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4. Polyvinylpyrrolidone with ammonium iodide and 1-hexyl-3-methylimidazolium iodide ionic liquid-doped solid polymer electrolyte for efficient dye sensitized solar cell
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81. Visible up-conversion and infrared luminescence of $Er^{3+}/Yb^{3+}/Zn^{2+}$ co-doped c-$LiAlO_2$ phosphor
V. Singh, V.K.Rai, I.L. Rak, N.Singh, H. Gao, J. Li, A. K. Srivastava, **P. K. Singh**
J Mater Sci: Mater Electron 27 **(2016)** 886-891. **(*SCI, Imp. Factor 2.993*)**

82. Visible upconversion luminescence of Yb co-doped $Gd_2Zr_2O_7$:Er prepared by a solution combustion reaction
V. Singh, V.K.Rai, H. Gao, N.Singh, J. Li, A. K. Srivastava, R. Senthil Kumaran, **Pramod K Singh**
J Mater Sci: Mater Electron 27 **(2016)** 310-315. **(*SCI, Imp. Factor 2.993*)**

83. Combustion Synthesized Cr^{3+}-doped-$BaMgAl_{10}O_{17}$ Phosphor: An Electron Paramagnetic Resonance and Optical Study
Vijay Singh,, G. Sivaramaiah,J.L. Rao,A K Srivastava, R.V.S.S.N. Ravikumar, S.J. Dhoble, **P. K. Singh**, and M. Mohapatra
Journal of Electronic Materials 45 **(2016)**365-373 **(*SCI,Imp. Factor 1.676)***

84. Optical characterization, absorption and upconversion luminescence in $Er^{3+}$and Er^{3+}/Yb^{3+}doped In_2O_3 phosphor
Vijay Singh,M. Seshadri, N. Singh, M.S. Pathak, R.Senthilkumarn, Y. K. Choi, **Pramod K Singh,** S.J. Dhoble, A K Srivastava
Journal of Luminescence 176 **(2016)** 347-355. **(*SCI,Imp. Factor 2.961)***

85.Combustion synthesized Fe doped CeO_2 powder-characterization, optical absorption and EPR spectroscopy
V. Singh, G. Sivaramaiah, J.L. Rao, N. Singh, A K Srivastava, **Pramod K Singh**, S. U. Pawar, H. Gao, P. Mardina
J Mater Sci:Mater Electron 27 **(2016)** 4494-4500 **(*SCI,Imp. Factor 2.993)***

86. Eu^{2+} and Mn^{2+} Co-doped $BaMgAl_{10}O_{17}$ Blue- and GreenEmitting Phosphor: A Luminescence and EPR Study
Vijay Singh,, G. Sivaramaiah,J.L. Rao,N. Singh, A K Srivastava, H.D. Jirimali, J. Li, H. Gao, R.Senthilkumarn, **Pramod K Singh**, and S.J. Dhoble
Journal of Electronic Materials 45 **(2016)** 2776-2783 **(*SCI,Imp. Factor 1.676)***

87. Cr^{3+}-Doped $Yb_3Ga_5O_{12}$ Nanophosphor: Synthesis, Optical, EPR, Studies
Vijay Singh, G. Sivaramaiah, J.L. Rao, N. Singh, M.S. Pathak, H.D. Jirimali, **Pramod K. Singh**, Anoop K. Srivastava, S.J. Dhoble, And M. Mohapatra
Journal of Electronic Materials 45 **(2016)** 4076-4082 **(*SCI,Imp. Factor 1.676)***

(Year 2015)

88. A comprehensive study of chalcogenide Quantum Dot Sensitized Solar Cells with a new solar cell exceeding 1V output
Renewable and Sustainable Energy Reviews 52 **(2015)**1083-1092***(SCI,Imp. Factor 9.184)***
Karan Surana, R. M. Mehra, B. Bhattacharya, A. P. Reddy, Hee-Woo Rhee, **Pramod K. Singh**

