

## **Brief Bio-Data**



1. Name : Dr. Bhaskar Prasad Saha
2. Designation : Scientist- F and Team Leader,  
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4. Academic Qualifications : B. Tech in Ceramic Engineering (Calcutta University)  
M. Tech in Metallurgy, (IIT, Kanpur)  
Ph. D in Materials Engineering (IISc, Bangalore)
5. Fields of Research Interest : Non - Oxide and Oxide Ceramic Processing including  
Silicon carbide optics, nitride based low dielectrics and  
high temperature - high strength Materials, Cellular  
ceramics, Solid Oxide Fuel cells, Thermal Shock resistant  
materials.
6. Patents : 8
7. Publications : More than 35 papers in International Peer reviewed  
Journals
8. Book chapter : 1

## Annexure I

### Membership of Professional Societies

1. Member American Ceramic Society
2. Life Member, Indian Ceramic Society

## Annexure II

### Number of B.Tech/M.Tech/Ph.D /PDF Scholars Guided

1. Two PDF
2. Three Ph. D Scholar
3. More than ten M. Tech and M. Sc. Scholars
4. More than twenty B. Tech students

## Annexure: III

### Honors/Awards Received

1. Received the Best paper Award as a co-author for presentation on the Rheometric Studies on cordierite-Mullite precursor mix for extrusion of honeycombs during the 66<sup>th</sup> Annual Session of Indian Ceramic Society, December 2002
2. Received the Best Paper Award as a co-author for presentation on the mechanical behaviour of cordierite-Mullite honeycomb with foams during 13<sup>th</sup> Annual General meeting of Material Research Society of India, February 2002
3. Received the Best Product Award as a team member for the thin walled Honeycomb structures during POWMET-99 during the international conference and annual technical meeting of Powder Metallurgy Association of India, 1999.

PATENTS (INDIAN) AWARDED/FILED

1. An improved method for making honeycomb extrusion die and a process for producing Ceramic honeycomb structures using the die Iouri Fomichev, I. Ganesh, B.P. Saha, Roy Johnson, N. Thiyagarajan, Y.R. Mahajan, and V. Mahender  
(Indian Patent. No. 198045, Dated: 3 -07-01)
2. An improved process for preparing ceramic crucibles having high thermal shock resistance and high slag penetration resistance useful for carbon and sulfur analysis of ferrous alloys and steel samples and the ceramic crucibles so prepared  
B.P. Saha, S. Bhattacharjee, I. Ganesh and Roy Johnson, Y.R. Mahajan (Indian Patent. No.2007700 Dated 20-09-00)
3. Improved process for the preparation of magnesium aluminate spinel grain  
M.C.S. Rao, Y.R. Mahajan, S. Bhattacharjee, Roy Johnson, B.P. Saha, and I Ganesh (Indian Patent. No. 198208 Dated 06-07-00)
4. Improved additive composition useful for the preparation of alumina based abrasion resistant material having improved wear properties and methods for their preparation  
B.P. Saha, Roy Johnson, I. Ganesh, S. Bhattacharjee, and Y.R. Mahajan  
(Appl. No. 122/MAS/2000, Date of filing: 18 February, 2000)
5. An improved process for the production of dense magnesium aluminate spinel grains  
I. Ganesh, Subir Bhattacharjee, B.P. Saha, Roy Johnson, and Y.R. Mahajan (Indian Patent. No. 200272 Dated 07-01-99)
6. Ceramic Honeycomb Based Energy Efficient Air Heater, V.V.S. Rao Roy Johnson,  
B.P. Saha and YR Mahajan  
(Indian Patent. No. 2007787 Dated 07-01-99)
7. New Composite Material (Ceramic Honeycomb based) having good Shock Attenuating Properties  
Roy Johnson, B.P. Saha and YR Mahajan  
(Indian Patent. No. 194524 Dated 06-05-98)
8. An Indirectly Heated Catalytic Converter for use in Vehicles  
G .S. Bhattacharjee, Roy Johnson, B. P. Saha  
(Indian Patent. No. 185433 Dated August 25, 1994)

