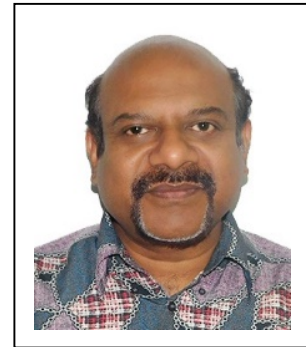


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Department of Metallurgical and Materials Engineering  
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### Research Interests

- **Metallic Foam:** Synthesis and characterization of Aluminum alloy foam by liquid metallurgy route. Optimization of the foam structure of structural application such as light weight structures, impact energy absorption, etc.
- **Composite Materials:** Metal matrix and Ceramic matrix composites, Cast Composites (Alluminium, Magnesium), Hybrid processing (2-step casting), Insitu processing, Ultrasonication, Structure Property correlation.
- **Nanomaterials:** Synthesis of binary Co-Ni, Ni-Cu, Co-Cu alloys in the nanoscale, study of structure and magnetic properties
- **Energy Materials:** Synthesis and characterization of Dye-sensitized solar cells, Energy absorption
- **Metal Joining:** Optimization of Microstructure and Mechanical properties of SMAW welded boiler steels
- **Metallic Glass:** High temperature deformation with and without nano dispersoids, Stress relaxation behaviour, Free Volume Model, Correlation of free volume change to deformation and thermal history, Tracer diffusion.
- **Superplasticity:** Optimal Superplasticity in Alloys and Metallic glasses; Mesoscopic grain/interphase boundary sliding; Cavity nucleation, growth and coalescence.
- **Modelling:** Simulation of Metallurgical processes and fluid flow in porous media, ANN as a predictive tool for foam processing-property correlation, .

### Experience: Research & Teaching (in reverse chronological order)

April 2014 till date: Professor  
Dept. of Metallurgical & Materials Engineering  
Indian Institute of Technology Roorkee

Oct 2009 to March 2014: Associate Professor  
Dept. of Metallurgical & Materials Engineering and

Centre of Nanotechnology  
Indian Institute of Technology Roorkee

June 2004 to Sept 2009: Assistant Professor  
Dept. of Metallurgical & Materials Engineering and  
Center of Nanotechnology  
Indian Institute of Technology Roorkee

March 2003 to May 2004: Professor and Head  
Dept of Mechanical Engineering  
KCG College of Technology, Chennai  
(Affiliated to Anna University)

July 2001 to Jan 2003: Visiting Scientist  
Technische Facultaet  
Christian Albrechts Universitaet  
Kiel, Germany

Jan 2000 to June 2001: Post-doctoral Fellow  
Institute for Solid State and Materials Research (IFW)  
Dresden, Germany

July 1997 to Dec 1999: Project Engineer  
Department of Materials and Metallurgical Engineering  
Indian Institute of Technology Kanpur

## Education

- **PhD** in Materials & Metallurgical Engineering (1997) from Indian Institute of Technology Kanpur. Thesis Title: Processing and Characterization of AlN/Al base Composites via directed melt Nitridation. Guide: Prof. V.S.R. Murthy & Prof. G.S. Murty
- **ME(I)** in Metallurgy (1992) from Indian Institute of Science, Bangalore. Thesis title: MMCs and CMCs via directed melt Infiltration. Guide: Prof. Vikram Jayaram
- **BSc** in Physics (1988) from Madras Christian College (Autonomous), Affiliated to Madras University, Chennai

## Courses taught at IIT Roorkee

### Undergraduate Courses

1. Computer Systems and Programming – 1<sup>st</sup> year B.Tech
2. Structural Metallurgy - 1<sup>st</sup> year B.Tech
3. Metallurgical Thermodynamics & Kinetics - 2<sup>nd</sup> year B.Tech
4. Engineering Analysis & Design - 2<sup>nd</sup> year B.Tech
5. Composite Materials – 3<sup>rd</sup> year B.Tech

### Postgraduate Courses

6. Advanced Metallurgical Thermodynamics and Kinetics – M.Tech

- |                        |          |
|------------------------|----------|
| 7. Materials Selection | – M.Tech |
| 8. Composite Materials | - M.Tech |
| 9. Electron Microscopy | - MTech  |

