




## Faculty Details proforma for DU Web-site

<b>Title</b>	<b>Dr.</b>	<b>First Name</b>	<b>Dhanraj T.</b>	<b>Last Name</b>	<b>Masram</b>	<b>Photograph</b>
<b>Designation</b>		Assistant Professor				
<b>Address</b>		Department of Chemistry University of Delhi, Delhi-110007				
<b>Phone No</b>	<b>Office</b>	+91-11-27666646				
<b>Residence Mobile</b>		-				
<b>Email</b>		dhanraj_masram27@rediffmail.com; <a href="mailto:dtmasram@chemistry.du.ac.in">dtmasram@chemistry.du.ac.in</a>				
<b>Web-Page</b>		-				
<b>Educational Qualifications</b>						
<b>Degree</b>		<b>Institution</b>			<b>Year</b>	
Ph.D.		R.T.M. Nagpur University, Nagpur			2008	
PG		Nagpur University, Nagpur			2003	
UG		Nagpur University, Nagpur			2000	
<b>Career Profile</b>						
<b>April 2009-till date</b>		Assistant Professor , Department of Chemistry University of Delhi.				
Dec.2004- March 2009		Lecturer, Department of Chemistry, R.T.M. Nagpur University Nagpur.				
June 2003-Oct 2004		Teacher, Shri Dadasaheb Dhanwate Nagar Vidhyalaya Mahal, Nagpur.				
May 2010-July2010		Researcher, School of Material Science, Japan Advanced Institute of Science &Technology, Japan.				
<b>Administrative Assignments</b>						
<ul style="list-style-type: none"> <li>• Deputy Superintendent for MSc Part I &amp; II Semester II&amp;IV Theory Examinations 2017(Summer)</li> <li>• Member of Anti-ragging Committee Department of Chemistry, University of Delhi.</li> <li>• Member of Admission Committee as observer to SC/ST/OBC/PH student in the hostel VKRV Rao for the academic session 2016-2017.</li> <li>• Convener Inorganic Chemistry for the academic year 2013-2015.</li> <li>• Member of Department Research Committee, Department of Chemistry, University of Delhi. 2012-2014</li> <li>• Member of Instrumentation Committee (TGA/DTA instruments):2015-2016</li> <li>• Member of Instrumentation Committee (60 MHz NMR instruments):2011-2012, 2012-2013, 2013-2014.</li> <li>• Member of Committee of Courses for Under Graduate and Post Graduate including Honours Courses in Chemistry of Department of Chemistry University of Delhi. 2010-2012&amp;2015-17</li> <li>• In charge of Inorganic Chemistry Laboratory No.2, Department of Chemistry University of Delhi. August 2010-May2012</li> <li>• Teacher in-charge of Chemical Society of Department of Chemistry, R.T.M. Nagpur University, Nagpur, 2006-2007.</li> </ul>						
<b>Areas of Interest / Specialization</b>						
Polymers (Synthesis of material through ATRP for polymeric light emitting diodes, organic terpolymers, conducting and chelate polymers etc and their various studies) Environmental Studies (Synthesis of resins for water treatment and Bioremediation of decontamination of toxic metals from waste water using modified biomaterials), Nanohybrids based environmental catalysis for waste water treatment. Heterogeneous catalysis, Coordination Chemistry, Bioinorganic Chemistry						
<b>Subjects Taught</b>						

**Ph.D.:** Paper XIV: Chemistry of Polymers

**M.Sc. Final Theory:** Solid state chemistry, Homogenous and heterogeneous catalysis, Environmental Chemistry, Inorganic Chemistry (Special-I) part B. Inorganic reaction mechanism

**M.Sc. Final Practical:** Instrumentation (2010-2012, 2014-2016)

**M.Sc. Previous Theory:** Metal carbonyls and nitrosyls, Chemistry of d-and f-block elements

**M.Sc. Previous Practical:** 2009-2010, 2012-2014

#### Research Guidance

List against each head (If applicable)

