CURRICULUM VITAE

Dr. MUNIYANDI MUNEESWARAN
Investigator Post-doc FONDECYT
Department of Mechanical Engineering,
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Academic Profile:

Post-Doctoral Researcher March 2018 onwards	Fondecyt Post-doctoral Fellowship, University of Chile, Chile Multiferroic and piezoelectric materials
Post-Doctoral Researcher July 2016 – Feb 2018	Brain Korea Fellowship (BK21 plus), Pukyong National University, Functional Materials and Device Laboratory, South Korea Growth of complex oxide films by using Pulsed Laser Deposition (PLD) and their studies of functionalities
Post-Doctoral Researcher Nov 2015- May 2016	Experimental Condensed Matter Physics, Institute of Physics Bhubaneswar, India Study of Growth and characterisation of Advance materials
Ph.D., Physics : 2011-2015 Title of the thesis :	National Institute of Technology (NIT), Tiruchirappalli, Tamil Nadu, India Investigations on the Synthesis and properties of pure and rare earth (Dy, Pr and Tb) modified multiferroic $BiFeO_3$ nanoparticles
M. Sc., Physics : (2008-2010) M.Sc., Dissertation:	National Institute of Technology (NIT), Tiruchirappalli, Tamil Nadu, India Sol-gel synthesis and characterization of $Ba(Zr,Ti)O_3$ ceramic powders
B. Sc., Physics (2005-2008)	Gandhigram Rural University, Dindigul, Tamil Nadu, India

Professional Profile:

Feb 2013– June 2015 : MHRD (GATE Fellowship) - Senior Research Fellow, National Institute of Technology, Tiruchirappalli, Tamil Nadu, India

Feb 2011–Feb 2013 : MHRD (GATE Fellowship) – Junior Research Fellow, National Institute of Technology, Tiruchirappalli, Tamil Nadu, India

Awards and Honors:

Brain Korea Fellowship for the Post-Doctoral Researcher at Pukyong National University, South Korea

Student Travel grant for participated for 8th Magnetics Society Summer School, University of Minnesota, 14-19, June 2015, Minneapolis, USA

Student Travel grant for oral presentation conference in SPIE Optics + Photonics, NanoScience + Engineering 17-21st August 2014, San Diego, USA

International Membership

✓ International Society for Optics and Photonics (SPIE)

✓ Optical Society of America (OSA)

✓ IEEE Magnetic Society

Operating Instruments:

- XRD (Rigaku (D/Max ultima III)
- PLD (Pulsed Laser Deposition)
- PFM (Piezoelectric Force Microscopy)
- FTIR (Thermo Scientific Nicolet 10)
- VSM (Lakeshore, USA 7404)
- UV [JASCO (V-670, USA)]

- Ferroelectric and Multiferroic Tester [Precision multiferroic Tester (Radiant Technologies, USA)]
- Piezoelectric Tester (MTI-2100 FOTONIC)
- LCR Meter (HIOKI 3532-50, Japan)
- Magneto-Electric Effect (DC Magnetic field with (RadiantTechnologies, USA)

Research Area:

- Multiferroics
- Ferroelectrics
- Magnetic oxides materials
- Magneto-Electric Effect (ME)
- Piezoelectric Materials
- Ceramic composites
- Polymers
- Photocatalysis

Materials worked:

- ✓ $BiFeO_3$ (Nano particles, Thin films, Ceramics)
- ✓ $YMnO_3$ (Nano particles, Ceramics)
- ✓ PZT (Thin films, Bulk)
- ✓ $BaTiO_3$ (Ceramics, Bulk)
- ✓ NKBT (Ceramics, Bulk)
- ✓ Polymers (Nano-composites)

Synthesis methods known:

- ❖ Sol-gel process
- ❖ Co-Precipitation
- ❖ Hydrothermal
- ❖ Plasma Sintering
- ❖ Spin coating
- ❖ Ceramics

Softwares known:

- ✓ Microcal Origin,- Matlab - Labview - Microsoft office - FULLPROF – GSAS

List of Publications:

Summary of My Research Work

I have started my research career as a junior research fellow funded by Ministry of Human Resource Development (MHRD) under the scheme of Graduate Aptitude Test in Engineering (GATE) Fellowship at National Institute of Technology, Tiruchirappalli India. I am working in the field of Synthesis and characterization of nano particles and complex metal oxide materials towards spintronics, and multiferroics will ultimately lead to new spin-based multifunctional devices.