### **Administrative Positions**

1. Chairperson, Institute Academic Ethics Committee (IAEC) (Dec 2019 -
2. Chairperson, Department Academic Program Committee (DAPC) (June 2019 -  
Member, House Allotment Committee (HAC-I) (Dec 2017 – Dec 2020)
3. Member, D-FAC (Jan 2018 -
4. Member, DAC (June 2017 – June 2019)
5. Manager, ABN School, IIT Campus (June 2015 -
6. O.C. TEM Lab, (Aug 2017 -
7. O.C. SEM Lab, (Dec 2014 – June 2019)
8. President, All India IIT Faculty Federation (AIITFF) (March 22, 2014 – March 2016)
9. President, Faculty Forum, IIT Roorkee (June 1, 2013 – March 2017)
10. Member, BTech Syllabus Review Committee (2012-2013)
11. Member Secretary, Department Faculty Committee (May 2009 – Sept 2014)
12. O.C. Time Table (2008 – 2013)
13. Dy Chief Advisor, Sports (Jan 2011- Mar 2013)
14. Staff Advisor, Squash, Athletics (2005-2010)
15. Member Board of Studies (2008-2012)
16. O.C. Computer Lab (Jan 2006 – June 2019)
17. Head, Mechanical Engineering, KCG College (March 2003 – May 2004)

### **Professional Body**

1. Life Member, Indian Institute of Metals (IIM)
2. Life Member, Materials Research Society of India (MRSI)

### **Reviewer:**

1. Materials Science and Engineering A (MSEA)
2. Metallurgical and Materials Transaction B

### **Journal Editorial Board**

1. Advanced Materials Research, Trans Tech Publications, Switzerland

### **Book Chapter or Books Edited:**

1. MMC, CMC and Microstructural gradients by nitridation of Al alloys  
V. Jayaram, B.S.S. Daniel, N. Nagendra, H.R. Muralidhar, Advanced Materials '93,  
(1994) 621-624.
2. Nanomaterials and Devices: Processing and Applications, Editors: S.Ray, S.K.Nath,  
A.Kumar, R.C.Agarwala, V.Agarwala, G.P.Chaudhari, B.S.S.Daniel, Trans Tech Inc.  
Switzerland, 2009.
3. Advances in Materials Development: *A festschrift honouring Professor Subrata Ray,*

Editor: B.S.S. Daniel, Materials Science Forum Vol. 736, Trans Tech Publications, Switzerland, 2012.

4. Advances in Materials and Processing: Challenges and Opportunities, Editors: B.S.S. Daniel and G.P. Chaudhari, Advanced Materials Research, Vol. 585, Trans Tech Publications, Switzerland, 2012.

### **Patents Filed:**

1. An improved process for preparation of Magnesium based composite and an improved magnesium based in-situ composite  
S. Ray, B.S.S. Daniel and D. Shivalingappa, Indian Patent Application No.:1384/Del/2007 dated 28/06/2007.
2. A process for controlling metal foam structure to obtain high strength  
B.S.S. Daniel, S. Ray and R. Edwin Raj, Indian Patent Application No.:2166/Del/2008 dated 16/09/2008.

### **Research Projects:**

1. Insitu Aluminium alloy matrix composites by hybrid processing of melts  
Grant Code: 22(0621)/13/EMR-II dated 26.02.2013 by Council of Scientific and Industrial Research for Rs. 14.92 lakhs.
2. A feasibility study to process Steel Foam  
Dated 21.11.2013 by Naval Research Board for Rs. 24.91 lakhs

### **Thesis Supervised:**

**PhD Thesis:** Completed – 11; Ongoing – 4  
**MTech Thesis:** Completed – 18; Ongoing – 1  
**BTech Dissertations:** > 30

### **PhD Thesis (Awarded):**

1. **D. Sivalingappa**, Co-supervisor: Subrata Ray  
In-situ Magnesium based composite – Development and Tribological behavior, August 2007
2. **R. Edwin Raj**  
Processing and Mechanical Property Analysis of Closed-cell Aluminium Foam, May 2008
3. **Raja Ram Prasad**, Co-supervisor: Devender Puri  
Electrical Conductivity of Calcia Stabilized Zirconia prepared by Mechanical Alloying, April 2012
4. **Sudhakar Panday**, Co-supervisor: P. Jeevanandam  
Nanocrystalline Co-Ni and Ni-Cu alloys: Synthesis and Studies on their Magnetic Properties, November 2012
5. **H. Sivananda Nayaka**, Co-supervisor: G.P. Chaudhari  
Severe Plastic Deformation of Magnesium Alloys using Accumulative Roll Bonding, March 2013
6. **Chandan**, Co-supervisor: Devinder Kaur  
Growth and Characterization of Lead-free Ferroelectric Thin Films and Heterostructures, March 2014
7. **Vinod Kumar Jeenagar**, Co-supervisor: Vivek Pancholi