- |  |      |
|--|------|
| 1. Supervision of awarded Doctoral Thesis              | 05   |
| 2. Supervision of Doctoral Thesis, under progress      | 04   |
| 3. Supervision of awarded M.Phil dissertations         | 02   |
| 4. Supervision of M.Phil dissertations, under progress | None |

#### Publications Profile

List against each head (If applicable) (as Illustrated with examples)

1. Research papers published in Refereed/Peer Reviewed Journals (**Last Five Years**)

P. Goyal, **Dhanraj T. Masram**, "Novel Biomaterial: Synthesis And Characterization For Decontamination of Metal From Waste." International Journal of Environmental Engineering and Management, (Special Issue) Vol.3, No 5, 330-333, **2012**, ISSN 2231-1319.

**Dhanraj T. Masram**, K. P. Kariya, N. S. Bhavé, Kinetic and Electrical Conductivity Measurement Study of SDBF Resin, International Journal of Engineering Research, **2013**, 2, 2, 165-170.

R. Singh, A. Debnath, **Dhanraj T. Masram**, D. Rathore, "Synthesis and biological activities of selected quinolone-metal complexes", Research Journal of Chemical Sciences 06/**2013**; 3(6):83-94.

B. Shankar, P. Elumali, R. Shanmugam, V. Singh, **Dhanraj T. Masram**, M. Sathiyendhiran, "New Class of Phosphine Donor-Based Supramolecular Coordination Complexes from an in Situ Phosphine Oxidation Reaction or Phosphine Oxide Ligands" Inorganic chemistry, ACS Publications, dx.doi.org/10.1021/ic401257w. **2013**, 52 (18), pp 10217–10219.

A. Debnath, **Dhanraj T. Masram**, "Synthesis and Characterization of Some Transition Metal Complexes of Norfloxacin in presence of 1, 10-phenanthroline" *Der Pharma Chemica*, **2013**, **5(5):285-290**

S. Kirti, **Dhanraj T. Masram**, One-Pot Synthesis of Benzoxanthenes in Solvent Free Condition using Chloroaluminate Ionic Liquids as Catalyst, *J. Advances in Chemistry* **2013**, 5, 1, 575-580.

S. Kirti, **Dhanraj T. Masram**, "One-pot Synthesis of Benzoxanthenes in Solvent Free Condition Using ZrCl<sub>4</sub> as Catalyst", *Chemistry and Biology Interface*, **2013**, 3, 6, 375-381.

S. Kirti, **Dhanraj T. Masram**, Ram Singh, Antimony trichloride (SbCl<sub>3</sub>) Catalyzed Solvent Free One-pot Synthesis of Benzoxanthenes, *OCAIJ*, **2014**, 10(2) 56-58.

A. Debnath, F. Hussain, **Dhanraj T. Masram**, "Synthesis, Characterization and Antifungal Studies of Metalloquinolone [Cd<sub>2</sub>(nal)<sub>2</sub>(phen)<sub>2</sub>(Cl)<sub>2</sub>]" *Complex Metals*, Taylor & Francis, **2014**, 1:1, 96-102.

N. Mogha, V. Sahu, M. Sharma, R. Sharma, **Dhanraj T. Masram**, "Sensitive and Reliable Ascorbic Acid Sensing by Lanthanum oxide/Reduced Graphene oxide nanocomposite" *Applied Biochemistry and Biotechnology Springer*, **2014**, 174, 3, pp 1010-1020.

**Dhanraj T. Masram**, K. P. Kariya and N. S. Bhavé, "Synthesis of Resin VI: Salicylic Acid, Diaminobenzoic acid and Formaldehyde Resin and Its Ion Exchange Properties" *Der Pharma Chemica*, **2014**, 6(3):292-299.

A. Debnath, F. Hussain, **Dhanraj T. Masram**, "Synthesis, Characterization and Antifungal Studies of Cr(III)

complex of Norfloxacin and Bipiridyl Ligand”, Bioinorganic Chemistry and Applications, **2014** ,3, 1-7.

