarna Jayanti Endowment (SJEF) **Travel Grant** for attending MS&T Conference and Exhibition in Columbus, October 4-8, 2015, Ohio, USA
8. N.S. Karthiselva (Ph.D) - **TMS Travel Grant** for attending 2015 MS&T Conference and Exhibition in Columbus, October 4-8, 2015, Ohio, USA
9. Jojibabu Panta (MS) - **Second best oral presentation** in Material science category at the 52nd National Metallurgist's Day and 68th Annual Technical Meeting of the institution held in College of Engineering, Pune during Nov 12-15, 2014.
10. G.P. Rajeev (Ph.D) - **Best Poster Award** in HT&SE 2016, held on May 12-15, 2016 at Chennai Trade Centre, Chennai, India.

11. G.P. Rajeev (Ph.D) - **Best Poster Award** selected for consolation prize poster in IIW International Congress (IC) 2017, held on Dec 7-9, Chennai Trade Centre, Chennai, India.
12. Pragatheeswaran (Institute PDF) - **Best Poster Award** at International Conference on Advanced Materials and Manufacturing Processes for Strategic Sectors (ICAMPS-2018) organized by IIM Trivandrum Chapter on October 25-27, 2018
13. Gorle Revathi (Ph.D) - **GS Tendolkar Award** for Overall Best Oral Presentation in 73rd Annual Technical Meeting of the Indian Institute of Metals (NMD ATM 2019) held at Trivandrum during November 15-16, 2019.

#### **INVITED TALKS**

1. Delivered series of lectures on Materials Science and Technology at Military Institute of Technology (MILIT) on 9-11 May 2022
2. Delivered and invited talk on "Reactive Spark Plasma Sintering - A Method For Low Temperature Fabrication of Advanced Ceramics" in International Conference on Powder Metallurgy (PMAI PM-22), organized by Powder Metallurgy Association of India on 19 April 2022.
3. Delivered an Invited Talk on "Cold Spray – A New Emerging Coating and AM process" in Two-day symposium on Corrosion and Surface Engineering for Aerospace and Other Applications organized by School of Minerals, Metallurgical and Materials Engineering, IIT Bhubaneswar on March 19-20, 2021
4. Delivered Invited Talks on "History of Powder Metallurgy and Mechanical Alloying" and "Reactive sintering and sintering in microgravity, Liquid Phase Sintering, Sintering theory and mechanism" in Six Day Online QIP Faculty Development Program through the Short-Term Course on "Fundamentals and Advances in Powder Metallurgy" organized by Dept. of Metallurgical Engineering and Materials Science of IIT Indore on March 15-20, 2021
5. Delivered Invited Talk on "Reactive sintering and sintering in microgravity" in TEQIP III Faculty Development Programme on Fundamentals and Advances in Powder Metallurgy organized by Dept. of Metallurgical Engineering and Materials Science of IIT Indore on December 8-10, 2020
6. Presented an Invited Talk on "Cold spray - a new emerging reclamation and AM process" organized by ASM International Bengaluru Chapter on October 4, 2020.
7. Presented an Invited Talk on "Ultra high temperature ceramic composites" in AICTE Sponsored One Week Online Short-Term Training Programme (STTP) on Recent Advances in Materials and Manufacturing (RAMM-2020) organized by Gayatri Vidya Parishad College of Engineering, Visakhapatnam on 8th Sept. 2020
8. Presented a talk on "Cold Spray Technology: Process and Applications" in One day workshop on Coatings for Armament Applications organized by Armament Research & Development Establishment, DRDO, Pune on 30th Jan. 2020.
9. Presented an Invited talk on "Adhesion Strength Measurement Techniques for Cold Spray Coatings" in Discussion Meeting on Thermal Spray Coatings organized by IIT Bombay on 24th Jan. 2020.
10. Presented an Invited talk on "Friction stir welding" in Krysta 2019, an intra-college technical symposium organized by Society of Materials Science Engineering of College of Engineering, Anna University, Chennai on 19th Oct. 2019
11. Presented a talk on "Nanoscratch Technique and its Applications" in 5-Days DST-SERB Sponsored Workshop on Industrial Tribology (IT-2019) organized by SRM Institute of Science and Technology, Chennai on 26th Sept. 2019

12. Presented an Invited talk on "Processing and Applications of Nanocarbon Reinforced Metal Matrix Composites" in Tech Talks on Disruptive technologies organized by Mahindra Research Valley, Chennai on 8th Oct. 2018
13. Presented a talk on "Principles Thermal Characterization of Materials" in Certificate Course on Materials Characterization organized by Indian Institute of Metals HRDC, Kalpakkam on 28th July 2018
14. 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
15. 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
16. 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
17. 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
18. 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
19. Presented a talk on "Surface Modifications and Coatings" in Sundaram Clayton Ltd. in Padi on 15<sup>th</sup> May 2014
20. Presented a talk on "High temperature ceramics" in Sri Manakula Vinayagar Engineering College in Pondicherry on 5<sup>th</sup> April 2014
21. 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
22. 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
23. 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
24. 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.
25. Invited Talk "*Object Oriented Finite Element Method and its Applications for Composite Materials*", in SA Engineering College, Avadi, Chennai, 29 Jan. 2013
26. 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
27. 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
28. 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

29. 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
30. Invited talk "*Carbon Nanotubes Reinforced Metal Matrix Composites*", Anna University, Chennai, 28<sup>th</sup> March, 2012.
31. 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.
32. 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.
33. 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.
34. 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.
35. Lecture on "*Carbon Nanotube Reinforced Aluminum Composites: Current Status and Challenges*" in Vellore Institute of Technology, Katpadi, Sept. 7, 2011.
36. 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.
37. 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
38. 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.
39. 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
40. 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.
41. 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. Joint Organizer, One-day workshop on ***Thermal Spray Technology and applications***, IIT Madras, 26 Oct. 2022
2. One among the 7 Organizers of **the International Conference on Advanced Materials and Mechanical Characterization (ICAMMC 2021-Virtual)**, organized by SRM Institute of Science and Technology, Kattankulathur on 02-04 Dec. 2021
3. Convenor, Surface Engineering, **6th Asian Conference on Heat Treatment & Surface Engineering (AHTSE 2020)** organized by ASM International Chennai Chapter on March 5-7, 2020.

4. Local coordinator, Seminar on **Galvanized re-bars in RCC structures - Life cycle advantages**, 20 January 2020. India Lead Zinc Development Association and IIM Chennai Chapter at IIT Madras
5. Joint Organizer, A two-day workshop on **X-ray Applications in Industry**, June 14-15, 2019. IIM Chennai Chapter at IIT Madras
6. Organizer, Metallography Contest, **NMD ATM 2019**, November 11-13, 2019. Thiruvananthapuram, India
7. Joint Organizer, A one-day workshop on **Chemical Analysis of Materials Using Instrumental Analytical Techniques**, December 3, 2018. IIM Chennai Chapter at IIT Madras
8. Joint Organizer, A two-day workshop on **Nanomechanical Testing - Theory and Applications**, August 4-5, 2018. IIM and ASM Chennai Chapter at IIT Madras
9. Joint Organizer, A one-day workshop on **Thermal Spray Coatings and Applications**, July 18, 2018. IIM Chennai Chapter and Nagaoka University of Technology and Plasma Giken Co. Ltd. at IIT Madras
10. 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
11. Joint Organizer, Two-day workshop on **Surface Coatings Technologies**, IIT Madras, December 1-2, 2014
12. 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.
13. Joint Organizer, One-day workshop on **Thermal Spraying and Cladding**, IIT Madras, 8th October, 2013
14. Joint Organizer, One-day workshop on **Advanced X-ray Techniques and Analysis (AXTA-2013)**, IIT Madras, 27 April, 2013
15. 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.
16. Joint coordinator, Two-day workshop on **Damage Mechanisms and Analysis of Failures**, IIT Madras, 1-2 March, 2013
17. Conference Secretary, **3<sup>rd</sup> Asian Symposium on Materials & Processing (ASMP-2012)**, Aug. 30-31, 2012.
18. Joint Organizer, Symposium on **Advances in Surface Engineering: Alloyed and Composite Coatings**, 2012 TMS Annual Meeting and Exposition, Orlando, USA, March 11-15, 2012.
19. Organizing Committee Member, Two-day workshop on **Advanced Ceramics for the Future (ACF-2012)**, IIT Madras, Jan. 16-17, 2012.
20. Joint Convener, One day workshop (APT-2012) on **Atom Probe Tomography**, IIT Madras, Jan. 9, 2012.
21. Joint Coordinator, Two-day course on **Heat Treatment of Industrial Components**, IIT Madras, Aug. 26-27, 2011.