89. Dye-sensitized solar cell comprising polyethyl methacrylate doped with ammonium iodide solid polymer electrolyte
Vivek Kr Singh, B.Bhattacharya, S. Shukla and **Pramod K. Singh**

Applied Physics: A 118 **(2015)** 877-883 **(*SCI, Imp. Factor 1.784*)**

90. Synthesis of Graphene Oxide Coated Nafion Membrane for Actuator Application
Karan Surana, **Pramod K. Singh**, B. Bhattacharya, C. S. Verma and R. M. Mehra
Ceramics International 41 **(2015)** 5093-5099 (***SCI, Imp Factor 3.450)***

91. New PVP doped NH_4I solid polymer electrolyte for dye sensitized solar cell
Vivek K Singh, B.Bhattacharya, S. Shukla, **Pramod K. Singh**
Materiali in Tehnologije 49 (**2015**) 123-127 **(*SCI, Impact Factor 0.714*)**

92. Band Gap Tailoring of Ni Doped Ternary Semiconductors for Photovoltaic Applications
Mitali Sahu, **Pramod K Singh,** S. P. Pandey, B. Bhattacharya
Macromolecular Symposia 347**(2015)** 68-74

93. Nanoporous TiO_2 and ZnO Photoelectrodes: A Comparative Photovoltaic Performance Study
Nitin A. Jadhav, S. K. Tomar, **Pramod K Singh**, B. Bhattacharya
International Journal of Electroactive Materials 3 (**2015**) 1-5

94.Luminescence and EPR studies of ultraviolet light emitting $La_2Zr_2O_7$:Gd^{3+} phosphor powder
V. Singh, G. Sivaramaiah,J. L. Rao, R. Senthil Kumaran, **Pramod K Singh,** T. S. Kim and L. K. Kim
J Mater Sci: Mater Electron 26 **(2015)** 5195-5201 **(*SCI, Imp. Factor 2.993*)**

95.Solid Gellan gum Carbohydrate Polymer Electrolyte for Energy Application
Rahul Singh, B. Bhattacharya, Hee Woo Rhee, **Pramod K Singh**
Int. J. Hydrogen Energy, 26 **(2015)** 5195-5201 **(*SCI, Imp. Factor 4.084*)**

96.New ultraviolet B emission from gadolinium activated $BaZrO_3$ phosphor - An electron paramagnetic resonance and optical study
V. Singh, G. Sivaramaiah,J. L. Rao, R. Senthil Kumaran, **Pramod K Singh,** T. S. Kim
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<u>Year 2014</u>

97. Effect of variation of average pore size and specific surface area of ZnO Electrode (WE) on Efficiency of Dye sensitized Solar Cells
N. A. Jadhav, **Pramod K. Singh,** Hee Woo Rhee, and B.Bhattacharya
Nanoscale Research Letters, 9 **(2014)**575-583. ***(SCI, Impact Factor 3.44)***

98. Effect of Structure Texture and Morphology Modulation on Efficiency of Dye sensitized Solar Cells
N. A. Jadhav, **Pramod K. Singh,** Hee Woo Rhee, S. P. Pandey and B.Bhattacharya
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Roja Singh, S. K. Tomar, P. Shukla, S.P. Pandey and B.Bhattacharya, **Pramod K Singh**
Nanosci. Nanotechnol. Lett. 6 (**2014**) 31-36 **(*SCI, Impact Factor* 2.917)**

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101. Multiwall Carbon Nanotube Doped Ion Conducting Polymer Electrolyte for Electrochemical Application
Hima Saxena, B. Bhattacharya, N A. Jadhav, S. Shukla, M. Dubey, Vivek Kr. Singh, **Pramod K. Singh**
J. of Exp. Nanoscience, 9 **(2014)** 444-451. **(*SCI, Imp. Fac.2.482*)**

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Journal of Renewable & Sustainable Energy Review, 6 **(2014)**013125-013133 **(*SCI, Imp Factor 10.55*)**
Hee Woo Rhee, B. Bhattacharya, **Pramod K Singh** and Upasana Singh