N. Mogha, S. Zha, **Dhanraj T. Masram**, “Synthesis of Polymeric Brushes from Graphene Oxide via Surface Initiated ATRP for the Detection of the Dinitrotoulene” Adv. Sci. Lett. **2014**,20,1936-6612.

**Dhanraj T. Masram**, K. P. Kariya , N. S. Bhawe, “Kinetic and Electrical Conductivity Study of Resin Resulting from Salicylic acid and Phenylenediamine with Formaldehyde” British Journal of Research **2014**,12 ,052-061.

A. Debnath, N. Mogha, **Dhanraj T. Masram** "Metal complex of the first-generation quinolone antimicrobial drug Nalidixic acid: Structure and its biological evaluation" Applied Biochemistry and Biotechnology, Springer, **2014**, 0273-2289, 175, 5, 2659-2667.

P. Goyal, **Dhanraj T. Masram**, “Novel biomaterial for decontamination of toxic metals from waste water”, Sky Journal of Soil Science and Environmental Management **2015**, 4(1), 010 - 015.

D.S. Shankar, B. Shankar, P Rajakannu, P. Vishnoi, **Dhanraj T Masram**, M. Sathiyendiran , “Steric group enforced aromatic cyclic trimer conformer in tripodal molecules” RSC Advances 08/2015; DOI:10.1039/C5RA05151G

P. Goyal, **Dhanraj T. Masram**, “Trimetallic removal from waste water using novel modified biomaterial, International Journal of Multidisciplinary Allied Research Review and Practices, **ijmarrp**, **2016**,3,1, 302-315.

P. Goyal, **Dhanraj T. Masram**, “Azadirachta indica nano biomaterial: A green economical biomaterial for removal of Cd (II) and Ni (II) from waste water” materials today: proceedings, **2016**,3, 1470-1476.

K. Arya, **Dhanraj T. Masram**, “Conversion of Sugar to Aldonic Acids: An Important Industrial Precursor ”, Mini-Reviews in Organic Chemistry 2016,13, 3, 198-205.

S. Kirti, D. Gupta, N.Mogha, V. Singh , **Dhanraj T. Masram**, “An Efficient Synthesis of Bis (Indolyl) Methanes Under Solvent Free Condition Using Silica Supported Polyphosphoric Acid (PPA-SiO<sub>2</sub>) as Recyclable Catalyst” Journal of Scientific and technical Research, **2016**,6,1,15-20.

N. Mogha, V. Sahu, M. Sharma, R. Sharma, **Dhanraj T. Masram**, “Biocompatible ZrO<sub>2</sub>- reduced graphene oxide immobilized AChE biosensor for chlorpyrifos detection”, Journal of Materials & Design, Elsevier, **2016**, 111, 5, 312-320.

N.Mogha, **Dhanraj T. Masram**, “Gold nanoworms immobilized graphene oxide polymer brush nanohybrid for catalytic degradation studies of organic dyes”, Applied Surface Science, Elsevier ,**2017**, 396,1427-1434.

S.Kirti, N. Mogha, **Dhanraj T. Masram**, “La<sub>2</sub>O<sub>3</sub>/Reduced Graphene Oxide Nanocomposite: A Highly Efficient, Reusable Heterogeneous Catalyst for the Synthesis of Biologically Important Bis(indolyl)methanes Under Solvent Free Conditions”, Journal of Nanoscience and Nanotechnology, **2017**, 17, 4, 2508-2514(7).

D. S. Shankar, K.Chakka, B. Shankar, M. Sathiyendiran , **Dhanraj T. Masram**, “Perfect symmetrical cyclic aromatic trimer motif in tripodal molecule”, RSC Advances, **2017**, 7, 17297-17300.

