Dr Ravindra Kumar Gupta

https://www.researchgate.net/profile/Ravindra_Kumar_Gupta
http://fac.ksu.edu.sa/rgupta/home

List of Publications

(Total No. of Papers: **72**; ISI papers: **54**)

In Journals

1. Cationic effect on dye-sensitized solar cell properties using electrochemical impedance and transient absorption spectroscopy techniques, *R. K. Gupta*, I. Bedja, Journal of Physics D-Applied Physics 50 (**2017**) 245501. Link
2. Heteroleptic Ru(II) cyclometalated complexes derived from benzimidazole-phenyl carbene ligands for dye-sensitized solar cells: an experimental and theoretical approach, T. Jella, M. Srikanth, Y. Soujanya, S. P. Singh, L. Giribabu, A. Islam, L. Han, I. Bedja, *R. K. Gupta*, Materials Chemistry Frontiers 1 **(2017**) 947-957. Link
3. Effect of different auxiliary ligands and anchoring ligands on neutral thiocyanate-free ruthenium(II) dyes bearing tetrazole chromophores for dye-sensitized solar cells, G. Wu, R. Kaneko, K. Sugawa, A. Islam, I. Bedja, *R. K. Gupta*, L. Han, J. Otsuki, Dyes and Pigments 140 (**2017**) 354-362. Link
4. Effect of spacer and anchoring group of extended π-conjugated tetrathiafulvalene based sensitizers on the performance of dye sensitized solar cells, L. Giribabu, N. Duvva, S.P. Singh, L. Han, I. M. Bedja, *R. K. Gupta*, A. Islam, Sustainable Energy & Fuels 1 (**2017**) 345-353. Link
5. Donor-π-acceptor based stable porphyrin sensitizers for dye-sensitized solar cells: Effect of π-conjugated spacers, N. V. Krishna, V. S. K. Jonnadula. S.P. Singh, L. Giribabu, L. Han, I. Bedja, *R. K. Gupta*, A. Islam, J. Phys. Chem. C 121 (**2017**) 6464–6477. Link
6. Cyclometalated ruthenium complexes with 6-(*ortho*-methoxyphenyl)-2,2'-bipyridine as panchromatic dyes for dye-sensitized solar cells, R. Kaneko, G. Wu, K. Sugawa, J. Otsuki, A. Islam, L. Han, I. Bedja, *R. K. Gupta*, Journal of Organometallic Chemistry 833 (**2017**) 61-70. Link
7. A detailed investigation into the electrical conductivity and structural properties of [poly(ethylene oxide)-succinonitrile]-Li$(CF_3SO_2)_2N$ solid polymer electrolytes, *R. K. Gupta*, H.-W. Rhee, Bulletin of the Korean Chemical Society 38 (**2017**) 356-363. Link
8. Stable and charge recombination minimized π-extended thioalkyl substituted tetrathiafulvalene dye-sensitized solar cells, L. Giribabu, N. Duvva, S.P. Singh, L. Han, I. M. Bedja, *R. K. Gupta*, A. Islam, Materials Chemistry Frontiers, 1 **(2017**) 460-467. Link
9. Thiocyanate-free asymmetric ruthenium(II) dye sensitizers containing azole chromophores with near-IR light-harvesting capacity, G. Wu, R. Kaneko, A. Islam, Y. Zhang, K. Sugawa, L. Han, Q. Shen, I. Bedja, *R. K. Gupta*, J. Otsuki, Journal of Power Sources 331 (**2016**) 100-111. Link
10. Near-infrared squaraine co-sensitizer for high-efficiency dye-sensitized solar cells, G. Hanumantha Rao, A. Venkateswararao, L. Giribabu, L. Han, I. Bedja, *R. K. Gupta*, A. Islam, S. P. Singh, Physical Chemistry Chemical Physics 18 (**2016**) 14279-14285. Link
11. Study of donor–acceptor–π–acceptor architecture sensitizers with benzothiazole acceptor for dye-sensitized solar cells. G. Koyyada, S.P. Singh, K Bhanuprakash, L. Han, I. M. Bedja, *R. K. Gupta*, A. Islam, M. Chandrasekharam, Energy Technology 4 (**2016**) 458-468. Link
