

Bio-Data

1. Name : ESWARAMOORTHY MUTHUSAMY

2. Date of Birth : June 05, 1967

3. Designation : Professor

4. Address: Chemistry and Physics of Materials Unit (CPMU), JNCASR, Jakkur,
Bangalore 560 064 ; Email: eswar@jncasr.ac.in; Phone: 080-22082870

5. Academic qualifications (in the form of a table from Bachelor's degree onwards including particulars such as subject, class/division, names of institutions, year, rank/prizes, etc.)

Sl No	Degree	Subject	Class	Year	University
1	B.Sc.	Chemistry	1st	1987	Bharathidasan University, Trichy
2	M.Sc.	Applied Chemistry	1st	1989	Coll. of Engg. Guindy, Anna Univ., Chennai
3	Ph.D.	Chemistry		1996	Anna University Chennai
4	Post Doc.	Chemistry		1996-1999	JNCASR, Bangalore
5	STA Fellow	Chemistry		1999-2001	AIST, Tsukuba, Japan
6	Post Doc.	Chemistry		2001-2003	Bristol University, UK
7	AIST Fellow	Chemistry		2003-2004	AIST, Tohoku, Sendai, Japan

6. Awards and Honour

1. MRSI Medal 2011, Materials Research Society of India
2. CRSI Bronze Medal-2015, Chemical Research Society of India
3. C. N. R. Rao National Prize for Chemical Research- 2018

4. Biotech Product, Process Development and Commercialization Award 2018, Government of India, Ministry of Science and Technology, Department of Biotechnology.
5. Associate Editor , Bulletin of Materials Science 2016 -till date
6. "Sheikh Saqr Career Award Fellow" Sheikh Saqr Laboratory, JNCASR, Bangalore
7. Science and Technology Agency Fellow, Japan (2001-2003)
8. Senior Research Fellowship from CSIR, Government of India
9. Junior Research Fellowship from UGC-CSIR, Government of India

7. Positions held (In chronological order):

Professor

Chemistry and Physics of Materials Unit
Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore
Since May 2016

Associate Professor

Chemistry and Physics of Materials Unit
Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore
Since May 2010

Faculty Fellow

Chemistry and Physics of Materials Unit
Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore
Oct. 2004 - April 2010

Visiting Scholar

Northwestern University, USA (June 2010- Aug. 2010, Under IUSSTF Programme)

AIST Fellow

Membrane laboratory, Tohoku National Institute, Japan.
Host researchers: Prof. Fujio Mizukami, Director, Research Center for Compact Chemical Process and Dr. S. Niwa
March 2003 - October 2004

Post Doctoral Fellow

Department of Inorganic and Materials Chemistry, Bristol University
Host researcher: Prof. Stephen Mann F.R.S.
Feb. 2001- January 2003

Science and Technology Agency Fellow

National Institute of Materials and Chemical Research, Tsukuba, Japan.
Host researchers: Prof. Fujio Mizukami and Dr. S. Niwa
March 1999-January 2001

Post Doctoral Fellow

Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore
Host researcher: Prof. C.N.R. Rao F.R.S
Dec 1996 –Feb.1999 .

8. Current area of Research

Porous Materials; Catalysis; Electrocatalysis

9. (a) List of Research articles in indexed journals

#corresponding author(s)

