



Faculty Details proforma for DU Web-site

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Educational Qualifications						
Degree		Institution			Year	
Ph.D.		Indian Institute of Science, Bangalore			1993	
M.Phil. / M.Tech.		-----			-----	
PG		Madurai Kamaraj University, Madurai			1987	
UG		Madurai Kamaraj University, Madurai			1985	
Career Profile						
2011.....Professor, University of Delhi, Delhi, India						
2005-2011.....Associate Professor, University of Delhi, Delhi, India						
2004-2005.....Assistant Professor (Teaching), Department of Chemistry, Kansas State University, USA						
2001-2004.....Post-doctoral Fellow, Department of Chemical Engineering, Kansas State University, USA						
2002-2001..... Postdoctoral Fellow, Organ State University, USA						
1999-2000.....Postdoctoral Fellow, Hebrew University of Jerusalem, Israel						
1996-1999.....Assistant Professor, National Engineering College affiliated to Manonmaniam Sundaranar University, Tamil Nadu, India						
1994-1996.....Research Associate, Jawaharlal Nehru Centre For Advanced Scientific Research, Bangalore, India						
1993-1994..... Postdoctoral Fellow, Institut de Matériaux, Nantes, France						
Administrative Assignments						
Joint Coordinator of the M. Tech Program in Nanoscience and Nanotechnology of University Of Delhi, Delhi, India						
Areas of Interest / Specialization						
Materials Chemistry, Synthesis, structure-Property relations in Solids, Laser Materials, Photovoltaic materials, Environmental Chemistry						
Subjects Taught						
1. Group Theory						
2. Analytical Techniques						
3. Inorganic Reaction Mechanism						
4. Coordination Chemistry						
5. Carbon nano tubes and their composites						
6. Thermo analytical techniques						
7.Synthesis and Characterization of nanomaterials						
8. Supramolecular chemistry						
Research Guidance						
1. Supervision of awarded Doctoral Thesis.....14						
2. Supervision of Doctoral Thesis, under progress.....08						
3. Supervision of awarded M.Phil dissertations.....03						
Publications Profile						
1. Determination of solubility limit of Sn ⁴⁺ in fluorite structured terbia with simultaneous evaluation of photo catalytic function, Vikash Kumar Tripathi and Rajamani Nagarajan, <i>Dalton Transactions</i> , 2016, DOI: 10.1039/ c6dt01372d.						

