

**Proforma for information to be provided by the Teaching/ Academic/ Research Staff**



1. **Name :** Jay (middle name) (surname): Singh
2. **Designation:** Assistant Professor (Organic Chemistry)
3. **Academic Qualifications:**

Sr.	Degree	Institution	Year
1.	Ph.D.	MNNIT Allahabad	2010
2.	M.Sc	Allahabad University	2005
3.	B.Sc	Ewing Christian College, University of Allahabad	2003
4.	SSC, 12 <sup>th</sup>	U P Board Allahabad, M.B. Inter college Haldwani	2000
5.	HSC 10 <sup>th</sup>	U P Board Allahabad, M.B. Inter college Haldwani	1998

4. **Area of Specialization:** (brief write up, 200 words)

Design, fabrication, and characterization of Nanomaterials, Polymer Nanocomposites Conducting Polymers, and their application for Electrochemical/Piezoelectric/Optical Sensor and Biosensors, Food packaging materials, Drug delivery, Photocatalytic and energy storage.

5. **Contact Information:** Tel. +91-9871766453 (M), Fax:+91-542-2368127  
Email Id:jaysingh.chem@gmail.com; jaimnnit@gmail.com

6. **Projects Undertaken as PI/ Co PI:**

Title of Project	Sanctioning Agency/Duration/Amount	Status and award no	Role
<b>Title:</b> Development of highly efficient electrochemical biosensor based on graphene/metaloxide nanocomposite for clinical diagnostic applications	Department of Science of Technology (DST), Government of India under DST Fast Track Scheme (2013-2016) <b>Rs.23 Lack</b>	<b>Awarded (CS-393/2012)</b> in 2013	<b>PI</b>
<b>Title:</b> Nanostructured Metal Oxides Based Biosensors for Clinical Diagnostics Application	Department of Science of Technology (DST), Government of India under INSPIRE Faculty Scheme (2013-2018) <b>Rs.35 Lack</b>	<b>Ongoing Oct 2013 to continue..... IFA13-CH-105</b>	<b>PI</b>

7. Awards/ Recognitions if any:

- ❖ Award of **DST INSPIRE Faculty Fellow** (IFA-13 CH-105) under AORC scheme 2013.
- ❖ Award of **DST Young Scientist**, India, under SERB scheme (**CS-393/2012**) in 2013
- ❖ **II<sup>nd</sup> in Merit in M.Sc. Chemistry** (2005), Allahabad University, India
- ❖ **Outstanding Presentation** Award on WCU workshop from BIN Fusion Technology, Chonbuk National University South Korea on dated 17-18 may 2012.
- ❖ **Post Doctoral Fellowship** for Chonbuk National University Jeonju, Jeonbuk, under the Word Class University (WCU) program, South Korea since 23<sup>rd</sup> march 2012 to 31<sup>st</sup> July 2013.
- ❖ Award of **CSIR (RA) Research Associateship Fellowship** from (NPL) since 1<sup>st</sup> April 2010 to March 2012.
- ❖ **CSIR (extended SRF/RA)** project fellowship from Sep 2009 to March 2010
- ❖ MNNIT Allahabad institute fellowship (SRF) provided by MHRD from 1<sup>st</sup> April 2008 to Sep 2009
- ❖ UGC major research fellowship (JRF) from July 2006 to 31<sup>st</sup> March 2008

8. List of 10 major Publications: (in order of importance)

1. A dual enzyme functionalized nanostructured thulium oxide based interface for biomedical application **Jay Singh**, Appan Roychoudhury, Manish Srivastava, Pratima R. Sholanki, Dong Won Lee, and Seung Hee Lee B. D. Malhotra. *Nanoscale*, ISSN 2040-3364, (2014) 6, 1195-1208. [DOI: 10.1039/c3nr05043b](https://doi.org/10.1039/c3nr05043b) (Impact factor 7.2)
2. Highly efficient rare earth metal oxide nanorods based platform for aflatoxin detection. **Jay Singh**, Appan Roychoudhury, Manish Srivastava, Dong Won Lee, Seung Hee Lee and B. D. Malhotra. *Journal of Material Chemistry B*, ISSN: 2050-750X, (2013), 1, 4493-4503. [DOI: 10.1039/c3tb20690d](https://doi.org/10.1039/c3tb20690d) (Impact factor 4.7)
3. Highly Efficient Bionzyme Functionalized Biocompatible Nanostructured Nickel Ferrite–Chitosan Nanocomposite Platform for Biomedical Application **Jay Singh**, Appan Roychoudhury, Manish Srivastava, Vidhi Chaudhary, Radha Prasanna, Dong Won Lee, Seung Hee Lee and B. D. Malhotra. *Journal of Physical Chemistry C*, ISSN: 1932-7447, (2013), 117 (16), 8491–8502. [dx.doi.org/10.1021/jp312698g](https://doi.org/10.1021/jp312698g) (Impact factor 4.55)
4. Bionzyme Functionalized Mono-dispersed Biocompatible Cuprous Oxide/Chitosan Nanocomposite Platform for Biomedical Application **Jay Singh**, Manish Srivastava, Appan Roychoudhury, Dong Won Lee, Seung Hee Lee and B. D. Malhotra.. *Journal of Physical Chemistry B* ISSN: 1520-6106, (2013), 117,141-152. [dx.doi.org/10.1021/jp309639w](https://doi.org/10.1021/jp309639w) (Impact factor 3.12)
5. Nanostructured nickel oxide film for application to fish freshness biosensor Surendra K. Yadav, **Jay Singh**, Ved V. Agrawal, and B. D. Malhotra, *Applied Physics Letters*, ISSN: 0003-6951, (2012) 101, 023703 [doi.org/10.1063/1.4736578](https://doi.org/10.1063/1.4736578) (Impact factor 3.4)
6. Preparation and properties of highly soluble chitosan-L-glutamic acid aerogel derivative **Jay Singh**, PK Dutta, J Dutta, AJ Hunt, DJ Macquarrie & JH Clark. *Carbohydrate Polymers*, ISSN: 0144-8617, (2009), 76, 188-195. [doi:10.1016/j.carbpol.2008.10.011](https://doi.org/10.1016/j.carbpol.2008.10.011) (Impact factor 5.1)
7. Nanostructured SnO<sub>2</sub> encapsulated guar-gum hybrid nanocomposites for electro catalytic determination of hydrazine Priya Malik, Manish Srivastava, Ranjana Verma, Manish Kumar, D. Kumar **Jay Singh\***, *Material Science and Engineering C*, ISSN: 09284931, (2016), 58, 432–441. [doi.org/10.1016/j.msec.2015.08.035](https://doi.org/10.1016/j.msec.2015.08.035) (Impact Factor: 5.0)
8. The implications of recent advances in carboxymethyl chitosan based targeted drug delivery and tissue engineering applications. Laxmi Upadhyaya, **Jay Singh\***, Vishnu Agarwal and Ravi Prakash Tewari. *Journal of Controlled Release*, ISSN: 0168-3659 (2014), 186,54–87. [doi.org/10.1016/j.jconrel.2014.04.043](https://doi.org/10.1016/j.jconrel.2014.04.043) (Impact factor: 7.8)

