

## PROFILE

**Name** : Dr. Madireddy Buchi Suresh  
**Present Position** : Scientist-E @ ARCI  
**Age** : 49 yrs (DOB: 18<sup>th</sup>, March 1974)  
**Research/teaching experience:** 27 yrs  
**Email:** [suresh@arci.res.in](mailto:suresh@arci.res.in)



### Major Achievements

### Technical Record

Sl. No.	Projects completed and Ongoing
1	Development of SOFC-SOEC systems for power and hydrogen generation - Ongoing
2	Development of Low Expansion Glass Ceramics - Ongoing
3	Development of Porous Zirconia Tubes for thermal management application - Completed
4	Development of MgO based Ceramic complex parts - Completed
5	Developed sodium beta alumina tubes for sodium production - Completed
6	Developed of sodium beta alumina tubes for sodium sulphur batteries - Completed
7	Development of Transparent Ceramics for Infrared and visible wavelength range applications - Completed
8	Development Honeycomb based ceramic inserts for Boot Anti-mine Infantry Application

### **Awards and Distinctions**

:University [gold medallist \(1st Rank\)](#) in Master of Science  
:Awarded [four gold medals](#) in M.Sc (Physics)  
:University [2nd rank](#) in Bachelors degree  
:Awarded Central Govt. [Merit Scholarship](#) (3 yr)  
:Distinguished lecturer of Physics

### Teaching experience:

worked as lecturer in physics from 1998-2009

### Life Member:

Indian Ceramic Society, Kolkata, 2009  
Indian Institute of Ceramics

**Committees handled/handling:** National Science Day committee, Technology Day committee, Yoga Day committee, Sports committee, Annual day committee, Material disposal committee, website management committee, Swatchhta Hi Seva committee

**Organizing Committee Member:**

- (1) Intl. conference on glass and advanced ceramics
- (2) Intl. workshop on advanced ceramics
- (3) National and Intl. seminars and workshops

**International Conferences Attended @ Abroad:**

- 1. NTUST, Taiwan
- 2. NUS, Singapore

**Invited Lectures:**

- UGC-Human Resource Development Centre, JNTUH in the refresher courses
- UGC-HRDC (Academic Staff College), Osmania University in the refresher course

**Academic record**

**1. Post Doctoral Associate:**

Dept. of Mech. Engg., NTUST, Taiwan (August, 2006 to August, 2008)

**2. Doctorate in Physics** Thesis title "*Synthesis and Characterization of Mn Substituted BLSF materials*"

<b>Institution</b>	Osmania University, Hyderabad, India
<b>Year of Completion</b>	2004
<b>Field of research:</b>	Materials Science (Physics)

**3. Master of Science(Physics)**

<b>Institution</b>	Osmania University, Hyderabad, India
<b>Specialization</b>	Solid State Physics
<b>% of marks</b>	89%
<b>Year of completion</b>	1996

**4. Bachelor of Science (MPC)**

<b>Institution</b>	Osmania University, Hyderabad, India
<b>Subjects</b>	Mathematics, Physics and Chemistry
<b>% of Marks</b>	88%
<b>Year of completion</b>	1994

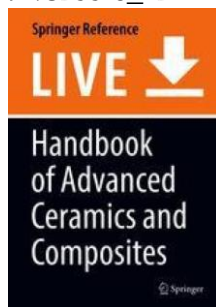
**5. Areas of interest:**

Solid Oxide Fuel Cells, Structural Ceramics, Cellular Ceramics, Transparent Ceramics, Porous Ceramics, Low Expanding Glass Ceramics, Extrusion Processing, Hot Isostatic Pressing

<b>6. Google Scholar Metrics:</b>	No. of Citations-	864
	h-index:	19
	i-10 index:	31
<b>7. Research gate Metrics:</b>	RG Score:	28.64
	Citation:	710
	h-index:	18
	Reads:	9636
<b>8. Thesis/Project Report Guidance:</b>	Ph.D students:	05
	M.Tech students:	06
	B.Tech students:	12
	Ph.d Thesis evaluations:	03