- Effect of Microstructural modification on the energy absorption capacity of Aluminium foam, June 2014
8. **Santanu Das**, Co-supervisor: G.P. Chaudhari  
Microstructural, Mechanical and Thermophysical properties of Th-U alloys, January 2015
  9. **Himanshu Panjiar**, Co-supervisor: R.P. Gakkar  
Effect of Nano-graphite coating on small DI Diesel Engine Performance, June 2016
  10. **Debasish Chatterjee**  
Advanced Thermomechanical study of AISI 301LN grade Steel for future Transport Applications, June 2017
  11. **Rahul Gupta**  
Impression Creep and High Cycle Fatigue behavior of Ultrasonically processed insitu Al6061-Al<sub>3</sub>Ti/ Al<sub>3</sub>Zr Composites, October 2018

**MTech Thesis:**

1. S. Ramakrishnan  
Nanocrystal Development in Metallic Glass, June 2006
2. Pramod Kumar  
High Strain Rate Mechanical Behaviour of Closed-cell Aluminium Foam, June 2009
3. S. Saravanan  
Mechanical Property Evaluation of Age Hardened Aluminium Foam, July 2009
4. S. Prabahakaran  
Influence of Surface Modification on Compressive Properties of Closed Cell Aluminium Foam, June 2011
5. Sujit Kumar Verma  
Investigation of effect of Nanocrystallization on Mechanical and Shape Memory Effect of CuZnAl based Shape Memory Alloy Synthesized by High Energy Ball Milling, June 2011
6. Shejale Kiran Prakash  
Application of Graphene Oxide and TiO<sub>2</sub> in the fabrication of Solar Cell Module by Electrode Modification, June 2012
7. Harjeet Singh  
Synthesis of Mesoporous Titanium Dioxide Film for Dye-sensitized Solar Cells, June 2012
8. Rahul Gupta  
Ultrasonic assisted Casting of Aluminium Alloy Matrix Composites, June 2013
9. Ashutosh Pandey  
Corrosion behavior of Closed-cell Aluminium Foam, June 2013
10. Neeraj  
Nano-alloy Polymer Composite for Device Application, June 2013
11. Kapil Kaira  
In-situ Aluminium Matrix Composites by Hybrid process, June 2014
12. Ruchi Pathak  
In-situ phase development in Cast Aluminium Composite, May 2015
13. Abhishek Kumar  
In-situ Aluminium composite by Ultrasonic assisted Solidification, May 2015
14. Surender  
Finite Element Analysis of Closed Cell Metal Foam, May 2016
15. Amandeep Singh Dhiman  
Improving Workability of in-situ Aluminium Composites, May 2016
16. Manish Yadav  
Wear Resistance of Metal Matrix Composite via Mechanical Alloying, May 2017
17. Paresh Pawar

- Correlation of Cellular (Metal Foam) Characteristics to Foam Properties, May 2017  
 18. Mohit Rajput  
 Control of Metal Foam Structure using Microwave Heating, May 2017