9. Biomedical Application of Carboxymethyl Chitosan. Laxmi Upadhyaya, **Jay Singh\***, Vishnu Agarwal and Ravi Prakash Tewari. *Carbohydrate Polymers*, ISSN: 0144-8617 (2013), 91, 452–466 [doi.org/10.1016/j.carbpol.2012.07.076](https://doi.org/10.1016/j.carbpol.2012.07.076) (Impact factor 5.1)
10. Recent Advances in mycotoxin detection. Ruchika Chauhan, **Jay Singh**, T Basu, Richard BD Malhotra, *Biosensor Bioelectronics*, ISSN: 0956-5663 (2016), 81, 532–545 [doi.org/10.1016/j.bios.2016.03.004](https://doi.org/10.1016/j.bios.2016.03.004) (Impact Factor: 8.1)

## 9. Additional Information/ Achievements:

### 1. Past Employment Details:

**Oct 2013 to 30<sup>th</sup> Sep 2017** - Working as the (DST INSPIRE Faculty) along with research work in the Department of Applied Chemistry and Polymer Technology, Delhi Technological University, Delhi.

**March 2012 to July 2013- Post Doctorate Fellow** at Information Display Laboratory, Department of BIN Fusion Technology and Department of Polymer Nano-Science and Engineering Chonbuk National University Jeonju, Jeonbuk, South Korea,

**March 2010- March 2012- Research Associate (CSIR)** at National Physical Laboratory New Delhi, India. During this time I was working on metal oxide based electrochemical biosensor for enzyme and antibody based biosensor

**2. Potential Reviewer:** ACS Applied Material and Interface, Journal of Physical Chemistry C, New Journal of Chemistry, RSC Advance, Nature Publishing Scientific Report , Journal of Material Chemistry B, Journal of Alloy and Compound, Carbohydrate Polymer, Journal of Nanoscience and Nanotechnology, Journal of Nanopharmaceutics and Drug Delivery, International Journal of Biological Macromolecules, Fibers and Polymer, Applied Polymer Sciences, Journal of Nanotechnology, Applied Surface Science, Process Biochemistry, Journal of Biomaterials Science: Polymer Edition, Materials Science in Semiconductor Processing, Materials Sciences and Applications, Biopolymer.

### 3. Member of editorial board:

- Journal of Cancer Research and Molecular Medicine
- International Journal of Nanomaterials and Nanostructures—
- International Journal of Applied Nanotechnology
- Aperiito Journal of Biotechnology and Biomaterials: Recent Trends (Aperiito online publishing)
- Peertechz Journal of Biological Research and Development" (Peertechz Journal)
- Mathews Journal of Pharmaceutical Science (Mathews Open access Journal)
- Mathews Journal of Nutrition and Dietetics (Mathews Open access Journal)
- Journal of Molecular and Applied Bioanalysis (Clyto Access)

## 10. Full List of Publications:

**Total Citation = 1468**

**h- index =23**

**Average IF: 3.45**

### International Journal

1. Recent advances in carbon based nanosystems for cancer theranostics, S. Augustine, **Jay Singh**, M. Srivastava, M. Sharma, A. Das, B. D. Malhotra, *Biomaterial Sciences*, ISBN: 2047-4830, (2017) 5 (5), 901-952. [DOI: 10.1039/c7bm00008a](https://doi.org/10.1039/c7bm00008a) (Impact factor: 4.2)
2. Bismuth oxide nanorods based immunosensor for mycotoxin detection. P.R. Solanki, **Jay Singh**, B. Rupavali, S. Tiwari, B.D. Malhotra. *Materials Science and Engineering: C*, ISSN: 09284931 (2017), 70, 564–571. [doi.org/10.1016/j.msec.2016.09.027](https://doi.org/10.1016/j.msec.2016.09.027) (Impact Factor: 5.0)