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Karan Surana, **Pramod K Singh**, Hee Woo Rhee, B. Bhattacharya
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Shahana Majumder, B. Bhattacharya, **Pramod K Singh,** S. Johari
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Rahul Singh, N.A. Jadhav, S.Majmuder, B.Bhattacharya and **Pramod K. Singh**
Carbohydrate Polymers 91(**2013**) 682-685**(*SCI, Impact Factor 6.044*)**

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Manjeet Singh,Vivek Kr. Singh, Karan Surana, B. Bhattacharya, **Pramod K. Singh** and Hee Woo Rhee
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Amit Sachdeva, Roja Singh, **Pramod K. Singh,** B. Bhattacharya
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Amit Saxena, **Pramod K. Singh,** B. Bhattacharya
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Vivek K. Singh, A. Annu , Upasana Singh, Prabhakar Singh, Bhaskar Bhattacharya, **Pramod K. Singh**
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Divya Singh, Nitin A. Jadhav and **Pramod K. Singh** and Bhaskar Bhattacharya
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Journal of Physics and Chemistry of Solids 73 (**2012**) 1159–1163 **(*SCI, Imp. Factor 2.752*)**

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Pramod K. Singh, S. K. Tomar and Bhaskar Bhattacharya

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Pawan Kumar, **Pramod K. Singh** and Bhaskar Bhattacharya
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R. K. Nagarale, Bhaskar Bhattacharya, Nitin A. Jadhav and **Pramod K. Singh**
Macromol. Chem.Phys 212 (**2011**) 1751-1757 (***SCI, Impact Factor* 2.622)**

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Pramod K. Singh, R. K. Nagarale, S. P. Pandey, H W Rhee and B. Bhattacharya
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122. Synthesis, characterization and application of biopolymer-ionic liquid composite material
Pramod K. Singh, B. Bhattacharya, R. K. Nagarale, K.-W. Kim and H.-W Rhee
Synthetic Metals 160 **(2010)** 139-142. **(*SCI, Impact Factor* 2.870)**

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127.Effect of nano TiO_2 dispersion on PEO polymer electrolyte property
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Journal of Applied Polymer Science 118 **(2010)** 2976-2980. **(*SCI, Impact Factor* 2.188)**

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Pramod K. Singh
International Journal of Sustainable Energy 30 (**2010**) 270

129. Progress in Ionic Organic-Inorganic Composite Membranes For Fuel Cell Applications (**Review Article**)
R. K. Nagarale, Woon-Sup Shin, **Pramod K. Singh**
Polym. Chem., 1 **(2010)** 388-408. **(*SCI, Impact Factor* 4.760)**

Year 2009

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Pramod K. Singh, K.W. Kim and H.-W. Rhee
Polym. Eng. Sci. 49 (**2009**) 862-865 **(*SCI, Impact Factor* 1.920)**

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Pramod K. Singh, Kang-Wook Kim, R. K. Nagarale and Hee-Woo Rhee
J.Phys. D:Appl. Phys. 42 (**2009**) 125101-125104 **(*SCI, Impact Factor* 2.829)**

132. Quantum dot doped solid polymer electrolyte for device application.
Pramod K. Singh, Kang-Wook Kim and Hee-Woo Rhee
Electrochemistry Communications 11 (**2009**) 1247-1250 **(*SCI, Impact Factor* 4.197)**

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Pramod K. Singh, K.W. Kim and H.-W. Rhee
Synthetic Metals 159 (**2009)** 1538-1541 **(*SCI, Impact Factor* 2.870)**

Year 2008

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Pramod K. Singh, K.W. Kim, K.I. Kim, N.G. Park and H.-W. Rhee
J Nanosci Nanotechnol. 8 (2008) 5271-4. **(*SCI,* Impact Factor 1.093)**

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Pramod K. Singh, K.W. Kim and H.-W. Rhee
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Year 2007

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Pramod K. Singh, K.I. Kim, N.G. Park and H.-W. Rhee
Macromolecular Symposia, 249-250 **(2007)** 162-166.