91. Gond R, Dheeraj K S, **Eswaramoorthy M** and Barpanda[#] P, Sodium Cobalt Metaphosphate as an Efficient Oxygen Evolution Reaction Catalyst in Alkaline Solution, **Angew. Chem. Int. Ed.**, 2019, 58, 1 – 6.
90. Kuila S, Rao K V, Garain S, Samanta P K, Das S, Pati S K, **Eswaramoorthy M** and George S J[#], Aqueous Phase Phosphorescence: Ambient Triplet Harvesting of Purely Organic Phosphors via Supramolecular Scaffolding, **Angew. Chem. Int. Ed.**, 2018, 57, 17115 – 17119.
89. Sonu K P, Sushmitha Vinikumar, Shikha Dhiman, George S J and **Eswaramoorthy M**[#], Bio-inspired temporal regulation of ion-transport in nanochannels, **Nanoscale Advances**, 2019, 1, 1847 – 1852.
88. S Maity, S Harish, **M Eswaramoorthy**[#], Controlled galvanic replacement of Ni in Ni (OH) 2 by Pd: A method to quantify metallic Ni and to synthesize bimetallic catalysts for methanol oxidation, **Mat. Chem. and Phy.**, 2019, 221, 377-381.
87. Dutta G, Jana AK, Singh D.K, **Eswaramoorthy M** and Natarajan S[#], Encapsulation of Silver Nanoparticles in an Amine-Functionalized Porphyrin Metal-Organic Framework and Its Use as a Heterogeneous Catalyst for CO2 Fixation under Atmospheric Pressure, **Chemistry-An Asian Journal**, vol.13, 18, 2677-2684(2018).
86. Pavan Kumar B.V.V.S, Sonu K.P, Rao, K. V., Sampath. S, George S.J and **Eswaramoorthy M**[#], Supramolecular Switching of Ion-Transport in Nanochannels, **ACS Applied Materials & Interfaces**, 10, 23458-23465 (2018).
85. Piyush Chaturbedy, Momin Ahmed and **M. Eswaramoorthy**[#], Oxidative Dehydrogenation of Propane over a High Surface Area Boron Nitride Catalyst: Exceptional Selectivity for Olefins at High Conversion, **ACS Omega**, 3, 1, 369-374 (2018)
84. Chakraborty A, Laha S, Karnali K, Narayana C, **Eswaramoorthy M**, Maji TK, In Situ Growth of Self-Assembled ZIF-8-Aminoclay Nanocomposites with Enhanced Surface Area and CO₂ Uptake, **Inorganic Chemistry**, 56, 9426-9435 (2017).
83. Subhra Gope, Dheeraj Kumar Singh, **Eswaramoorthy M** and Bhattacharyya A.J, An Extremely High Surface Area Mesoporous-Microporous-Networked Pillared Carbon for High Stability Li-S and Intermediate Temperature Na-S Batteries, **Chemistry Select**, 2, 9249-9255 (2017).
82. Dheeraj Kumar Singh, RN Jenjeti , S Sampath and **M Eswaramoorthy**[#] , Two in one: N-doped tubular carbon nanostructure as an efficient metal-free dual electrocatalyst for hydrogen evolution and oxygen reduction reactions, **J. Mater. Chem. A**, 5, 6025 - 6031 (2017).

81. A Chakraborty , S Roy , **M Eswaramoorthy** and T. K Maji , Flexible MOF-aminoclay nanocomposites showing tunable stepwise/gated sorption for C₂H₂, CO₂ and separation for CO₂/N₂ and CO₂/CH₄, **J. Mater. Chem.A**, 5, 8423 - 8430 (2017).
- 80 K. P Sonu , B.V.V.S Pavan Kumar , Subi J George# and **M Eswaramoorthy#** Simple and Facile Approach To Create Charge Reversible Pores via Hydrophobic Anchoring of Ionic Amphiphiles, **ACS Applied Materials & Interfaces**, 9, 9136 - 9142 (2017).
79. A. Achari, S. Sahana and **M. Eswaramoorthy#**, High performance MoS₂ membranes: effects of thermally driven phase transition on CO₂ separation efficiency, **Energy & Environmental Science**, 9, 1224 - 1228 (2016).
78. A. Chakraborty, A. Achari, **M. Eswaramoorthy** and T. K. Maji, MOF-aminoclay composites for superior CO₂ capture, separation and enhanced catalytic activity in chemical fixation of CO₂, **Chem. Commun.**, 11378 (2016).
77. B. Narayanamoorthy, S. Balaji, S. Pasupathi, **M. Eswaramoorthy** and II-Shik Moon, Enhanced Intrinsic Activity and Stability of Au–Rh Bimetallic Nanostructures as a Supportless Cathode Electrocatalyst for Oxygen Reduction in Alkaline Fuel Cells, **ACS Sustainable Chemistry & Engineering**, 4, 6480 - 6490 (2016).
76. Rawat N, Sandhya, Subaharan K, **Eswaramoorthy M** and Kaul G, Comparative *in vivo* toxicity assessment places multiwalled carbon nanotubes at a higher level than mesoporous silica nanoparticles, **Toxicology and Industrial Health**, 33, 182-192 (2016).
75. A. Achari and **M. Eswaramoorthy#**, Casting molecular channels through domain formation: high performance graphene oxide membranes for H₂/CO₂ separation , **J. Mater. Chem.A**, 4, 7560 - 7564 (2016).
74. “Nickel-Palladium Bimetallic Catalysts for the Direct Synthesis of H₂O₂ - Unusual Enhancement of Pd Activity in Presence of Nickel”, Sisir Maity and **M. Eswaramoorthy#**, **J. Mater. Chem. A**, 4, 3233-3237 (2016), DOI: 10.1039/C6TA00486E.
73. “Light Induced in-situ post-modification of clay-chromophore hybrids for multiple white light emissions”, A. Jain, A. Achari, **M. Eswaramoorthy#** and Subi J. George#, **J. Mater. Chem. C**, (2016); DOI: 10.1039/c5tc03319e
72. “No More HF: Teflon Assisted Ultrafast Removal of Silica to Generate High Surface Area Mesoporous Carbon for Enhanced CO₂ Capture and Supercapacitor Performance”, Dheeraj Kumar Singh, SaiKrishna K, S. Harish , S. Sampath and **M. Eswaramoorthy#**, **Angew. Chem. Int. Ed.**, 55, 2032-2036 (2016). DOI: 10.1002/anie.201509054
71. “Shape-Directed Compartmentalized Delivery of a Nanoparticle-Conjugated Small-Molecule Activator of an Epigenetic Enzyme in the Brain”, Piyush Chaturbedy, Manoj

Kumar, K. Salikolimi, Sadhan Das, H. S. Sarmistha, S. Chatterjee, B. S. Suma, Tapas K Kundu[#] and **M. Eswaramoorthy[#]**, **Journal of Controlled Release**, 217, 151 - 159 (2015).