3. Recent Advances in mycotoxin detection. Ruchika Chauhan, **Jay Singh**, T Basu, Richard BD Malhotra, *Biosensor Bioelectronics*, ISSN: 0956-5663 (2016), 81, 532–545 [doi.org/10.1016/j.bios.2016.03.004](https://doi.org/10.1016/j.bios.2016.03.004) (Impact Factor: 8.1)
4. Hexagonal Ceria Located at the Interface of Anatase/Rutile TiO<sub>2</sub> Superstructure Optimized for High Activity under Combined UV and Visible-Light Irradiation. Ranjana Verama, S.K. Samdarshi, **Jay Singh**, *Journal of Physical Chemistry C*, ISSN: 1932-7447, (2015), 119 (42), 23899–23909. DOI: [10.1021/acs.jpcc.5b05652](https://doi.org/10.1021/acs.jpcc.5b05652) (Impact Factor: 4.54)
5. Label-Free Piezoelectric Immunosensor Decorated With Gold Nanoparticles: Kinetic Analysis and Biosensing Application. Ruchika Chauhan, **Jay Singh**, Pratima R Solanki, T Basu, Richard O’Kennedy, BD Malhotra, , *Sensors & Actuators: B. Chemical.*, ISSN: 09254005, (2016), 222, 804-814 [doi.org/10.1016/j.snb.2015.08.117](https://doi.org/10.1016/j.snb.2015.08.117) (Impact Factor: 5.6)
6. Nanostructured SnO<sub>2</sub> encapsulated guar-gum hybrid nanocomposites for electro catalytic determination of hydrazine Priya Malik, Manish Srivastava, Ranjana Verma, Manish Kumar, D. Kumar **Jay Singh\***, *Material Science and Engineering C*, ISSN: 09284931, (2016), 58, 432–441. [doi.org/10.1016/j.msec.2015.08.035](https://doi.org/10.1016/j.msec.2015.08.035) (Impact Factor: 5.0)
7. Electrochemical piezoelectric reusable immunosensor for aflatoxin B1 detection, Ruchika Chauhan, **Jay Singh**, Pratima R Solanki, T Basu, Richard O’Kennedy, BD Malhotra, *Biochemical Engineering Journal*, ISSN: 1369-703X, (2015) 103,103-113. [doi.org/10.1016/j.bej.2015.07.002](https://doi.org/10.1016/j.bej.2015.07.002) (Impact Factor: 3.2)
8. SnO<sub>2</sub> quantum dots decorated on RGO: A superior sensitive, selective and reproducible performance for H<sub>2</sub> and LPG sensor R. K. Mishra, S. B. Upadhyay, Ajay Kumar Kushwaha, Tae Hyung Kim, G. Murali, Ranjana Verma, Manish Srivastava, **Jay Singh**, P. P. Sahay and Seung Hee lee. *Nanoscale*, ISSN: 2040-3364 (2015) 7 (28), 11971-11979 DOI: [10.1039/c5nr02837j](https://doi.org/10.1039/c5nr02837j) (Impact Factor: 7.2)
9. Consequence of pH variation on the dielectric properties of Cr-doped lithium ferrite nanoparticles synthesized by the sol–gel method. Manish Srivastava, RK Mishra, **Jay Singh**, Neha Srivastava, Nam Hoon Kim, Joong Hee Lee. *Journal of Alloys and Compounds*, ISSN: 0925-8388, (2015) 64, 171-177. [doi.org/10.1016/j.jallcom.2015.05.017](https://doi.org/10.1016/j.jallcom.2015.05.017) (Impact factor: 3.7)
10. Recent advances in graphene and its metal-oxide hybrid nanostructures for lithium-ion batteries, Manish Srivastava, **Jay Singh**, Tapas Kuila, R.K Layek, N.H Kim, J.H Lee, *Nanoscale*, ISSN: 2040-3364, (2015), 7 (11), 4820-4868 DOI: [10.1039/c4nr07068b](https://doi.org/10.1039/c4nr07068b) (Impact Factor: 7.2)
11. Improved production of reducing sugars from rice straw using crude cellulase activated with Fe<sub>3</sub>O<sub>4</sub>/Alginate nanocomposite, Neha Srivastava, **Jay Singh**, P.W Ramteke, P.K Mishra, Manish Srivastava, *Bioresource Technology*, ISSN: 0960-8524, (2015), 183, 262-266 [doi.org/10.1016/j.biortech.2015.02.059](https://doi.org/10.1016/j.biortech.2015.02.059) (Impact Factor: 5.8)
12. Controlled synthesis and magnetic properties of monodispersed ceria nanoparticles, Sumeet Kumar, Manish Srivastava, **Jay Singh**, Samar Layek, Madhu Yashpal, A Materny, AK Ojha, *AIP Advances*, ISSN: 2158-3226, (2015), 5 (2), 027109 [doi.org/10.1063/1.4908003](https://doi.org/10.1063/1.4908003) (Impact Factor: 1.52)
13. Efficient water soluble nanostructured ZnO grafted O-carboxymethyl chitosan/curcumin-nanocomposite for cancer therapy. Laxmi Upadhyaya, **Jay Singh\***, Vishnu Agarwal, A.C. Pandey, Shiv P. Verma, Parimal Das & R. P. Tewari, , *Process Biochemistry*, ISSN: 1359-5113 (2015), 50 (4), 678-688 [doi.org/10.1016/j.procbio.2014.12.029](https://doi.org/10.1016/j.procbio.2014.12.029) (Impact Factor: 2.60)
14. A novel electrochemical piezoelectric label free immunosensor for aflatoxin B1 detection in groundnut. Ruchika Chauhan, Pratima R Solanki, **Jay Singh**, Irani Mukherjee, T Basu, BD Malhotra, , *Food Control*, ISSN: 0956-7135, (2015), 52,60-70 [doi.org/10.1016/j.foodcont.2014.12.009](https://doi.org/10.1016/j.foodcont.2014.12.009) (Impact Factor: 3.6)