### **Book Chapter:**

A chapter on “**Advances in nano-finishing of optical glasses and glass ceramics**: authored by **M Buchi Suresh**, I A Rasheed and Mahender Kumar Gupta in the ‘Handbook of Advanced Ceramics and Composites’ (ed.) Y. R. Mahajan and Roy Johnson, Springer Nature, ISBN: 978-3-319-73255-8, doi.org/10.1007/978-3-319-73255-8\_12-1



### **Workshops/Conferences**

- Delivered a talk in the international conference on Exploring the emerging world of ceramics and glass (ICEECG 2023) during 19<sup>th</sup> -21<sup>st</sup> December, 2023 at CGCRI, Kolkata
- Deliver a talk in the national symposium on electrochemical science and technology during 17-18<sup>th</sup> August, 2023 at ARCI, Hyderabad
- Delivered a talk in the international conference on global trends in traditional to space ceramics (GT-TSC 2022) during 8-9<sup>th</sup> December, 2022 at BHU, Varanasi.
- Delivered an invited talk in the One Day Workshop on Recent developments, Challenges and Opportunities in the field of Energy Materials ADVANCED ENERGY MATERIALS & DEVICES 3rd March, 2022, CGCRI, Kolkata
- Delivered an invited lecture during the one-day workshop on Ceramic Materials for

Solid Oxide Fuel Cells held on October 21, 2021, ARCI, Hyderabad

- Delivered a talk in the workshop on Hydrogen and fuel cells for sustainable future on 18<sup>th</sup> October 2019 at IITM Research Park, Chennai
- Delivered an invited talk in the International Symposium on Advanced Ceramics and Technology for Sustainable Energy Applications, Nov. 1-4, 2009, Taipei, Taiwan

### List of Peer Reviewed Publications (76)

1. Prospective performance of inexpensive SS409L as metal supported for the application in metal supported solid oxide fuel cells  
Amit Das, **Madireddy Buchi Suresh**, B P Saha and Roy Johnson  
Intl. Journal of Hydrogen Energy (2023) under review, Impact Factor: 7.2
2. Processing of Lithium Aluminium Silicate Glass Ceramics and investigations of fracture behavior and its correlation with the microstructural Features  
Papiya Biswas, **Madireddy Buchi Suresh**, D C Jana, B P Saha and Roy Johnson  
Ceramics International 50 (2024) 4708-4714, IF: 5.532
3. Fabrication of Optically Transparent  $MgAl_2O_4$  Polycrystalline Ceramics and evaluation of High-Temperature Dielectric, Impedance Spectroscopy & AC conductivity  
**Madireddy Buchi Suresh**, Papiya Biswas, B P Saha and Roy Johnson  
Journal of Materials Science: Materials in Electronics 34 (2023) 1877, IF:2.779
4. Interfacial Effect on the polarization resistance of  $SrM_{0.1}Mo_{0.9}O_{3-d}$ , (M=Mg<sup>2+</sup>, Fe<sup>3+</sup>)/GDC-based composite electrodes  
Amit Das, Sunil Kumar, **M Buchi Suresh**, Shobit Omar  
Solid State Ionics 394 (2023) 116193, IF: 3.69
5. Effect of temperature on Dielectric properties of cobalt doped SnSe polycrystals  
Manjula Nerella, Nagaraju macherla, Buchi Suresh Madireddy, Sobha Bathulapalli  
Journal of Materials Science: Materials in Electronics 34 (2023), IF:2.779
6. Electrochemical Performance of  $SrMo_{0.9}Mg_{0.1}O_3$ -based Composites for SOFC Anodes  
Amit Das, Sunil Kumar, Biswajit Jana, **Madireddy Buchi Suresh**, Chalavadi Prashanthi and Shobit Omar  
ACS Applied Energy Materials 5(2) (2022) 1607-1617, IF: 6.96
7. Pressure slip cast processing of alumina ( $Al_2O_3$ ) products and comparative evaluation of mechanical properties  
P Raju, Asit Kumar Khanra, Madireddy Buchi Suresh, Y. Srinivasa Rao and Roy Johnson  
Journal of Advances in Applied Ceramics 121 (2022) 1-10, IF:2.475