70. “Shining the Light on Clay-Chromophore Hybrids: Layered Templates for Accelerated Ring Closure Photo-Oxidation”, A. Jain, A. Achari, N. Mothi, **M. Eswaramoorthy[#]** and S. J. George[#], **Chemical Science** 6, 6334-6340 (2015).

69. “Reversible control of pore size and surface chemistry of mesoporous silica through dynamic covalent chemistry: philicity mediated catalysis”, Dheeraj Kumar Singh, B.V.V.S Pavan Kumar and **M. Eswaramoorthy[#]**, **Nanoscale**, 7, 13358 - 13362 (2015).

68. K. Jayaramulu, K. K. R. Datta, Konda Shiva, A. J. Bhattacharyya, M. Eswaramoorthy and T. K. Maji[#], Controlled synthesis of tuneable nanoporous carbons for gas storage and supercapacitor application. **Microporous and Mesoporous Materials**, 206, 127-135 (2015).

67. B. Narayanamoorthy, K. K. R. Datta, M. Eswaramoorthy and S. Balaji[#], Highly Active and Stable Pt₃Rh Nanoclusters as Supportless Electrocatalyst for Methanol Oxidation in Direct Methanol Fuel Cells, **ACS Catalysis**, 4, 3621 - 3629 (2014).

66. B. V. V. S. Pavan Kumar, K. Venkata Rao, S. Sampath, S. J. George[#] and **M. Eswaramoorthy[#]**, Supramolecular Gating of Ion Transport in Nanochannels, **Angew. Chem. Int. Ed.**, 126, 13289-13293 (2014). **Selected as a Hot Paper.**

65. “Glucose- and pH-Responsive Charge Reversal Surfaces”, B. V. V. S. Pavan Kumar, K. Salikolimi and **M. Eswaramoorthy[#]**, **Langmuir** 30, 4540-4544 (2014).

64. “Oxygen Reduction Reaction Catalyzed by Platinum Nanonetwork Prepared by Template Free One-Step Synthesis for Polymer Electrolyte Membrane Fuel Cells”, B. Narayanamoorthy, B.V.V.S. Pavan Kumar, M. Eswaramoorthy, and S. Balaji[#], **Mater. Res. Bull.** 55, 137-145 (2014).

63. “Adaptive Pores: Charge Transfer Modules as Supramolecular Handles for Reversible Pore Engineering of Mesoporous Silica” B. V. V. S. Pavan Kumar, K. V. Rao, T. Soumya, S. J. George[#] and **M. Eswaramoorthy[#]**, **J. Am. Chem. Soc.**, 135, 10902 - 10905 (2013).

62. “Aminoclay-Supported Copper Nanoparticles for 1,3-Dipolar Cycloaddition of Azides with Alkynes via Click Chemistry”, A. Sravanth Kumar, K. K. R. Datta, T. Srinivasa Rao, K. V. Raghavan, M. Eswaramoorthy and B. V. Subba Reddy[#], **J. Nanosci and Nanotech**, 13, 3136 - 3141 (2013).

61. “A Novel Activator of CBP/p300 Acetyltransferases Promotes Neurogenesis and Extends Memory Duration in Adult Mice”, S. Chatterjee, P. Mizar, R. Cassel, R. Neidl, B. R. Selvi, D.V Mohankrishna, B. Vedamurthy, A. Schneider, O. Bousiges, C. Mathis, J.C. Cassel, M. Eswaramoorthy, T. K. Kundu[#] and A. L. Boutillier[#], **J. Neuro Science**, 33, 10698 - 10712 (2013).