12. Neutral and anionic tetrazole-based ligands in designing novel ruthenium dyes for dye-sensitized solar cells. G. Wu, R. Kaneko, Y. Zhang, Y. Shinozaki, K. Sugawa, A. Islam, L. Han, I. Bedja, *R. K. Gupta*, Q. Shen, J. Otsuki, Journal of Power Sources 307 (**2016**) 416-425. Link
13. More stable and more efficient alternatives of Z-907: carbazole-based amphiphilic Ru(II) sensitizers for dye-sensitized solar cells, H. Cheema, A. Islam, R. Younts, B. Gautam, I. Bedja, *R. K. Gupta*, L. Han, K. Gundogdu, A. El-Shafei, Physical Chemistry Chemical Physics 16 (**2014**) 27078-27087. Link
14. A comparative study of Ru (II) cyclometallated versus thiocyanated heteroleptic complexes: Thermodynamic force for efficient dye regeneration in dye-sensitized solar cells and how low could it be? M. Hussain, A. Islam, I. Bedja, *R. K. Gupta*, L. Han, A. El-Shafei, Physical Chemistry Chemical Physics 16 (**2014**) 14874-14881. Link
15. Improved cell efficiency of [poly(ethylene oxide)-succinonitrile]/ LiI-I_2 solid polymer electrolyte-based dye-sensitized solar cell. *R. K. Gupta*, I. M. Bedja, Physica Status Solidi A 211 (**2014**) 1601-1604. Link
16. Plasticizing effect of K^+ ions and succinonitrile on electrical conductivity of [poly(ethylene oxide)–succinonitrile]/KI–I_2 redox-couple solid polymer electrolyte. *R. K. Gupta*, H.-W. Rhee, J. Phys. Chem. B 117 (**2013)** 7465–7471. Link
17. Improved performance of silicon nanoparticle film coated dye-sensitized solar cells. *R. K. Gupta*, I. M. Bedja, A. S. Aldwayyan, Physica Status Solidi RRL 6 (**2012**) 424–426. Link

18. Effect of succinonitrile on electrical, structural, optical, and thermal properties of [poly(ethylene oxide)-succinonitrile]/LiI-I_2 redox-couple solid polymer electrolyte. *R. K. Gupta*, H.-W. Rhee, Electrochimica Acta 76 (**2012**) 159-164**.** Link
19. Highly conductive redox-couple solid polymer electrolyte system: Blend-KI-I_2 for dye-sensitized solar cells. *R. K. Gupta*, H.-W. Rhee, Advances in Optoelectronics (**2011**) 102932. Link (**Non-ISI**)
20. Poly(ethylene oxide) : succinonitrile- a polymeric matrix for fast ion conducting redox-couple solid electrolytes. *R. K. Gupta*, H.-M. Kim, H.-W. Rhee, Journal of Physics D-Applied Physics 44 (**2011**) 205106. Link
21. Effect of strontium ion doping on the crystal structural, thermal, micro-structural and electrical properties of a co-doped lanthanum manganite system. *R. K. Gupta*, E.Y. Kim, Y. H. Kim, C. M. Whang, Journal of Alloys and Compounds 490 (**2010**) 56-61. Link
22. Thermal, micro-structural and electrical properties of a $La_{1-x}Sr_x$ $Mn_{0.85}Fe_{0.05}Co_{0.05}Ni_{0.05}O_{3+\delta}$ (x = 0 – 0.4 mole) cathode system, *R. K. Gupta*, E.Y. Kim, Y. H. Kim, C. M. Whang, Metals and Materials International 15 (**2009**) 1055-1060. Link
23. Dependence of processing parameters on structural properties and microstructures of pulsed laser deposited $LiMn_2O_4$ thin films, D.W. Shin, *R.K. Gupta*, W.-K. Choi, Y.S. Cho, S.-J. Yoon, J.-W. Choi, Japanese Journal of Applied Physics 48 (**2009**) 075501. Link