8. Room temperature ferromagnetism and dielectric properties of Cobalt doped Tin Selenide for Spintronic applications  
Manjula Nerella, **Madireddy Buchi Suresh** and Sobha Bathulapalli  
Physica B: Physics of Condensed Matter 627 (2022) 413540
9. Optical and Dielectric properties of Potassium doped Tin Selenide polycrystals"  
Manjula Nerella, **Madireddy Buchi Suresh** and Sobha Bathulapalli  
Journal of Materials Science: Materials in Electronics 33 (2022) 2869-2887
10. Effect of Na doping on structural, optical, and dielectric properties of SnSe polycrystals  
Manjula Nerella, **Madireddy Buchi Suresh** and Sobha Bathulapalli  
Journal of Material Science: Materials in Electronics, 32 (2021) 4347-62
11. Experimental investigation and machine parameter optimization for nano finishing of fused silica using magnetorheological finishing process  
Mahender Kumar Gupta, D Dinakar, Inder Mohan Chhabra, Sunil Jha, **Buchi Suresh Madireddy**  
Optik-International Journal of Light and Electron Optics 226 (2021) 165908
12. Impact of Fe substitution on electrical properties of ErCrO<sub>3</sub> semiconductor perovskite ceramic nanoparticles  
Jada Shanker, R. Vijaya Kumar, **M. Buchi Suresh**, D. Suresh Babu  
Journal of Alloys and Compounds, 841 (2020) 155730
13. New GO Mesoporous-SiO<sub>2</sub> hybrid composites and its dielectric properties with frequency and temperature  
K Santosh Kumar, Himadri Mehdi, Dhiman Banik, **M Buchi Suresh**, Pramod H Borse, Pradip Paik  
J. of Materials Chemistry and Physics 230 (2019) 337-346
14. Synthesis of graphene oxide and reduced graphene oxide using volumetric method by a novel approach without NaNO<sub>2</sub> or NaNO<sub>3</sub>  
Rajitha Gunda, **Buchi Suresh Madireddy** & Raj Kishora Dash  
Applied Nano science 8 (2018) 751-758
15. Colossal dielectric, relaxor ferroelectric, diamagnetic and weak ferromagnetic properties of NdCrO<sub>3</sub> perovskite nanoparticles  
Shanker J, **M Buchi Suresh**, D Suresh Babu  
Journal of Materials Science 54 (2018) 5595-5604
16. Structural, morphological, dielectric and room-temperature magnetic studies of Ce<sup>3+</sup> substituted nano crystalline cobalt ferrite  
Syed Ismail Ahmad & **Madireddy Buchi Suresh**  
Conference Proceedings 2162(1):020085 (2019)
17. Effect of Ca<sup>+2</sup> addition on the properties of Ce<sub>0.8</sub>Gd<sub>0.2</sub>O<sub>2-delta</sub> for IT-SOFC  
Koteswararao P, **M Buchi Suresh**, Wani BN, PV. Bhaskara Rao, Varalaxmi  
Materials Science and Engineering 330 (2018) 012010
18. Effect of Sm and Na substitution on dielectric properties of SrBi<sub>4</sub>Ti<sub>4</sub>O<sub>15</sub>