60. “Amphiphilic Aminoclay-RGO hybrids: A Simple Strategy to Disperse high Concentration of RGO in Water”, A. Achari, K. K. R. Datta, M. De, V. P. Dravid and **M. Eswaramoorthy**[#], **Nanoscale**, 5, 5316 - 5320 (2013).
59. “Aminoclay: A Functional Layered Material with Multifaceted Applications” (Review), K. K. R. Datta, A. Amrit and **M. Eswaramoorthy**[#], **J. Mater. Chem.A**, 1, 6707 - 6718 (2013).
58. “Shape Assisted Fabrication of Fluorescent Cages of Squarate based Metal-Organic Coordination Frameworks”, K. Jayaramulu, K. SaiKrishna, S. J. George, **M. Eswaramoorthy**[#] and T. K. Maji[#], **Chem. Commun.**, (2013). (selected as a **hot paper** and highlighted on the cover page)
57. “Highly pure Solid-State White-Light Emission from Solution Processable Soft-Hybrids”, K. V. Rao, K. K. R. Datta, **M. Eswaramoorthy**[#] and S. J. George[#], **Adv. Mat.**, 12, 1713 - 1718 (2013).
56. “Multifunctional Carbon Nanospheres with Magnetic and Luminescent Probes: Probable Brain Theranostic Agents”, C. Piyush, S. Chatterjee, R. B. Selvi, A. Bhat, M. V. Kavitha, V. Tiwari, A. B. Patel, T. K. Kundu, T. K. Maji[#] and **M. Eswaramoorthy**[#], **J. Mater. Chem. B**, 1,939-945(2013).(Cover Page)
55. “Shaping Up: Spontaneous Formation of Ordered Mesoscopic Salt Bowls”, K. Sai Krishna, B. V. V. S. Pavan Kumar and **M. Eswaramoorthy**[#], **RSC Advances**, 2, 5947 - 5949 (2012).
54. “ATP Driven Clathrin Dependent Entry of Carbon Nanospheres Prefer Cells with Glucose Receptors”, B. R. Selvi, S. Chatterjee, D. Jagadeesan, C. Piyush, B. S. Suma, **M. Eswaramoorthy** and T. K. Kundu[#], **J. Nanobiotechnology**, (2012).
53. “Improved Oxygen Reduction Reaction Catalyzed by Pt/clay/Nafion Nanocomposite for PEM Fuel Cells” B. Narayanamoorthy, K. K. R. Datta, M. Eswaramoorthy and S. Balaji[#], **ACS Applied Materials & Interfaces**, (2012).
52. “Honeycomb Porous Framework of Zn(II): Effective Host for Palladium Nanoparticles for Efficient Three Component Coupling and Selective Gas Storage”, K. Jayaramulu, K. K. R. Datta, M. V. Suresh, G. Kumari, R. Datta, C. Narayana, M. Eswaramoorthy and T. K. Maji[#], **ChemPlusChem**, 77, 743 - 747 (2012).
51. “Pd-aminoclay nanocomposite as an efficient recyclable catalyst for hydrogenation and Suzuki cross coupling reactions”, A. Sravanth Kumar, K. K. R. Datta, T. Srinivasa Rao, K. V. Raghavan, M. Eswaramoorthy and B. V. Subba Reddy[#], **J. Nanosci. Nanotechnol.**, 12, 2000 - 2007 (2012).
50. “Honey Mediated Green Synthesis of Pd Nanoparticles for Suzuki Coupling and

Hydrogenation of Conjugated Olefins”, S. M. Reddy, K. K. R. Datta, C. Sreelakshmi, M. Eswaramoorthy and B. V. Subba Reddy[#], **Nanosci. Nanotechnol. Lett.**, 4, 420 - 425 (2012).

49. “Light-Harvesting Hybrid Assemblies” (Concept Article), K. V. Rao, K. K. R. Datta, **M. Eswaramoorthy**[#] and Subi J George[#], **Chem. Eur. J.**, 18, 2184 - 2194 (2012).

48. “Tuning the Nitrogen Content and Porosity of Nanostructured Carbon Nitride Using Aminoclay as a Reactive Template”, B. V. V. S. Pavan Kumar, K. K. R. Datta and **M. Eswaramoorthy**[#], **Chemistry Letters**, 40, 1154 (2011).

47. “Nanopillared Arrays of Amorphous Carbon Nitride”, K. Sai Krishna, B. V. V. S. Pavan Kumar and **M. Eswaramoorthy**[#], **Chem Phys Lett.**, 511, 87 - 90 (2011).

46. “Observation of Pore-switching Behaviour in Porous Layered Carbon through Mesoscale Order-Disorder Transformation”, K. K. R. Datta, D. Jagadeesan, C. Kulkarni, A. Kamath, R. Datta and **M. Eswaramoorthy**[#], **Angew. Chem. Int. Ed.**, 123, 4015-4019 (2011).

45. “Ferromagnetism in Thin-Walled Hollow Spheres of Non-Magnetic Inorganic Materials”, Nitesh Kumar, Dinesh Jagadeesan, Premlal Pillai, Melby Chacko, M. Eswaramoorthy and A. Sundaresan[#], **Chem Phys Lett.**, 504, 189 - 192 (2011).