15. In situ grafted nanostructured ZnO/carboxymethyl cellulose nanocomposites for efficient delivery of curcumin to cancer Laxmi Upadhyaya, **Jay Singh\***, Vishnu Agarwal, A.C. Pandey, Shiv P. Verma, Parimal Das & R. P. Tewari,. *Journal of Polymer Research* ISSN: 1022-9760, (2014), 21 (9), 550. DOI [10.1007/s10965-014-0550-0](https://doi.org/10.1007/s10965-014-0550-0) (Impact factor: 1.4)
16. The implications of recent advances in carboxymethyl chitosan based targeted drug delivery and tissue engineering applications. Laxmi Upadhyaya, **Jay Singh\***, Vishnu Agarwal and Ravi Prakash Tewari. *Journal of Controlled Release*, ISSN: 0168-3659 (2014), 186,54–87. [doi.org/10.1016/j.jconrel.2014.04.043](https://doi.org/10.1016/j.jconrel.2014.04.043) (Impact factor: 7.7)
17. Optical properties of carbon nanodots synthesized by laser induced fragmentation of graphite powder suspended in water. Nitin Pandey, Rajneesh K Srivastava, Manish K Singh, **Jay Singh**, *Materials Science in Semiconductor Processing* ISSN: 1369-8001 (2014), 27,150-153 [doi.org/10.1016/j.mssp.2014.06.039](https://doi.org/10.1016/j.mssp.2014.06.039) (Impact factor: 2.55)
18. Effect of nickel-cobaltite nanoparticles on production and thermostability of cellulases from newly isolated thermotolerant *Aspergillus fumigatus* NS (Class: Eurotiomycetes. Neha Srivastava, Rekha Rawat, Reetika Sharma, Harinder Singh Oberoi, Manish Srivastava, **Jay Singh**. *Applied Biochemistry and Biotechnology*, ISSN: 0273-2289, (2014), 174, 1092-1103. DOI [10.1007/s12010-014-0940-0](https://doi.org/10.1007/s12010-014-0940-0) (Impact factor: 1.42)
19. Novel conducting lithium ferrite/chitosan nanocomposite: synthesis, characterization, magnetic and dielectric properties Manish Srivastava, **Jay Singh**, Rajneesh K. Mishra, Manish K. Singh, Animesh K. Ojha, Madhu Yashpal, Srivastava Sudhanshu,. *Current Applied Physics*, ISSN: 1567-1739, (2014), 14, 980-990. [doi.org/10.1016/j.cap.2014.04.013](https://doi.org/10.1016/j.cap.2014.04.013) (Impact factor: 2.0)
20. Influence of crystal size on the electron–phonon coupling in ZnO nanocrystals investigated by Raman spectroscopy, Animesh K. Ojha, Manish Srivastava, Sumeet Kumar, Rasha Hassanein, **Jay Singh**, Manish K. Singh, Arnulf Materny. *Vibrational Spectroscopy*, ISSN: 0924-2031, (2014), 72, 90–96. [doi.org/10.1016/j.vibspec.2014.02.013](https://doi.org/10.1016/j.vibspec.2014.02.013) (Impact factor: 1.34)
21. Preparation and characterization of self-assembled layer by layer NiCo<sub>2</sub>O<sub>4</sub>-reduced graphene oxide nanocomposite with improved electrocatalytic properties Manish Srivastava, Md. Elias Uddin, **Jay Singh**, Nam Hoon Kim, Joong Hee Lee, , *Journal of Alloys and Compounds*, ISSN: 0925-8388, (2014), 590, 266–276. [doi.org/10.1016/j.jallcom.2013.12.111](https://doi.org/10.1016/j.jallcom.2013.12.111) (Impact factor: 3.7)
22. Synthesis, Magnetic and Mössbauer Spectroscopic Studies of Cr Doped Lithium Ferrite Nanoparticles Manish Srivastava, Samar Layek, **Jay Singh**, Ashok Kumar Das, H. C. Verma, Animesh K. Ojha, Nam Hoon Kim, Joong Hee Lee., *Journal of Alloys and Compounds*, ISSN: 0925-8388, (2014), 591,174–180 [doi.org/10.1016/j.jallcom.2013.12.180](https://doi.org/10.1016/j.jallcom.2013.12.180) (Impact factor: 3.7)
23. A dual enzyme functionalized nanostructured thulium oxide based interface for biomedical application **Jay Singh**, Appan Roychoudhury, Manish Srivastava, Pratima R. Sholanki, Dong Won Lee, and Seung Hee Lee B. D. Malhotra. *Nanoscale*, ISSN 2040-3364, (2014) 6, 1195-1208. DOI: [10.1039/c3nr05043b](https://doi.org/10.1039/c3nr05043b) (Impact factor 7.2)
24. Highly efficient rare earth metal oxide nanorods based platform for aflatoxin detection. **Jay Singh**, Appan Roychoudhury, Manish Srivastava, Dong Won Lee, Seung Hee Lee and B. D. Malhotra. *Journal of Material Chemistry B*, ISSN: 2050-750X, (2013), 1, 4493-4503. DOI: [10.1039/c3tb20690d](https://doi.org/10.1039/c3tb20690d) (Impact factor 4.7)
25. Preparation of sulfonated poly(ether–ether–ketone) functionalized ternary graphene/AuNPs/chitosan nanocomposite for efficient glucose biosensor **Jay Singh**, Partha Khanra, Tapas Kuila, Manish Srivastava Ashok K. Das Nam Hoon Kim, Bong Joo Jung, Da Yeong Kim, Seung Hee Lee, Dong Won Lee, Dae-Ghon Kim, and Joong Hee Lee. *Process Biochemistry*, ISSN: 1359-5113, (2013) 48 (11), 1724-1735. [doi.org/10.1016/j.procbio.2013.07.025](https://doi.org/10.1016/j.procbio.2013.07.025) (Impact factor 2.60)