## 2. *Research papers published in Refereed/Peer Reviewed Conferences*

**Dhanraj T. Masram**, K.P. Kariya, N.S. Bhawe, “A Novel Eco-Friendly Polymer its characterization and application,” National seminar on Recent Developments in Eco Friendly Materials, At Hislop Collage ,RTM Nagpur University, 2013, 6 (1),135-147

P. Goyal, **Dhanraj T. Masram**, “Novel biomaterial: Synthesis and characterization for decontamination of metal from waste water” Journal of Material Science Eng. doi: 10.4172/2169-0022.S1.007

## 3. *Book Chapters papers published*

**Dhanraj T. Masram**, “Chapter 2 - Polymer Based Ion Exchange Resin”; A Book on Ion Exchange, Adsorption

and Solvent Extraction, 15-44, Pub. Date: 2013 Pages: 348, 7x10 - (NBC-C) ISBN: 978-1-62417-887-0  
P. Goyal, Dhanraj T. Masram, "Chapter 12: Nano Biomaterial for Decontamination of Carcinogenic Metal from Waste Water", *Advances in Environmental Research*, Nova Science Publishers, Inc. 400, Oser Avenue, Suite 1600, Hauppauge, NY 11788 ,pp. 191-202 . **ISBN:** 978-1-63482-885-7. **Editors:** Justin A. Daniels Volume 41, July 01, **2015**, Pages 191-202,

M. Kumar, N. Mogha, **Dhanraj T. Masram**, "Chapter 10:Case Studies in Biosorption", Pages 201-225, *Bioremediation: Current Research and Applications* Edition: **2017**, Publisher: IK International Publisher, New Delhi, India, Editor: Dr Ashok K Rathoure, ISBN: 978-93-85909-60-3

4. *Book published*

S. Kaur-Ghumaan, A.Sakthivel, **Dhanraj T. Masram**, M.Sathiyendhiran "ELECTRONIC AND MAGNETIC PROPERTIES OF TRANSITION AND INNER TRANSITION ELEMENTS AND THEIR COMPLEXES" Nova Science Publishers, Inc. 400, Oser Avenue, Suite 1600, Hauppauge, NY **ISBN:** 978-1-53610-914-6

**Conference Organization/ Presentations (in the last three years)**

*List against each head(if applicable)*

1. *Organization of a Conference*

1. One day seminar organized at Department of Chemistry University of Delhi, Delhi, Friday, 08/01/2015(**Organizing Committee Member**)
2. National Seminar on "Recent Advances in Chemical Sciences"(NSRACS-2015), ", Organized by Department of Chemistry, Janta Mahavidyalaya, Chandrapur, Gondwana University, Gadchiroli, Maharashtra ,India on 16<sup>th</sup> Feb.2015. (**Organizing Committee Member**)
3. International conference on emerging trends in applied science & mathematics "Techscientia – 15 "organized by Tulsiramji Gaikwad Patil College of Engineering & Technology, RTM Nagpur University Nagpur in Nagpur during 22<sup>nd</sup> -23<sup>rd</sup> April 2015. (**Organizing Committee Member**)
4. 3<sup>rd</sup> Indo Italian Workshop on "Electro chemistry For Future Energy solutions", Organized by Department of Chemistry University of Delhi, Delhi on 02/06/ 2015. (**Organizing Committee Member**)
5. Department of Chemistry, Kirori Mal College, University of Delhi, is organizing two day National Conference on Emerging Trends in Chemical Sciences-2016 to be held on 3<sup>th</sup> and 4<sup>th</sup> February 2016(**Organizing Committee Member**)