### **PROFESSIONAL SERVICES**

1. **Vice Chairman**, Indian Thermal Spray Society, 2021-Cont.
2. **Vice Chairman**, ASM International Chennai Chapter, 2019- Cont.
3. **Chairman**, Indian Institute of Metals Chennai Chapter, 2018-2020
4. **Vice Chairman**, Indian Institute of Metals Chennai Chapter, 2016-2018
5. **Secretary**, ASM International Chennai Chapter, 2017-2019
6. **Joint Secretary**, ASM International Chennai Chapter, 2014-2016
7. **Chair (News Letter)**, ASM International Chennai Chapter, 2012-2016
8. **Vice Chairman**, Indian Institute of Metals Chennai Chapter, 2016-2017.
9. **Treasurer**, Indian Institute of Metals Chennai Chapter, 2013-2016.



10. **Secretary**, Indian Institute of Metals Chennai Chapter, 2011-2013.
11. **Vice Chair**, Surface Engineering Committee, Materials Processing and Manufacturing Division, The Minerals, Metals and Materials Society, Oct. 2010 – Apr. 2016
12. **Faculty Advisor**, Material Advantage Chapter of IIT Madras, 2011-2016
13. **Vice Chair**, *Material Advantage* chapter at FIU, 2007-2008
14. **Secretary and Treasurer**, *Phi Beta Delta* Honors Society Alpha Zeta chapter at FIU, 2007 – 2008
15. **Secretary**, *Material Advantage* chapter at FIU, 2006 – 2007
16. **Secretary**, *Phi Beta Delta* Honors Society Alpha Zeta chapter at FIU, 2006 – 2007

## **RESEARCH PROJECTS**

### ***Sponsored Projects (External)***

Sl. No.	Project Title	Role (Sole-PI, PI, Co-PI)	Funding Organization	Start Date (MM/DD/YYYY)	Closure Date (MM/DD/YYYY)	Sanctioned Value (Rs.)
1	High temperature erosion damage characterization of downstream components by particle erosion testing	PI (Co-PI: Prof. M Kamaraj, Prof. SR Chakravarthy)	DRDO (CoPT)	5/30/2017	6/30/2021	11529120
2	High temperature erosion and corrosion of combustor components due to combustion of metallized slurry fuels	Co-PI (PI: Prof. SR Chakravarthy Co-PI: Prof. M Kamaraj)	DRDO (CoPT)	5/30/2017	6/30/2021	6865120
3	Centre of excellence in Iron and Steel Technology (COEXIST)	Co-PI (Lead for Surface Engineering Co-PI: Dr. Lakshman Neelakantan, Prof. M Kamaraj, Prof. G Sundararajan)	Ministry of Iron and Steel	5/9/2017	5/8/2022	355500000
4	Cold Spray Technology Development for Repair and Coating of Aircraft Engine Components	Co-PI (PI: Prof. M Kamaraj Co-PI: Prof. G Sundararajan)	UAY	10/27/2016	12/31/2021	52000000
5	Thermal Insulation of Toughened Yttria Stabilized Zirconia Reinforced with Carbon Nanotube and Graphene for the	Mentor for NPDF proposal	SERB-NPDF	2/5/2019	2/4/2021	2212286

	Application of Thermal Barrier System					
6	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	PI (Co-PI: Prof. G Phanikumar)	ISRO-IITM Cell	10/31/2013	8/31/2017	2828000
7	Synthesis and multi-scale property evaluation of multi-walled carbon nanotube reinforced aluminium composites having improved dispersion	Sole PI	ISRO-IITM Cell	6/2/2011	3/31/2014	2208000
8	Fabrication of SiC Targets and Pulsed Laser Deposition of Functional Thin Films - DST AMT	Co-PI (PI: Prof. Nilesh Vasa Co-PI: Dr. Tiju Thomas)	DST	8/14/2018	2/13/2021	4820000
9	Development of W-Cu functionally graded nanocrystalline material for the first wall component in nuclear fusion power reactor	Co-PI (PI: Prof. BS Murty)	BRNS	4/1/2016	3/31/2018	5302000
10	Adhesive Joining Technologies	Co-PI (PI: Prof. GD Janaki Ram Co-PI: Prof. Abhijit Deshpande)	TDB	10/16/2012	3/31/2017	14600000
Total						457864526

***Sponsored Projects (Internal)***

Sl. No.	Project Title	Role (Sole PI, PI, Co-PI)	Funding Organization	Start Date (MM/DD/YYYY)	Closure Date (MM/DD/YYYY)	Sanctioned Value (Rs.)
1	Institute Research and Development Mid-career Award	Sole PI	IITM	01/05/2022	30/04/2025	4000000

2	Centre for Materials and Manufacturing for Futuristic Mobility - Surface Engineering Vertical	Lead PI (Team of 13 Investigators)	IoE-IITM	3/22/2021	12/31/2026	31200000
3	Hysitron TI950 Nanoindenter with Nanoscratch Facility SPS, XRD with Heating Stage and SAXS Attachments	Sole PI	IC&SR, IITM	3/17/2017	3/16/2018	1140000
4	Institute Research and Development Junior Level Award	Sole PI	IITM	4/25/2016	4/24/2019	2000000
5	AMC for SPS, XRD and NI	Sole PI	IC&SR, IITM	7/21/2014	9/30/2015	1094837
6	Development of nanocrystalline matrix composites/coatings by mechanical alloying followed by spark plasma sintering/cold spraying	Sole PI	New Faculty Seed Grant, IITM	5/13/2011	5/12/2014	484178
7	Support for Sustaining Research (SSR)	Co-PI (PI: Prof. Nilesh Vasa Co-PI: Dr. Tiju Thomas)	IC&SR, IITM	8/3/2020	3/31/2021	250000
<b>Total</b>						<b>40169015</b>

### Consultancy Projects

Sl. No.	Project Title	Role (Sole PI, PI, Co-PI)	Funding Organization	Start Date (MM/DD/YYYY)	Closure Date (MM/DD/YYYY)	Sanctioned Value (Rs.)
1	Development of improved Silt and Cavitation Erosion resistance Coatings for Hydro Turbine components	Co-PI (PI: Prof. MKamaraj, Co-PI: Prof. Dhiman Chatterjee)	Satluj Jal Vidyut Nigam (SJVN) Limited	07/26/2022	07/25/2023	2227200
2	Performance Evaluation of Hard facing materials (Stellite 6 & Colmonoy) Valve components used on valves for nuclear services	Co-PI (PI: Prof. M. Kamaraj)	L and T Valves Ltd.	10/18/2021	10/31/2022	774000

3	Characterization and Analysis of the Materials	Sole PI	Renault Nissan	11/18/2016	6/30/2021	6192475
4	Vetting of BHEL/Indian Standards against International standards for 2X660MW MAITREE BANGLADESH Project	PI (Co-PI: Prof. M Kamaraj)	BHEL	10/10/2018	4/9/2019	269040
5	Characterization of advanced steels & their weldments	PI (Co-PI: Prof. GD Janaki Ram)	JSW Dolvi Works	5/1/2014	5/31/2015	286518
6	Characterization of grinding wheels	Sole PI	SGRI	2/18/2013	2/17/2016	166939
7	Spark Plasma Sintering of Metallic Composites	Sole PI	GE	12/1/2013	6/1/2014	1000000
8	Development of thermally sprayed coating for improved wear and erosion resistant splitters and guide vanes for ESP	PI (Co-PI: Prof. M Kamaraj)	BHEL	1/3/2013	10/31/2013	1050566
Total						11799799