26. Optical and electro-catalytic studies of nanostructured thulium oxide for vitamin C detection **Jay Singh**, Manish Srivastava, Appan Roychoudhury, Dong Won Lee, Seung Hee Lee and B. D. Malhotra. *Journal of Alloys and Compound*, ISSN: 0925-8388, (2013), 578,405-412. [doi.org/10.1016/j.jallcom.2013.06.026](https://doi.org/10.1016/j.jallcom.2013.06.026) (Impact factor 3.7)
27. Highly Efficient Bionzyme Functionalized Biocompatible Nanostructured Nickel Ferrite–Chitosan Nanocomposite Platform for Biomedical Application **Jay Singh**, Appan Roychoudhury, Manish Srivastava, Vidhi Chaudhary, Radha Prasanna, Dong Won Lee, Seung Hee Lee and B. D. Malhotra. *Journal of Physical Chemistry C*, ISSN: 1932-7447, (2013), 117 (16), 8491–8502. [dx.doi.org/10.1021/jp312698g](https://dx.doi.org/10.1021/jp312698g) (Impact factor 4.55)
28. Tin Oxide Quantum Dot Based DNA Sensor for Pathogen Detection. Manoj K. Patel, **Jay Singh**, Manish K. Singh, Ved Varun Agrawal, S. G. Ansari, and B. D. Malhotra. *Journal of Nanoscience and Nanotechnology*, ISSN: 533-4880, (2013), 13, 1671-1678. [doi:10.1166/jnn.2013.7123](https://doi.org/10.1166/jnn.2013.7123) (Impact factor 1.55)
29. Bionzyme Functionalized Mono-dispersed Biocompatible Cuprous Oxide/Chitosan Nanocomposite Platform for Biomedical Application **Jay Singh**, Manish Srivastava, Appan Roychoudhury, Dong Won Lee, Seung Hee Lee and B. D. Malhotra.. *Journal of Physical Chemistry B* ISSN: 1520-6106, (2013), 117,141-152. [dx.doi.org/10.1021/jp309639w](https://dx.doi.org/10.1021/jp309639w) (Impact factor 3.12)
30. Electro-optical and magnetic properties of monodispersed colloidal Cu<sub>2</sub>O nanoparticles Manish Srivastava, **Jay Singh**, Rajneesh K. Mishra, Animesh K. Ojha,. *Journal of Alloy and Compounds*, ISSN: 0925-8388, (2013), 555, 123-130. [doi.org/10.1016/j.jallcom.2012.12.049](https://doi.org/10.1016/j.jallcom.2012.12.049) (Impact factor 3.7)
31. Quantum dots based platform for application to fish freshness biosensor K. Kamil Reza, Manish Kumar Singh, Surendra K. Yadav, **Jay Singh**, Ved Varun Agrawal, B. D. Malhotra. *Sensors & Actuators: B. Chemical*, ISSN: 0925-4005, (2013), 117, 627-633. [doi.org/10.1016/j.snb.2012.11.059](https://doi.org/10.1016/j.snb.2012.11.059) (Impact factor 5.8)
32. Biomedical Application of Carboxymethyl Chitosan. Laxmi Upadhyaya, **Jay Singh\***, Vishnu Agarwal and Ravi Prakash Tewari. *Carbohydrate Polymers*, ISSN: 0144-8617 (2013), 91, 452– 466 [doi.org/10.1016/j.carbpol.2012.07.076](https://doi.org/10.1016/j.carbpol.2012.07.076) (Impact factor 5.1)
33. Recent progress in antimicrobial applications of nanostructured materials. Laxmi Upadhyaya, **Jay Singh\***, Vishnu Agarwal and Ravi Prakash Tewari. *Journal of Nanopharmaceutics and Drug Delivery*, ISSN: 2167-9312, (2012), 4, 1, –17. [doi:10.1166/jnd.2013.1006](https://doi.org/10.1166/jnd.2013.1006) (Impact factor 1.1)
34. A novel ternary NiFe<sub>2</sub>O<sub>4</sub>/CuO/FeO-chitosan nanocomposite as a cholesterol biosensor. **Jay Singh**, Manish Srivastava, Prasanta Kalita and B. D. Malhotra.. *Process Biochemistry*, ISSN: 1359-5113, (2012), 47, 2189-2198. [doi.org/10.1016/j.procbio.2012.08.012](https://doi.org/10.1016/j.procbio.2012.08.012) (Impact factor 2.60)
35. Nanostructured nickel oxide film for application to fish freshness biosensor Surendra K. Yadav, **Jay Singh**, Ved V. Agrawal, and B. D. Malhotra, *Applied Physics Letters*, ISSN: 0003-6951, (2012) 101, 023703 [doi.org/10.1063/1.4736578](https://doi.org/10.1063/1.4736578) (Impact factor 3.44)
36. Synthesis Growth mechanism and characterizations of single crystalline alpha Fe<sub>2</sub>O<sub>3</sub> spherical nanoparticles. Manish Srivastava, **Jay Singh**, Madhu Yashpal and Animesh K. Ojha, *Journal of Nanoscience and Nanotechnology*, ISSN: 533-4880, (2012), 12, 6248– 6257, [doi:10.1166/jnn.2012.6454](https://doi.org/10.1166/jnn.2012.6454) (Impact factor 1.44)
37. Synthesis of superparamagnetic bare Fe<sub>3</sub>O<sub>4</sub> nanostructures and core/shell (Fe<sub>3</sub>O<sub>4</sub>/alginate) nanocomposites. Manish Srivastava, **Jay Singh**, Madhu Yashpal, Dinesh Kumar Gupta, R. K. Mishra, Shipra Tripathi and Animesh K. Ojha. *Carbohydrate Polymers*. ISSN: 0144-8617, (2012), 89,821–829. [doi.org/10.1016/j.carbpol.2012.04.016](https://doi.org/10.1016/j.carbpol.2012.04.016) (Impact factor 5.1)
38. Ring like self-assembled Ni nanoparticles based biosensor for food toxin detection Prasanta Kalita, **Jay Singh**, Manish Kumar Singh, Pratima R. Solanki, G. Sumana, and B.