U. Ravikiran, P. Sarah, **M. Buchi Suresh** & Elizabeth Zacharias  
Ferroelectrics 537 (2018) 237-245

19. Synthesis, structural and morphological studies of Sr<sup>2+</sup> and Gd<sup>3+</sup> co-doped Ceria electrolyte system for LT-SOFC  
Koteswararao P, **Suresh MB**, Wani BN, Rao PVB, Jadhav LD  
Materials Science and Engineering 330 (2018) 012029
20. Development of Cordierite based Reticulated Foams with Improved Mechanical Properties for Porous Burner Applications  
P. Biswas, K. Varaprasad, P. Ramavath, **M. Buchi Suresh**, R. Johnson  
Transactions of the Indian Ceramic Society 76 (2017)
21. High temperature dielectric and complex impedance studies of dense ZnAl<sub>2</sub>O<sub>4</sub> Ceramics  
**M Buchi Suresh** and Roy Johnson  
Material science and Engineering 1[1] (2017) 1-6
22. Effect of Mg doping and sintering temperature on structural and morphological properties of samarium doped Ceria for IT SOFC electrolyte  
Syed Ismail Ahmed, Tasneem Mohd, Amal Bahafi, **Madireddy Buchi Suresh**  
Applied Nano Science 7 (2017) 243-252
23. Comparative evaluation of electrical conductivity of hydroxyapatite ceramics densified through ramp and hold, spark plasma sintering and post sinter hot isostatic pressing routes  
**M Buchi Suresh**, P Biswas, V Mahender and Roy Johnson  
Materials Science and Engineering C 70 (2017) 364-370
24. Fabrication of graphite contamination free polycrystalline transparent MgAl<sub>2</sub>O<sub>4</sub> spinel by spark plasma sintering using platinum foil  
Papiya Biswas, Dibyedu Chakraborty, **Madireddy Buchi Suresh**, Roy Johnson, M Krishna Mohan  
Ceramics International 42 (2016) 17929-17923
25. Quasstatic compression behavior of nickel oxide, nickel oxide:zirconia, nickel:zirconia and nickel foams  
Papiya Biswas, Pandu Ramavath, Chandana Muraleedharan Nair, **Madireddy Buchi Suresh**, Nakula Ravi and Roy Johnson  
Ceramics international 42 (2016) 10572-10578
26. Preparation, surface morphology and electrical properties of multilayer antireflection thin films  
Naidu VA, Narayana GL, Radhika K, Mridula A, **M. Buchi Suresh**, Chhabra IM, Kistaiah P  
Materials Today proceedings 3 (2016) 3614-3620
27. Sonochemical Synthesis of Nano-Structured Hydroxyapatite with unique morphologies and Evaluation of Sintering Kinetics  
Papiya Biswas, Bandhakavi Lakshmi Sindhura, Chandhana Muraleedharan Nair, Pandu Ramavath, **Madireddy Buchi Suresh** and Roy Johnson