**SCORPUS: Publication Citation Index:**

Author Name	Total citations	h index	i10 index
B S S Daniel	854	16	21

**Papers in Refereed Journals**

- Directed melt oxidation and nitridation of aluminum alloys: a comparison  
 B.S.S.Daniel and V.S.R.Murthy, *Materials & Design* 16 (1995) 155-161.
- Metal-ceramic composites via insitu methods  
 B.S.S.Daniel, V.S.R.Murthy and G.S.Murthy, *Journal of Materials Processing Technology* 68 (1997) 132-155.
- Microstructure and mechanical properties of SiC reinforced AlN/Al composites  
 B.S.S.Daniel and V.S.R.Murthy, *ISIJ International* 37 [10] (1997) 992-999.
- Nickel Aluminide reinforced AlN/Al composites by pressureless infiltration  
 B.S.S.Daniel and V.S.R.Murthy, *Materials Letters* 37 (1998) 334-339.
- Modelling of composite growth in Directed melt Nitridation process  
 B.S.S.Daniel, D.Mazumdar and V.S.R.Murthy, *Metallurgical and Materials Transactions* 30A [11] (1999) 2951-2958.
- Unified theory of deformation for structural superplastics, metallic glasses and nanocrystalline materials  
 K. A. Padmanabhan and B. S. S. Daniel, *Materials Science Forum* Vol. 357-359 (2001) 371-380.
- On the high temperature creep and relaxation behaviour of Zr-based bulk metallic glasses  
 B.S.S. Daniel, M. Heilmaier, A. Reger-Leonhard, J. Eckert and L. Schultz, *Materials Research Society Symposium Proceedings*, 644 (2001) L110.7.1-6
- Thermal Relaxation and High temperature Creep of  $Zr_{55}Cu_{30}Al_{10}Ni_5$  Bulk Metallic Glass  
 B.S.S.Daniel, A.Reger-Leonhard, M.Heilmaier, J.Eckert and L.Schultz, *Mechanics of Time-Dependent Materials* 6 (2002) 193-206.
- Free volume evolution in bulk metallic glass during high temperature creep  
 S. Lenser, B.S.S. Daniel, V. Zöllmer, J. Erichsen, K. Rätzke, S. Deki, F. Faupel, *Materials Research Society Symposium Proceedings*, 754 (2003) 293-298.
- Silver diffusion in  $Fe_{40}Ni_{38}Mo_4B_{18}$  metallic glass under high vacuum  
 S. Lenser, B.S.S. Daniel, V. Zöllmer, J. Erichsen, K. Rätzke, S. Deki, F. Faupel *Scripta Materialia* 48 [3] (2003) 275-279.
- Development of Nanograined Metallic Materials by bulk and coating techniques  
 V.Agarwala, R.C. Agarwala, B.S.S. Daniel, *Synthesis and Reactivity in Inorganic, Metal-organic and Nano-metal Chemistry*, 36 [1] (2006) 3-16.
- Aluminum Melt Foam Processing for Light Weight Structures  
 R. Edwin Raj and B.S.S. Daniel; *Materials and Manufacturing Processes* [22] (2007) 525-530.
- Manufacturing challenges in obtaining tailor-made closed-cell structures in metallic foams  
 R. Edwin Raj, B.S.S. Daniel; *International Journal for Advanced Manufacturing Technology* [38] (2008) 605-612.
- Structural property correlation with process parameters in the manufacture of closed-cell aluminum foam  
 R. Edwin Raj, B.S.S. Daniel, *Journal of Manufacturing Engineering* [3] (2008) 67-72.
- Prediction of compressive properties of closed-cell aluminum foam using artificial neural network  
 R. Edwin Raj, B.S.S. Daniel, *Computational Materials Science* [43] (2008) 767-773.