## **PUBLICATION DETAILS**

### ***Summary***

Books: 1

Book Chapters: 2

Patents: 1 granted, 3 filed

Paper in International Journals: 100

Papers in Conference Proceedings: 7

Total No. of Citations: 5146 (Scopus)

h-Index: 37 (Scopus)

Scopus Id: 24177950800

Researcher Id: F-7002-2010

Orc Id. 0000-0001-9487-1971

### ***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>)

Second Edition authored by A Nieto, A Agarwal, D Lahiri, A Bisht, SR Bakshi published in 2021

### **Book Chapters**

1. Rahul Ravi and Srinivasa Rao Bakshi. "Effect of Carbon Addition on the Microstructure and Properties of CoCrFeMnNi High Entropy Alloys" in High Entropy Alloys: Innovations, Advances and Applications. T.S. Srivatsan and Manoj Gupta (eds.). CRC Press. 2020. ISBN 9780367356330
2. S. Milan Shahana, Srinivasa Rao Bakshi, an M. Kamaraj, "High-Temperature Oxidation and Hot Corrosion of Thermal Spray Coatings" in "A Treatise on Corrosion Science, Engineering and Technology", Eds. U. Kamachi Mudali, T. Subba Rao, S. Ningshen, Radhakrishna G. Pillai, Rani P. George, and T. M. Sridhar, 2022, Springer ISBN 978-981-16-9301-4, <https://doi.org/10.1007/978-981-16-9302-1>, pp 407-420

### **Patents Applied**

1. N.S. Karthiselva, B. S. Murty and Srinivasa Rao Bakshi. Method for fabricating textured ultrahigh temperature diborides. **Indian Patent** Application No. 201641010562
2. Srinivasa Rao Bakshi, Gorle Revathi and Vasanthakumar K. A low temperature method for fabrication of dense boron carbide composites. **Indian Patent** No 376105 (Appl. No. 201941005423)
3. Lava Kumar Pillari. Srinivasa Rao Bakshi, B. S. Murty, and Paritosh Chaudhuri. Method for Developing W-Cu Functionally Graded Composites Using High Energy Ball Milling and Spark Plasma Sintering. **Indian Patent** Appl. No. 201921037414
4. Amitkumar A. Kuril, Abhishek Rana, and Srinivasa Rao Bakshi. A method for intervention-less self-learning intelligent welding with identification of workpiece and weld seam. **Indian Patent** Application No. 202141010859

### **Papers in Peer reviewed Journals**

#### *Summary*

Research area	No. of publications
Powder metallurgy, spark plasma sintering, metal and ceramic matrix composites	57
Surface Engineering, Coatings & Nanomechanical and Wear properties	22
Welding, Hardfacing, Materials Joining and Additive Manufacturing	15
Others	6

### **Achievements**

1. Review paper in International Materials Reviews (no. 19) is 4<sup>th</sup> highest cited paper of the journal
2. Review paper in the Journal of Materials Engineering and Performance (no. 40) was selected one of the 30 highlighted papers and provided free access to commemorate 30 years of the journal

**List of publications (\* as first or corresponding author)**

No.	Authors	Title	Journal	Year	Vol.	No.	Pages
1	Dheeraj Jain, C.G.S. Pillai, Srinivasa R. Bakshi, R.V. Kulkarni, E. Ramdasan, K.C. Sahoo	Thermal diffusivity and thermal conductivity of thoria–lanthana solid solutions up to 10 mol.% LaO <sub>1.5</sub>	Journal of Nuclear Materials	2006	353		35-41
2	Balani, Kantesh; Bakshi, Srinivasa Rao; Chen, Yao; Laha, Tapas; Agarwal, Arvind;	Role of powder treatment and carbon nanotube dispersion in the fracture toughening of plasma-sprayed aluminum oxide—carbon nanotube nanocomposite	Journal of Nanoscience and Nanotechnology	2007	7	10	3553-3562
3*	Bakshi, SR; Tercero, JE; Agarwal, A;	Synthesis and characterization of multiwalled carbon nanotube reinforced ultra-high molecular weight polyethylene composite by electrostatic spraying technique	Composites Part A: Applied Science and Manufacturing	2007	38	12	2493-2499
4*	Bakshi, SR; Balani, K; Laha, T; Tercero, J; Agarwal, A;	The nanomechanical and nanoscratch properties of MWNT-reinforced ultrahigh-molecular-weight polyethylene coatings	JOM	2007	59	7	50-53
5*	Bakshi, Srinivasa R; Laha, Tapas; Balani, Kantesh; Agarwal, Arvind; Karthikeyan, Jeganathan;	Effect of carrier gas on mechanical properties and fracture behaviour of cold sprayed aluminium coatings	Surface Engineering	2007	23	1	18-22
6*	Bakshi, Srinivasa R; Singh, Virendra; Balani, Kantesh; McCartney, D Graham; Seal, Sudipta; Agarwal, Arvind;	Carbon nanotube reinforced aluminum composite coating via cold spraying	Surface and Coatings Technology	2008	202	21	5162-5169
7*	Bakshi, Srinivasa R; Singh, Virendra; McCartney, D Graham; Seal, Sudipta; Agarwal, Arvind;	Deformation and damage mechanisms of multiwalled carbon nanotubes under high-velocity impact	Scripta Materialia	2008	59	5	499-502
8*	Bakshi, Srinivas R; Balani, Kantesh; Agarwal, Arvind;	Thermal Conductivity of Plasma-Sprayed Aluminum Oxide—Multiwalled Carbon Nanotube Composites	Journal of the American Ceramic Society	2008	91	3	942-947

9*	Bakshi, Srinivasa R; Singh, Virendra; Seal, Sudipta; Agarwal, Arvind;	Aluminum composite reinforced with multiwalled carbon nanotubes from plasma spraying of spray dried powders	Surface and Coatings Technology	2009	203	11-Oct	1544-1554
10	Lahiri, D; Bakshi, SR; Keshri, AK; Liu, Y; Agarwal, Arvind;	Dual strengthening mechanisms induced by carbon nanotubes in roll bonded aluminum composites	Materials Science and Engineering: A	2009	523	2-Jan	263-270
11*	Bakshi, Srinivasa R; Batista, Ruben G; Agarwal, Arvind;	Quantification of carbon nanotube distribution and property correlation in nanocomposites	Composites Part A: Applied Science and Manufacturing	2009	40	8	1311-1318
12*	Bakshi, Srinivasa R; Keshri, Anup K; Singh, Virendra; Seal, Sudipta; Agarwal, Arvind;	Interface in carbon nanotube reinforced aluminum silicon composites: Thermodynamic analysis and experimental verification	Journal of Alloys and Compounds	2009	481	2-Jan	207-213
13	Pasumarthi, Venkata; Chen, Yao; Bakshi, Srinivasa R; Agarwal, Arvind;	Reaction synthesis of Ti <sub>3</sub> SiC <sub>2</sub> phase in plasma sprayed coating	Journal of Alloys and Compounds	2009	484	2-Jan	113-117
14	Balani, Kantesh; Lahiri, Debrupa; Keshri, Anup K; Bakshi, SR; Tercero, Jorge E; Agarwal, Arvind;	The nano-scratch behavior of biocompatible hydroxyapatite reinforced with aluminum oxide and carbon nanotubes	JOM	2009	61	9	63-66
15*	Bakshi, Srinivasa R; Wang, Di; Price, Timothy; Zhang, Deen; Keshri, Anup K; Chen, Yao; McCartney, D Graham; Shipway, Philip H; Agarwal, Arvind;	Microstructure and wear properties of aluminum/aluminum–silicon composite coatings prepared by cold spraying	Surface and Coatings Technology	2009	204	4	503-510
16	Keshri, Anup Kumar; Balani, Kantesh; Bakshi, Srinivasa R; Singh, Virendra; Laha, Tapas; Seal, Sudipta; Agarwal, Arvind;	Structural transformations in carbon nanotubes during thermal spray processing	Surface and Coatings Technology	2009	203	16	2193-2201
17	Keshri, Anup Kumar; Bakshi, Srinivasa R; Chen, Yao; Laha, Tapas; Li, Xiaohua; Levy, Cesar; Agarwal, Arvind;	Nanomechanical behaviour of plasma sprayed PZT coatings	Surface Engineering	2009	25	4	270-275