28. Mixing Torque Measurement - an Effective Tool for Identifying Critical Binder Volume Concentrations for Ceramic Processing  
Nirmala Sanikomu, K Bhargavi, **M. Buchi Suresh**, Roy Johnson and AS Joshi  
Journal of Scientific and Industrial Research 74[9] (2015)504-507
29. Synthesis, Extrusion processing and Ionic Conductivity measurements of Sodium Beta Alumina tubes  
K. Avinash, **M. Buchi Suresh**, A.K. Khanra and Roy Johnson  
Processing and Application of Ceramics 9[3] (2015) 131-138
30. Synthesis, Characterization and electrical properties of  $NdxO_3$  ( $x=Cr, Fe$ ) nanoparticles  
Shanker J, **Suresh MB**, Babu DS  
Materials Today Proceedings 3[6] (2016) 2091-2100
31. Transparent magnesium aluminate spinel: a prospective biomaterial for esthetic orthodontic brackets  
Manu Krishnan, Brijesh Tiwari, Saraswathy Seema, Namitha Kalra, Papiya Biswas, Kotikalapudi Rajeswari, **Madireddy Buchi Suresh**, Roy Johnson, Nitin Gokhale, Satish R Iyer, Sanjay Londhe, Vimal Arora, Rajendra P Tripathi  
Journal of Materials Science: Materials in Medicine, 25[11] (2014) 2591-2599
32. Optical and mechanical properties of compaction and slip cast processed transparent polycrystalline spinel ceramics  
Pandu Ramavath, Papiya Biswas, Kotikalapudi Rajeswari, **M Buchi Suresh**, Roy Johnson, Gadhe Padmanabham, Chandrashekar Kumbhar, Tapas Kumar Chongdar, Nitin Madhusudan Gokhale  
Ceramics International, 40(4) (2014) 5575-5581
33. Studies on preparation and Preparation and characterization of NIR Antireflection thin films  
V Atchiah Naidu, V. Rajashekar Reddy, R. Sudhakar Rao, **M. B. Suresh**, IM Chhabra, P. Kistaiah  
Materials Today, Vol. 2 (2015) 1533-1544
34. Synthesis and Analysis of Highly efficient GDC20 as electrolyte for IT-SOFCs application  
R. Gupta, A. K. Mishra, M.R. Majhi, **M. Buchi Suresh**  
Inter. Journal of Engineering and Innovative Technology, 3(3) (2013) 61-66
35. Effect of Micro-cracking on the Thermal Conductivity and Thermal Expansion of Tialate ( $Al_2TiO_5$ ) ceramics  
R. Papitha, **M. Buchi Suresh**, Dibakar Das and Roy Johnson  
Journal of Processing and Application of Ceramics, 7(3) (2013) 143-146
36. High temperature flexure strength and thermal stability of near zero expanding doped Aluminium Titanate ceramics for DPF applications  
R. Papitha, **M. Buchi Suresh**, Dibakar Das and Roy Johnson  
International Journal of Applied Ceramic Technology 1-10 (2013) DOI:

10.1111/ijac/12092

37. Eutectoid Decomposition of Aluminum Titanate ( $\text{Al}_2\text{TiO}_5$ ) Ceramics under Spark Plasma (SPS) and Conventional (CRH) Thermal Treatments  
Papitha R, **Suresh M B**, Chakravarty D, Swamakar.A, Dibakar Das and Roy Johnson  
Ceramics International 40(1) (2014) 659-666
38. Pressure Slip casting and cold isostatic pressing of aluminum titanate green ceramics: A comparative evaluation  
Papitha R, **M Buchi Suresh**, Y.S. Rao, B.P. Saha, Dibakar Das, Roy Johnson  
Journal of Processing and Application of Ceramics, 7(4) (2013) 159-166
39. Binder burnout and sintering kinetic study of alumina ceramics shaped using methylcellulose  
K. Rajeswari, S. Chaitanya, P. Biswas, **M. Buchi Suresh**, Y.S. Rao and Roy Johnson  
Journal of Ceramic Processing Research 16(1) (2014) 1-8
40. Synthesis, characterization and impedance spectroscopy studies of  $\text{NdFeO}_3$  perovskite ceramics  
Jada shanker, **M Buchi Suresh** and D Suresh Babu  
International Journal of scientific engineering and research 3[7] (2015) 194-197
41. Studies on structural, morphological and electrical studies of gadolinium doped ceria  
P. Koteswara rao, **M. Buchi Suresh**, B N Wani, P V Bhaskara Rao  
Int. J. Multidisciplinary Educational Research, Vol. 3(11) (2014) 152-160
42. Synthesis and Characterization of Ni doped BSCF as a cathode material for IT-SOFC  
Suman Kumar Burnwal, **M Buchi Suresh**, P Kistaiah  
International Journal of Scientific Research 2(9) (2013) 377-379
43. Structure-Property Correlation of Sol-Gel Processed  $\text{Co}_{0.5}\text{Ti}_{0.5}\text{ZnFeO}_4$  Ceramic  
K. Vijaya Kumar, M. Lakshmi and **M. Buchi Suresh**  
International Journal of Engineering Research and Application 3(6) (2013) 1489-1497
44. Effect of Mg substitution on electromagnetic properties of NiCuZn ferrites  
Ch. Sujatha, K. Venugopal Reddy, K.Sowri Babu, A. Ramchandra Reddy, **M. Buchi Suresh**, K.H. Rao  
Journal of Magnetism and Magnetic Materials 340 (2013) 38-45
45. Frequency and Temperature dependence of electrical properties of Zirconium and neodymium substituted  $\text{SrBi}_4\text{Ti}_4\text{O}_{15}$  ceramics  
Mamatha B, **Suresh MB**, Sarah P  
Ferroelectrics 445[1] (2013) 51-66
46. Flow properties of spray dried alumina granules using powder flow analysis technique  
P. Ramavath, M. Swathi, **M. Buchi Suresh** and Roy Johnson  
Advanced Powder Technology, 24(3) (2013) 667-673