16. Cryogenically synthesized mechanically alloyed Calcia stabilized Zirconia  
Raja Ram Prasad, B.S.S. Daniel, *Advanced Materials Research*, [67] (2009) 271-276.
17. Structural and compressive property correlation of closed-cell aluminum foam  
R. Edwin Raj, B.S.S. Daniel, *Journal of Alloys and Compounds*, [467] 1-2 (2009) 550-556.
18. Microstructural influence in closed cell Aluminum foam for structural application  
R. Edwin Raj and B.S.S. Daniel, *International Journal of Microstructure and Materials properties* 4 [4] (2009) 476-486.
19. Comparison of quasi-static and dynamic compression behavior of closed-cell aluminum foam  
R. Edwin Raj, P. Venkitanarayanan and B.S.S. Daniel, *Materials Science and Engineering: A*, Volume 526, Issues 1-2 (2009) 11-15.
20. Accumulative roll bonding of wrought magnesium alloy  
H.S. Nayaka, B.S.S. Daniel, G.P. Chaudhari, *Magnesium Technology*, (2010) 593-597.
21. Customization of closed-cell aluminum foam properties using design of experiments  
R. Edwin Raj, B.S.S. Daniel, *Material Science and Engineering A*, 528 (2011) 2067-2075
22. Synthesis of nanocrystalline Co-Ni alloys by precursor approach and studies on their magnetic properties  
Sudhakar Panday, B.S.S. Daniel, P. Jeevanandam, *Journal of Magnetism and Magnetic Materials* 323 (2011) 2271-2280
23. Processing, Microstructure and Mechanical Properties of Cast In-Situ Mg-Al/Mg<sub>2</sub>Si Composites  
D. Shivalingappa, B.S.S. Daniel, S. Ray, *Materials Science and Engineering A*, 541 (2012) 172-180
24. Highly tunable compositionally graded (1-x)Ba(Zr<sub>0.2</sub>Ti<sub>0.8</sub>)O<sub>3-x</sub>(Ba<sub>0.7</sub>Ca<sub>0.3</sub>)TiO<sub>3</sub> multilayer with low temperature capacitance coefficients  
Chandan Bhardwaj, B.S.S. Daniel, Davinder Kaur, *Materials Letters* 87 (2012) 172-175
25. Nanocrystalline Co<sub>82</sub>Ni<sub>18</sub> Alloy: Synthesis and Magnetic Properties  
Sudhakar Panday, B.S.S. Daniel, P. Jeevanandam, *Advanced Materials Research* 585 (2012) 100-104
26. Effect of reinforcing phase inherited from another composite on the mechanical properties of cast magnesium base composite  
D. Shivalingappa, B.S.S. Daniel and Subrata Ray, *Material Science and Engineering A*, 541 (2012) 172-180
27. Conductivity measurement of calcia stabilized zirconia prepared by mechanical route  
Raja Ram Prasad, K.L. Yadav, B.S.S. Daniel, *Advanced Materials Research* 585 (2012) 245-249
28. Application of Graphene Oxide and TiO<sub>2</sub> in the fabrication of Dye sensitized solar cells module by electrode modification  
Shejale K. Prakash, Harjeet Singh, Himanshu Panjiar, Sanjeev Manhas, B.S.S. Daniel, *Advanced Materials Research* 585 (2012) 255-259
29. Synthesis of TiO<sub>2</sub> film for Dye-sensitized solar cells  
Harjeet Singh, Shejale K. Prakash, Himanshu Panjiar, B.S.S. Daniel, *Advanced Materials Research* 585 (2012) 284-288
30. The effect of aging on energy absorption capability of closed cell aluminium foam  
V.K. Jeenagar, Vivek Pancholi, B.S.S. Daniel, *Advanced Materials Research* 585 (2012) 327-331
31. Grain growth kinetics of accumulative roll bonded AZ61 alloy  
H. Shivananda Nayaka, G.P. Chaudhari, B.S.S. Daniel, *Advanced Materials Research* 585 (2012) 387-391
32. Correlation of Mechanical and Microstructural properties of SMAW welded Cr-Mo Boiler steels subjected to different post weld heat treatment soaking times  
S. Riyaz Ahmed, Ajai Agarwal, B.S.S. Daniel, *Advanced Materials Research* 585 (2012) 425-429
33. Synthesis and magnetic properties of nanocrystalline Co-Ni alloys: A Review  
Sudhakar Panday, P. Jeevanandam, B.S.S. Daniel, *Materials Science Forum* 736 (2013) 229-240
34. Highly tunable compositionally graded (1-x)Ba(Zr<sub>0.2</sub>Ti<sub>0.8</sub>)O<sub>3-x</sub>(Ba<sub>0.7</sub>Ca<sub>0.3</sub>)TiO<sub>3</sub> multilayer with low

