

Publications: SCI journal- 70 Nos., Book Chapter -1; Conference- 35 Nos.

Dr. Nijhuma Kayal (Nee Mondal)

1. **N.Mondal**, et al, "Crystal structure and magnetic behavior of a two-dimensional complex $\text{Cu}(\text{dmen})_2[\text{Fe}(\text{CN})_6]$ (dmen = 2-dimethylaminoethylamine) with an exceptional cyano-bridging", J. Chem. Soc., Dalton Trans., 2000, 1601-1604.
2. **N.Mondal**, et al, "Synthesis and crystal structure of thiocyanato or azido bridged one- or two-dimensional polymeric complexes of cadmium(II)", J. Chem. Soc., Dalton Trans., 2000, 3218-3221
3. **N.Mondal**, et al., "Synthesis, characterization and crystal structure of cyano-bridged dinuclear copper-iron complexes", Polyhedron, 19, 2000, 1935-1939
4. **N.Mondal**, et al., "Synthesis and structural characterization of mixed-ligand (η^1 --2-hydroxyacetophenone complexes of cobalt (III)", Polyhedron, 19, 2000, 2707-2711.
5. **N.Mondal**, et al., "Synthesis, characterization and crystal structures of some four coordinated nickel(II) complexes with tridentate Schiff base ligands", Polyhedron, 20, 2001, 135-141.
6. **N.Mondal**, et al., "Synthesis and characterization of cyano-bridged polynuclear $[\text{Cu}(\text{dmpn})_2]_3[\text{Co}(\text{CN})_6]_2 \cdot 12\text{H}_2\text{O}$ and trinuclear $[\text{Cu}(\text{dmpn})_2]_2[\text{Co}(\text{CN})_6] \cdot \text{ClO}_4 \cdot 3\text{H}_2\text{O}$ complexes", Polyhedron, 20, 2001, 607-613.
7. **N.Mondal**, et al., "Synthesis and crystal structure of mononuclear copper(II) complex of tridentate Schiff base ligand and its ferrocyanide-bridged pentanuclear complex", Polyhedron, 20, 2000, 579-584
8. **N.Mondal**, S.Mitra and G.Rosair, "Synthesis and structural characterization of a cyano-bridged trinuclear complex $[(\text{CuL})_2\text{Fe}(\text{CN})_6][\text{ClO}_4] \cdot \text{CH}_3\text{OH} \cdot \text{H}_2\text{O}$ ", Polyhedron, 20, 2001, 2473-2476.
9. B.Bag, **N.Mondal**, S.Mitra, V.Gramlich and J.Ribas, "Synthesis, crystal structure and magnetic properties of oxalato bridged binuclear copper(II) complex with a tridentate Schiff base ligand ", Polyhedron, 20, 2001, 2113-2116.
10. B.Bag, **N.Mondal**, G.Rosair and S.Mitra, "The first thermally-stable singly oxo-bridged dinuclear Ni (III) complex", J.Chem.Soc., Chem. Commun., 2000, 1729-1730.
11. C.Roychaudhury, S.K.Dey, **N.Mondal**, et al., "A new cyanato-bridged polymeric complex $[\text{Cd}_3(\text{NCO})_6(\text{NH}_2\text{CH}_2\text{C}_5\text{H}_4\text{N})_3]_n$ with a zig-zag ladder shaped structure", Inorganic Chemistry Communication, 4, 2001, 419-422.