2. Effect of uniaxial pressure on the Raman spectra of fluoro perovskites containing manganese with sodium or potassium, Singh, P.; Nagarajan Rajamani, *Spec. Lett*, 2016, DOI: 10.1080/00387010.2016.1193028.
3. Magnetically separable, bifunctional catalyst $MgFe_2O_4$ obtained by epoxide mediated synthesis, Tripathi, V.K.; Nagarajan Rajamani, *Adv. Powder. Tech*, 2016, <http://dx.doi.org/10.106/j.appt.2016.04.013>.
4. Rai, A.; Singh, A.K.; Sonkar, A.K.; Prakash, A.; Roy, J.K.; Nagarajan, R.; Mishra, L. A smart switchable module for detection of multiple-ions *via* turn on dual-optical readout and their cell-imaging studies. *Dalton Trans* 2016, DOI: 10.1039/C6DT01090C.
5. Singh, P.; Nagarajan, R. Facile synthesis and photocatalytic properties of light emitting layered compounds of Zn-La-Tb hydroxide and oxoanions. *Applied Clay Science* 2016, *126*, 173-179.
6. Tripathi, V. K.; Nagarajan, R. Rapid Synthesis of Mesoporous, Nano-Sized $MgCr_2O_4$ and Its Catalytic Properties. *J. Am. Ceram. Soc.* 2016, *99*, 814-818.
7. Rawat, P.; Nagarajan, R. Cd(OH)F: Synthesis, Structure, Optical and Photocatalytic Properties. *J. Fluorine Chem.* 2016, *182*, 98-103.
8. Nagarajan, R.; Ahmad, S.; Singh, P. Topochemical Oxidation of Perovskite $KCoF_3$ to a K_2PtCl_6 Structure-type Oxyfluoride. *Inorg. Chem.* 2015, *54*, 10105-10107.
9. Singh, A. K.; Nagarajan, R. A Sequential Logic Gate-Based "Smart Probe" For Selective Monitoring of Cu^{2+} , Fe^{3+} and CN^-/F^- Via Differential Analyses. *Dalton trans.* 2015, *44*, 19786-19790.
10. Singh, A. K.; Yadav, P. K.; Kumari, N.; Nagarajan, R.; Mishra, L. A Light/Ph/Multiple Ion-Driven Smart Switchable Module for Computing Sequential Logic Operations via a Resettable Dual Optical Readout. *J. Mater. Chem. C* 2015, *3*, 12123-12129.
11. Chakraborty, P.; Nagarajan, R. Efficient Adsorption of Malachite Green and Congo Red Dyes by the Surfactant (DS) Intercalated Layered Hydroxide Containing Zn^{2+} and Y^{3+} -ions. *Appl. Clay Sci.* 2015, *118*, 308-315.
12. Singh, P.; Nagarajan R.; Synthesis and Characterization of Hydrotalcite Type Structure Containing Zn^{2+} and La^{3+} -Ions. *Mater. Lett.* 2015, *159*, 58 -60.
13. Gusain, M.; Kumar, P.; Uma, S.; Nagarajan, R. Synthesis of Zinc Blende $CuInS_2$ and Fe Substituted $CuInS_2$ by the Reaction of Binary Colloids. *Colloid Surface A* 2015, *481*, 269-275.
14. Tripathi, V. K.; Saroj, S. K.; Nagarajan, R. Synthesis of $RbREF_4$ (RE = Pr, Nd, Sm, Eu, and Tb) and $RbRE_2F_7$ (Dy, Ho, Er and Yb) Under Non-Aqueous Conditions. *J. Fluorine Chem.* 2015, *175*, 22-27.
15. Gusain, M.; Rawat, P.; Nagarajan, R. Facile Synthesis and Optical Properties of Pure and Ni^{2+} , Co^{2+} , Bi^{3+} , Sb^{3+} Substituted Cu_3SnS_4 . *RSC Adv.* 2015, *5*, 43202-43208.
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18. Kumar, P.; Gusain, M.; Kumar, P. S.; Uma, S.; Nagarajan, R. A simple One Pot Synthesis of Cubic Cu_3FeS_4 . *RSC Adv.* 2014, *4*, 52633-52636.
19. Ahmad, S.; Nagarajan, R.; Raj, P; Prakash, G. V. Novel Fluorite Structured Superparamagnetic $RbGdF_4$ Nanocrystals as Versatile Upconversion Host. *Inorg. Chem.* 2014, *53*, 10257-10265.
20. Singh, P.; Nagarajan, R. Synthesis, Structure, Optical and Magnetic Properties of Layered Hydroxide Acetates Containing Zinc and Lanthanides. *Adv. Porous Mater.* 2014, *2*, 149-156.
21. Kumar, V.; Uma, S.; Nagarajan, R. Optical and Magnetic Properties of (Er, F) Co-doped SnO_2 Nanocrystals. *Turk. J. Phys.* 2014, *38*, 450-462.
22. Gusain, M.; Rawat, P.; Nagarajan, R. Soft Chemical Synthesis of Ag_3SbS_3 with Efficient and Recyclable Visible Light Photocatalytic Properties. *Mater. Res. Bull.* 2014, *60*, 872-875.
23. Gusain, M.; Rawat, P.; Nagarajan, R. Solvent Mediated Rapid Synthesis of Orthorhombic Cu_2ZnSnS_4 (CZTS). *Mater. Lett.* 2014, *133*, 220-223.
24. Singh, P.; Rawat, P.; Nagarajan, R. Mechanochemical Synthesis of Layered Perovskite Structured Fluorides A_2MF_4 (A = K, Rb; M = Co, Cu, Mg) and their Transformation to AMF_3 Phase by Mechanical Activation. *J. Fluorine Chem.* 2014, *165*, 43-48.
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Conference Organization/ Presentations (Last three years)