18	Chen, Yao; Bakshi, Srinivasa Rao; Agarwal, Arvind;	Intersplat friction force and splat sliding in a plasma-sprayed aluminum alloy coating during nanoindentation and microindentation	ACS applied materials & interfaces	2009	1	2	235-238
19*	Bakshi, Srinivasa R; Lahiri, Debrupa; Agarwal, Arvind;	Carbon nanotube reinforced metal matrix composites-a review	International Materials Reviews	2010	55	1	41-64
20	Lahiri, Debrupa; Rouzaud, Francois; Richard, Tanisha; Keshri, Anup K; Bakshi, Srinivasa R; Kos, Lidia; Agarwal, Arvind;	Boron nitride nanotube reinforced polylactide– polycaprolactone copolymer composite: Mechanical properties and cytocompatibility with osteoblasts and macrophages in vitro	Acta Biomaterialia	2010	6	9	3524-3533
21*	Bakshi, Srinivasa R; Lahiri, Debrupa; Patel, Riken R; Agarwal, Arvind;	Nanoscratch behavior of carbon nanotube reinforced aluminum coatings	Thin Solid Films	2010	518	6	1703-1711
22	Singh, Ashish; Bakshi, Srinivasa R; Agarwal, Arvind; Harimkar, Sandip P;	Microstructure and tribological behavior of spark plasma sintered iron-based amorphous coatings	Materials Science and Engineering: A	2010	527	18-19	5000-5007
23	Chen, Yao; Bakshi, Srinivasa R; Agarwal, Arvind;	Correlation between nanoindentation and nanoscratch properties of carbon nanotube reinforced aluminum composite coatings	Surface and Coatings Technology	2010	204	16-17	2709-2715
24*	Bakshi, Srinivasa R; Patel, Riken R; Agarwal, Arvind;	Thermal conductivity of carbon nanotube reinforced aluminum composites: a multi-scale study using object oriented finite element method	Computational Materials Science	2010	50	2	419-428
25	Balani, Kantesh; Bakshi, Srinivasa R; Lahiri, Debrupa; Agarwal, Arvind; Balani, Kantesh;	Grain growth behavior of aluminum oxide reinforced with carbon nanotube during plasma spraying and post spray consolidation	International Journal of Applied Ceramic Technology	2010	7	6	846-855
26*	Bakshi, Srinivasa R; Agarwal, Arvind;	An analysis of the factors affecting strengthening in carbon nanotube reinforced aluminum composites	Carbon	2011	49	2	533-544



27*	Bakshi, Srinivasa R; Musaramthota, Vishal; Lahiri, Debrupa; Singh, Virendra; Seal, Sudipta; Agarwal, Arvind;	Spark plasma sintered tantalum carbide: Effect of pressure and nano-boron carbide addition on microstructure and mechanical properties	Materials Science and Engineering: A	2011	528	3	1287-1295
28*	Bakshi, Srinivasa R; Musaramthota, Vishal; Virzi, David A; Keshri, Anup K; Lahiri, Debrupa; Singh, Virendra; Seal, Sudipta; Agarwal, Arvind;	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	2011	528	6	2538-2547
29*	Bakshi, Srinivasa R; Keshri, Anup K; Agarwal, Arvind;	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	2011	528	9	3375-3384
30	Singh, Ashish; Bakshi, Srinivasa R; Virzi, David A; Keshri, Anup K; Agarwal, Arvind; Harimkar, Sandip P;	In-situ synthesis of TiC/SiC/Ti <sub>3</sub> SiC <sub>2</sub> composite coatings by spark plasma sintering	Surface and Coatings Technology	2011	205	13-14	3840-3846
31*	Bakshi, Srinivasa R; Bhargava, Akanksha; Mohammadzadeh, Seyedreza; Agarwal, Arvind; Tsukanov, Igor;	Computational estimation of elastic properties of spark plasma sintered TaC by meshfree and finite element methods	Computational materials science	2011	50	9	2615-2620
32	Balani, Kantesh; Bakshi, Srinivasa Rao; Mungole, Tarang; Agarwal, Arvind;	Ab-initio molecular modeling of interfaces in tantalum-carbon system	Journal of Applied Physics	2012	111	6	63521
33	Lahiri, Debrupa; Khaleghi, Evan; Bakshi, Srinivasa Rao; Li, Wei; Olevsky, Eugene A; Agarwal, Arvind;	Graphene-induced strengthening in spark plasma sintered tantalum carbide–nanotube composite	Scripta Materialia	2013	68	5	285-288
34	Shukla, AK; Nayan, Niraj; Murty, SVSN; Sharma, SC; Chandran, Prathap; Bakshi, Srinivasa R; George, Koshy M;	Processing of copper–carbon nanotube composites by vacuum hot pressing technique	Materials Science and Engineering: A	2013	560		365-371
35	Lahiri, Debrupa; Singh, Virendra; Rodrigues, Giovani Ritta; Costa, Tania Maria Haas; Gallas, Marcia R; Bakshi,	Ultrahigh-pressure consolidation and deformation of tantalum carbide at ambient and high temperatures	Acta materialia	2013	61	11	4001-4009

	Srinivasa Rao; Seal, Sudipta; Agarwal, Arvind;						
36	Shukla, AK; Nayan, Niraj; Murty, SVSN; Mondal, K; Sharma, SC; George, Koshy M; Bakshi, Srinivasa Rao;	Processing copper–carbon nanotube composite powders by high energy milling	Materials characterization	2013	84		58-66
37*	Chandran, Prathap; Sirimuvva, Tadepalli; Nayan, Niraj; Shukla, AK; Murty, SVS Narayana; Pramod, SL; Sharma, SC; Bakshi, Srinivasa R;	Effect of carbon nanotube dispersion on mechanical properties of aluminum-silicon alloy matrix composites	Journal of materials engineering and performance	2014	23	3	1028-1037
38*	Rajeev, GP; Kamaraj, M; Bakshi, SR;	Al-Si-Mn alloy coating on aluminum substrate using cold metal transfer (CMT) welding technique	JOM	2014	66	6	1061-1067
39*	Karthiselva, NS; Murty, BS; Bakshi, Srinivasa R;	Low temperature synthesis of dense TiB <sub>2</sub> compacts by reaction spark plasma sintering	International Journal of Refractory Metals and Hard Materials	2015	48		201-210
40	Pramod, SL; Bakshi, Srinivasa R; Murty, BS;	Aluminum-based cast in situ composites: a review	Journal of Materials Engineering and Performance	2015	24	6	2185-2207
41*	Pramod, SL; Rao, AK Prasada; Murty, BS; Bakshi, Srinivasa R;	Effect of Sc addition on the microstructure and wear properties of A356 alloy and A356–TiB <sub>2</sub> in situ composite	Materials & Design	2015	78		85-94
42*	Karthiselva, NS; Murty, BS; Bakshi, Srinivasa R;	Low temperature synthesis of dense and ultrafine grained zirconium diboride compacts by reactive spark plasma sintering	Scripta Materialia	2016	110		78-81
43*	Jojibabu, Panta; Jagannatham, M; Haridoss, Prathap; Ram, GD Janaki; Deshpande, Abhijit P; Bakshi, Srinivasa Rao;	Effect of different carbon nano-fillers on rheological properties and lap shear strength of epoxy adhesive joints	Composites Part A: Applied Science and Manufacturing	2016	82		53-64
44	Ozden, Sehmus; Brunetto, Gustavo; Karthiselva, NS; Galvão, Douglas S; Roy, Ajit;	Controlled 3D carbon nanotube structures by plasma welding	Advanced Materials Interfaces	2016	3	13	1500755