44. “Light-Harvesting Hybrid Hydrogels: Energy Transfer Induced Amplified Fluorescence in Non-Covalently Assembled Chromophore-Organoclay Composites”, K. V. Rao, K. K. R. Datta, **M. Eswaramoorthy**[#] and S. J. George[#], **Angew. Chem. Int. Ed.**, 50, 1179-1184 (2011). *Highlighted in Nature India as ‘Light trapping Hybrid Gel’ (Feb 2011).*
<http://www.nature.com/nindia/2011/110228/full/nindia.2011.30.html>

43. “pH sensitive breathing of clay within the polyelectrolyte matrix”, C. Piyush, J. Dinesh and **M. Eswaramoorthy**[#], **ACS Nano**, 4, 5921-5929 (2010).

42. “Mixing does the magic: A rapid synthesis of high surface area noble metal nanosponges showing broadband nonlinear optical response”, K. Sai Krishna, C. S. S. Sandeep, Reji Philip and **M. Eswaramoorthy**[#], **ACS Nano**, 4, 2681 - 2688 (2010).

41. “ZnO: A versatile template to obtain unusual morphologies of silica, gold and carbon nanostructures”, K. Saikrishna, G. Vivekanadan, D. Ravinder and **M. Eswaramoorthy**[#], **Chem. Commun.**, 46, 2989 - 2991 (2010).

40. “Aminoclay: A Permselective Matrix to Stabilize Copper Nanoparticles”, K. K. R. Datta, C. Kulkarni and **M. Eswaramoorthy**[#], **Chem. Commun.**, 46, 616 - 618 (2010).

39. “Functionalized Carbon Nanomaterials Derived from Carbohydrates” (**focus review**), J. Dinesh and **M. Eswaramoorthy**[#], **Chemistry-An Asian Journal**, 5, 232 - 243 (2010).

38. "Synthesis, structure and properties of mesoporous B/C/N microspheres", K. Raidongia, K. P. S. S. Hembram, U. V. Waghmare, M. Eswaramoorthy and C. N. R. Rao[#], **ZAAC**, 636, 30 - 35 (2010).
37. "Investigations of the conversion of inorganic carbonates to methane", J. Dinesh, M. Eswaramoorthy and C. N. R. Rao[#], **ChemSusChem.**, 2, 878 (2009).
36. "Aminoclay: A designer filler for the synthesis of highly ductile polymer-nanocomposite film", G. Johnsy, K. K. R. Datta, S. Vallayil, S. Shanmugam, B. Amarinder and **M. Eswaramoorthy**[#], **ACS Applied Materials & Interfaces**, 1, 2796 - 2803 (2009).
35. "Synthesis of agarose-metal/semiconductor nanoparticles having superior bacteriocidal activity and their simple conversion to metal-carbon composites", K. K. R. Datta, B. Srinivasan, H. Balaram and **M. Eswaramoorthy**[#], **J. Chem. Sci.**, 120, 1 - 8 (2008).
34. "Construction of bi-functional inorganic-organic hybrid nanocomposites", Suchetan Pal, Dinesh Jagadeesan, K. L. Gurunatha, M. Eswaramoorthy and T. K. Maji[#], **J. Mater. Chem.**, 18, 5448 - 5451 (2008).
33. "Template-free formation of meso-structured anatase TiO₂ with spherical morphology", P. Raveendran[#], **M. Eswaramoorthy**[#], U. Bindu, M. Chatterjee, Y. Hakuta, H. Kawanami and F. Mizukami, **J. Phys. Chem. C**, 112, 20007 - 20011 (2008).
32. "Intrinsically fluorescent carbon nanospheres as a nuclear targeting vector: Delivery of membrane impermeable molecule to modulate gene expression in vivo", B. R. Selvi, J. Dinesh, G. Nagashankar, B. S. Suma, M. Arif, K. Balasubramanyam, **M. Eswaramoorthy**[#] and Tapas K. Kundu[#], **Nano Lett.**, 8, 3182 - 3188 (2008). (*Highlighted in Nature India as 'Sugar coated spheres', September 2008*)
31. "Hollow Spheres to Nanocups: Tuning the Morphology and Magnetic Properties of Single Crystalline α -Fe₂O₃ Nanostructures", J. Dinesh, U. Mansoori, P. Mandal, A. Sundaresan and **M. Eswaramoorthy**[#], **Angew. Chem. Int. Ed.**, 47, 7685 - 7688 (2008).
30. "Carbon spheres assisted synthesis of porous bioactive glass containing hydroxycarbonate apatite nanocrystals: A material with high invitro bioactivity", J. Dinesh, C. Deepak, K. Siva, M. Inamdar and **M. Eswaramoorthy**[#], **J. Phys. Chem. C.**, 112, 7379 - 7384 (2008).
29. "Significant improvement in the pore properties of SBA-15 brought about by carboxylic acids and hydrothermal treatment", Milan Kanti Naskar and **M. Eswaramoorthy**[#], **J. Chem. Sci.**, 120, 181 - 186 (2008).
28. "Synthesis and characterization of metal oxide nanorod brushes", K. Raidongia and **M. Eswaramoorthy**[#], **Bull. Mater. Sci.**, 31, 87 - 92 (2008).