24. Characterization of perovskite-type cathode, $La_{0.75}Sr_{0.25}$ $Mn_{0.95-x}Co_xNi_{0.05}O_{3+d}$ (0.1 £ x £ 0.3), for intermediate-temperature solid oxide fuel cells. *R. K. Gupta*, I.J. Choi, Y.S. Cho, H.L. Lee, S.H. Hyun, Journal of Power Sources 187 (**2009**) 371-377. Link
25. Improved electrochemical properties of $Li(Ni_{0.7}Co_{0.3})O_2$ cathode for Lithium ion batteries with controlled sintering conditions. D. G. Lee, *R. K. Gupta*, Y. S. Cho, K. T. Hwang, Journal of Applied Electrochemistry 39 (**2009**) 671-679. Link
26. Effects of solvent and chelating agent on synthesis of solid oxide fuel cell perovskite, $La_{0.8}Sr_{0.2}CrO_{3-d}$. B. I. Lee, *R. K. Gupta*, C. M. Whang, Materials Research Bulletin 43 (**2008**) 207-231. Link
27. Mechanical, electrical and micro-structural properties of $La_{0.6}Sr_{0.4}Co_{0.2}Fe_{0.8}O_3$ perovskite based ceramic foams. *R. K. Gupta*, E.Y. Kim, H. S. Noh, C. M. Whang, Journal of Physics D-Applied Physics 41 (**2008**) 032003. Link
28. Improvement of temperature coefficient of frequency in Ba-deficient $Ba_5Nb_4O_{15}$ microwave dielectrics. Y. H. Jo, D. W. Shin, V. S. Saji, *R. K. Gupta*, H. S. Lee, Y. S. Cho, Journal of Ceramic Society of Japan 115 (**2007**) 978-981. Link
29. Effects of anion and synthesis route on the structure of $(La_{0.9}\ Sr_{0.1})(Cr_{0.85}\ Fe_{0.05}\ Co_{0.05}\ Ni_{0.05})O_{3-d}$ perovskite and removal of impurity phases. *R. K. Gupta*, C. M. Whang, Solid State Ionics 178 (**2007**) 1617-1626. Link
30. Physical and dielectric properties of aluminoborosilicate-based dielectrics containing different divalent oxides. D. W. Shin, V. S. Saji, *R. K. Gupta*, Y. S. Cho, Journal of the Korean Ceramic Society 44 (**2007**) 613-617. Link (**Non-ISI**)
31. Structural study of sol-gel derived novel solid oxide fuel cell perovskite: $(La_{1-x}Sr_x)$ $(Cr_{0.85}Fe_{0.05}Co_{0.05}Ni_{0.05})O_{3-d}$. *R.K. Gupta*, C. M. Whang, Journal of Physics-Condensed Matter 19 (**2007**) 196209. Link
32. Vibrational spectroscopic studies of sol-gel derived physical and chemical bonded ORMOSILs. H.Y. Jung, *R.K. Gupta*, E.O. Oh, H.Y. Kim, C. M. Whang, Journal of Non-Crystalline Solids 351 (**2005**) 372-379. Link
33. Electrical and electrochemical properties of a new silver tungstate glass system: x[0.75AgI:0.25AgCl]: (1-x) [Ag_2O: WO_3]. R.C. Agrawal, M.L. Verma, *R. K. Gupta*, Solid State Ionics 171 (**2004**) 199-205. Link
34. Transport properties and battery discharge characteristics of the Ag^+ ion conducting composite electrolyte system: (1-x) [0.75AgI: 0.25AgCl]: Fe_2O_3. R.C. Agrawal, *R.K. Gupta*, C.K. Sinha, R. Kumar, G. P. Pandey, Ionics 10 (**2004**) 113-117. Link
35. Electrical properties of a new Ag^+ ion conducting glassy system: x[0.75AgI: 0.25AgCl]: (1-x)[Ag_2O: P_2O_5]. R.C. Agrawal, *R.K Gupta*, A. Bhatt, M. L. Verma, Angesh Chandra, Ionics 10 (**2004**) 126-128. Link
36. Effects of pH and dye concentration on optical and structural properties of coumarin-4 dye-doped SiO_2-PDMS xerogels. E.O. Oh, *R.K. Gupta*, C.M. Whang, Journal of Sol-Gel Science and Technology 28 (**2003**) 279-288. Link