Year 2006

138.Thermal and Electrical Transport in ionic conductors : A correlation
S.Chandra, S.B.Rai, **Pramod K. Singh** , K.Kumar, A.Chandra
Solid State Ionics 177 **(2006)** 1613-1617**. (*SCI, Impact Factor* 2.886)**

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S.Chandra, S. B. Rai, **Pramod K. Singh,** Kaushal Kumar and A. Chandra
J. Phys.D:Appl. Phys. 39 **(2006)** 3680-3683. **(*SCI, Impact Factor* 2.829)**

140. Ionic noise measurement in polymer electrolytes.
A. Chandra, D.P. Singh, **P.K. Singh**, N. Khare and S.Chandra
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Pramod K. Singh, K.I. Kim, J.W. Lee and H.-W. Rhee
Phys. Stat. Sol.A, 203 **(2006)** R88-R90. **(*SCI, Impact* Factor*1.77*)**

Year 2003

142. Role of the dielectric constant of ferroelectric ceramic in enhancing the ionic conductivity of polymer electrolyte composite.
Pramod Kumar Singh and A. Chandra
J. Phys. D: Appl. Phys. 36 **(2003)** L93-L96. **(*SCI, Impact Factor* 2.829)**

Year 2002

143.Nanocrystalline ZnS dispersed in polymer electrolyte ($PEO:NH_4I$): Preparation and Electrical Conductivity Measurements.
P. K. Singh, Rana Pratap and Amreesh Chandra
Prog. Crystal Growth & Charact. of Mat. *44* **(2002)** 175-182. **(*SCI, Impact Factor 3.147*)**

144. Polymer Electrolyte Composites with dispersed Semiconductors.
P. K. Singh, S. Chandra and A. Chandra
J. Mat. Sci. Letters 21 **(2002)** 1393-1395. **(*SCI, Impact Factor* 2.993)** On 2004 -1- 1 this journal was merged into Journal of Materials Science

145. Semiconductor-dispersed polymer electrolyte composites.
A. Chandra, **P. K. Singh** and S. Chandra
Solid State Ionics 154-155 **(2002)** 15-20. **(*SCI, Impact Factor* 2.886)**

146. Ion conducting polymer electrolyte composites dispersed with ferroelectric $Ba_{0.70}Sr_{0.30}TiO_3$ ceramic powder.
P. K. Singh, and A. Chandra
Natl Acad Sci Lett 25 **(2002)** 286-293**. (*SCI, Imp.. Factor* 0.331)**

In International Conference Proceedings (3)

1. New interfacial phase formation in $NiCl_2.6H_2O:Al_2O_3$ composite and ion transport properties.
Lakshmi N., Kamlesh Pandey**, P. K. Singh** and S. Chandra in "***Solid State Ionics: Science & technology***", (eds) B.V.R. Chowdari et al, World Scientific Pub. Co. (**Singapore**), **1998**, 65-70.

2. Dependence of conductivity enhancement on the dielectric constant of the dispersoidin polymer-ferroelectric composite electrolytes
Amreesh Chandra, Pramod Kumar Singh, Suresh chandra in "***Solid State Ionics: Advanced Materials for Emerging Technologies***", (eds) B.V.R. Chowdari et al, World Scientific Pub. Co. (**Singapore**), 2006, 444-448.

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3. Property Enhancement of Dye Sensitized Solar Cell using ionic liquid doped solid polymer electrolyte.
P. K. Singh, B. Bhattacharya and S. K. Mishra in "*Advances in nanotechnology and Cryogenics*", (eds) S. Prasad, B. Sahay, A. K. Pandey and S. K. Mishra, World Education, New Delhi (**India**) 2010, 1-5.