temperature capacitance coefficients

- Chandan Bhardwaj, B.S.S. Daniel, Davinder Kaur, *Materials Letters*, 87 (2012) 172-175
35. Pulsed laser deposition and characterization of highly tunable  $(1-x)\text{Ba}(\text{Zr}_{0.2}\text{Ti}_{0.8})\text{O}_3-x(\text{Ba}_{0.7}\text{Ca}_{0.3})\text{TiO}_3$  thin films grown on  $\text{LaNiO}_3/\text{Si}$  substrate  
Chandan Bhardwaj, B.S.S. Daniel, Davinder Kaur, *Journal of Physics and Chemistry of Solids* 74 (2013) 94–100
36. Synthesis and magnetic properties of nanocrystalline Co-Ni alloys: A review  
S. Panday, P. Jeevanandam, B.S.S. Daniel, *Materials Science Forum*, 736 (2013) 229-240.
37. Single-step synthesis of graphene-carbon nanofiber hybrid material and its synergistic magnetic behaviour  
R.K. Sahoo, P. Jeyapandiarajan, K. Devi Chandrasekhar, B.S.S. Daniel, A. Venimadhav, S.B. Sant, C. Jacob, *Journal of Alloys and Compounds* 615, (2014) 348-354
38. Characterization of microstructural, mechanical and thermal properties and ageing study of Th-3 wt.% U alloy  
S. Das, R. Kumar, S. Kaity, S. Neogy, K.N. Hareendran, S.B. Roy, G.K. Dey, B.S.S. Daniel, G.P. Chaudhari, *Nuclear Engineering and Design*, 282 (2015) 116-125.
39. Effect of Different Post Weld Heat Treatments on the Mechanical properties of Cr-Mo Boiler Steel Welded with SMAW Process  
S.R. Ahmed, L.A. Agarwal, B.S.S. Daniel, *Materials Today: Proceedings*, 2 [4-5] (2015) 1059-1066.
40. Strain-free graphite nanoparticle synthesis by mechanical milling  
Himanshu Panjiar, R.P. Gakkhar, B.S.S. Daniel, *Powder Technology*, 275, (2015) 25-29
41. Cellulose powder treatment on *Cissus quadrangularis* stem fiber-reinforcement in unsaturated polyester matrix composites  
S. Indran, R.E. Raj, B.S.S. Daniel, S.S. Saravanakumar, *Journal of Reinforced Plastics and Composites*, 35 [3] (2016) 212-227.
42. Optimization of short Indian Areca fruit husk fiber (*Areca catechu* L.)-reinforced polymer composites for maximizing mechanical properties  
J.S. Binoj, R.E. Raj, B.S.S. Daniel, S.S. Saravanakumar, *International Journal of Polymer Analysis and Characterization*, 21 [2] (2016) 112-122.
43. Microstructural evolution of as-cast Th-U alloys  
S. Das, S.B. Roy, G.P. Chaudhari, B.S.S. Daniel, *Progress in Nuclear Energy*, 88 (2016) 285-296.
44. Characterization of microstructural, mechanical and thermophysical properties of Th-52U alloy  
S. Das, R. Kumar, J. Banerjee, S.B. Roy, G.P. Chaudhari, B.S.S. Daniel, *Journal of Nuclear Materials*, 480 (2016) 223-234
45. Critical Parameters Affecting Mechanical Behavior of Natural Fiber Reinforced Plastics  
A.V. Singhal, K. Debnath, I. Singh, B.S.S. Daniel, *Journal of Natural Fibers*, 13 (2016) 640-650
46. Comprehensive characterization of industrially discarded fruit fiber, *Tamarindus indica* L. as a potential eco-friendly bio-reinforcement for polymer composite  
J.S. Binoj, R. Edwin Raj, B.S.S. Daniel, *Journal of Cleaner Production*, 142 Part 3, (2017) 1321-1331
47. Strengthening mechanisms in ultrasonically processed aluminium matrix composite with in-situ  $\text{Al}_3\text{Ti}$  by salt addition  
Rahul Gupta, G.P. Chaudhari, B.S.S. Daniel, *Composites Part B: Engineering*, Volume 140, (2018) 27-34.
48. Comprehensive characterization of natural *Cissus quadrangularis* stem fiber composites as an alternate for conventional FRP composites,  
S. Indran, R.D.E. Raj, B.S.S. Daniel, J.S. Binoj, *Journal of Bionic Engineering* 15 (5) (2018) 914-923
49. Impression creep behaviour of ultrasonically processed in-situ  $\text{Al}_3\text{Ti}$  reinforced aluminium composite  
R. Gupta, B.S.S. Daniel, *Materials Science and Engineering A* 733 (2018) 257-266



50. Physical Simulation and Processing Map of Aluminum 7068 Alloy  
N Raja, BSS Daniel, Materials Performance and Characterization 8 (5) (2019) 1050-1061
51. Impression creep behaviour of ultrasonically processed in-situ Al<sub>3</sub>Zr-Al alloy composite in as-cast condition  
R Gupta, BSS Daniel, Materials Characterization 169 (2020) 110594
52. Strengthening Mechanisms in Al<sub>3</sub>Zr-Reinforced Aluminum Composite Prepared by Ultrasonic Assisted Casting  
R Gupta, BSS Daniel, Journal of Materials Engineering and Performance (2021) 1-10