36. **Muniyandi Muneeswaran,** Seung Hoon Lee, Dong Hun Kim, Beon Sung Jung, Seo Hyoung Chang, Jae-Won Jang, Byung Chun Choi, Jung Hyun Jeong, NV Giridharan, C Venkateswaran
Structural, vibrational, and enhanced magneto-electric coupling in Ho-substituted $BiFeO_3$
Journal of Alloys and Compounds 750, 276-285 (2018)

35. P.Nisha Francis, S Dhanuskodi, MS Jayalakshmy, **Muniyandi Muneeswaran,** J Philip, NV Giridharan
Optical limiting and magnetoelectric coupling in multiferroic BiFeO3 nanoparticles
Materials Chemistry and Physics 216, 93–101, (2018)

34. P Senthilkumar, S Dhanuskodi, **Muniyandi Muneeswaran,** NV Giridharan, S Kuila, PN Vishwakarma
Investigations on the structural, multiferroic, and magnetoelectric properties of $Ba_{1-x}Ce_xTiO_3$ particles
Journal of Applied Physics 123, 244101 (2018)

33. **Muniyandi Muneeswaran,** B. C. Choi, S. H. Chang, J. H. Jeong and S. H. Park
Structural, Vibrational and Band Gap Tunability of Lead-Free (1-x)$NaBiTO_3$-x$BiMnO_3$ Ceramics
Journal of Materials Science: Materials in Electronics 28, 18508-18514 (2017)

32. S.M. Abdul Kadera, D.E. Jain Ruth, M. Veera Gajendra Babu, **Muniyandi Muneeswaran** N.V. Giridharan, B. Sundarakannan
Investigations on the effect of Ba and Zr co-doping on the structural, thermal, electrical and magnetic properties of $BiFeO_3$ multiferroics
Ceramics International 43, 15544–15550 (2017)

31. **Muniyandi Muneeswaran,** J. W. Jang, B. C. Choi, J. H. Jeong, N.V. Giridharan
Structural, Optical and Multiferroic Properties of Pure and Dy Modified $YMnO_3$
Journal of Materials Science: Materials in Electronics 28, 16788–16796 (2017)

30. **Muniyandi Muneeswaran,** B. C.Choi, S. H. Chang, and J. H. Jeong
Effect of Dysprosium Doping on Structural and Vibrational Properties of Lead-Free Ferroelectric $(Na_{0.7}K_{0.3})_{0.5}Bi_{0.5}TiO_3$Ceramics
Ceramics international 43, 13696–13701 (2017)

29. D. Dhayanithi, **Muniyandi Muneeswaran,** NV.Giridharan
Structure, dielectric and electrical properties of lead-free $(BiFeO_3)$ 1-x $(Bi_{0.5}K_{0.5}TiO_3)x$ solid solution
Ferroelectrics 518, 103-108 (2017)

28. P. N. Francis, S. Dhanuskodi, **Muniyandi Muneeswaran,** A. R. Thomas, N. V Giridharan
Optical nonlinearity in multiferroic bismuth ferrite
Journal of Alloys and Compounds 688, 796-802 (2016)

27. D. E. Jain Ruth, **Muniyandi Muneeswaran,** N. V. Giridharan, B. Sundarakannan
Structural and electrical properties of bismuth magnesium titanate substituted lead-free sodium bismuth titanate ceramics
Journal of Materials Science: Materials in Electronics 27, 7018–7023 (2016)

26. K. Shalini, **Muniyandi Muneeswaran,** N. V Giridharan
Structural and electrical properties of ferroelectric $Na_{0.5}(Bi_{1-x}Pr_x)_{0.5}$ TiO_3 (x= 0.00 and 0.10) ceramics synthesized by Sol-Gel method
American Institute of Physics Conference Series 1731, 140018 (2016)

25. R. Dhanalakshmi, **Muniyandi Muneeswaran,** N. V. Giridharan
Effect of synthesis conditions on the photocatalytic property of multiferroic $BiFeO_3$ towards the degradation of phenol red
American Institute of Physics Conference Series 1731, 130016 (2016)

24. K. Aravinth, **Muniyandi Muneeswaran,** GA Babu, NV Giridharan, P Ramasamy
Structure and electrical properties of $0.80Na_{0.5}Bi_{0.5}TiO_3$-0.16 $K_{0.5}Bi_{0.5}$ TiO_3-0.04 $BaTiO_3$ lead-free piezoelectric ceramics

American Institute of Physics Conference Series 1731, 100005 (2016)

23. P. Senthilkumar, S. Dhanuskodi, **Muniyandi Muneeswaran,** N. V. Giridharan
Multiferroism in hydrothermally prepared Ce: BaTiO3 nanoparticles
American Institute of Physics Conference Series 1731, 050017 (2016)