Book/Chapter (5): Published:3; Under Publication:2

Published (3)

1. Chapter topic "Present scenario of solid state photoelectrochemical solar cell and dye sensitized solar cell using PEO-based polymer electrolytes" Nova Science Publishers, Inc., USA (**2011**)
https://www.novapublishers.com/catalog/product_info.php?products_id=17538

2.Nanotechnology and Nanomaterials » "Recent Applications in Sol-Gel Synthesis", book edited by Usha Chandra, ISBN 978-953-51-3246-2, Print ISBN 978-953-51-3245-5, Published: July 5, **2017** under CC BY 3.0 license. © The Author(s).

Chapter 6
Recent Characterisation of Sol-Gel Synthesised TiO_2 Nanoparticle
By Muhamad Zamri Yahaya, Mohd Asyadi Azam, Mohd Asri Mat Teridi, **Pramod Kumar Singh** and Ahmad Azmin Mohamad

3. Recent Scenrio of Solid Biopolymer Electrolytes Based Dye sensitized solar cells
(November 28, 2017) CRC Press (Taylor & Francis Group, USA)
Rahul Singh, **Pramod K.Singh**, B. Bhattacharya
https://www.crcpress.com/Nanomaterials-in-Energy-Devices/Kiat/p/book/9781498763516

4. Polymer Electrolytes: Applications and Challenges (Volume 2)
Pramod K.Singh, Rahul Singh, Rahul Johari, B. Bhattacharya
(2017) To be Published by Willey

Chapter 11
Polymer Electrolytes for Perovskite Solar Cell and Challenges

Rahul Singh ,Hee-Woo Rhee,Bhaskar Bhattacharya,Pramod K. Singh
Book Editor(s):Tan Winie Abdul K. Arof,Sabu Thomas
First published: 08 November 2019
https://doi.org/10.1002/9783527805457.ch11

Under Publication (1)

1. Present Scenrio of Solid Biopolymer Electrolytes Based Battery and Dye sensitized solar cells
(2017) Published by Springer
Pramod K.Singh, Rahul Singh, Rahul Johari, B. Bhattacharya

2. **Composite Materials: Properties, Characterisation and Applications**
(2020) Published by CRC Press
Amit Sachdeva, Pramod K Singh

(Communicated: Total 6)

1. Stable, highly efficient Supercapacitor based on porous carbon electrodes and ionic liquid electrolyte
Pramod K Singh
Communicated in **International J Hydrogen Energy**

5. Synthesis and Characterization of Carbon/Potash Alum Solid State Composite Electrolyte
Pratap Singh, **Pramod K. Singh**

2. Stable Room Ambient, Highly Efficient Perovskite Solar Cell using PEDOT: PSS
Monika Srivastava, **Pramod K Singh**, Karan Surana, Ram Chandra Singh

Miscellaneous Training / Awards etc.

Best Poster awards:

1. Sixth Asian Conference on Solid State Ionics held at Surajkund, India in Dec. 1998.
2. Ist International Conference on Electroactive Polymer held at Dalhousie, India, Nov.1-5, 2004
3. HOMRC workshop, Muju, S. Korea, June 14-16, 2006

Research Work Done during Ph.D: (Total 8 Years; from 1995-2003)

The main area of my research is "Ion conducting polymers, Solid composites." I developed some mixed (ion+electron) conducting **polymeric films** by " in situ" dispersing nano size semiconductors PbS, CdS, ZnS etc. during the period of my Ph.D. thesis work. Interesting results on structural and electrical properties of PEO -films were obtained when **nano - size semiconductors** were dispersed. Apart from enhancement in ionic conductivity at some optimum composition, films were found to have different absorption spectra as a result of quantum-size effect.

Research Work Done during Post Doc: (~ 6 Years)

(a) In India (Banaras Hindu University; from 2003-2005, as SRF/Research Associate)

As a part of my postdoctoral work in India, the following studies have been carried out:-

(i) To improve electrical/ mechanical properties of polymer electrolyte films, I have dispersed ferroelectric ceramic powders having high dielectric constant.

(ii) Thermal diffusivity of polymer composites having different electrical conductivity has been measured by Photoacoustic Technique. A correlation has been established.