### Papers in Conferences

1. Ceramic matrix and metal matrix composites by direct melt infiltration  
S.P. Dhandapani, H.R. Muralidar, B.S.S. Daniel, V. Jayaram and M.K. Surappa, MRSI Symposium, Bangalore, Feb. 1992.
2. Microstructure and mechanical properties of directed melt nitridation composites  
B.S.S.Daniel, V.S.R.Murthy and G.S.Murthy, MRSI Symposium, IIT Kharagpur, Feb. 1994.
3. MMC, CMC and microstructural gradients by nitridation of Al alloys  
V.Jayaram, B.S.S.Daniel, N.Nagendra and H.R.Muralidharan, Japanese Materials Society, Feb. 1993.
4. Intermetallic reinforced AlN/Al composites  
B.S.S.Daniel, V.S.R.Murthy and G.S.Murthy, ADCOMP-'96, IISc, Bangalore, Dec. 1996.
5. Mathematical modelling of Infiltration phenomena through a porous ceramic preform  
B.S.S.Daniel, D.Mazumdar and V.S.R.Murthy, ICRAMP-'97, IISc, Bangalore, July 1997.
6. Unified theory of deformation for structural superplastics, metallic glasses and nanocrystalline materials  
K. A. Padmanabhan and B. S. S. Daniel, ICSAM 2000, Orlando, Florida, USA, Aug. 1-4, 2000.
7. High temperature Creep and Relaxation behaviour of Zr<sub>55</sub>Cu<sub>30</sub>Al<sub>10</sub>Ni<sub>5</sub> bulk Metallic Glass  
B.S.S.Daniel, A.Reger-Leonhard, M.Heilmaier, J.Eckert and L.Schultz; TDM 2000, Erlangen, Germany, Sept. 17-20, 2000.
8. Deformation Mechanism and Structural relaxation behaviour of Zr-based bulk metallic glass at elevated temperatures  
B.S.S.Daniel, A.Reger-Leonhard, M.Heilmaier, J.Eckert and L.Schultz, Materials Week, Munich, Germany, Sept. 25-28, 2000.
9. On the high temperature creep and relaxation behaviour of Zr-based metallic glasses  
B.S.S.Daniel, M.Heilmaier, A.Reger-Leonhard, J.Eckert and L.Schultz  
MRS Symposium Proceedings, Vol. 644, 2001.
10. Free Volume Evolution in Bulk Metallic Glass during High Temperature Creep  
B. S. S. Daniel, M. Heilmaier, B. Bartusch, J. Kanzow, K. Günther-Schade, K. Rätzke, J. Eckert and F. Faupel, MRS Symposium, Boston, Dec. 2-6, 2002.
11. Development of Nanograined Metallic Materials by bulk and coating techniques  
V.Agarwala, R.C. Agarwala and B.S.S. Daniel; Proc. of the Intl. Conf. on Nanomaterials (Nano 2005), Ed. V. Rajendran, Sivakasi, July 13-15, 2005, p. 66-62.
12. Nanocrystalline amorphous composite by isothermal annealing of Zr-based metallic glass  
S. Ramakrishnan, B.S.S. Daniel, ACTON-2005, IIT Roorkee, Roorkee, August 24-26, 2005.
13. Energetic criteria in mechanical alloying  
Hariroop Gulati, B.S.S. Daniel, ACTON-2005, IIT Roorkee, Roorkee, August 24-26, 2005.
14. Development of metallic foam by gas dispersion in molten aluminum

- R. Edwin Raj, M.S. Khan, P. Gupta, P.K. Ghosh, B.S.S. Daniel, Proceedings of the International Conference on Advanced Materials Design & Development, ICAMDD 2005, Dec. 14-16, 2005, p. 96-97
15. High temperature creep behaviour in bulk Metallic glass  
B.S.S. Daniel, Indian Institute of Metals, ATM-NMD, IIT Madras, Chennai, Nov. 14-16, 2005.
  16. Nanocrystalline dispersed metallic glass composite by annealing above  $T_g$   
S. Ramakrishnan, J. Raj Krishna and B.S.S. Daniel, Proc. of the Intl. Conf. on Advances in Materials and Materials Processing (ICAMMP 2006), Eds. U.K. Chatterjee and B.K. Dhindaw, Kharagpur, Feb. 3-6, 2006, p. 425-31.
  17. Aluminum Melt Foam Processing for Light Weight Structures  
R. Edwin Raj and B.S.S. Daniel, Proc. of the Intl. Conf. on Advances in Materials and Materials Processing (ICAMMP 2006), Eds. U.K. Chatterjee and B.K. Dhindaw, Kharagpur, Feb. 3-6, 2006, p. 877-83.
  18. Composite materials characterization – then and now  
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