27. "Synthesis, structure and properties of homogeneous BC₄N nanotubes", K. Raidongia, J. Dinesh, U. K. Mousumi, U. V. Waghmare, Swapan. K. Pati, Eswaramoorthy M and C. N. R. Rao[#] *J. Mat. Chem.*, 18, 83 - 90 (2008).
26. "Form Emerges from Formless Entities: Temperature-Induced Self-Assembly and Growth of ZnO Nanoparticles into Zeptoliter Bowls and Troughs", K. Sai Krishna, U. Mansoori, N. R. Selvi and **M. Eswaramoorthy[#]**, *Angew. Chem. Int. Ed.*, 46, 5962 - 5965 (2007).
25. "Macroporous silver monoliths using a simple surfactant", F. Khan, M. Eswaramoorthy and C. N. R. Rao[#], *Solid State Sciences*, 9, 27 - 31 (2007).
24. "Water-solubilized aminoclay-metal nanoparticle composites and their novel properties", K. K. R. Datta, M. Eswaramoorthy and C. N. R. Rao[#], *J. Mater. Chem.*, 17, 613 - 615 (2007).
23. "Use of Amorphous Carbon Nanotube Brushes as Templates to Fabricate GaN Nanotube Brushes and Related Materials", J. Dinesh, M. Eswaramoorthy and C. N. R. Rao[#], *J. Phys. Chem. C.*, 111, 510 - 513 (2007). (**12th most accessed paper of JPC in 2007**).
22. "Novel synthesis of carbon nanorings and their characterization"., K. Sai Krishna and **M. Eswaramoorthy[#]**, *Chem Phys Lett.*, 433, 327 - 330 (2007).
21. "Synthesis of mesoporous Zn-Al spinel oxide nanorods with membrane like morphology", A. Thomas, B. Premlal and **M. Eswaramoorthy[#]**, *Mater. Res. Bull.*, 41, 1008 - 1014 (2006).
20. "One-Step Synthesis and Solvent-Induced Exfoliation of Hybrid Organic-Inorganic Phyllosilicate-Like Materials.", B. Lebeau, J. Brendle, C. Marichal, A. J. Patil, M. Eswaramoorthy and S. Mann[#], *J. Nanosci and Nanotech*, 6, 352 - 359 (2006).
19. "Fabrication of functional protein-organoclay nanocomposites by biomolecule-induced assembly of exfoliated aminopropyl-functionalized magnesium phyllosilicates", A. Patil, M. Eswaramoorthy and S. Mann[#], *J. Mater. Chem.*, 15, 3838 - 3843 (2005). (**Highlighted as 'Where biology meets chemistry' in Chemistry World, 11, 46, 2005**).
18. "Synthesis and Self-assembly of Organoclay Wrapped Biomolecules", A. Patil, M. Eswaramoorthy and S. Mann[#], *Angew. Chem. Int. Ed.*, 43, 4928 - 4933 (2004). (**Selected as one of the Hot Papers of this issue by the Editors. Also highlighted as 'Protein potters at the wheel' in Chemistry World, 1, 11, 2004**).
17. "Higher-Order Synthesis of Organoclay Pipes using Self-Assembled Lipid Templates", A. Patil, M. Eswaramoorthy, A. M. Seddon and S. Mann[#], *Adv. Mat.*, 15, 1816 - 1819

(2003). (*Highlighted as 'Organoclay tubules' in the Royal Society Chemistry, RSC-Materials Chemistry Forum under 'science highlights', issue no.5, 2004*)

16. "Morphogenesis of Organoclay Microspheres with Sponge-like or Hollow Interiors", M. Eswaramoorthy, D. Walsh and S. Mann[#], *Adv. Mat.*, 14, 969 - 972 (2002).(**work got mention on the cover page of this issue**).

15. "A One-Step Conversion of Benzene to Phenol with a Palladium Membrane", S. Niwa, M. Eswaramoorthy, J. Nair, A. Raj, N. Itoh, H. Shoji, T. Namba and F. Mizukami[#], *Science*, 295, 105 - 107 (2002). (*Featured in the C&EN News in Sept. 2002, January 7th issue*).

14. "Synthesis and characterisation of submicron-sized mesoporous aluminosilicate spheres", G. Gundiah, M.Eswaramoorthy, S. Neeraj, S. Natarajan and C. N. R. Rao[#], *Proc. Indian Acad. Sci. (Chem. Sci.)*, 113, 227 - 234 (2001).

13. "The conversion of methane with silica-supported platinum catalysts: The effect of catalyst preparation method and platinum particle size", M. Eswaramoorthy, S. Niwa, M.Toba, H. Shimada, A. Raj and F. Mizukami[#], *Catalysis Letters*, 71, 55 - 61 (2001).