22. S. Abdul Khader, **Muniyandi Muneeswaran,** N. V. Giridharan and T. Sankarappa
Structural, dielectric and ferroelectric studies of (x) $Mg_{0.25}Cu_{0.25}Zn_{0.5}Fe_2O_4$ + (1-x) $BaTiO_3$ magnetoelectric nano-composites
American Institute of Physics Conference Series 1728, 020529 (2016)

21. D. E. Jain Ruth, **Muniyandi Muneeswaran,** N. V. Giridharan, B. Sundarakannan
Enhanced electrical properties in Rb-substituted sodium bismuth titanate ceramics
Applied Physics A, 122, 502-509 (2016)

20. R. Dhanalakshmi, **Muniyandi Muneeswaran,** P. Reddy, Ashok and N. V. Giridharan
Enhanced photocatalytic activity of hydrothermally grown $BiFeO_3$ nanostructures and role of catalyst recyclability in photocatalysis based on magnetic frame work
Applied Physics A, 122, 13-27 (2016)

19. D. E. Jain Ruth, S.M. Abdul Kader, **Muniyandi Muneeswaran,** N.V. Giridharan D. Pathinettam Padiyan and B. Sundarakannan
Substitutional effect of bismuth ferrite on the electrical properties of sodium bismuth titanate ceramics
Journal of Materials Science: Materials in Electronics 27, 407-413 (2016)

18. R. Dhanalakshmi, **Muniyandi Muneeswaran,** K. Shalini and N. V. Giridharan
Enhanced photocatalytic activity of La-substituted $BiFeO_3$ nanostructures on the degradation of phenol red
Materials letters 165, 205-209 (2016)

17. D. E. Jain Ruth, S.M. Abdul Kader, **Muniyandi Muneeswaran,** N.V. Giridharan D. Pathinettam Padiyan and B. Sundarakannan
Structural and electrical properties of $(1-x)(Na_{0.5}Bi_{0.5})TiO_3–xBi\ (Mg_{0.5}Zr_{0.5})O_3$ lead-free piezoelectric ceramics
Ceramic International 42, 3330-3337 (2016)

16. **Muniyandi Muneeswaran,** Radhalayam Dhanalakshmi and N. V. Giridharan
Effect of Tb substitution on Structural, optical, electrical and magnetic properties of $BiFeO_3$
Journal of Materials Science: Materials in Electronics. 26, 3827-3839 (2015)

15. S.Saravanamoorthy, **Muniyandi Muneeswaran,** N. V. Giridharan, S. Velmathi
Solvent-free ring opening polymerization of ε−caprolactone and electrical properties of polycaprolactone blended $BiFeO_3$ nanocomposites
RSC Advances. 5, 43897-43905 (2015)

14. **Muniyandi Muneeswaran,** Radhalayam Dhanalakshmi and N. V. Giridharan
Structural, vibrational, electrical and magnetic properties of $Bi_{1-x}Pr_xFeO_3$
Ceramics International. 41, 8511-8519 (2015)

13. M. V. G. Babu, SM Abdul Kader, **Muniyandi Muneeswaran,** NV Giridharan, D P. Padiyan, B Sundarakannan.
Enhanced piezoelectric constant and remnant polarisation in K-compensated sodium potassium bismuth titanate
Materials Letters 146, 81-83 (2015)

12. C. Anthony Raj, **Muniyandi Muneeswaran,** S. Gokul Raj, N. V. Giridharan V. Sivakumar, G. Senguttuvan
Effect of samarium doping on the structural, optical and magnetic properties of sol–gel processed $BiFeO_3$ thin films
Journal of Materials Science: Materials in Electronics 26, 49–58 (2015)

11. **Muniyandi Muneeswaran,** N.V. Giridharan
Effect of Dy-substitution on the structural, vibrational, and multiferroic properties of $BiFeO_3$ nanoparticles
Journal of Applied Physics 115, 214109 (2014)

10. **Muniyandi Muneeswaran,** P. Jegatheesan, M. Gopiraman, Ick-Soo Kim and N.V. Giridharan
Structural, optical and multiferroic properties of single phased $BiFeO_3$
Applied Physics A 114, 853-859 (2014)

9. P. Jegatheesan, **Muniyandi Muneeswaran,** and N. V. Giridharan

Effect of thickness and annealing temperature on the properties of PZT films at Morphotropic Phase Boundary composition prepared by sol-gel spin-on technique
Advanced Materials Research 895, 17-20 (2014)

8. **Muniyandi Muneeswaran,** P. Jegatheesan and N.V. Giridharan,
Synthesis of Nanosized $BiFeO_3$ Powders by Co-precipitation Method
Journal of Experimental Nanoscience, 8 pp. 341- 346, (2013)