12. C.Roychoudhury, S.K.Dey, **N.Mondal**, et al., "Synthesis and structural characterization of $[\text{Ni}(\text{Me}_2\text{NCH}_2\text{CH}_2\text{N}=\text{CHC}_6\text{H}_4\text{O})_2]$ ", *J. Chem. Crystal.* 31, 2001, 57-59.
13. S.K.Dey, **N.Mondal**, et al., "A novel approach of synthesis of a tridentate ligand having nitrogen donor sites in the presence of copper (II) ion and crystal structure of its complex ", *Journal of Chemical Research*, 2002, 496-499.
14. **N.Kayal** and V.Mckee "6,7-Dimethyl-3,4,4a,7,8,8a-hexahydro-isochromen-1-one" *Acta Cryst.*, E59, 2003, 701-702.
15. C.Roychoudhury, S.K.Dey, **N.Mondal**, et al., "Synthesis and structural studies of selenocyanato bridged polymeric and molecular complexes of Cd(II): presence of both end-to-end and end-on coordination", *Inorg.Chim.Acta.* 353c, 2003, 217-222.
16. C.Roychoudhury, S.K.Dey, **N.Mondal**, et al., "One novel recimic Cu-Co cyano-bridged complex: Synthesis, characterization, crystal structure and magnetic properties", *Bull. Chem. Soc., Jpn*, 77, 2004, 959-964.
17. B.Coyle, V.McKee, **N.Kayal**, et al. "Synthesis, X-ray crystal structure, Anti-Fungal and Anti-Cancer Activity of $[\text{Ag}_2(\text{NH}_3)_2(\text{salH})_2](\text{salH} = \text{salicylic Acid})$ " , *Bioinorg. Chem.*, 98, 2004, 1361-1366.
18. S.K.Dey, **N.Mondal**, et al., "Crystal structure and magnetic interactions in Nickel(II) dibridged complexes formed by two azide groups or by both with phenolate oxygen-azide, -thiocyanate, -carboxylate, or-cyanate groups", *Inorg. Chem.*, 43, 2004, 2427-2434.
19. S. Abuskhuna, **N. Kayal** and V. McKee, "Synthesis and structure of metal complexes containing zwitterionic N-hydroxyimidazole ligands" *Polyhedron*, 26 2007, 4573-4580.
20. **N. Kayal** and N. Singh, "Stepwise complexometric determination of aluminium, titanium and iron concentration in silica sand and allied materials" *Chem. Central J.*, 2007, 1:24
21. **N. Kayal** and N. Singh, "New approach for the determination of fluorine in glass" *Eur. J. of Anal. Chem.*, 2 (3) 2007, 142-150.
22. **N. Kayal** and N. Singh, "Selective masking and demasking for the stepwise complexometric determination of aluminium, lead and zinc from the same solution" *Chem. Central J.*, 2008, 2:4
23. **N. Kayal**, N.Singh, V. N. Ojha and P. K. Gupta, "Evaluation and expression of uncertainty in the determination of alumina in deodorants by complexometric method" *J. Test. Eva.*, 37 (4) 2009.

24. **N. Kayal**, N. Singh and P. K. Gupta, "Synthesis of silica from rice husk, its characterization and determination its silica content by modified volumetric method" *Eura. Chem Tech J.*, 11, 2009, 93-96.
25. N. Singh, **N. Kayal**, P.K. Gupta and A.K. Agrawal, "Monitoring the trace metals concentration in rice by Flame Atomic Absorption Spectrometer and Inductively Coupled Plasma Atomic Emission Spectrometer" *J. Environ. Sci. & Engg.* 52, 1, 2010, 33-36.
26. **N. Kayal**, P. K. Sinha and D. Kundu "Application of chemically modified rice husk for the removal of heavy metals from aqueous solution" *J. of Envir. Sci. & Engg.* 52, 1, 2010, 15-18.
27. **N. Kayal** & N. Singh "The quantitative estimation of silica in rice husk ash by titrimetric method: A case study for uncertainty calculation" *Mapan*, 25 (2) 2010, 115-123.
28. N. Singh, V. N. Ojha, **N. Kayal**, Tanusree Ahuja and P. K. Gupta, "Quantifying uncertainty in the measurement of arsenic in suspended particulate matter by Atomic Absorption Spectrometry with hydride generator" *Chem. Central J.*, 5, 2011, 17-22
29. A. Dey, **N. Kayal** and O. P.Chakrabarti, "Preparation of porous SiC ceramics by an infiltration technique, *Ceram. Int.*, 37, 2011, 223-225.
30. A. Dey, **N. Kayal** and O.P.Chakrabarti, "Preparation of porous mullite bonded SiC ceramics by an infiltration technique", *J.of Mat. Sci.*, 46, 2011, 5432-38
31. **N.Kayal***, A. Dey and O.P.Chakrabarti "Incorporation of mullite as a bond phase into porous SiC by an infiltration technique, *Mater.Sci. and Eng. A*, 535 (2012) 222-227.
32. A. Maity, D. Kalita, **N. Kayal**, T. Goswami, O. P. Chakrabarti and P. G. Rao, "Oxidation behavior of SiC ceramics synthesized from processed cellulosic bio-precursor", *Ceram. Int.*, 38 (2012) 4701-06.
33. A. Maity, D. Kalita, **N. Kayal**, T. Goswami, O. P. Chakrabarti and P. G. Rao, "Synthesis of biomorphic SiC ceramics from coir fibreboard perform" *Ceram. Int.*, 38 (2012) 6873-81.
34. **N. Kayal***, A. Dey and O.P.Chakrabarti "Synthesis of mullite bonded porous SiC ceramics by a liquid precursor infiltration method: effect of sintering temperature on material and mechanical properties", *Mater. Sci. and Eng. A* 556 (2012) 789-795.
35. A. Dey, **N. Kayal**, M. D.M. Innocentini, W. S. Chacon, J. R. Coury, and O. P. Chakrabarti, "On evaluation of permeability parameters of oxide bonded porous SiC ceramics" *Int. J. App. Ceram. Tech.* 10 [6] 1023–1033 (2013)
36. A. Maity, D. Kalita, **N. Kayal**, J. Ghosh, T. Goswami, O. P. Chakrabarti and P. G. Rao, "Microstructural and mechanical characterization of biomorphic SiC ceramics synthesized from coir fibreboard perform" *Mater. Sci. and Eng. A* 565 (2013) 72-79.