37. Influence of pH and dye concentration on physical properties and microstructure of coumarin-4 dye-doped SiO_2-PDMS ORMOSIL. E.O. Oh, *R.K. Gupta*, N.H. Cho, Y.C. Yoo, W.S. Cho, C.M. Whang, Bulletin of the Korean Chemical Society 24 (**2003**) 299-305. Link
38. Transport property of novel sono-catalyzed $LiCF_3SO_3$ doped SiO_2-PEG ormolyte. H.Y. Jung, *R.K. Gupta*, C.J. Wi, C.M. Whang, Journal of Physics D-Applied Physics 36 (**2003**) 529-533. Link
39. Transport properties of a new Li^+ ion conducting ormolyte: (SiO_2-PEG)-$LiCF_3SO_3$. *R.K. Gupta*, H.Y. Jung, C.M. Whang, Journal of Materials Chemistry 12 (**2002**) 3779-3782. Link

40. Ion transport and solid state battery studies on a new silver molybdate superionic glass system: x[0.75AgI: 0.25AgCl]: (1-x) [Ag_2O: MoO_3]. R.C. Agrawal, M.L. Verma, *R.K. Gupta*, R. Kumar, R.M. Chandola, Ionics 8 (**2002**) 426-432. Link
41. Preparation and characterization of hybrid silica-poly(ethylene glycol) sonogel. H.Y. Jung, *R.K. Gupta*, D.W. Seo, Y.H. Kim, C.M. Whang, Bulletin of the Korean Chemical Society 23 (**2002**) 884-890. Link
42. Transport property and mixed former effect studies on a new fast Ag^+ ion conducting glass system: 0.7[0.75AgI: 0.7[0.75AgI: 0.25AgCl]: 0.3[Ag_2O: {xB_2O_3: (1-x)MoO_3}]. R.C. Agrawal, M.L. Verma, *R.K. Gupta*, R. Kumar, Journal of Physics D-Applied Physics 35 (**2002**) 810-815. Link
43. Effects of ultrasonic irradiation on physical properties of Silica/PEG hybrids. H.Y. Jung, *R.K. Gupta*, S.K. Lee, C.M. Whang, Journal of the Korean Ceramic Society 39 (**2002**) 113-119. Link (**Non-ISI**)
44. Characterization of basic transport parameters in a new fast Ag^+ ion conducting composite electrolyte system: (1-x) [0.75AgI: 0.25AgCl]: xZrO_2. R.C. Agrawal, Mohan L. Verma, *R.K. Gupta*, S. Thaker, Solid State Ionics 136-137 (**2000**) 473-478. Link
45. Studies on persistent polarization/memory-type effect in Ag^+ ion conducting quenched [0.75AgI: 0.25AgCl] mixed-system / solid-solution. R.C. Agrawal, Mohan L. Verma, *R.K. Gupta*, Indian Journal of Pure & Applied Physics 37 (**1999**) 334-337. Link
46. Polarisation/self-depolarization studies on Ag^+ ion conducting quenched [0.75AgI:0.25AgCl] mixed system/solid solution. R.C. Agrawal, *R.K. Gupta*, Mohan L. Verma, A.R. Sharma, Indian Journal of Pure & Applied Physics 37 (**1999**) 235-238. Link
47. Superionic solids: composite electrolyte phase-an overview. R.C. Agrawal, *R.K. Gupta*, Journal of Materials Science 34 (**1999**) 1131-1162. Link
48. Estimation of ionic drift velocity on some fast Ag^+ ion conducting systems. R.C. Agrawal, R. Kumar, *R.K. Gupta*, Materials Science and Engineering B-Advanced Functional Solid-State Materials 57 (**1998**) 46-51. Link
49. A study of ionic transport properties on a new Ag^+ ion conducting composite electrolyte system: (1-x)[0.75AgI: 0.25AgCl]: xSiO_2. R.C. Agrawal, Mohan L. Verma, *R.K. Gupta*, Journal of Physics D: Applied Physics 31 (**1998**) 2854-2860. Link
50. Studies of polarization/self-depolarization and electret-type effect in AgI. R.C. Agrawal, *R.K. Gupta*, Mohan L. Verma, Ionics 4 (**1998**) 33-41. Link