12. "Studies of C₆₀ and C₇₀ incorporated in cubic mesoporous silica (MCM-48). Govindaraj[#], Manashi Nath and M. Eswaramoorthy, *Chem Phys Lett.*, 317, 35 - 39 (2000).

11. "A study of micropores in single-walled carbon nanotubes by the adsorption of gases and vapours", M. Eswaramoorthy, Rahul Sen and C. N. R. Rao[#], *Chem Phys Lett.*, 34, 207 - 210 (1999).

10. "Synthesis of hexagonal microporous silica and aluminophosphate by supramolecular templating of a short chain amine", M. Eswaramoorthy, S. Neeraj and C. N. R. Rao[#], *Microporous and Mesoporous Materials*, 28, 205 - 210 (1999).

9. "High catalytic Efficiency of transition metal complexes encapsulated in a cubic mesoporous phase", M. Eswaramoorthy, Neeraj and C. N. R. Rao[#], *Chem. Commun.*, 615 - 616 (1998).

8. "A three dimensional open framework tin (II) phosphate exhibiting reversible dehydration and ion exchange properties", S. Natarajan, M. Eswaramoorthy, A. K. Cheetham and C. N. R. Rao[#], *Chem. Commun.*, 1561 - 1562 (1998).

7. "Mesoporous silicophosphates", Neeraj, M. Eswaramoorthy and C. N. R. Rao[#], *Mater. Res.Bull.*, 33, 1549 - 1554 (1998).

6. "Mesoporous alumina", Neeraj and M. Eswaramoorthy[#], *Proc. Indian Acad.Sci.(Chem. Sci.)*, 10, 1 - 7 (1998).

5. "Hydrogenation of nitrobenzene over copper containing spinels", N. John Jebarathinam, M. Eswaramoorthy and V. Krishnasamy[#], *Studies in Surface Science and Catalysis*, 113, 1039 - 1043 (1998).
4. "Chromium substituted AlPO-11: synthesis, characterization and its applications in oxidation reactions", M. Eswaramoorthy, N. John Jebarathinam, N. Ulagappan and V. Krishnasamy[#], *Catalysis Lett.*, 38, 255 - 259 (1996).
3. "Non oxidative and oxidative dehydrogenation of ethylbenzene over Zn-Fe-Cr ternary spinel system", N. John Jebarathinam, M. Eswaramoorthy and V. Krishnasamy[#], *Applied Catalysis A: General*, 145, 55 - 74 (1996).
2. "Effect of substitution of Fe³⁺ in CuCr₂O₄ matrix for the hydrogenation of nitrobenzene", N. John Jebarathinam, M. Eswaramoorthy and V. Krishnasamy[#], *Reaction Kinetics and Catalysis Lett.*, 58, 291 - 298 (1996).
1. "Dehydrogenation of ethylbenzene over spinel oxides", N. John Jebarathinam, M. Eswaramoorthy and V. Krishnasamy[#], *Bull. Chem.Soc. Jpn.*, 67, 1 - 5 (1994).

(b) List of book chapters /reviews

Reviews:

1. K. K. R. Datta, A. Amrit and M. Eswaramoorthy, Aminoclay: A Functional Layered Material with Multifaceted Applications, *J. Mater. Chem.A*, 1, 6707 - 6718 (2013).
2. K. V. Rao, K. K. R. Datta, M. Eswaramoorthy and Subi J George, Light-Harvesting Hybrid Assemblies (Concept Article), *Chem. Eur. J*, 18, 2184 - 2194 (2012).
3. J. Dinesh and M. Eswaramoorthy, Functionalized Carbon Nanomaterials Derived from Carbohydrates, *Chemistry-An Asian Journal*, 5, 232 - 243 (2010).

Book Chapters

1. B. R. Selvi, S. Chatterjee, R. Modak, M. Eswaramoorthy and T. K. Kundu, A Chapter on "Histone acetylation as a therapeutic target", *Epigenetics: Development and Disease* (Springer Science), (2012).
2. J. Dinesh and M. Eswaramoorthy, A Chapter on 'Nanomaterials for therapeutic drug delivery', *CRC Handbook on Nanobiomaterials* -Taylor & Francis Publishers.(2011).
3. K. Sai Krishna and M. Eswaramoorthy, A Chapter on 'Nanorings'. *CRC Handbook of Nanophysics* - Taylor and Francis Publishers (2009).

Invited talks(abroad)

- Invited talk in Oslo University – JNCASR Symposium May 2019.
- Invited talk in 10th International Conference on Materials for Advanced Technologies(ICMAT) during the period 23rd -27 June 2019.