LIST OF PAPERS PUBLISHED

1. "Effect of porosity on the structure and properties of  $\beta$ -SiAlON ceramics".  
Kolan Madhav Reddy and Bhaskar Prasad Saha, Journal of Alloys and Compounds 779(2019) 590-598
2. "Spark Plasma Sintering of Silicon Carbide with Al<sub>2</sub>O<sub>3</sub> and CaO: Densification Behavior, Phase Evolution and Mechanical Properties,"  
Ummen Sabu, Bhaskar Majumdar, Bhaskar P. Saha & Dibakar Das, Transactions of the Indian Ceramic Society, Trans. Ind. Ceram. Soc., vol. 77, no. 4, pp. 1-7 (2018)
3. "Processing of sintered and CVD coated SiC/CNFs thin composite tubes",  
S. Mubina, A. Khanra and B. P. Saha, Materials Chemistry and Physics 220 (2018) 225–232.
4. "Effect of sintering temperature on densities and mechanical properties of solid-state sintered silicon carbide ceramics and evaluation of failure origin"  
D.C. Jana, P. Barick, B.P. Saha, Journal of Materials Engineering and Performance, Published online 15<sup>th</sup> May 2018.
5. "Microstructure evolution in densification of SiC ceramics by aluminium vapour infiltration and investigation of mechanical properties"  
S.V. Amrut Raj, D.C. Jana, P. Barick, B. P. Saha, Ceramics International, doi.org/10.1016/j.ceramint.2018.02.132, 2018, Article in press.
6. "Influence of a few important parameters on the rheological behaviour of silicon carbide nanoparticles dispersed aqueous suspension"  
P. Barick, R. Mitra, B.P. Saha, Ceramics International, <https://doi.org/10.1016/j.ceramint.2018.02.113>, 2018.
7. Comparative evaluations and microstructure: mechanical property relations of sintered silicon carbide consolidated by various techniques"  
P. Barick, A. Chatterjee, B. Majumdar, B.P. Saha, R. Mitra, Metallurgical and Materials Transaction A (2018) 49(4): 1182-1201.
8. "Spray-freeze-dried nanosized silicon carbide containing granules: Properties, compaction behaviour and sintering"  
P. Barick, B.P. Saha, S.V. Joshi, R. Mitra, Journal of European Ceramic Society, 36(2016) 3863-3877.
9. "Effect of pressure and temperature on microstructure and mechanical properties of spark plasma sintered silicon carbide processed with  $\beta$ -SiC nanopowder and sintering additives"  
P. Barick, D. Chakravarty, B.P. Saha, R. Mitra, S.V. Joshi, Ceramics International 42(2016) 3836-3848.
10. "Effect of concentration and molecular weight of poly-ethylenimine on zeta potential, iso-electric point of nanocrystalline silicon carbide in aqueous and ethanol medium"  
P. Barick, B. P Saha, R Mitra and S. V. Joshi, Ceram. Inter., 41 (2015), 4289-4293
11. "Pressure slip casting and cold isostatic pressing of aluminum titanate green ceramics: A comparative evaluation"  
Ramanathan Papitha<sup>1</sup>, Madireddy Buchi Suresh<sup>1</sup>, Yebaluri Srinivas Rao<sup>1</sup>, Bhaskar Prasad Saha<sup>1</sup>, Dibakar Das<sup>2</sup>, Roy Johnson<sup>1</sup>, Processing and Application of Ceramics 7 [4] (2013) 159–166