	Bakshi, Srinivasa R; Tiwary, Chandra S; Ajayan, Pulickel M;						
45*	Karthiselva, NS; Bakshi, Srinivasa R;	Carbon nanotube and in-situ titanium carbide reinforced titanium diboride matrix composites synthesized by reactive spark plasma sintering	Materials Science and Engineering: A	2016	663		38-48
46*	Debalina, B; Vaishakh, N; Jagannatham, M; Vasanthakumar, K; Karthiselva, NS; Vinu, R; Haridoss, Prathap; Bakshi, Srinivasa R;	Effect of different nano- carbon reinforcements on microstructure and properties of TiO <sub>2</sub> composites prepared by spark plasma sintering	Ceramics International	2016	42	12	14266-14277
47*	Pramod, SL; Rao, AK Prasada; Murty, BS; Bakshi, Srinivasa R;	Effect of Sc addition and T6 aging treatment on the microstructure modification and mechanical properties of A356 alloy	Materials Science and Engineering: A	2016	674		438-450
48*	Karthiselva, NS; Bakshi, Srinivasa Rao;	Reactive spark plasma sintering and mechanical properties of zirconium Diboride–titanium Diboride ultrahigh temperature ceramic solid solutions	Technologies	2016	4	3	30 (1-11)
49	Mukherjee, Biswajyoti; Rahman, OS Asiq; Sribalaji, M; Bakshi, Srinivasa Rao; Keshri, Anup Kumar;	Synergistic effect of carbon nanotube as sintering aid and toughening agent in spark plasma sintered molybdenum disilicide-hafnium carbide composite	Materials Science and Engineering: A	2016	678		299-307
50	Patra, Pradip K; Sam, Srimanta; Singhai, Mrigandara; Hazra, Sujoy S; Ram, GD Janaki; Bakshi, Srinivasa Rao;	Effect of Coiling Temperature on the Microstructure and Mechanical Properties of Hot- Rolled Ti–Nb Microalloyed Ultra High Strength Steel	Transactions of the Indian Institute of Metals	2017	70	7	1773-1781
51	Nayan, Niraj; Shukla, Anoop K; Chandran, Prathap; Bakshi, Srinivasa Rao; Murty, SVSN; Pant, Bhanu; Venkitakrishnan, PV;	Processing and characterization of spark plasma sintered copper/carbon nanotube composites	Materials Science and Engineering: A	2017	682		229-237
52	Kumar, Rajiv; Bakshi, SR; Joardar, Joydip; Parida, S; Raja, VS; Singh Raman, RK;	Structural Evolution during Milling, Annealing, and Rapid Consolidation of	Materials	2017	10	3	272

		Nanocrystalline Fe–10Cr–3Al Powder					
53*	Vasanthakumar, K; Karthiselva, NS; Chawake, Niraj M; Bakshi, Srinivasa Rao;	Formation of TiC <sub>x</sub> during reactive spark plasma sintering of mechanically milled Ti/carbon nanotube mixtures	Journal of Alloys and Compounds	2017	709		829-841
54	Khanna, Rohit; Rajeev, Ganapathiyankavu Pisharam; Takadama, Hiroaki; Bakshi, Srinivasa Rao;	Fabrication of dense alumina layer on Ti alloy hybrid by cold metal transfer and micro-arc oxidation methods	Journal of Materials Research	2017	32	17	3415-3424
55*	Karthiselva, NS; Kashyap, Sanjay; Yadav, Devinder; Murty, BS; Bakshi, Srinivasa R;	Densification mechanisms during reactive spark plasma sintering of Titanium diboride and Zirconium diboride	Philosophical Magazine	2017	97	19	1588-1609
56*	Jojibabu, Panta; Ram, GD Janaki; Deshpande, Abhijit P; Bakshi, Srinivasa Rao;	Effect of carbon nano-filler addition on the degradation of epoxy adhesive joints subjected to hygrothermal aging	Polymer Degradation and Stability	2017	140		84-94
57*	Rajeev, GP; Kamaraj, M; Bakshi, Srinivasa R;	Hardfacing of AISI H13 tool steel with Stellite 21 alloy using cold metal transfer welding process	Surface and Coatings Technology	2017	326		63-71
58	Sribalaji, M; Mukherjee, Biswajyoti; Bakshi, Srinivasa Rao; Arunkumar, P; Babu, K Suresh; Keshri, Anup Kumar;	In-situ formed graphene nanoribbon induced toughening and thermal shock resistance of spark plasma sintered carbon nanotube reinforced titanium carbide composite	Composites Part B: Engineering	2017	123		227-240
59*	Vasanthakumar, K; Bakshi, Srinivasa Rao;	Effect of C/Ti ratio on densification, microstructure and mechanical properties of TiC <sub>x</sub> prepared by reactive spark plasma sintering	Ceramics International	2018	44	1	484-494
60	Alexander, Rajath; Murthy, TSR Ch; Ravikanth, KV; Prakash, Jyoti; Mahata, Tarasankar; Bakshi, Srinivasa Rao; Krishnan, Madangopal; Dasgupta, Kinshuk;	Effect of graphene nano-platelet reinforcement on the mechanical properties of hot-pressed boron carbide-based composite	Ceramics International	2018	44	8	9830-9838

61*	Karthiselva, NS; Murty, BS; Bakshi, Srinivasa R;	Graphene nanoplatelets induce crystallographic texturing during reactive spark plasma sintering of titanium diboride	Carbon	2018	133		323-334
62	Alexander, Rajath; Murthy, TSR Ch; Vasanthakumar, K; Karthiselva, NS; Bakshi, Srinivasa Rao; Dasgupta, Kinshuk;	In-situ synthesis and densification of boron carbide and boron carbide-graphene nanoplatelet composite by reactive spark plasma sintering	Ceramics International	2018	44	17	21132-21137
63	Dash, Manmath Kumar; Mythili, R; Ravi, Rahul; Sakthivel, T; Dasgupta, Arup; Saroja, S; Bakshi, Srinivasa Rao;	Microstructure and mechanical properties of oxide dispersion strengthened 18Cr-ferritic steel consolidated by spark plasma sintering	Materials Science and Engineering: A	2018	736		137-147
64*	Sekhar, R Anand; Nayan, Niraj; Bakshi, Srinivasa Rao;	Microstructure and Mechanical Properties of NiTiCuFe Multi-component Alloy	Transactions of the Indian Institute of Metals	2018	71	11	2789-2793
65*	Pramod, SL; Rao, AK Prasada; Murty, BS; Bakshi, Srinivasa R;	Microstructure and mechanical properties of as-cast and T6 treated Sc modified A356-5TiB <sub>2</sub> in-situ composite	Materials Science and Engineering: A	2019	739		383-394
66	Goyal, Versha; Ravi, Rahul; Bakshi, SR; Soni, PR;	Development and Mechanical Properties of In Situ Al <sub>3</sub> Ti-Reinforced Nanostructured AA6061 via Mechanical Alloying	Journal of Materials Engineering and Performance	2019	28	1	117-122
67*	Sekhar, R Anand; Samal, Sumanta; Nayan, Niraj; Bakshi, Srinivasa Rao;	Microstructure and mechanical properties of Ti-Al-Ni-Co-Fe based high entropy alloys prepared by powder metallurgy route	Journal of Alloys and Compounds	2019	787		123-132
68*	Sekhar, R Anand; Bakshi, Srinivasa Rao;	Microstructural Evolution of Ti-Al-Ni (Cr, Co, Fe)-Based High-Entropy Alloys Processed Through Mechanical Alloying	Transactions of the Indian Institute of Metals	2019	72	6	1427-1430
69*	Kuril, Amit A; Ram, GD Janaki; Bakshi, Srinivasa R;	Microstructure and mechanical properties of keyhole plasma arc welded dual phase steel DP600	Journal of Materials Processing Technology	2019	270		28-36