(b) In S. Korea (Sogang University; from 1-7-2005 ~ 30-7-2009 as Post-Doc/Research Professor)

As a part of my postdoctoral work in S. Korea, I have concentrated on fabrication and characterization of mesoporous TiO_2 electrode and PEO/ Ionic liquids as electrolyte for Dye sensitized solar cell (DSSC) application. Since I have basic knowledge of polymer electrolyte during my Ph.D., I have successfully fabricated mesoporous TiO_2 electrode (pore diameter ~13 nm) having thickness ~10 μm and TiO_2 interchannel particles (particle size ~20-25 nm). In electrolyte it has been found that the doping of Ionic liquid enhances ionic conductivity by reducing crystallinity. DSSC without ionic liquid showed 1.04 % efficiency while doping of ionic liquid enhances efficiency (1.23 %) at 1 sun light intensity (100 mW/cm^2). Further the optimization of solar cell efficiency by modifying the TiO_2 electrode and new solid polymer/IL electrolytes (Chitosan, Biopolymer) showed that efficiency could reach ~2-3 % at 1 sun condition.

(c) In Sharda University, Greater Noida, India (from 1-8-2009 ~ 10-5-2014) as Teacher/Researcher)

After return back from South Korea I have joined Sharda University, India as a Assistant Professor in 2009. I have taught many courses in UG and PG level (mentioned above). During above said period apart from teaching I have well established a well equipped lab. known as Material Research Lab. In Sharda University and actively carried our research activity in an International status. More details can be find as www.materialsresearchlab.net

Soon I have well equipped lab with researchers I have move forward in Polymer electrolyte area, Nanomaterials, Dye sensitized solar cell and published ~32 International Publication. With this achievement I have promoted as Associate Professor in year 2012 and continue my service till. 10-5-2014.

(d)In Norway (Vestfold University College, Norway from 25-5-2014 to 30-7-2015 as Post-Doc)
During post doc journey in Norway, with my earlier experience in Dye sensitized solar cell I had worked on "EDLC and ESC Supercapacitor's on Si-chip".

(e)In Turkey (Solar Energy Institute, Ege University, Turkey from 30-9-2015 ~30-7-2016 as TUBITAK fellow)
In 2015, I got selected in TUBITAK fellow with Prof. Canan Verlikli, Ege University, Turkey and join here on 30th Sept. 2015. Within my earlier experience in Dye sensitized solar cell and Supercapacitor I have attempted and establish some novel work on "EDLC Supercapacitor's using solid polymer electrolyte".

Paper presented in Seminar/Conferences/Symposia: (Total 36)

National (in India): Total 12

(1) Presented a paper entitled "**Studies on a proton conducting composite**" in the Second National Conference on SSI held at IIT, Madras, Feb. 1996.

(2) Presented a paper entitled "**Fast proton transport in $N_2H_6SO_4$:ZrO_2 composite and ion transport properties**" in the 3rd National Conference on SSI, at NERIST, Itanagar, 1998.

(3) Presented a paper entitled "**Conductivity of Polymer composites with high dielectric constant ferroelectric ceramics and high band gap semiconductors as dispersoids**" in the Fifth National Conference on SSI held at Nagpur, 2002.

(4) Presented a paper entitled "**Ionic Conductivity Enhancement in Dispersed Phase Composites: Evidence of Two Percolation Threshold**" in the National Seminar on Advanced Materials held at DDU Gorakhpur University, Gorakhpur **22-24th March, 2002**.

(5) Presented a poster entitled "**Electroactive polymer composites for solid state ionic device applications**" in the 15th AGM of Materials Research Society held at Banaras Hindu University, Varanasi**, 9-11Feb.,2004.**

(6) Participated in the Conference on Disorder,Complexity and Biology (DISCOMB04) held at Banaras Hindu University, Varanasi**, 12-15th July**,**2004**.

(7) Presented a paper entitled "**Ionic Conductivity Enhancement in Polymer Electrolyte: Role of Dielectric constant**" in the 6th National Conference on SSI held at Jadavpur University, Kolkata, India**, Oct. 5-7,2004**.

