

## LIST OF PUBLICATIONS

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### Journals:

1. **Deepshikha Shekhawat**, Akhilesh Kumar Singh, P.K. Roy, "*Structural and electro-magnetic properties of high  $(BH)_{max}$  La-Sm substituted Sr-hexaferrite for brushless DC electric motors application*", **Journal of Molecular Structure**, 1179 (2019) 787-794.
2. **Deepshikha Shekhawat**, P. K. Roy, "*Impact of yttrium on the physical, electro-magnetic and dielectric properties of auto-combustion synthesized nanocrystalline strontium hexaferrite*", **Journal of Materials Science: Materials in Electronics**, 30(2) (2019) 1187-1198.
3. **Deepshikha Shekhawat**, P. K. Roy, "*Influence of cobalt substitution on physical & electro-magnetic properties of  $SrAl_4Fe_8O_{19}$  hexa-ferrite*", **Materials Chemistry and Physics**, 229 (2019) 183-189.
4. **Deepshikha Shekhawat**, Sandeep Prajapati, P. K. Roy, "*Influence of site preferences on structural & magnetic properties of Cr-Sn substituted  $SrAl_4Fe_8O_{19}$  hexa-ferrite, an improved ceramic permanent magnet*", **Journal of Applied Physics**, 126 (2019) 063903.
5. **Deepshikha Shekhawat**, R. N. Rai, P. K. Roy, "*A comparative study of sol-gel auto combustion, solid-state and co-precipitation synthesis route for aluminum doped strontium hexaferrite*", **Journal of Materials Science: Materials in Electronics**, (Communicated).
6. **Deepshikha Shekhawat**, M. I. Ahmad, P. K. Roy, "*Investigation on cobalt site preference in aluminum doped strontium hexaferrite*", **Journal of Applied Physics**, (To be communicated).

## Patent Applications:

1. *"A strontium based rare earth free high energy permanent magnet for dc motor application and a method of synthesis thereof"*; (Indian Patent Application: TEMP/E-1/53220/2018-DEL [201811048780], Date: 22-12-2018), Inventor: **Deepshikha Shekhawat, P. K. Roy.**
2. *"High energy, high Curie temperature ferrites for high power applications"*, (Indian Patent Application: TEMP/E-1/9704/2018-DEL [201811009240], Date: 13-03-2018), Inventor: **Deepshikha Shekhawat, P. K. Roy.**
3. *"A strontium based high energy product hard magnet and a method thereof"*, (Indian Patent Application: TEMP/E-1/42002/2017-DEL [201711041329], Date: 18-11-2017), Inventor: **Deepshikha Shekhawat, P. K. Roy.**
4. *"A method of synthesis of soft-hard ferrite"* (Indian Patent Application: TEMP/E-1/25781/2017-DEL [201711025371], Date: 17-07-2017 ), Inventor: **Deepshikha Shekhawat, SK Saddam Hossain, P. K. Roy**
5. *"A process to produce high energy Sr based permanent magnet for rotating machine applications"* (Indian Patent Application: TEMP/E-1/42951/2016-DEL [201611043294], Date: 19-12-2016), Inventor: **Deepshikha Shekhawat, P. K. Roy.**

## International Conference:

1. P. K. Roy, SK Saddam Hossain, **Deepshikha Shekhawat**, *"Low temperature co-fired nano magnetic and dielectric based composites for EMI filter application"*, 9th International Conference on Materials for Advanced Technologies (ICMAT 2017), 18 - 23<sup>rd</sup> June 2017 at Suntec Singapore Convention & Exhibition Centre, 1 Raffles Boulevard, Suntec City-039593, Singapore.

2. **Deepshikha Shekhawat**, P. K. Roy, "*Improvement of electro-magnetic properties in rare earth free Sr-ferrite for motor applications*", International Conference on Nanomaterials and Nanotechnology (ICNANO 2017) 01-03<sup>rd</sup> March 2017 at Vinoba Bhave Research Institute, Allahabad, INDIA.
3. **Krishna G. Nigam**, SK S.Hossain, **Deepshikha Shekhawat**, P. K. Roy, Santanu Das, "*High performance nanocomposites based on  $Ni_{0.50}Mg_{0.50}Fe_2O_4$ - $Ba_{0.75}Sr_{0.25}TiO_3$  and their electromagnetic properties*", International Conference on "Advances in Biological Systems and Materials Science in NanoWorld" (ABSMSNW-2017), 19-23<sup>rd</sup> February 2017, Department of Physics, IIT (BHU), Varanasi, INDIA.
4. **P. Verma**, **Deepshikha Shekhawat**, P. Bharathi, K. B. R. Varma, P. K. Roy, "*Study on dielectric and piezoelectric properties of Sr doped BCZT lead-free ceramics*", Fourth International Conference on Nanostructured Materials and Nanocomposites (ICNM 2017) 10-12<sup>th</sup> February 2017 at Mahatma Gandhi University, Kottayam, Kerala, India.
5. **Deepshikha Shekhawat**, P. K. Roy, "*Effect of rare earth elements (La, Sm) on the electromagnetic properties of  $SrAl_4Fe_8O_{19}$  ferrite prepared by sol-gel auto-combustion method*", Fourth International Conference on Nanostructured Materials and Nanocomposites (ICNM 2017) 10-12<sup>th</sup> February 2017 at Mahatma Gandhi University, Kottayam, Kerala, India.
6. **SK Saddam Hossain**, **Deepshikha Shekhawat**, P. K. Roy, "*Preparation and Characterization of Forsterite ( $Mg_2SiO_4$ ) at low temperature by using Rice Husk*", International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering, (IC4ME2-2017), January 26~27<sup>th</sup>, 2017, University of Rajshahi, Bangladesh.

7. SK Saddam Hossain, **Deepshikha Shekhawat**, P. K. Roy, “*Synthesis and physical characterization of low temperature co-fired BST and NiCuZn Ferrite Composites*”, International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering, (IC4ME2-2017), January 26~27<sup>th</sup>, 2017, University of Rajshahi, Bangladesh.
8. SK. S. Hossain, **Deepshikha Shekhawat**, S. Das, P. K. Roy, "*Magnetic and dielectric properties of low temperature fired  $(Ni_{0.25}Cu_{0.20}Zn_{0.55})Fe_2O_4$ - $Ba_{0.75}Sr_{0.25}TiO_3$  composite materials*", International Conference on Functional Materials, on December 12 - 14<sup>th</sup>, 2016 at Indian Institute of Technology Kharagpur, Kharagpur -721302, INDIA.