2. *Participation as Paper/Poster Presenter*

1. International Conference on "Applications of Advanced Materials for Sustainable Development" AAMSD-2014. Organized by Department of Chemistry, Ambedkar College RTM, Nagpur University, Nagpur & CSIR NEERI, India, on 17<sup>th</sup> -18<sup>th</sup>, January, 2014. (**Oral**)
2. National Conference on "Earth and Environment: Pollution and Prevention", Organized by Amity University with Ministry of Earth Sciences, New Delhi, 28-30<sup>th</sup> Jan 2014. (**Oral**)
3. APA International Conference on "Polymers: Vision & Innovations APA-2014" Organized by Ministry of Chemical Fertilizers Government of India, Asian Polymer Association and Indian Institute of India, Delhi, India. February 19-21, 2014. (**Poster**)
4. 20<sup>th</sup> ISCB International Conference on Chemistry and Medicinal Plants in Translational Medicine for healthcare Organized by Department of Chemistry University of Delhi, Delhi on 1<sup>st</sup> -4<sup>th</sup> March 2014. (**Poster**)
5. CONIAPS XVI: March 20-22, 2014 organized by International Academy of Physical Sciences and PDPM Indian institution of Technology, Design and Manufacturing Jabalpur, India. (**Oral**)
6. 2<sup>nd</sup> Annual National Conference on Science: Emerging Scenario & Future Challenges-II (SESFC-II) organized by Him Science Congress Association (HSCA) , Himalayan Forest Research Institute, Shimla, Himachal Pradesh, India on May 17-18, 2014. (**Poster**)
7. 27<sup>th</sup> International Symposium on Polymer Analysis and Characterization at Les Diablerets, Switzerland held on June 16-18, 2014. (**Poster**)
8. GIST-2015 at Manav Rachana International University, Faridabad, India on 15<sup>th</sup> January, 2015. (**Oral**)
9. 9<sup>th</sup> National Conference on 'Solid State Chemistry and Allied Areas (ISCAS-2015)' organized by Bhaskaracharya College of Applied Sciences, University of Delhi in association with Indian Association of Solid State Chemists and Allied Scientists at Conference Centre of Delhi University from May, 8-10, 2015.
10. 6<sup>th</sup> National Conference on "Agrochemicals" organized by FICCI on 19<sup>th</sup> January 2016. (**Participation**)

**Research Projects (Major Grants/Research Collaboration) (Last Three Years)**

Name of Project: “Polymeric Heterogeneous Catalyzed One-Pot Synthesis of Aminoindolizine Frameworks via Three-Component Reaction”

Funding Agency: University of Delhi, Delhi. 2013- 2014

Name of Project: Immobilization of AChE on ZrO<sub>2</sub> - Graphene nanocomposite for preparation of a Chlorpyrifos biosensor

Funding Agency: University of Delhi, Delhi.2014- 2015.

Name of Project: Synthesis and Physiochemical Studies of Graphene Oxide - Polymeric Brushes.

Funding Agency: University of Delhi, Delhi.2015 - 2016.

Name of Project: Novel polymers with hole transporting properties: pendant triphenylamine groups containing polyurethane-based tri-block copolymers through atom transfer radical polymerization

Funding Agency: SERB- DST, Government of India, Delhi, India. Period: 2012- 2015.

Name of Project: Synthesis, Characterization and Biological Activities of Some Selected Quinolones and their Metal Complexes

Funding Agency: Major research project University Grants Commission (UGC) 2013- 2016.

Name of Project: Decontamination of Toxic Metals from Water using Nano Fibres.

Funding Agency: SERB- DST, Government of India, Delhi, India. 2014 -2015.

Name of Project: Simultaneous electrochemical detection of Dopamine, ascorbic acid and uric acid using lanthanum oxide -reduced graphene oxide nanocomposite 2014- 2015

Funding Agency: DU-DST Purse Grant phase II, Department of Science & Technology, Government of India, Delhi, India.

Name of Project:Redox indicator free detection of *Mycobacterium tuberculosis* using specific electrochemical DNA biosensor based on the graphene oxide nanoribbon immobilized Gold nanoparticles,2015-2016

Funding Agency: DU-DST Purse Grant phase II, Department of Science & Technology, Government of India, Delhi, India.

Name of Project: Synthesis, characterization and evaluation of anticancer activity of novel bioessential transition metal complexes having tumor targeting and antitumor active ligand [Co-PI ]

Funding Agency: Department of Biotechnology (DBT), Government of India, Delhi, India. 2014- 2017.