70*	Vasanthakumar, K; Ghosh, Sreetama; Koundinya, NTBN; Ramaprabhu, Sundara; Bakshi, Srinivasa Rao;	Synthesis and mechanical properties of TiC <sub>x</sub> and Ti(C,N) reinforced Titanium matrix in situ composites by reactive spark plasma sintering	Materials Science and Engineering: A	2019	759		30-39
71*	Sekhar, R Anand; Bakshi, Srinivasa Rao;	Microstructure and Mechanical Properties of Ti–Al–Ni–Cr–Co–Fe–Based High-Entropy Alloys	Transactions of the Indian Institute of Metals	2019	72	6	1413-1416
72*	Kuril, Amit A; Ram, GD Janaki; Bakshi, Srinivasa R;	Solidification and Liquation Cracking Behavior of Dual-Phase Steel DP600	Metallurgical and Materials Transactions B	2019	50	4	2029-2036
73*	Shanbhog, Nagaraj; Vasanthakumar, K; Arunachalam, N; Bakshi, Srinivasa Rao;	Effect of graphene nanoplatelet addition on the microstructure and spark plasma sintering kinetics of zirconium diboride	International Journal of Refractory Metals and Hard Materials	2019	84		104979
74*	Rajeev, GP; Kamaraj, M; Bakshi, Srinivasa R;	Effect of correction parameters on deposition characteristics in cold metal transfer welding	Materials and Manufacturing Processes	2019	34	11	1205-1216
75*	Rajeev, GP; Kamaraj, M; Bakshi, Srinivasa R;	Comparison of microstructure, dilution and wear behavior of Stellite 21 hardfacing on H13 steel using cold metal transfer and plasma transferred arc welding processes	Surface and Coatings Technology	2019	375		383-394
76*	Pragatheeswaran, A; Ravi, Rahul; Bakshi, Srinivasa Rao;	Microstructural and morphological changes during ball milling of Copper-Silver-Graphite flake mixtures	Advanced Powder Technology	2019	30	11	2759-2767
77*	Kuril, Amit A; Jagannatham, M; Ram, GD Janaki; Bakshi, Srinivasa R;	Transmission Electron Microscopy Studies of Plasma Arc-Welded DP600 Dual-Phase Steel in Keyhole Mode	Metallurgical and Materials Transactions A	2019	50	12	5689-5699
78*	Kuril, Amit A; Jagannatham, M; Ram, GD Janaki; Bakshi, Srinivasa R;	Effect of Post-Weld Heat Treatment on the Microstructure of Plasma Arc Welded DP600 Steel	Metallography, Microstructure, and Analysis	2019	8	6	848-860
79*	Jagannatham, M; Chandran, Prathap; Sankaran, S; Haridoss, Prathap; Nayan, Niraj; Bakshi, Srinivasa R;	Tensile properties of carbon nanotubes reinforced aluminum matrix composites: A review	Carbon	2020	160		14-44

80*	Rajeev, GP; Rahul, MR; Kamaraj, M; Bakshi, Srinivasa R;	Microstructure and high temperature mechanical properties of wire arc additively deposited Stellite 6 alloy	Materialia	2020	12		100724
81	Durga, PV; Prasad, K Satya; Chandrasekhar, SB; Reddy, AV; Bakshi, SR; Vijay, R;	Microstructural and mechanical properties of oxide dispersion strengthened iron aluminides produced by mechanical milling and hot extrusion	Journal of Alloys and Compounds	2020	834		155218
82	Pillari, Lava Kumar; Bakshi, Srinivasa R; Chaudhuri, Paritosh; Murty, BS;	Fabrication of W-Cu functionally graded composites using high energy ball milling and spark plasma sintering for plasma facing components	Advanced Powder Technology	2020	31	8	3657-3666
83*	Bandi, Anil; Bakshi, Srinivasa R;	Effect of Pin Length and Rotation Speed on the Microstructure and Mechanical Properties of Friction Stir Welded Lap Joints of AZ31B-H24 Mg Alloy and AA6061-T6 Al Alloy	Metallurgical and Materials Transactions A	2020	51	12	6269-6282
84	Rai, Nikhil; Samantaray, Bikash K; Rajulapati, Koteswararao V; Ravi, Rahul; Bakshi, Srinivasa R; Koundinya, NTBN; Kottada, Ravi Sankar; Gollapudi, Srikant;	Theoretical and experimental studies on thermal stability of nanocrystalline Mg–Mo alloy	Materialia	2020	14		100933
85*	Revathi Gorle, Vasanthakumar K, and Srinivasa R. Bakshi	Reactive spark plasma sintering of B4C composite at low temperature using mechanically milled B4C-Ti-B mixtures	Ceramic International	2021	47		26134-26143
86*	K. Vasanthakumar, Gorle Revathi, Ariharan S, and Srinivasa R. Bakshi	Novel single phase $(Ti_{0.2}W_{0.2}Ta_{0.2}Mo_{0.2}V_{0.2})C_{0.8}$ high entropy carbide using ball milling followed by reactive spark plasma sintering	Journal of European Ceramic Society	2021	41	13	6756 - 6762
87*	Rahul Ravi and Srinivasa Rao Bakshi	Microstructural evolution and wear behavior of carbon added CoCrFeMnNi multi-component alloy fabricated by mechanical alloying and spark plasma sintering	Journal of Alloys and Compounds	2021	883		160879

88	Sahu, A.K., Mahapatra, S.S., Ravi, R., Bakshi, S.R.	Machinability Analysis of Composite Electrode Produced by Spark Plasma Sintering Process during Electro-Discharge Machining of Titanium Alloy	Journal of Materials Engineering and Performance	2022			DOI: 10.1007/s11665-022-07156-x
89	Ariharan, S., Vasanthakumar, K., Bakshi, S.R.	Role of carbonaceous reinforcements on mechanical properties and micro-scratch behaviour of Y2O3 stabilized ZrO2	Ceramics International	2022			DOI: 10.1016/j.ceramint. 2022. 08.085
90	Samantaray, B.K., Revathi, G., Bakshi, S.R., Bartarya, G., Gollapudi, S.	Boron Deteriorates the Thermal Stability of Nanostructured Silicon	Silicon	2022			DOI: 10.1007/s12633-022-02125-4
91	Kumar, R., Singh Raman, R.K., Bakshi, S.R., Raja, V.S., Parida, S.	Effect of Nanocrystalline Structure on the Oxidation Behavior of Fe–20Cr–3Al Alloy at High Temperatures	Oxidation of Metals	2022	97	3-4	307 - 321
92	Kumar, R., Raman, R.K.S., Bakshi, S.R., Raja, V.S., Parida, S.	Nanocrystalline structure remarkably enhances oxidation resistance of Fe-20Cr-5Al alloy	Journal of Alloys and Compounds	2022	900		163568
93	Durga, P.V., Nagini, M., Reddy, A.V., Bakshi, S.R., Vijay, R.	Effect of Fine Grain Structure and Nano Oxide Dispersoids on Improved Strength and Ductility of Iron Aluminide Based Intermetallics	Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science	2022	53	5	1597 - 1603
94*	Anil Bandi and Srinivasa Rao Bakshi	Friction Stir Lap Welding of AZ31B and AA6061 Alloys Using Tin as an Inter-Layer	Metals and Materials International	2022	28	7	1678 - 1696
95	Shanbhog, N., Arunachalam, N., Bakshi, S.R.	Effect of Graphene Nanoplatelets Reinforcement on Grindability of Zirconium Diboride Ceramics	Journal of Manufacturing Science and Engineering, Transactions of the ASME	2022	144	7	071007
96	Daljeet Singh, Saurabh Aggarwal, Srinivasulu Grandhi, Ravi Rahul, S. Parida, S. R. Bakshi & Rajiv Kumar	Synthesis and Characterization of Nanocrystalline and Microcrystalline High Entropy Alloys and Study of Their Corrosion Behavior	Transactions of the Indian Institute of Metals	2022	75	8	2091 - 2097