47. Mineral oxide doped aluminum titanate ceramics with improved thermo-mechanical properties  
R. Papitha, **M. Buchi Suresh**, Dibakar Das, Roy Johnson  
Journal of Ceramics 214794 (2013) 1-9
48. Effect of sintering temperature on structural properties of Al<sup>3+</sup> Co-substituted Ni-Zn Ferrite Nano particles  
K. Vijaya Kumar, D. Paramesh, P. Venkat Reddy, **M. Buchi Suresh**  
Int. Journal of Engineering & Technology Research, 1(2) (2013) 153-158
49. Surface Morphology of MgF<sub>2</sub>/YF<sub>3</sub> Multilayer Thin Films by Thermal Evaporation method  
V. Atchaiah Naidu, G. Laxmi Narayana, **M.B. Suresh**, I. M. Chhabra and P. Kistaiah  
Intl. J. Research in Engineering and Technology, 02(2013) 2319-1163
50. Deposition, Optical Characterization and Durability Tests of MgF<sub>2</sub> Antireflection Thin Films  
V. Atchaiah Naidu, G. Laxmi Narayana, V. Rajashekar Reddy, **M. B. Suresh**, I.M. Chhabra and P. Kistaiah  
International J.of Engineering Trends and Technology, Vol 4, Issue 8 (2013) 2560-2563. ISSN-2231-5381
51. Diametral Deformation Behavior and Machinability of Methyl Cellulose Thermal Gel Cast Processed Alumina Ceramics  
P. Biswas, M. Swathi, P. Ramavath, K. Rajeswari, **M.B. Suresh** and R. Johnson,  
Ceramics international, Vol. 38(8) (2012) 6115-6121
52. Six Sigma and its Role in Quality Management for the Organization to Achieve Continuous Improvement  
V. Atchaiah Naidu, **M Buchi Suresh**, I M Chhabra, K Rambabu  
Proceedings of the International Conference on Advancements in Engineering and Management, 27-28 Feb, 2013, RITS, Parigi, Hyderabad ISBN: 978-93-5104-586-1
53. Effect of Co Substitution of Mg and Zn on electromagnetic properties of NiCuZn ferrites  
Ch. Sujatha, K. Venugopal Reddy, K. Sowri Babu, A. Ramachandra Reddy, **M. Buchi Suresh** and K.H. Rao  
Journal of Physics and chemistry of solids, doi.org/10.1016/j.jpcs.2013.02.005
54. Preparation and Optical Characterization of MgF<sub>2</sub> Antireflection thin films deposited by Thermal evaporation method  
V. Atchaiah Naidu, **M.B. Suresh**, I.M.Chhabra and P. Kistaiah  
Proceedings of the National Conference on Nano Science, NanoEngineering & Applications, 27-28 April, 2012 Institute of Science & Technology, JNTU, Hyderabad ISBN: 978-81-924726-0-7, pp 41-44
55. High temperature complex impedance spectroscopic studies of doped Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub>-BaTiO<sub>3</sub> ferroelectric ceramics  
Ch. Sameera Devi, **M. Buchi Suresh**, G. S. Kumar, G. Prasad  
International Journal of Ionics, DOI 10.1007/s11581-016-1781-3