51. Detailed investigation of temperature dependence of ionic transport parameters of a new composite electrolyte system: (1-x)[0.75AgI: 0.25AgCl]: xSnO_2. R.C. Agrawal, *R.K. Gupta*, Journal of Materials Science 32 (**1997**) 3327-3333. Link
52. Studies on ionic transport properties of a new Ag^+ ion conducting composite electrolyte system: (1-x)[0.75AgI: 0.25AgCl]: xSnO_2. R.C. Agrawal, *R.K. Gupta*, Bulletin of Materials Science 19 (**1996**) 573-579. Link
53. [0.75AgI: 0.25AgCl] quenched system: A better choice as host compound in place of AgI to prepare Ag^+ ion conducting superionic glasses and composites. R.C. Agrawal, R. Kumar, *R.K. Gupta*, M. Saleem, Journal of Non-Crystalline Solids 181 (**1995**) 110-115. Link
54. Transport properties and battery discharge characteristic studies on (1-x)[0.75AgI: 0.25AgCl]: xAl_2O_3 composite electrolyte system. R.C. Agrawal, *R.K. Gupta*, Journal of Materials Science 30 (**1995**) 3612-3618. Link
55. Estimation of energies of Ag^+ ion formation and migration using transient ionic current technique. R.C. Agrawal, K. Kathal, *R.K. Gupta*, Solid State Ionics 74 (**1994**) 137-140. Link
56. Investigation on transport properties of the silver ion conducting composite electrolyte. *R.K. Gupta*, R.C. Agrawal, Solid State Ionics 72 (**1994**) 314-317. Link
57. Ionic transport in (AgI: AgCl) mixed system. R.C. Agrawal, *R. K. Gupta*, R. Kumar, A. Kumar, Journal of Materials Science 29 (**1994**) 3673-3677. Link

In Conference Proceedings (**Non-ISI**)

58. Electrical, structural, optical and thermal properties of (1-*x*)Blend: *x*Li[$(CF_3SO_2)_2N$] solid polymer electrolyte system, *R. K. Gupta*, H.-W. Rhee, in "Proceedings of the 14th Asian Conference on Solid State Ionics", **2014**, p. 179-186.
59. Structural, thermal and electrical properties of a perovskite-type cathode system, $La_{0.75}Sr_{0.25}$ $Mn_{0.95-x}Co_x$ $Ni_{0.05}O_{3+\delta}$, *R.K. Gupta*, I.J. Choi, Y.S. Cho, in "Extended Abstract" of 26th Int. Japan-Korea Seminar on Ceramics (Ibraki, Japan, **2009**) p. 602-605.

60. Improved flatness of tape-casted and cofired (NIO-CGO)/ CGO multi-layers for anode supported planar solid oxide fuel cells. *R.K. Gupta*, I.J. Choi, Y.S. Cho, in "Extended Abstract" of 26th Int. Japan-Korea Seminar on Ceramics (Ibraki, Japan, **2009**) p. 61-65.
61. Electrical and structural properties of new Li^+ ion conducting sol-gel derived ormolytes: (SiO_2-PEG)-$LiCF_3SO_3$. *R.K. Gupta*, H.Y. Jung, C.J. Wi, C.M. Whang, in "Trends in Solid State Ionic Materials & Devices in the New Millennium" (eds) B.V.R. Chowdari, S.R.S. Prabaharan, M. Yahaya, I.A. Talib (World Scientific, Singapore, **2002**) p.369-376.
62. Investigation on a new Ag^+ ion conducting two-phase composite electrolyte system: (1-x)[0.75AgI: 0.25AgCl]: xFe_2O_3. R.C. Agrawal, *R.K. Gupta*, C. K. Sinha, R. Kumar, in "Solid State Ionics", Proc., 5th NCSSI, Nagpur, Feb. 15-17, 2002, (eds) K. Singh and S.S. Bhoga (Nagpur Univ., Nagpur, **2002**) p.122-125.
63. Studies on a new silver molybdate glass system: [0.75AgI:0.25AgCl]: (1-x)[Ag_2O: MoO_3]. R.C. Agrawal, Mohan L. Verma, *R.K. Gupta*, A Bhatt, in "Solid State Ionics", Proc., 5th NCSSI, Nagpur, Feb. 15-17, 2002, (eds) K. Singh and S.S. Bhoga (Nagpur Univ., Nagpur, **2002**) p.58-61.