97	Shanbhog, N., Arunachalam, N., Bakshi, S.R.	Surface integrity studies on ZrB <sub>2</sub> and graphene reinforced ZrB <sub>2</sub> ceramic matrix composite in EDM process	CIRP Journal of Manufacturing Science and Technology	2022	38		401 - 413
98	PV Durga, M Nagini, A Jyothirmayi, AV Reddy, SR Bakshi, R Vijay	Electrochemical corrosion behaviour of oxide dispersion strengthened iron aluminides in 3.5 wt% NaCl solution	Materials Chemistry and Physics	2022	290		126586
99	BK Samantaray, G Revathi, SR Bakshi, G Bartarya, S Gollapudi	Boron Deteriorates the Thermal Stability of Nanostructured Silicon	Silicon	2022			1-11
100	S Ariharan, K Vasanthakumar, SR Bakshi	Role of carbonaceous reinforcements on mechanical properties and micro-scratch behaviour of Y <sub>2</sub> O <sub>3</sub> stabilized ZrO <sub>2</sub>	Ceramics International	2022	48	23	34957-34966

### **Editorials published**

1. S.R.N. Kiran Mangalampalli, Pamu Dobbidi, Lakshmi Narayan Ramasubramanian, Eswara Prasad Korimilli, Suresh Perumal, Srinivasa Rao Bakshi. Advances in functional and structural ceramics: Development, characterization, and applications. *Ceramic International* 48 (2022) 28763-28765
2. Bakshi, S.R., Harimkar, S.P. Surface Engineering for Extreme Conditions. (2015) *JOM*, 67 (7), pp. 1526-1527. DOI: 10.1007/s11837-015-1481-x
3. Harimkar, S.P., Bakshi, S.R., Agarwal, A. Recent developments in surface engineering of materials. (2013) *JOM*, 65 (6), pp. 739-740. DOI: 10.1007/s11837-013-0623-2
4. Bakshi, S.R., Harimkar, S.P., Agarwal, A. Advances in surface engineering: Alloyed and composite coatings. (2012) *JOM*, 64 (6), pp. 680-681. DOI: 10.1007/s11837-012-0342-0

### **Conference Proceedings Publications**

1. Nayan, N., Madhavan, R., Saxena, K.K., Narayana Murty, S.V.S., Bakshi, S.R. Microstructure and texture evolution during the groove rolling of cast aluminum/carbon nanotube composites. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*. <https://doi.org/10.1177/09544089221112848>
2. Parameswaran P., Ezhilarasi T., Bakshi S.R., Thomas Paul V., Mohandas E. Spark Plasma Sintering Process as a Tool for Achieving Microstructural Integrity. In: Prakash R., Jayaram V., Saxena A. (eds) ***Advances in Structural Integrity***. (2018) 649-659. Springer, Singapore. [https://doi.org/10.1007/978-981-10-7197-3\\_54](https://doi.org/10.1007/978-981-10-7197-3_54)
3. Rahul Ravi, Srinivasa R Bakshi\*. A Preliminary Microstructural Analysis of new Ag-Bi-Cu-Sb-Sn Based Multi-component Alloys. ***Trans. of Powder Metallurgy Association of India*** 43[2] (2017) 10-13
4. Hajare, Manoj; Karthiselva, NS; Venkateswaran, T; Srinivasa R\*. Bakshi. Synthesis of ultra-high temperature ceramic coating on Niobium alloy by spark plasma sintering. ***Trans. of Powder Metallurgy Association of India*** 43[2] (2017) 47-54
5. 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

6. 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)
7. 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. Anand Sekhar R., Sumanta Samal, Niraj Nayan and Srinivasa R. Bakshi. Microstructure and mechanical properties of Ti-Al-Ni-Co-Cr-Fe based nano high entropy alloys prepared by mechanical alloying and spark plasma sintering. 26th International Symposium on Metastable, Amorphous and Nanostructured Materials (**ISMANAM-2019**). July 08-12, 2019. Chennai, India
2. Srinivasa R. Bakshi, N.S. Karthiselva, and B.S. Murty. Reactive spark plasma sintering of ultra-high temperature borides. International Conference on Advanced Materials and Processes for Defence Applications (**ADMAT 2019**). September 23-25, 2019. Hyderabad, India
3. Srinivasa R. Bakshi. Reactive Spark Plasma Sintering: A low temperature method for sintering ultra-high temperature ceramics and their composites. International Conference on Advanced Ceramics and Nanomaterials for Sustainable Development - 2018 (**ACeND-2018**). September 19-21, 2018. Christ University, Bangalore, India
4. N.S. Karthiselva, B.S. Murty, Srinivasa R. Bakshi. Graphene nanoplatelet and carbon nanotube reinforced titanium diboride composites by reactive spark plasma sintering. International Conference on **Sintering 2017**. November 12-16, 2017. San Diego, USA
5. K. Vasanthakumar and Srinivasa R. Bakshi. Effect of C/Ti ratio on densification, microstructure and properties of TiCx prepared by reactive spark plasma sintering. International Conference on **Sintering 2017**. November 12-16, 2017. San Diego, USA
6. N.S. Karthiselva, B.S. Murty and Srinivasa R. Bakshi. Reactive spark plasma sintering of ZrB<sub>2</sub> and TiB<sub>2</sub> and their composites from elemental mixtures. International Conference on **Sintering 2017**. November 12-16, 2017. San Diego, USA
7. Srinivasa R. Bakshi. Reactive spark plasma sintering of ultra-high temperature borides and their composites. 7th National Conference on Processing and Characterization of Materials (**NCPCM-2017**). December 8-9, 2017. NIT Rourkela, India
8. Anand Sekhar R., Rahul M.R., Sumanta Samal, Rahul Ravi, Niraj Nayan, G. Phanikumar, and Srinivasa R. Bakshi. Ti-Al-Ni-Co-Cr-Fe multi-component high entropy alloys by mechanical alloying and spark plasma sintering for high temperature applications. International Workshop on High Entropy Materials (**IWHEM-2017**). March 11-12, 2017. Univ. of Hyderabad, India
9. Jojibabu Panta, G.D. Janaki Ram, Abhijit P. Deshpande and Srinivasa R. Bakshi. Effect of carbon nano-filler addition on the durability of epoxy adhesive joints subjected to hygrothermal aging. First Structural Integrity Conference and Exhibition (**SICE-2016**). July 4-6, 2016. Bangalore, India.

10. Anand Sekhar R., Niraj Nayan, G. Phanikumar, and Srinivasa R. Bakshi. Synthesis and properties of Ti-Al-Ni-Co-Cr-Fe multi-component high entropy alloys by mechanical alloying and spark plasma sintering. **NMD-ATM 2016**. November 11 -13, 2016. IIT Kanpur, India.
11. Karthiselva N.S., Murty B.S. and Srinivasa R. Bakshi. Reactive Spark Plasma Sintering - An efficient method for low temperature fabrication of ultra-high temperature ceramic composites. **NMD-ATM 2016**. November 11 -13, 2016. IIT Kanpur, India.
12. Jojibabu Panta, G.D. Janaki Ram, Abhijit Deshpande and Srinivasa R. Bakshi. Effect of Carbon Nano-filler Addition on the Degradation of Epoxy Adhesive Joints Subjected to Hygrothermal Aging. **MS&T 2016**. October 23-27, 2016. Salt Palace Convention Centre, Salt Lake City, Utah, USA
13. N.S. Karthiselva, B.S. Murty and Srinivasa R. Bakshi. Reaction Spark Plasma Sintering of ZrB<sub>2</sub>-TiB<sub>2</sub> Ultra High Temperature Ceramics and Their Solid Solutions. **MS&T 2016**. October 23-27, 2016. Salt Palace Convention Centre, Salt Lake City, Utah, USA
14. N.S. Karthiselva, B.S. Murty and Srinivasa R. Bakshi. Synthesis of Textured Ultrahigh Temperature Ceramic Diborides Using Spark Plasma Forging. **MS&T 2016**. October 23-27, 2016. Salt Palace Convention Centre, Salt Lake City, Utah, USA
15. Rajeev GP, M. Kamaraj and Srinivasa R. Bakshi. Additive Manufacturing of Al-Si Alloy Coating on AZ91 Magnesium Alloy Using Cold Metal Transfer Welding. **MS&T 2016**. October 23-27, 2016. Salt Palace Convention Centre, Salt Lake City, Utah, USA
16. 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. **MS&T 2016**. October 23-27, 2016. Salt Palace Convention Centre, Salt Lake City, Utah, USA
17. 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, 2016. IISc Bangalore, India
18. Karthiselva NS and Srinivasa R. Bakshi. Reactive spark plasma sintering process for synthesis of nanocrystalline ultra-high temperature ceramic based nanocomposites. International Conference on Metals and Materials Research (**ICMR 2016**). June 20-22, 2016. Indian Institute of Science Bangalore, India
19. S.L. Pramod, Ravikiran, A.K. Prasada Rao, B.S. Murty and Srinivasa R. Bakshi. Effect of Sc addition on the microstructural modification and mechanical properties in A356 alloy and A356 -TiB<sub>2</sub> in-situ composite. International Conference on Heat Treatment and Surface Engineering (**HTSE 2016**). 12-14 May, 2016. Chennai, India
20. 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
21. 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.
22. 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.