56. Studies on Ionic Conductivity of stabilized zirconia ceramics (8YSZ) densified through conventional and non-conventional sintering methodologies  
K. Rajeshwari, **M. Buchi Suresh**, U.S.Hareesh, Y.S.Rao, Dibakar Das & Roy Johnson  
Ceramics International, 37(8) (2011) 3557-3564
57. Synthesis and Evaluation of Thermal, Electrical, and Electrochemical Properties of  $\text{Ba}_{0.5}\text{Sr}_{0.5}\text{Co}_{0.04}\text{Zn}_{0.16}\text{Fe}_{0.8}\text{O}_{3-\delta}$  as a Novel Cathode Material for IT-SOFC Applications",  
M. Haritha, **M. B. Suresh** and R. Johnson  
Ionics, Vol.18 (9), p 891-898, 2012
58. The effect of strontium doping on densification and electrical properties of  $\text{Ce}_{0.8}\text{Gd}_{0.2}\text{O}_{2-\delta}$  electrolyte for IT-SOFC application  
**M B Suresh** and R Johnson  
Ionics, 18(3) (2012) Pages: 291-297, 2012
59. Structural and electrical properties of co-doped zirconia electrolyte for intermediate temperature solid oxide fuel cell application  
**M Buchi Suresh** and Roy Johnson  
International Journal of Energy Research Vol. 36 (14), p 1291-1297, 2012
60. Effect of Nano Grain Size on the Ionic Conductivity of Spark Plasma Sintered 8YSZ Electrolyte  
K. Rajeswari, **M. Buchi Suresh**, Dibyendu Chakraborty, Dibakar Das and Roy Johnson  
International Journal of Hydrogen Energy Vol. 37(1), p 511-517, 2012
61. Colloidal Shaping of 8 mol% Ytria Stabilized Zirconia Electrolyte Honeycomb Structures by Microwave Assisted Thermal Gelation of Methyl Cellulose  
K. Rajeswari, Papiya Biswas, **M Buchi Suresh**, U.S. Hareesh and Roy Johnson  
Int. J. Appl. Ceram. Technology, 1-10 (2012) DOI:10.1111/j.1744-7402.2012.02832.x
62. Investigations on the phase stability of  $\text{Na}^+$  -conducting sodium dysprosium (phospho) silicates,  
P. Sandhya Rani, **M. Buchi Suresh** and R.Subasri  
Ceramics International, 38(2) (2012) 1435-1440
63. Synthesis, characterization and electrical properties of Nd/Zr co-doped nano  $\text{BaTiO}_3$  ceramics  
Ch. Sameera Devi, **M. B. Suresh**, G.S.Kumar, G. Prasad  
Journal of Advanced Dielectric, 2(1) (2012) 1-14
64. Synthesis and electrical properties of  $\text{SrBi}_4\text{Ti}_4\text{O}_{15}$  piezoelectric ceramics  
B. Mamatha, **M B Suresh**, A. R. James, M Vithal and P Sarah  
Phys. Scr. **84** (2011) 055704
65. Impedance and modulus spectroscopic studies on  $40\text{PrTiTaO}_6 + 60\text{YTiNbO}_6$  ceramic composite

D.B.Dhwajam, **M. Buchi Suresh**, U.S.Hareesh, J.K.Thomas, S. Solomon and Annamma John  
Journal of Material Science: Materials in Electronics DOI 10.1007/s10854-011-0464