- D. Malhotra. *Applied Physics Letters*, ISSN: 0003-6951, (2012), 100,093702 [doi.org/10.1063/1.3690044](https://doi.org/10.1063/1.3690044) (Impact factor 3.4)
39. Nanostructured nickel oxide-chitosan film for application to cholesterol sensor. **Jay Singh**, Prasanta Kalita Manish Kumar Singh, and B. D. Malhotra. *Applied Physics Letters*, ISSN: 0003-6951, (2011), 98,123702 [doi.org/10.1063/1.3553765](https://doi.org/10.1063/1.3553765) (Impact factor 3.4)
40. Antibacterial and physiochemical activity of prepared chitosan/pyridine-3,4 di-carboxylic acid derivative under mild conditions **Jay Singh** & PK Dutta., *Journal of Macromolecular Science, Part A: Pure and Applied Chemistry*, ISSN:1060-1325, (2011), 48, 246–255 DOI: [10.1080/10601325.2011.544959](https://doi.org/10.1080/10601325.2011.544959) (Impact factor 0.95)
41. Biocompatible Self-Assembled Monolayer Platform Based on (3-Glycidoxypropyl) Trimethoxysilane for Total Cholesterol Estimation' Saurabh Kumar, **Jay Singh**, V.V. Agrawal and B.D. Malhotra. *Analytical Methods*. ISSN: 1759-9660, (2011) 3, 2237–2245 DOI: [10.1039/c1ay05231d](https://doi.org/10.1039/c1ay05231d) (Impact factor 1.96)
42. Preparation and properties of hybrid monodispersed magnetic Fe<sub>2</sub>O<sub>3</sub> based chitosan nanocomposite film for industrial and biomedical applications.**Jay Singh**, Manish Srivastava, J Dutta & PK Dutta. *International Journal of Biological Macromolecules*, ISSN: 0091-4037, (2011), 48,170–176 [doi:10.1016/j.ijbiomac.2010.10.016](https://doi.org/10.1016/j.ijbiomac.2010.10.016) (Impact factor 3.9)
43. Investigation on magnetic properties of alpha-Fe<sub>2</sub>O<sub>3</sub> nanoparticles synthesized under surfactant- free condition by hydrothermal process. Manish Srivastava, Animesh K Ojha, S. Chaubey, **Jay Singh**, Prashant K Sharma, and Avinash C Pandey. *Journal of Alloy and Compound*, ISSN: 0925-8388, (2010), 500,206-210. [doi:10.1016/j.jallcom.2010.03.245](https://doi.org/10.1016/j.jallcom.2010.03.245) (Impact factor 3.7)
44. Preparation, Antibacterial and Physicochemical Behavior of Chitosan/Ofloxacin Complexes **Jay Singh**, & PK Dutta., *International Journal of Polymeric Materials*, ISSN: 0091-4037, (2010), 59, 793–807 [doi.org/10.1080/00914037.2010.483219](https://doi.org/10.1080/00914037.2010.483219) (Impact factor 1.66)
45. In-situ synthesis of magnetic (NiFe<sub>2</sub>O<sub>4</sub>/CuO/FeO) nanocomposites Manish Srivastava, Animesh K Ojha, S. Chaubey, **Jay Singh**, , *Journal of Solid State Chemistry*, ISSN: 0022-4596, (2010), 183, 2669–2674 [doi:10.1016/j.jssc.2010.08.037](https://doi.org/10.1016/j.jssc.2010.08.037) (Impact factor 2.26)
46. Spectroscopy and conformational study of chitosan acid salts. **Jay Singh** &. PK Dutta. *Journal of Polymer Research*, ISSN: 1022-9760, DOI [10.1007/s10965-008-9221-3](https://doi.org/10.1007/s10965-008-9221-3) (2009), 16, 231–238 (Impact factor 1.4)
47. Preparation and properties of highly soluble chitosan-L-glutamic acid aerogel derivative **Jay Singh**, PK Dutta, J Dutta, AJ Hunt, DJ Macquarrie & JH Clark. *Carbohydrate Polymers*, ISSN: 0144-8617, (2009), 76, 188-195. [doi:10.1016/j.carbpol.2008.10.011](https://doi.org/10.1016/j.carbpol.2008.10.011) (Impact factor 5.1)
48. Preparation, circular dichroism induced helical conformation and optical property of chitosan acid salt complexes for biomedical application **Jay Singh** & PK Dutta.. *International Journal of Biological Macromolecules*, ISSN: 0091-4037, (2009), 45,384–392 [doi:10.1016/j.ijbiomac.2009.07.004](https://doi.org/10.1016/j.ijbiomac.2009.07.004) (Impact factor 3.9)
49. Preparation and chiroptical properties of chitosan acid derivatives in dilute solution.**Jay Singh**, S Kumar & PK Dutta. *Journal of Polymer Materials*, ISSN: 09700838, (2009), 26, 167-176 (Impact factor 0.4)
- National Journal**
50. Conformational study of chitosan: a review. **Jay Singh**, PK Dutta, *Proceeding of National Academy of Sciences India, (Section-A)*, ISSN: 0369-8203 (2008), 78, IV-256-270. (Impact factor 0.40)

51. **Jay Singh**, PK Dutta, J Dutta, AJ Hunt, DJ Macquarrie & JH Clark. Physiochemical and bioactivity behavior of highly soluble chitosan-*L*-glutamic acid aerogel derivative, *Asian Chitin Journal*, 4, (2008) 9-18.

**Note: (\*Corresponding Author)**

#### International Conference Workshop/Seminar Presented Paper

1. **Jay Singh** & PK Dutta, "Spectroscopy and conformational study of chitosan salt" International Seminar on Frontier in Polymer Science and Technology (1-3 Nov 2007) held at Guwahati, (Assam) India.
2. Manish Srivastava, S. Chaubey, **Jay Singh** and Animesh K. Ojha. "Convenient synthesis of nanocrystalline ( $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>) and its characterizations" International Conference on Advanced Nanomaterials and Nanotechnology (ICANN - 2009) to be held in IIT Guwahati during (9 – 11, Dec 2009).
3. Manish Srivastava, S. Chaubey, **Jay Singh**, Animesh K. Ojha Synthesis and characterization of Li<sub>0.5</sub>Cr<sub>0.1</sub>Fe<sub>2.4</sub>O<sub>4</sub> and Li<sub>0.5</sub>Co<sub>0.1</sub>Fe<sub>2.4</sub>O<sub>4</sub> nanoparticles and their composites with polysaccharide, 79<sup>th</sup> Annual Session and Symposium on Science & Technology and the Young (Career, Creativity, Excitement), held in Kolkata University from (14-17 Dec 2009).
4. Manish Srivastava, A. K. Ojha, S. Chaubey, **Jay Singh**, "Synthesis of (NiFe<sub>2</sub>O<sub>4</sub>/CuO/FeO) nanocomposites and its antibacterial activity" International conference & Humboldt Kolleg, Frontiers of Environmental & Health Science Useful to Mankind: A Multidisciplinary Approach (24-27, Feb 2010) Varanasi, India.
5. **Jay Singh**, Prasanta Kalita, Manish Kumar Singh, Pratima R. Solanki and B. D. Malhotra "Amperometric biosensor based on electrophoretically deposited ni nanoparticles for aflatoxin detection" International Conference on Nanomaterial and Nanotechnology held at the conference centre, university of Delhi, Delhi, India During 18-21 Dec 2011.
6. Manoj K. Patel, **Jay Singh**, Manish K. Singh, Ved V. Agrawal, B. D. Malhotra and S. G. Ansari "Nucleic acid sensor based on SnO<sub>2</sub>-Qds For cholera detection". International Conference on Nanomaterial and Nanotechnology held at the conference centre, University of Delhi, Delhi, India During 18-21 Dec 2011.
7. Saurabh Kumar, J. Kishore Kumar, **Jay Singh**, B.D Malhotra and G. Sumana Fabrication of Nanostructured Nickel oxide based biosensor for cardiovascular marker" International Conference on Nanoscience and Technology (ICONSAT – 20-23<sup>rd</sup> Jan 2012, Hyderabad, India)
8. **Jay Singh**, Appan Roychoudhury Manish Srivastava, G. Sumana and B. D. Malhotra "Ultrafine Monodispersed Cu<sub>2</sub>O/Chitosan Nanocomposite for Cholesterol Biosensor" International Conference and Workshop on Nanostructured Ceramics and other Nanomaterials" held at University of Delhi (13-16<sup>th</sup> March 2012). New Delhi, India.
9. Appan Roychoudhury, **Jay Singh**, Manish Srivastava, G. Sumana and B. D. Malhotra. "Nanocrystalline NiFe<sub>2</sub>O<sub>4</sub>/Chitosan Nanocomposite for Total Cholesterol Estimation"



International Conference and Workshop on Nanostructured Ceramics and other Nanomaterials” held at University of Delhi (13-16<sup>th</sup> **March 2012**). New Delhi, India.