(8) Presented a paper entitled "**Application of Ionic Liquid Doped Solid Polymer Electrolyte in Dye Sensitized Solar Cell area"** in the Two Days National Conference on Emerging Technologies:Nanotechnology & Cryogenics held at G. L. Bajaj Institute of Technology & Management, Greater Noida, India, **Oct. 30-31, 2009**.

(9) Presented a paper entitled "**Application of Solid Polymer Electrolyte in DSSC"** in National Conference on recent trends in materials and devices held at Amity Institute of Applied Sciences, Amity University, G. Noida, U.P., India, **May 20-22, 2010**.

(10) Present a paper entitled "**PEO-based Polymer Electrolyte: A novel material for DSSC application"** in National Conference on Solar Cell held at ITS Engee. College, G. Noida, U.P., India, **March 23-24, 2011**.

(11)Presented a paper entitled "**Ionic Liquid-Solid Polymer Electrolyte for Electrochemical Devices"** in the Three Days National Conference on Synthesis, Characterization & Application of Advanced Nanomaterials in HCST, Mathura, India, **January 17-19, 2014**.

(12) Presented a paper entitled "**Synthesis and characterization of $CH_3CH_2NH_3PbI_3$ perovskite & its photovoltaic performance"** in the Two Days National Conference on Nano Devices held in HCST, Mathura, India, **April 18-19, 2015**.

International: Total 25

(1) Presented a paper entitled "**Semiconductor Dispersed Polymer Electrolyte Composites**" in the International Conference on SSI held at Cairns, Australia, July 8-13, 2001.

(2) Presented a paper entitled "**Dependence of Ionic Conductivity and Thermal Diffusivity on the concentration of dispersed insulating fillers in Polymer Electrolytes**" in the International Conference on Electroactive Polymers: Materials and Devices held at Dalhousie, India, Nov. 1-5, 2004.

(3) Presented a paper entitled "**PEO - based Polymer electrolyte for DSSC application**" in the Polymer Society of Korea Conference held at Ilson, S. Korea, April 6-7, 2006

(4) Presented a poster entitled "**PEO- Polymer electrolytes incorporated with Ionic Liquid for Dye sensitized Solar cell**" in the 17th Symposium on Molecular Electronics and Devices "ME & D" held at Hanyang University, Seoul, S. Korea, June 22-23, 2006

(5) Presented a paper entitled **"Dye Sensitized Solar Cell using Polymer Electrolytes based on Poly(ethylene oxide) with an ionic liquid"** in the IUPAC International Conference (PSK 30) held at Busan, S. Korea, Oct. 10-13, 2006.

(6) Attended a Symposium entitled **"Recent Progress in Solar Cells"** held at Chonbuk National University, Junjoo, S. Korea, Feb. 2, 2007.

(7) Attended the 2nd K-J Symposium and presented a poster entitled **"Dye Sensitized Solar Cells using Thick mesoporous TiO_2 electrode and polymer/ionic liquid as electrolyte" (P 20)** held at KIST, Seoul, S. Korea, Aug. 30-31, 2007.

(8) Attended the 3rd East Asia Symposium on Functional Dyes & Advanced Materials and presented a poster entitled **"Thick mesoporous TiO_2 electrode and ionic liquid incorporated polymer electrolyte for DSSC application"** held at Ulson, S. Korea, October 10-12, 2007.

(9) Attended the International Conf. on Nano Science and Nano Technology (**GJ-NST 2007**) and presented a paper entitled **"Nanocrystalline porous TiO_2 electrode with ionic liquid impregnated solid polymer electrolyte for DSSC"** held at Gwangju, Korea, Nov. 8-9, 2007.

(10) Attend the World Forum on Advanced Materials (**POLYCHAR 16**) and presented a paper entitled **"Ionic liquid (1 propyl 3 methyl imidazolium iodide) with polymer electrolyte for DSSC application"** held at Lucknow, India, Feb. 17-21, 2008.