Name of Project: Designing and synthesis of highly stable functionalized silica based organic-inorganic based hybrid materials/nanomaterials for the online and selective recovery of various metals from different charged waste water”.

[Co-PI ]

Funding Agency: Water Mission, DST, Government of India, Delhi, India. 2017- 2020.

#### Awards and Distinctions

- DST Young Scientist Award: Department of Science and Technology, Delhi, under SERB scheme 2011.
- BEST POSTER award in International symposium on “Recent Advances in Green Chemistry and chromatographic sciences”. Organized by ISAS at Manav Rachana International University, Faridabad on 12-14<sup>th</sup> January, 2012.
- National Conference on “Green Chemistry and Sustainable Technologies for Society” Dept. of Chemistry and EEE, GWEC, Ajmer, Society for Materials Chemistry, BARC Mumbai, Malviya National Institute of Technology, Jaipur, Rajsthan, India 11-12 January 2016.

#### Association With Professional Bodies

##### 1. *Reviewing*

1. Journal of Applied Polymer Sciences, John Wiley & Sons, Inc. International Publications.
2. Journal of Chemical and Biological Luminescence, John Wiley & Sons, Inc. International Publications.

3. Journal of Molecular Structure, Elsevier.
  4. Green Chemistry Letters and Reviews, Taylor & Francis
  5. Journal of Thermal Analysis and Calorimetry, Springer
  6. Indian Journal Chemistry, Sec A, CSIR-NISCAIR
  7. International Journal of New Technologies in Science and Engineering (IJNTSE).(Member in Editorial Board)
  8. The Korean Journal of Chemical Engineering
2. *Memberships*
1. Life Member of Society for Materials Chemistry (SMC), BARC, Mumbai. Reg.No.LM255.
  2. Life Member of Indian Society of Analytical Scientists (ISAS), Delhi Chapter c/o Indian Oil Corporation limited, Faridabad. Reg.No.LMT-2010/36.
  3. Life Member of Forum of Scientists, Engineers and Technologist (FOSET), Kolkata. Reg. No. LM /2011/2078.
  4. International Academy of Physical Sciences, 8/4 Bank Road, Allahabad-211002, India. Reg. No. LM /2014/N14229.
  5. Life Member of Electron Microscope Society of India (EMSII) affiliated to International Federation of Society for Electron Microscopy. Reg. No. LM /2014/983
  6. Member of American Chemical Society(2014-2015) ACS Member #30765811
  7. Member of Royal Society of Chemistry(2014-2016) MRSC#538337
  8. Chemical Research Society of India (CRSI),Bangalore
  9. Indian Council of Chemists (ICC), Agra Principal collage Agra, Reg. No. LM /1710 dated 2015

#### Other Activities

##### Actively Participated in

1. "Workshop on Electronic Structure, Atomistic and Statistical Modeling in Chemistry, Materials and Life Sciences" sponsored by Royal Society of Chemistry(North India Section),Schrodinger GmbH, Bangalore, India and Department of Chemistry, University of Delhi, Delhi, India, 8<sup>th</sup> -10<sup>th</sup> October 2014.
2. "IV Cr workshop on X-Ray Diffraction systems and related Applications" sponsored by PANanalytical and Department of Chemistry, University of Delhi, Delhi, 25<sup>th</sup> -26<sup>th</sup> Sep2014.
3. Chemistry in an Ancient Era held on 29/01/2013UGC sponsored National Conference "Role of Chemistry in Every Day Life Science Ancient Era" organized by S.N.More College, Tumsar, RTM Nagpur University Nagpur, Maharashtra ,India
4. Resource person "ATRP: Architecting polymers for future applications" for the Faculty Development Programme (Under TEQIP-II) at DTU, Delhi on 15-26<sup>th</sup> December, 2014.
5. Refresher course in Chemistry conducted by UGC- Academic Staff College RTM Nagpur University Nagpur.23/02/2015-15/03/2015.