7. C. Anthony Raj, **Muniyandi Muneeswaran,** P. Jegatheesan, N. V. Giridharan V. Sivakumar, G. Senguttuvan
Effect of annealing time in the low-temperature growth of BFO thin films spin coated on glass Substrates
Journal of Materials Science: Materials in Electronics 24, 4148-4154 (2013)

6. P. Jegatheesan, **Muniyandi Muneeswaran,** S. Gokul Raj and N. V. Giridharan
Low temperature synthesis of $Pb(Zr_{0.52}Ti_{0.48})O_3$ ceramic powders by chelating agent assisted sol-gel process.
Advanced Material Research, 488-489 310-314 (2012)

5. R. Rathnaprabha, **Muniyandi Muneeswaran,** Dhanalaksmi, N.V. Giridharan
Structural, electrical and magnetic properties of multiferroic $Bi_{1-x}Gd_xFeO_3$ (x = 0.00 and 0.15)
American Institute of Physics Conference Series 1665, 140036 (2015)

4. R. Dhanalakshmi, **Muniyandi Muneeswaran,** P. R. Vanga, M. Ashok, and N.V. Giridharan
Photocatalytic activity of $BiFeO_3$ nanoparticles synthesized through Hydrothermal method
American Institute of Physics Conference Series 1665, 130014 (2015)

3. **Muniyandi Muneeswaran,** S Bhuvaneswari, G Senguttuvan, NV Giridharan
Structural, electrical and magnetic properties of $Bi_{0.90}La_{0.10}Fe_{0.90}Co_{0.10}O_3$ ceramics
American Institute of Physics Conference Series 1591, 1778-1780 (2014)

2. **Muniyandi Muneeswaran,** C Mascovani, NV Giridharan
Structural and multiferroic properties of $YMnO_3$ ceramics synthesized by co-precipitation method
American Institute of Physics Conference Series 1512, 1270-1271 (2013)

1. S P Keerthana, **Muniyandi Muneeswaran,** P Jegatheesan, NV Giridharan
Structural and magneto-electric properties of $Bi_{0.4}La_{0.6}Fe_{0.8}Mn_{0.2}O_3$ ceramics
American Institute of Physics Conference Series 1447,1333-1334 (2012)

Book Chapter

1. **Muniyandi Muneeswaran,** P Jegatheesan, NV Giridharan
Relaxor behavior of Ba (Zr_xTi_{1-x}) O_3 ceramics prepared by sol-gel process
Functional materials,
Book Chapter, ISBN 978-935-059-046-1, 100-104 (2012)

Paper presented in National/International conferences

1. **Muniyandi Muneeswaran,** and N.V.Giridharan.
Optical studies on metal oxide nanoparticles
SPIE Optics + Photonics, NanoScience + Engineering 17-21st August 2014, San Diego, USA

2. **Muniyandi Muneeswaran,** and N. V. Giridharan
Structural and Magnetic properties of Rare-earth modified BFO multiferroic materials,
8th IEEE Magnetics Society Summer School, University of Minnesota, Minneapolis, USA on June 14-19, 2015.

3. **Muniyandi Muneeswaran,** and N.V.Giridharan.
Structural, Optical and Magnetic Properties of Pure and Dy Modified $YMnO_3$
7th International Conference on Materials for Advanced Technologies, ICMAT-2013, 30 Jun to 5 July 2013, Singapore

4. **Muniyandi Muneeswaran,** and N.V.Giridharan,
Synthesis of nanosized $Bi_{1-x}Dy_xFeO_3$Ceramics,
4th International Conference on Advanced Nano Materials, 17-19 Oct, 2012. IIT-Madras

5. **Muniyandi Muneeswaran,** and N.V.Giridharan,
Synthesis and Characterization of Nano sized $BiFeO_3$ Ceramics By Soft chemical approach,
National Seminor on New Materials and Nano Technology, 12-14 Sep, 2012. Govt. Arts and Science College, Ooty

6. **Muniyandi Muneeswaran,** P. Jegatheesan and N.V. Giridharan,
Synthesis of Nanosized $BiFeO_3$ Powders by Co-precipitation Method,

2nd International Conference on Advanced Nanomaterials and Nanotechnology, 8-10, Dec 2011. IIT – Guawathi

8. **Muniyandi Muneeswaran,** P Jegatheesan, NV Giridharan
Relaxor behavior of Ba (Zr_xTi_{1-x}) O_3 ceramics prepared by sol-gel process
International Conference on Advanced Materials, PSG College of Technology, Coimbatore, December, 2011

References

1. **Prof. N. V. Giridharan (Research Supervisor)**
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Declaration

I here by declare that the information furnished above is true to the best of my knowledge.

Yours faithfully,

lace: Tiruchirappalli

(Dr. M.Muneeswaran)