64. Thermoelectric power and battery discharge characteristic studies on a new Ag^+ ion conducting 2-phase composite electrolyte system: 0.9[0.75AgI: 0.25AgCl]: 0.1ZrO_2. R.C. Agrawal, Mohan L. Verma, *R.K. Gupta*, S. Thaker, in "Ion Conducting Materials: Theory and Application" (eds) A.R. Kulkarni and P. Gopalan (Narosa Pub. House, New Delhi, **2001**) p.220-224.
65. Thermoelectric power and battery discharge characteristic studies on a new silver ion conducting composite electrolyte system. R. C. Agrawal, Mohan L. Verma, *R. K. Gupta*, S. Thaker, in "Solid State Ionics–Science & Technology" (eds.) B.V.R. Chowdari, K. Lal, S.A. Agnihotry, N. Khare, S. S. Sekhon, P. C. Srivastava & S. Chandra (World Scientific, Singapore, **1998**) p. 465-469.
66. Solid state battery discharge characteristic studies on a new Ag^+ ion conducting glass system: 0.7[0.75AgI: 0.25AgCl]: 0.3[Ag_2O:{0.7B_2O_3:0.3MoO_3}]. R.C. Agrawal, M.L. Verma, *R.K. Gupta*, R. Kumar, in "Ion Conducting Materials: Theory and Application" (eds) A.R. Kulkarni and P. Gopalan (Narosa Pub. House, New Delhi, **2001**) p.176-179.
67. Estimation of mobile ion concentration in some silver ion conducting solid electrolyte systems by dc polarization/ depolarization studies. R.C. Agrawal, Mohan L. Verma, *R. K. Gupta*, R. Kumar, M. L. Verma, S. K. Pandey, in "Solid State Ionics–Science & Technology" (eds.) B.V.R. Chowdari, K. Lal, S.A. Agnihotry, N. Khare, S. S. Sekhon, P. C. Srivastava & S. Chandra (World Scientific, Singapore, **1998**) p.127-131.
68. Transport property studies on Ag^+ ion conducting composite electrolyte system (1-x)AgI: xSnO_2. *R.K. Gupta*, R.C. Agrawal, R.K. Pandey, in "Solid State Ionics–New Developments" (eds.) B.V.R. Chowdari, M.A.K.L. Dissanayake and M.A. Careem (World Scientific, Singapore, **1996**) p. 499-504.
69. Thermoelectric power study on a new Ag^+ ion conducting composite electrolyte system: 0.8[0.75AgI: 0.25AgCl]: 0.2SnO_2. M. Saleem, *R.K. Gupta*, R.C. Agrawal, in "Solid State Ionics–New Developments" (eds.) B.V.R. Chowdari, M.A.K.L. Dissanayake and M.A. Careem (World Scientific, Singapore, **1996**) p. 487-491.
70. Ionic drift velocity and mobility measurement on a quenched [0.75AgI: 0.25AgCl] mixed system or solid solution. R.C. Agrawal, *R.K. Gupta*, R.K. Pandey, in "Solid State Ionics – New Developments" (eds.) B.V.R. Chowdari, M.A.K.L. Dissanayake and M.A. Careem (World Scientific, Singapore, **1996**) p. 481-486.
71. Solid state battery using all halide glassy electrolytes: 0.45AgI: 0.35AgCl: 0.20CsCl. R.C. Agrawal, K. Kathal, *R.K. Gupta*, M. Saleem, in "Solid State Ionics- Materials and Applications" (eds.) B.V.R. Chowdari, S. Chandra, S. Singh and P.C. Srivastava (World Scientific, Singapore, **1992**) p.641-645.
72. Ag^+ mobility in AgI & AgCl by transient ionic current (TIC) technique. R.C. Agrawal, K. Kathal, R. Chandola, *R.K. Gupta*, A. Kumar, in "Solid State Ionics- Materials and Applications" (eds.) B.V.R. Chowdari, S. Chandra, S. Singh and P.C. Srivastava (World Scientific, Singapore, **1992**) p.363-367.