37. A. Dey, **N. Kayal**, O. P. Chakrabarti, et al., Investigations on material and mechanical properties, air-permeation behaviour and filtration performance of mullite bonded porous SiC ceramics. *Int. J. Appl. Ceram. Tech.*, 11(5), 804-814, 2014
38. **N. Kayal***, A. Dey and O.P. Chakrabarti, Effect of yttria addition on mullite bonded porous SiC ceramics *Bol. Soc. Esp. Ceram. Vidrio*, 52(5), 2013, 242-246
39. A Dey, **N. Kayal**, and O.P. Chakrabarti, R. F. Caldato, C. M. André, and M. D. M. Innocentini, "Permeability and nanoparticle filtration assessment of cordierite bonded porous SiC ceramics," *Indus. and Eng. Chem. Res.* 52, 2013, 18362–18372.
40. A. Dey, **N. Kayal**, A. R. Molla and O.P. Chakrabarti, "Investigation of thermal oxidation of Al₂O₃-coated SiC powder", *Thermochim. Acta* 583, 2014, 25-31.
41. A Maity, H Das, D Kalita, **N Kayal**, T Goswami and O.P. Chakrabarti, "Studies on formation and siliconization of carbon template of coir fibreboard precursor to SiC ceramics", *J. Euro. Ceram. Soc.* 34, 2014, 3499-3511.
42. N. Vijaya Laxmi, A. Dey, **N. Kayal*** and O. P. Chakrabarti, "Investigation of dispersion behaviour of SiC in water for slip casting of SiC", *J. Ceram. Proc. Res.* 15, 2014, 97-101.
43. A. Dey, **N. Kayal**, O. P. Chakrabarti, R. F. Caldato, C. M. André, M. D.M. Innocentini and V. G. Guerra, "Studies on permeability properties and particle capture efficiencies of porous SiC ceramics processed by oxide bonding technique" *J. porous Media*, 18 (9) 2015, 861-872.
44. S. Baitalik, A. Dey, O. P. Chakrabarti and **N. Kayal*** "Effect of SiC particle size on the material and mechanical properties of mullite bonded porous SiC ceramics processed by precursor sol infiltration technique- *Ceram. Silikaty* 58(4) 2014, 326-332.
45. S. Baitalik, **N. Kayal*** and O. P. Chakrabarti, "Properties of mullite bonded SiC ceramics from mullite precursor sol coated SiC powder and crystallization kinetics of mullite formation" *Materials Res. Innovations*, 20 (2) 2016, 99-105.
46. S. Baitalik, O.P. Chakrabarti, **N. Kayal***, Fabrication of mullite bonded porous SiC ceramics via a sol-gel coated precursors, *Trans. Ind. Ceram. Soc.*, 74(3) 2015, 181-185.
47. A Maity, **N Kayal** and O.P. Chakrabarti "Mechanical behaviour of reaction processed SiC ceramics from artificial precursor from plant", *Ceram. Int.* 42 (8) 2016, 10058-10065.
48. H. Uppal, **N. Kayal**, S. Chawla, S. Swarupa Tripathy, S. Gupta, R. Singh, B. Sharma, N. Singh, "Surface Modified Alumina Compact: A Potential Material For Decontamination Of Trivalent And Hexavalent Chromium And Growth Inhibitor of Microbes From Water", *Adv. Mat. Letter*, 8(5) 2017, 592-599.