10. Surendra K. Yadav, Kamil K. Reza, **Jay Singh**, Ved V. Agrawal and B. D. Malhotra “Amperometric biosensor based on nanostructure SnO<sub>2</sub>-QD for Xanthine detection” International Conference and Workshop on Nanostructured Ceramics and other Nanomaterials” held at University of Delhi (13-16<sup>th</sup> **March 2012**). New Delhi, India.
11. Bharati Rudrapaul, Pratima R. Solanki, **Jay Singh**, B.D. Malhotra. “Nanostructured Bismuth Trioxide based Immunosensor for Aflatoxin Detection” International Conference and Workshop on Nanostructured Ceramics and other Nanomaterials” held at University of Delhi (13-16<sup>th</sup> **March 2012**). New Delhi, India
12. **Jay Singh**, “Nanostructured NiFe<sub>2</sub>O<sub>4</sub>/chitosan nanocomposite for total cholesterol estimation” WCU workshop from BIN Fusion Technology, Chonbuk National University South Korea on dated 17-18 May 2012.
13. **Jay Singh**, Appan Roychoudhury, Manish Srivastava, S. H. Lee and B. D. Malhotra. Amperometric biosensor based on nanostructured NiFe<sub>2</sub>O<sub>4</sub>/chitosan nanocomposite for cholesterol detection. Proceeding of the “Korean Institute of Electrical and Electronic material Engineers” Annual Summer Conference held at 27-29 **June 2012**, Gangneung, South Korea (page no 22)
14. Laxmi Upadhyaya, **Jay Singh**, Vishnu Agarwal, Prashant Singh, A.C. Pandey, R. P. Tewari. The potential of curcumin-loaded iron oxide-chitosan nanocomposite for anticancer drug delivery applications. AICTE- sponsored International Conference on 'Biosciences and Bioengineering- a collaborative approach' on 6-7 **July, 2012**
15. **Jay Singh**, Appan Roychoudhury, Manish Srivastava, Dong Won Lee, Seung Hee Lee and B. D. Malhotra **presented a poster** in Amperometric biosensor based on Tm<sub>2</sub>O<sub>3</sub> nanorods for total cholesterol estimation. 15<sup>th</sup> International Biotechnology Symposium and Exhibition (IBS 2012) 16-21 **Sep 2012** EXCO, Daegu South Korea.
16. **Jay Singh**, Manish Srivastava, Appan Roychoudhury, Dong Won Lee, B. D. Malhotra, S. H. Lee. Presented **oral presentation** Immunosensor based on Nanostructured Samarium oxide for Food Toxin Detection. Proceeding of the “Korean Institute of Electrical and Electronic material Engineers” Annual Summer Conference held at 19-21 **June 2013**, Yeosu, South korea (page no 19)
17. Young Bum Hong, Byeong Hoon Lee, Jun Hee Lee, Young Eun Choi, **Jay Singh**, Yan Wu, Myong-Hoon Lee, Seung Hee Lee, Won II Song. P.96: Synthesis of Reactive Mesogen and its Stabilizing Characteristics in Polymer Stabilized Vertical Aligned Liquid Crystal Display. SID Symposium Digest of Technical Papers, Volume 44, Issue 1, pages 1347–1349, **June 2013**
18. **Jay Singh**, Manish Srivastava, Appan Roychoudhury, Saurabh Kumar Suveen Kumar, B. D. Malhotra presented a **oral presentation** in Synthesis, Characterization and Electro Oxidation Behavior of Samarium Oxide Nanorods on to the India-Japan Workshop on “Biomolecular Electronics and Organic Nanotechnology for Environment Preservation” (IJWBME 2013) held at Delhi Technological University, 13-15 **Dec 2013**.

19. Laxmi Upadhyaya, **Jay Singh**, Vishnu Agarwal , Prashant Singh, A.C. Pandey, R. P. Tewari, Synthesis, characterization and *in vitro study* of carboxymethyl cellulose/ZnO nanocomposites for efficient delivery of curcumin towards cancer on to the India-Japan Workshop on “Biomolecular Electronics and Organic Nanotechnology for Environment Preservation” (IJWBME 2013) held at Delhi Technological University, 13-15 Dec 2013.
20. Appan Roychoudhury, **Jay Singh**, Manish Srivastava and B. D. Malhotra Preparation and characterization of bismuth oxide/chitosan nanocomposites for biomedical application on to the India-Japan Workshop on “Biomolecular Electronics and Organic Nanotechnology for Environment Preservation” (IJWBME 2013) held at Delhi Technological University, 13-15 Dec 2013.
21. Neha Srivastava, Rekha Rawat, Harinder Singh Oberoi, Manish Srivastava, **Jay Singh** Impact of nickel-cobaltite nanoparticle on the production and thermostability of cellulases produced by newly isolated *Eurotiyomycetes* sp. on to the India-Japan Workshop on “Biomolecular Electronics and Organic Nanotechnology for Environment Preservation” (IJWBME 2013) held at Delhi Technological University, 13-15 Dec 2013.
22. Suveen Kumar, Saurabh Kumar, **Jay Singh**, Chhail Bihari, Jai Gopal Sharma, S. Maji and B. D. Malhotra Preparation, Characterization and Electrocatalytic Activity of Zirconia Nanoparticles for sensing application on to the India-Japan Workshop on “Biomolecular Electronics and Organic Nanotechnology for Environment Preservation” (IJWBME 2013) held at Delhi Technological University, 13-15 Dec 2013.
23. **Jay Singh** has attend CONFLUENCE- Annual Technical Conference on “ New Horizons in Chemical Sciences” held on 15 Feb 2015 by TATVA, The Anuala Technical fest of the Department of Applied Chemistry and Polymer Technology, Delhi Technological University, Delhi
24. **Jay Singh** has Appreciation and Participation CONFLUENCE- Annual Technical Conference on “ New Horizons in Chemical Sciences” held on 19-21 Feb 2016 by TATVA, The Anuala Technical fest of the Department of Applied Chemistry and Polymer Technology, Delhi Technological University, Delhi
25. **Jay Singh** has participated CONFLUENCE- Annual Technical fest on “ New Horizons in Chemical Sciences” held on 10-12 Feb 2017 by TATVA, The Annual Technical fest of the Department of Applied Chemistry and Polymer Technology, Delhi Technological University, Delhi
26. **Jay Singh**, Tarun Katariya, D. Kumar. Structural and mechanical properties of Thiokol rubber with variation in NiO nanoparticles filler loading percentage. In the International conference on recent trends in mechanical, material science, manufacturing, automobiles, aerospace, engineering and applied physics (AMAEAP-2016) organized by Krishi Sanskriti JNU New Delhi, held on 30 April 2016.