66. Zn Doped LSCF as a Novel Cathode Material for Solid Oxide Fuel Cell  
**M. B. Suresh**, Tsung-Her Yeh, Chen-Chia Chou  
Integrated Ferroelectrics, 121(1) (2010) 113-119
67. Effect of sintering process on the microstructures of Bi<sub>2</sub>O<sub>3</sub>-doped yttria stabilized zirconia  
T.H. Yeh, G.E. Kusuma, **M.B. Suresh**, C.C. Chou  
Materials Research Bulletin, 45(3) (2010) 318-323
68. Dielectric and ferroelectric properties of PVDF-PZT nano composite films  
**M. B. Suresh**, Tsung-Her Yeh, Chih-Chieh Yu and Chen-Chia Chou  
Ferroelectrics, 381 (1) (2009) 80-86
69. Chemical reactions during wet-chemical etching process of LSMO/PZT/LSMO-structured device fabrication  
**M. B. Suresh**, Tsung-Her Yeh, Jun-Nan Shen, Jyh-Cheng Yu and Chen-Chia Chou  
Ferroelectrics, 380(1) (2009) 97-101
70. Fabrication and characterization of dense PZT thick films using continuous wave CO<sub>2</sub> laser annealing  
Shen-Da Tsai, **M. B. Suresh**, Ke-Heng Lai, Chen-Chia Chou  
Ferroelectrics, 383(1) (2009) 89-94
71. Electrical properties and grain growth kinetics of PZN based ceramics using microwave sintering  
**M. B. Suresh**, Chen-Liang Li and Chen-Chia Chou  
Journal of Materials Science and Engineering **25(6)** (2007) 878-882
72. Improvement in ferroelectric properties of PZT thick films prepared by a modified sol-gel technique using low temperature laser annealing  
**M. B. Suresh**, Shen-Da Tsai and Chen-Chia Chou  
Journal of Physica Scripta, T**129** (2007) 175
73. Comparison of electrical and dielectric properties of BLSF materials in Bi-Fe-Ti-O and Bi-Mn-Ti-O systems  
**M. B. Suresh**, E. Venkata Ramana, S. Narendar Babu and S. V. Suryanarayana  
Ferroelectrics, **332** (2006) 57
74. Electrical and Dielectrical properties of Bi<sub>6</sub>Mn<sub>2</sub>Ti<sub>3</sub>O<sub>18</sub>  
**M. B. Suresh**, K. Srinivas, E. V. Ramana Murthy, G. Swaminathan and S.V.Suryanarayana  
MRS, **755** (2003) DD.11.19.1
75. Electrical & Dielectric properties in double doped BaTiO<sub>3</sub> showing relaxor behavior  
M. Mahesh Kumar, **M. B. Suresh** and S. V. Suryanarayana  
J. Appl. Phys., **86** (1999) 1634

76. Dielectric relaxation in  $\text{Ba}_{0.96}\text{Bi}_{0.04}\text{Ti}_{0.96}\text{Fe}_{0.04}\text{O}_3$   
M. Mahesh Kumar, **M. B. Suresh**, S. V. Suryanarayana, G. S. Kumar & T. Bhimasankaram  
J. Appl. Phys., **84** (1998) 12

### **Experimental Skills**

- Extrusion process for honeycomb, rod, disc and tube shape products
- Processing of porous ceramics for various applications
- Novel electrolytes and electrodes for high, intermediate and low temperature solid oxide fuel cells
- Powder sample preparation, measurement and analysis of particle size using dynamic light scattering and laser diffraction
- Tape casting the polymer films and electrolytes for oxygen sensors to improve the surface morphology
- Measuring impedance, Tafel curve and cyclic voltammetry curve using Solartron SI-1260 Impedance/Gain phase analyzer to understand the behavior of anode and cathode thin films used for SOFC single cells

### **Major Strengths**

- To develop engineered ceramics for various applications
- To develop dense ceramics for energy applications
- To engineer the porosity in the material for thermal management application
- Experimental setups for electrical characterization of materials
- Screening of SOFC components and single cell fabrication
- Measurement of Dielectric, electric and electromechanical properties

### **Contact Information:**

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