49. S. Baitalik, **N. Kayal*** and O. P. Chakrabarti, Processing and properties of porous SiC ceramics prepared by YAG infiltration Int. J. Appl. Ceram. Tech. 14, 2017, 652-664.
50. A. Dey, **N. Kayal**, M.D.M. Innocentini and O.P. Chakrabarti, "Investigation on sacrificial pore former removal and mullite binder phase transformation in powder formulations used for preparation of oxide bonded porous SiC ceramics, Ceram. Int. , 43 (12) 2017, 9416–9423.
51. S. Baitalik, **N. Kayal*** "Processing and properties of cordierite-silica bonded porous SiC ceramics" Ceram Int. 43, 2017, 14683-14692.
52. S. Baitalik, D. Panigrahi and **N. Kayal***, Properties of porous SiC ceramics processed by gelation and consolidation of boehmite coated SiC suspensions Trans. Ind. Ceram. Soc., 76(4) 2017, 222-227.
53. S. Baitalik and **N. Kayal***, Dispersion of SiC powder suspension in mullite sol and influence on properties of sintered ceramics, Int. J. Appl. Ceram. Tech. 15(2) 2018, 426-437.
54. D. Das, S. Baitalik, B. Haldar, R. N. Saha and **N. Kayal***, Preparation and characterization of macroporous SiC ceramic membrane for treatment of waste water, J of Porous Materials, 25(4), (2018) 1183-1193.
55. A. Dey, P. Biswas, K. V. Vignaswaran, **N. Kayal**, R. Johnson and O .P. Chakrabarti, "Thermal degradation of ceramic slurry coated polyurethane foam used in making reticulated porous SiC ceramics, Journal of Thermal Analysis and Calorimetry, 131 (3), (2018) 2603-2610.
56. S. Baitalik, S. K. Dalui and **N. Kayal***, Mechanical and microstructural properties of cordierite bonded porous SiC ceramics processed by infiltration technique: Influence of pore formers, J. of Mat.Sci., 53(9), (2018) 6350-6365.
57. S. Baitalik, A. R. Molla and **N. Kayal***, Investigation on oxide bonded porous SiC ceramics from SiC powder co-precipitated with yttrium aluminum garnet (YAG) sol and non-isothermal kinetics of oxide bond phase formation , J. alloys Comp., **767**, (2018) **302-314**.
58. S. Baitalik and **N. Kayal***, Thermal shock and chemical corrosion resistance of oxide bonded porous SiC ceramics prepared by infiltration technique, J. alloys Comp., 781, (2019) 289-301.
59. D. Das and **N. Kayal***, Review on processing, properties and application of oxide bonded porous SiC ceramics, J. Mat. Sci. Res and Rev, 2(2) (2019) 1-25
60. D. Das and **N. Kayal***, Influence of fly ash and steam on microstructure and mechanical properties of oxide bonded porous SiC ceramics, Bol.Soc. Esp.Ceram.Vidrio, 58(6) (2019) 255-262.

61. D. Das and **N. Kayal***, Thermal shock resistance of porous silicon carbide ceramics prepared using clay and alumina as additives, *Trans. Ind. Ceram. Soc.*, 78(3) (2019) 165-171.
62. D. Das, S. Baitalik and **N. Kayal***, Properties of multiple oxide-bonded porous SiC ceramics prepared by an infiltration technique, *Int. J. appl. Ceram. Technol.* 17 (2020) 476–483. DOI: 10.1111/IJAC.13402.
63. D. Das and **N. Kayal***, The effect of bond phase additive and sintering temperature on the properties of mullite bonded porous SiC ceramics” *Materials science Forum*, 978 (2020), 454-462
64. P Sardar, D. Das and **N. Kayal*** Processing of Si-Mo-SiC composite by infiltration of silicon metal alloy into coir fibre derived bio-preform *Materials Today: proceedings*, 21 (2020) 1069-1077.
65. D. Das, **N. Kayal***, G. A. Marsola, L. A. Damasceno and M. D. M. Innocentini, Permeability behaviour of silicon carbide-based membrane and performance study for oily wastewater treatment, *Int J Appl Ceram Technol.* 2020;17:893–906.
66. D. Das, **N. Kayal***, G. A. Marsola, D. Filho and M. D. M. Innocentini, Recycling of coal fly ash for fabrication of elongated mullite rod bonded porous SiC ceramic membrane and its application in filtration, *J Euro. Ceram. Soc.* 40(5) (2020) 2163-2172.
67. D. Das and **N. Kayal***, Influence of clay content on microstructure and flexural strength of in situ reaction bonded porous SiC ceramics, *Materials Today proceedings*, 33(8) (2020) 5150-5155.
68. D. Das and **N. Kayal***, Permeability and dust filtration behaviour of porous SiC ceramic candle filter, *Materials Today proceedings*, DOI: 10.1016/j.matpr.2020.04.090
69. A. Dey, **N. Kayal***, et al., “Properties of layered oxide bonded porous SiC ceramic filter and kinetics of bond phase formation, *Int. J. appl. Ceram. Technol.* DOI: 10.1111/ijac.13717
70. Dulal Das, Nijhuma Kayal, Murilo Daniel de Mello Innocentini and Daniel Gonçalves Parra Filho, Effect of processing parameters on mullite bonded SiC membrane for turbid water filtration, *Membrane and water treatment*, Accepted

Book Chapter:

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