23. 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
24. 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
25. 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
26. 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
27. 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
28. 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
29. 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
30. G. Gautham Prakash, S. L. Pramod, Prathap Chandran, Cheng Zhang, Arvind Agarwal, Daniel Fabijanec, 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
31. 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
32. 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
33. 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
34. 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
35. 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
36. G. Gautham Prakash, S. L. Pramod, Prathap Chandran, Cheng Zhang, Arvind Agarwal, Daniel Fabijanec, 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

37. 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.
38. 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
39. 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.
40. 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.
41. 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
42. 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
43. 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
44. 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
45. 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
46. 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
47. 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
48. 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

#### **POSTER PRESENTATIONS**

1. N.S. Karthiselva, B.S. Murty and Srinivasa R. Bakshi. Preparation of crystallographically textured diborides with superior properties for hypersonic vehicle applications. 10th Indo-German Frontiers of Engineering Symposium (**INDOGFOE 2018**). May 24-27, 2018. Potsdam, Germany

2. 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
3. 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
4. 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
5. 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
6. 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
7. 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
8. 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". **50th National Metallurgists Day Meeting**, Nov. 16-19, 2012, Jamshedpur, India
9. 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
10. 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
11. 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
12. 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
13. 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
14. 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

## **STUDENT GUIDANCE**

### **On-going**

Sl. No.	Name	Date of joining	Area of research/project topic
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<b>Post-doctoral Fellows</b>			
1	Dr. AmitKumar Kuril	Feb. 2021	Design of ultrasonic atomizer
<b>Ph.D</b>			
1	Rahul Ravi	Oct. 2015	Effect of carbon addition on wear of FeCoCrMnNi alloy
2	K.R. Manivannan (External Ph.D jointly with Lakshman Neelakantan)	Jan. 2015	CMT welding and Brazing of dissimilar aluminum alloys
3	Revathi Gorle	July 2016	Reactive spark plasma sintering
4	Nagaraj Shanbhog (QIP student Jointly guided by Dr. N. Arunachalam of Mech. Eng.)	July 2016	Sintering and machinability of GNP reinforced ZrB <sub>2</sub>
5	Alwin B. (Jointly with Prof. M. Kamaraj)	July 2016	Cold spray of Tribaloy
6	Pothula Vijaya Durga	July 2017	Powder metallurgy of Iron Aluminides
7	Tadisetty Sivaji (Jointly with Prof. M. Kamaraj)	July 2018	Cold Spray of Ni-Al coatings
8	Kishore Behera (Jointly with Dr. K. G. Pradeep)	July 2018	Cold Spray of Glassy Coating
9	S. Milan Shahana (Jointly with Prof. M. Kamaraj)	July 2018	Hot corrosion and oxidation behaviour of cold spray deposits.
10	Shashi Noor Beck (Jointly with Dr. Lakshman Neelakantan)	Jan. 2021	Oxidation and corrosion behaviour of high entropy alloys
11	Unnikrishnan P. D. (Jointly with Prof. M. Kamaraj)	July 2019	Cold spraying of Cu based alloys for marine applications
<b>M.Tech/Dual Degree</b>			
1	Utkarsh Saxena	June 2022	Microstructure and wear properties of HVOF and HVOF NiCr-Cr <sub>3</sub> C <sub>2</sub> coatings

### **Alumni**

Sl. No.	Name	Year of passing	Area of research/project topic
<b>Post-doctoral Fellows</b>			
1	Dr. Vasanthakumar K.	2021	Plasma nitriding, High entropy materials
2	Dr. Ariharan S.	2021	GNP and CNT reinforced YSZ composites
3	Dr. Rajeev G.P.	2021	Wear of Co based alloy hard facing
4	Asiq Rahman	March. 2022	Metallization of ceramics using cold spray

5	Dr. A. Pragatheeswaran	July 2020	Nano-carbon reinforced copper-based composites
6	Dr. M. Jagannatham	Jan. 2017	CNT reinforced aluminum alloys
7	Dr. Debalina Bhattacharya	May 2014	Nano-carbon reinforced TiO <sub>2</sub>
<b>Ph.D</b>			
1	S. L. Pramod (Jointly guided by Prof. B. S. Murty)	July 2016	Effect of Scandium on the Microstructure, Mechanical and Wear Behaviour of A356 Alloy and A356-5TiB2 in-situ Composites
2	N. S. Karthiselva	July 2016	Simultaneous synthesis and densification of ultrahigh temperature ceramics and composites by reactive spark plasma sintering
3	K. Vasanthakumar	Oct. 2017	Synthesis of Ti-TiC <sub>x</sub> composites by reactive spark plasma sintering: Effect of nanocarbon reinforcements
4	Anand Sekhar	Nov. 2019	Microstructure and mechanical properties of Ti-Al-Ni-Cr-Co-Fe high entropy alloys prepared by mechanical alloying and spark plasma sintering
5	Amit Kuril (Jointly guided by Dr. G. D. Janaki Ram)	Nov. 2019	Plasma arc welding and hot cracking behaviour of dual phase steel DP600
6	Rajeev G. J. (Jointly guided by Prof. M. Kamaraj)	Feb. 2020	Study of cold metal transfer-GMAW process for deposition of Stellite coatings and additive manufacturing
7	Anil Bandi	Sept. 2021	Dissimilar joining of Al/Mg alloys by Friction Stir Welding
<b>M.S.</b>			
1	Joji Babu Panta (Jointly with Prof. Abhijit Deshpande of Chem. Eng.)	July 2016	Effect of carbon nano-filler addition on mechanical properties and hygrothermal aging behaviour of epoxy adhesive joints
2	Rajeev G. J. (Jointly guided by Prof. M. Kamaraj)	Feb. 2020	Study of cold metal transfer-GMAW process for deposition of Stellite coatings and additive manufacturing
<b>M.Tech/Dual Degree</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	2016	ZrB <sub>2</sub> -SiC composites
15	PRK Chaitanya (Civil)	2016	Welding SS with CMT process
16	Abhishek Gupta (Civil)	2016	Dissimilar SS welding
17	Harlal Choudhary (Civil)	2016	Welding of Mg and Al alloys
18	Rajath Alexander	2017	B <sub>4</sub> C-carbon composites
19	Manoj Hajare	2017	UHTC coatings
20	Varun Reddy	2017	FSP of Mg matrix composites
21	Pavan Kumar	2017	Max phase coatings
22	Vishal Verma	2017	A-TIG welding
23	Ravi Kiran D	2017	Dissimilar joining of SS
24	Harikesh Kumar	2018	Cr <sub>2</sub> AlC coatings
25	Yogesh Kumar	2019	FSW cladding of AL on Mg alloys
26	Sri Harsha Chandrakanti	2020	High temperature particle erosion testing
27	Nikhil Kumar Kanoujia	2020	Cold Spraying of Ferritic Steel
28	Manish Jaiswal	2020	Plasma Nitriding
29	Aabhas Gupta	2022	Analysis of Critical velocity for cold spraying
30	Harsh Goel	2021	Deposition Efficiency of Mixed Powders during Cold Spraying
<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.	2016	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 TiCx

### **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)

**MEMBERSHIP OF PROFESSIONAL SOCIETIES**

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