12. "Load-dependent indentation behavior of  $\beta$ -SiAlON and  $\alpha$ -silicon carbide"  
P. Barick, D. C. Jana and B. P. Saha, *J. Adv. Ceram.*, 2 (2013), 185-192
13. "Comparative Evaluation of Thermal Conductivity of Zirconia solid and honeycomb structures"  
B. P. Saha, R. Johnson and V. Jayaram, *Expt. Heat Transf.*, 25 (2012), 267-281
14. "Comparative nanoparticle size characterization of EEW alumina using various measurement techniques",  
B. P. Saha, J. Mukhopadhyay, and R. Johnson *Part. Sci. Technol.*, 30 (2012), 517-532
15. "Investigation of Compaction Behaviour of Alumina Nano Powder"  
B. P. Saha, Vinoth Kumar, S.V.Joshi, AvinashBalakrishnan, Christophe, Louis Martin  
*Powder Technology*, Vol. 224, (2012) 90-95
16. "Modelling of Compaction and Green Strength of Aggregated Ceramic Powders"  
Balakrishnan, C. L. Martin, B. P. Saha and S. V. Joshi, *J. Am. Ceram. Soc.*,  
94(2011), 1046 – 1052
17. "Effect of particle size in aggregated and agglomerated ceramic powders"  
A Balakrishnan, P Pizette, C L Martin, S V Joshi, B P Saha, *Acta Mater.* 58, 802 - 812  
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18. "Micro structural control of stabilized zirconia ceramics (8YSZ) through modified conventional sintering methodologies"  
K. Rajeswari, A. Rajasekhar Reddy, U. S. Hareesh, B.P.Saha and R. Johnson, *Science of Sintering* 42, 2010, 91-97, 2010
19. "Effect of Relative Density on the Compressive Flow Behaviour of Cordierite and Cordierite: Mullite Honeycombs"  
B.P. Saha, SweetyKumari, N. Eswara Prasad and Roy Johnson  
*Transactions of the Indian Institute of Metals* (2010) 63:701-706
20. "Microwave assisted solid-state reaction synthesis of  $MgAl_2O_4$  spinel powders"  
I.Ganesh, B. Srinivas, R. Johnson, B.P. Saha and Y.R. Mahajan *Journal of European Ceramic Society*, 24 (2) (2004) 201-207
21. "Rheometric studies on cordierite-mullite precursor mix for extrusion of honeycomb structures"  
Setu Chako, Roy Johnson, B.P. Saha, I. Ganesh, M. Vijaykumar and Y.R. Mahajan  
*Transaction of Indian Ceramic Society* 63(2)2004
22. "Studies on energy absorption characteristics of cordierite-mullite honeycombs"  
Roy Johnson, Vipin Jain, S.V. Kamat, I. Ganesh, B.P. Saha and Y.R. Mahajan *Journal of Advanced Materials*, 35 (3) (2003) 3-8
23. "Solid state reactions of cordierite precursor oxides and effect of substitution of CaO on the thermal expansion behavior of cordierite honeycomb structures"  
R. Johnson, I. Ganesh, B.P. Saha, G.V.N. Rao and Y.R. Mahajan, *Journal of Materials Science*, 38 (2003) 2953-2961
24. "Effect of rubber encapsulation on the comparative mechanical behavior of ceramic honeycombs with foams", Vipin Jain, R. Johnson, I. Ganesh, B.P. Saha and Y.R. Mahajan  
*Materials Science and Engineering A347* (2003) 109-122
25. "Glimpses of ceramics – ARCI's perspectives"  
N. Thiyagarajan, R. Johnson, B.P. Saha, Y.S. Rao, S. Kumar, I. Ganesh and Y.R. Mahajan

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26. “A new sintering aid for magnesium aluminate spinel”  
I. Ganesh, S. Bhattacharjee, B. P. Saha, R. Johnson, and Y. R. Mahajan  
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  28. “Ceramic based catalytic converter for diesel vehicles”  
R. Johnson, B.P. Saha, I. Ganesh, V. Mahender, S. Bhattacharjee, Y. R. Mahajan,  
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  29. “High-Purity, Fully Dense Iron Strips by Powder Rolling”  
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  31. “Liquid Phase sintering of T15 and T42 High Speed Steel Composites Containing  
Ti (C, N)”  
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  32. “Liquid Phase sintering of T15 and T42 High Speed Steel Composites containing  $TiB_2$ ”  
Bhaskar P. Saha and G. S. Upadhyaya,  
Journal of Material Processing Technology, Vol. 36, 1993
  33. “Properties of Sintered T15 and T42 High Speed Steels”  
Pradipta K. Kar, Bhaskar P. Saha and G.S. Upadhyaya,  
Powder Metallurgy International, Vol. 29, No. 2, 1993

#### BOOK CHAPTER

1. D. C. Jana and B. P Saha, “Silicon carbide based lightweight mirror blanks for space optics applications”. In: Y. R Mahajan and R. Johnson (Eds) Handbook of Advanced Ceramics and Composites Applications, First Edition, Springer, NY (Accepted).