(11) Presented an ORAL Talk in **19th IC ME & D** on topic **"Development and characterization of ionic liquid doped solid polymer electrolyte membranes for better efficiency"** held at Ajou Univ., Suwon, S. Korea, May 29-30, 2008.

(12) Presented a Poster entitled **"Ionic liquid incorporated polymer electrolytes for DSSC"** in **RENEWABLE ENERGY 2008** held at BEXCO, Busan, S. Korea, Oct. 13-14, 2008.

(13) Presented an ORAL Talk in **Korean Polymer Society Spring Conference** on topic **"Biopolymer-ionic composite membranes for dye sensitized solar cell"** held at Daejon, S. Korea, April 9-10, 2009.

(14) ORAL TALK on topic "**Porous nanocrystalline TiO_2 electrode and poly (N-methyl 4-vinylpyridine iodide) – ionic liquid solid polymer electrolyte for device application"** in the International Conference cum Workshop on Nanoscience & Nanotechnology to be held at Ansal Institute of Technology, Gurgaon, India, October 12-16, 2009.

(15) Present a paper entitled **"Ionic liquid doped solid polymer electrolyte:A novel material for DSSC Application**" in the International Conference on Electroactive Polymers: Materials and Devices held at Dalhousie, India, Nov. 1-5, 2010.

Year 2012-13

(16) Presented a paper entitled **"Biopolymer gel electrolytes for electrochemical Application**" in the 5TH International Conference on Electroactive Polymers: Materials and Devices held at Banaras Hindu University, Varanasi, India, Nov. 4-9, 2012.

(17) Attended the World Forum on Advanced Materials (**POLYCHAR 21**) and presented a paper entitled **"New Polymer electrolyte for Electrochemical Application"** to be held at Gwangju, S. Korea, March 11-15, 2013.

Year 2014-15

(18) Presented an invited paper entitled **"Microsupercapacitors based on doped Si-grass electrode and solid gel electrolyte** in the 5TH International Conference on Functional Materials and Devices (ICFMD 2015) held at University of Malaya, Malaysia, August 4-6, 2015

Year 2015-16

(19)Presented a poster entitled **"1- Propyl -3- methyl imidazolium bis(trifluoromethyl sulfonyl)imide blended gel polymer electrolyte for supercapacitor application** in the International Symposium for the 80th Birthday of Prof. Alan J. Heeger (Nobel prize 2000) held at Johannes Kepler University of Linz, Austria, **March 21, 2016**.

(20) Presented an Invited Talk on **"Solid ionic liquid - polymer electrolyte for dual energy application"** in the **International Conference on Functional Materials-2016** held at PSN College of Engineering and Technology, Tirunelveli - 627152, Tamilnadu, India**, 7-10 September 2016**

Year 2016-17

(21)Present an invited talk entitled **"Ionic Liquid - polymer electrolyte for Dual Energy Devices** in the 6th International Conference on Functional Materials & Devices 2017 (ICFMD - 2017) held at MELAKA, MALAYSI A from August 15 to 18, 2017.

Year 2017-18

(22) Attended the Internationa Symposium on Computational Science and its Applications held at Sharda University, India, February 5-6, 2018.

Year 2018-19

(23) Presented an invited Talk entitled **"Ionic liquid doped solid polymer electrolyte for energy devices** in the 15TH International Conference on Frontiers of Polymers and Advanced Materials (ICFPAM 2019) held at Penang, **Malaysia**, June 17-21, 2019 and chaired a Session.

(24) Presented an invited Talk entitled **"Low viscosity Ionic liquid doped solid polymer electrolyte for energy applications"** in the Energy, Functional Materials and Nanotechnology (ICEFN-2019, **24-26th May 2019**)) held at Kumaun University, Nanital, **India**

(25) Presented an invited Talk entitled **"Ionic liquid doped solid polymer electrolyte for energy devices** in the International Conference on "Recent Trends in Materials and Devices"-ICRTMD-2019, **during 18-19th December, 2019** at Amity University Uttar Pradesh, Noida, India and Jury Member for Poster Session.

References:

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