1. Enhancement of Thermal Property of PMMA through Composite Formation with LDH, P. Chakraborty, R. Nagarajan, International Conference on Materials Science & Technology (ICMTech) University of Delhi, India 2016.
2. Manganese Containing Ternary Copper Sulfides Synthesis by Thermolysis Method in Ethylene Glycol, P. Gupta, M. Gusain and R. Nagarajan, International Conference on Materials Science & Technology (ICMTech) University of Delhi, India 2016.
3. Stabilization of Oxyfluorides Containing Co in IV by Hyper halogens, P. Singh and R. Nagarajan, International Conference on Materials Science & Technology (ICMTech) University of Delhi, India 2016.
4. Luminescent Layered Materials, S. K. Saroj and R. Nagarajan, International Conference on Materials Science & Technology (ICMTech) University of Delhi, India 2016.
5. Rapid Synthesis of Mesoporous Nano-Sized MgCr_2O_4 and its Catalytic Properties, V. K. Tripathi, R. Nagarajan, International Conference on Materials Science & Technology (ICMTech) University of Delhi, India 2016.
6. Synthesis of $\text{M}(\text{OH})\text{F}$ and its use as a Single Source Precursor for the Generation of F-doped MO [M- Zn, Cd], P. Rawat and R. Nagarajan, 18th Chemical research society of India (CRSI National symposium in chemistry), Chandigarh, Punjab University, India 2016.
7. Topochemical Oxidation of perovskite KCoF_3 to K_2PtCl_6 Structure Type Oxyfluorides, P. Singh and R. Nagarajan, 18th Chemical research society of India (CRSI National symposium in chemistry), Chandigarh, Punjab University, India 2016.
8. Synthesis of Rb Containing Fluoride Host Matrices, V. K. Tripathi, S. K. Saroj and R. Nagarajan, 9th National conference on Solid State Chemistry and Allied Areas ISCAS-2015, organized by Bhaskaracharya College of Applied Sciences (University of Delhi), 8-10 May 2015.
9. Synthesis and Characterization of Cu_2SnS_3 and Cu_3SnS_4 by Simple Modification of Reaction Conditions, P. Rawat, M. Gusain and R. Nagarajan, 9th National conference on Solid State Chemistry and Allied Areas ISCAS-2015, organized by Bhaskaracharya College of Applied Sciences (University of Delhi), 8-10 May 2015.
10. Efficient adsorption of Congo red and Malachite green dyes by surfactant (SDS) intercalated layered hydroxide containing Zn^{2+} and Y^{3+} -ion, P. Chakraborty and R. Nagarajan, 9th National conference on Solid State Chemistry and Allied Areas ISCAS-2015, organized by Bhaskaracharya College of Applied Sciences (University of Delhi), 8-10 May 2015.
11. A new family of multifunctional layered double hydroxides. P. Singh, P. Chakraborty and R. Nagarajan, 5th Interdisciplinary Symposium on Material chemistry, BARC Mumbai and Society for Materials Chemistry, Mumbai, Dec 2014.
12. Soft Chemical Synthesis of Ag_3SbS_3 and its Application as Efficient and Recyclable Visible Light Photocatalyst, P. Rawat, M. Gusain and R. Nagarajan, 5th Interdisciplinary Symposium on Material chemistry, BARC Mumbai and Society for Materials Chemistry, Mumbai, Dec 2014.
13. Green Synthesis of Rb Containing Fluoride Host Matrices, V. K. Tripathi, S. K. Saroj, R. Nagarajan, 5th Interdisciplinary Symposium on Material chemistry, BARC Mumbai and Society for Materials Chemistry, Mumbai, Dec 2014.
14. Anion (Fluoride)-Doped Ceria Nanocrystals: Synthesis, Characterization, Optical, and Photocatalytic Properties, S. Ahmad and R. Nagarajan, One Day Seminar on Nanoscience and Nanotechnology, University of Delhi, Delhi, Mar 14, 2014.
15. Wurtzite CuInS_2 : Solution Based One Pot Direct Synthesis and its Doping Studies with Non-Magnetic Ga^{3+} and Magnetic Fe^{3+} ions, M. Gusain, P. Kumar, R. Nagarajan, 3rd Nanotoday Conference, Biopolis, Singapore, Dec 8-11, 2013.
16. Wurtzite CuInS_2 : Solution based one pot direct synthesis and its doping studies with non-magnetic Ga^{3+} and magnetic Fe^{3+} ions, M. Gusain, P. Kumar, R. Nagarajan, International Union for Materials Research Society - International Conference in Asia (IUMRS-ICA 2013), IISc-Bangalore, Bangalore, December 16-20, 2013.
17. Chalcopyrite CuFeS_2 , P. Kumar, S. Uma, R. Nagarajan, International Union for Materials Research Society - International Conference in Asia (IUMRS-ICA 2013), IISc-Bangalore, Bangalore, Dec 16-20, 2013.
18. Synthesis, Structure, Optical, Catalytic and Photocatalytic Properties of CeO_2 and $\text{CeO}_2\text{:F}$ Nanocrystals, S. Ahmad and R. Nagarajan, International Union for Materials Research Society - International Conference in Asia (IUMRS-ICA 2013), IISc-Bangalore, Bangalore, Dec 16-20, 2013.

Research Projects (Major Grants/Research Collaboration)

- Department of Science and Technology (Govt of India) funded collaborative project entitled Investigations of Magnetic, optical and Electrical properties of Nanomaterials: Synthesis, Characterization and Applications, Worth 5.3 Cr. (1200000 USD).
- Department of Science and Technology (Govt of India) funded collaborative project entitled "Green synthesis of Novel fluoride matrices for the upconversion studies and their modification by organic additives for suitable applications", Worth Rs. 55, 00, 000 (2013-2016).

Awards and Distinctions

K.P. Abraham Gold Medal and cash award for the Best Thesis in Materials Chemistry, Indian Institute of Science, Bangalore, India.

Association With Professional Bodies
<ol style="list-style-type: none">1. Member of American Chemical Society2. Material Research Society of India3. Society for Material Chemists4. Member of American Nano Society