1. **Jay Singh**, S Kumar & PK Dutta. "Preparation and chiroptical properties of chitosan acid derivatives in dilute solution" Seventy-Eight Annual Session and Symposium on "*Novel Approaches for Bio-medical Research*" In National Academy of Sciences, India (21-23, **Nov 2008**) held on Panjab University Chandigarh.
2. **Jay Singh**, & PK Dutta "Circular dichroism induced by the helical conformation of N-substituted chitosan derivatives bearing acid moieties" National Seminar on Emerging Trends and Advance in Chemical Research (8-10 **Feb 2009**) Organized by Department of Chemistry, University of Allahabad in Association with Indian Science Congress and Indian Chemical Society.
3. **Jay Singh**, & PK Dutta, "Preparation and bioactivity of CH-OFX complex derivative in dilute solution for biomedical applications" National Conference on Application of Materials Science in the Service of Society (12-13 **Sept 2009**) Organized by C.M.P degree college, University of Allahabad, India.
4. Manish Srivastava, S. Chaubey, **Jay Singh** and Animesh K. Ojha "Characterization of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> Nanoparticles Synthesized by Hydrothermal Method" National conference on application of materials in the service of the society, CMP degree college, University of Allahabad, Allahabad (12-13, **Sep 2009**)
5. **Jay Singh**, & PK Dutta, "Preparation and antibacterial activity of chitosan/pyridine-3,5-di-carboxylic acid complex under mild conditions" National Seminar on Contemporary Research in Material Science and Chemical Biology, Allahabad University, Allahabad, India (31 Jan-2-**February , 2010**)
6. Manish Srivastava, S. Chaubey, **Jay Singh** and Animesh K. Ojha "A study on soft-magnetic and semi-conducting properties of nanocomposites synthesized by sol-gel method" 2<sup>nd</sup> National Conference on Nanomaterials and Nanotechnology to held in Lucknow University from (21-23<sup>rd</sup>, **Dec 2010**) (**ISBN no. 93-80043-61-9/9789380043616**)
7. Laxmi Upadhyaya, **Jay Singh**, Vishnu Agarwal, Prashant Singh, A.C. Pandey, R. P. Tewari. Preparation and characterization of paclitaxel loaded zinc oxide-chitosan nanocomposites for human cancer therapy. National Conference on Chemistry and Life on 16-17 **Sep 2012** Organized by C.M.P degree college, University of Allahabad, India.
8. Laxmi Upadhyaya, **Jay Singh**, Vishnu Agarwal, Prashant Singh, A.C. Pandey, R. P. Tewari. Preparation and characterization of chitosan-iron oxide nanocomposite for anticancer drug delivery applications. 82<sup>nd</sup> Annual Session of National Academy of Science India (NASI) 29 **Nov 2012** to 01 **Dec 2012**, held at BHU Varanasi, India
9. Laxmi Upadhyaya, **Jay Singh**, Vishnu Agarwal, Prashant Singh, A.C. Pandey, R. P. Tewari. Preparation and characterization of carboxymethyl cellulose-ZnO nanodrug system for human cancer therapy. Indian Science Congress Association National Seminar on Exciting Frontiers Research in Science and Technology, Feb 28 to 1 **March 2013** held at Department of Chemistry, University of Allahabad. UP, India

10. Appan Roychoudhury, **Jay Singh**, and B. D. Malhotra. Sol-gel derived nanostructured samarium oxide based immunosensor for aflatoxin B1 detection. National Seminar on Physics And Technology of Sensors 11-13 **March 2013** Centre for Interdisciplinary Research in Basic Sciences Jamia Millia Islamia, New Delhi, India

11. **Jay Singh**, Manish Kumar, D Kumar. Synthesis and characterization of vanadium pentoxide/chitosan film for electrocatalytic oxidation of hydrazine. I<sup>st</sup> National Conference on Emerging Trends & Future Challenges in Chemical Sciences (ETFC-2016). Organized by Held on Department of Chemistry Kirorimal College, University of Delhi (3-4 Feb 2016)

### Faculty Development Programmed

1. **Jay Singh** has participated in the Two-week Faculty Development Programme on “Frontiers in Chemical and Polymer Sciences” organized by Department of Applied Chemistry and Polymer Technology, Delhi Technological University during (15-26 Dec 2014), Delhi, India.

### ATTEND WORKSHOP/CONFERENCE

1. National seminar on polymer science: emerging trends (Oct. 27-28 2006) held at department of chemistry, government girls P.G College Rewa (M.P).
2. Expert lecture on the theme: Recent trends in chemical science (Dec.14 2006) held at department of chemistry, MNNIT Allahabad (India).
3. One day International workshop on information and communication technology (Aug.4. 2007) organized by ECC of management and Technology & center for computer science ECC College Allahabad (India).
4. International seminar on frontier in polymer science and technology (Nov. 1-3 2007) held at Guwahati, (Assam) India.
5. One day workshop on matlab- range of software (21 Jan.2008) conduct at MNNIT, Allahabad (India).
6. Seminar on frontier of chemistry research at Allahabad university (Jan. 24-25 2008) organized by department of chemistry in association with Allahabad chapter of Indian chemical science congress association and Indian chemical society.

Date: 4<sup>th</sup> July 2018

Place: Varanasi

  
Signature