- Invited Speaker at the 253rd ACS National Meeting held in San Francisco, USA during the period 2-6th April 2017.
- Invited Speaker at Indo-US workshop on Nanomaterials for Energy, Discovery Park, Purdue University, USA, September 17-18, 2014.
- Invited Speaker at the International Symposium and the Workshop on Nanoscience/Nanotechnology held at the University of the West Indies, Trinidad and Tobago during the period 15-17th July 2014.
- Invited Speaker at 4th Trilateral Conference on “Nanoscience: Energy, Water & Healthcare” organized by MRS Singapore and the School of Materials Science and Engineering, NTU, Singapore, December 4-7, 2013.
- Invited Speaker at the Workshop on Advanced Materials held in Ras al Khaimah (RAK), in the UAE during the period 23-26th February 2013.
- Invited as a key note Speaker at 17th Malaysian Chemical Congress held at Kuala Lumpur, Malaysia during the period 15-17 Oct. 2012.
- Invited Speaker at Cambodian Malaysian Chemical Conference held at Siem Reap, Cambodia, Malaysia during the period 19-21st Oct. 2012.
- Invited Speaker at 1st International Symposium on Advanced Nanostructured Materials for Clean Energy (ANMCE 2011), AIST- Kansai, Osaka, Japan, March 8-10, 2011.
- Invitee to attend as a member of ICPC-Nanonet Consortium (European Union) meeting held in St. Petersburg, Russia during the period 24-26th May 2011.
- Visiting Scholar (two months) at McCormick School of Engineering, Northwestern University, USA June 2010- Aug. 2010.
- As an Invitee to attend as a member of ICPC-Nanonet Consortium (European Union) meeting held in Beijing, China during the period 14-15 June 2010.
- Invited Speaker at ICS-UNIDO Conference on Advanced Diagnostics and Drug delivery at the Nanoscale, Trieste, Italy, October 13-15, 2009.
- Invited Speaker at MESA+ University of Twente - ICMS joint Symposium, Twente, Netherlands, April 26- 29, 2009.
- As an Invitee/Speaker to attend as a member of ICPC-Nanonet Consortium (European Union) annual meeting held in Prague, Czech Republic during the period 31 May 2009 to 1st April 2009.
- Invited Speaker at Taiwan-India Conference on Nanomaterials at Lunghwa University of Science and Technology, Taiwan during the period December 10-11, 2006.

Invited talks(India)

- “Hierarchically Self-assembled Clay Structures” Unilever Research, Bangalore, June 2005.
- Lecture on “Chemistry of Nanomaterials” S. J. R. College for Women, Bangalore, December 20, 2005

- “Nanostructured Materials” 2nd JNC Research Conference *on Chemistry of Materials*, Kollam, Kerala, October 29-31, 2006.
- “Making Materials at Different Length Scales” in In-House Symposium, JNCASR, Bangalore, November, 20, 2006.
- “Bioinspired Materials” in International Winter School on Chemistry of Materials (IWSCM), JNCASR, Bangalore, December 11-19, 2006.
- “Template based synthesis of Nanostructured Materials” in ICMS-ICMR School on Chemistry and Physics of Materials, December 6-13, 2007, JNCASR Bangalore.
- Lecture on “Nanotechnology and its Applications”, Bharathiar University, February 03, 2007.
- Lecture on Nanomaterials, Karnatak University, Dharward, March, 19, 2008.
- “Biomimetic Materials”, Kuvempu University, Shankaraghatta, Karnataka, March, 29, 2008.
- “Synthesis and Characterization of Functional Hybrids” in Future Directions in Advanced Materials Research, April 16-19, 2008. Shimla.
- “Molecules to Materials: Glucose to Carbon nanostructures and their Applications” in a conference on Molecules and Materials: New Directions, JNCASR, Bangalore December 4-6, 2008.
- “Synthesis of metal and metal oxide nanostructures with sponge-like architectures” In International Conference on Frontiers in Chemical Research, Mangalore University, Mangalore, December, 29-31, 2008.
- “Investigations of the conversion of inorganic carbonates to methane” in Indo-US joint conference, JNCASR, Sept. 1-2, 2009.
- “A generic, green synthesis of high surface area noble metal nanosponges” ICMS-IITB joint Conference on Chemistry of Functional Materials, Goa, August 14-16, 2009.
- “Magnesiumphyllo (organo) silicate – A clay to play with in materials science” 5th JNC Research Conference on Chemistry of Materials, Alleppey, Kerala, October 5-6, 2009.
- International Conference on “Nanoscience, nanotechnology and advanced materials” at GITAM University during 17-19, Dec. 2010.
- “Magnesium phyllosilicate: A versatile clay with a variety of applications in materials science” 22nd Annual General Meeting, MRSI, Bhopal, Feb. 14-16, 2011.
- Discussion Meeting on “Common themes in biomaterials and nanomaterials sciences” held at Saha Institute of Nuclear Physics on 11th Oct. 2011.
- “Glucose derived carbon nanostructures and their applications” 3rd Indo-German Symposium, IIT Bombay, September 27-29, 2011.

