




**DESHBANDHU COLLEGE  
(UNIVERSITY OF DELHI)  
KALKAJI, NEW DELHI - 110019**

**Faculty Details**

Title	<b>Dr.</b>	First Name	<b>PARUL</b>	Last Name	<b>SINGH</b>																			
Designation	<b>Assistant Professor</b>																							
Address	<b>Department of Chemistry Deshbandhu College (University of Delhi) Kalkaji, New Delhi-110019. INDIA</b>																							
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Residence																								
Mobile																								
Email	<b>psingh1@db.du.ac.in, parul.neelu@gmail.com</b>																							
Web-Page																								
<b>Educational Qualifications</b>																								
Degree	Institution				Year																			
Ph.D.	<b>University of Delhi &amp; CSIR-National Physical Laboratory</b>				<b>2010</b>																			
M.Phil.	<b>University of Delhi</b>				<b>1999</b>																			
PG	<b>CCS University</b>				<b>1998</b>																			
UG	<b>CCS University</b>				<b>1996</b>																			
BEd	<b>Dayalbagh Educational Institute Agra</b>				<b>2001</b>																			
<b>Career Profile</b>																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Institute</th> <th style="width: 30%;">Designation</th> <th style="width: 40%;">Duration</th> </tr> </thead> <tbody> <tr> <td>Deshbandhu College (University of Delhi)</td> <td>Assistant Professor</td> <td>October 2014- Till Date</td> </tr> <tr> <td>Shyamlal College (University of Delhi)</td> <td>Assistant Professor</td> <td>July 2013- October 2014</td> </tr> <tr> <td>Kalindi College (University of Delhi)</td> <td>Assistant Professor</td> <td>July 2011- May 2012</td> </tr> <tr> <td>CSIR-National Physical Laboratory</td> <td>Research Associate</td> <td>April 2011- July 2011 July 2012- July 2013</td> </tr> <tr> <td>Bhaskaracharya College of Applied Sciences (University of Delhi)</td> <td>Guest Faculty</td> <td>Feb 2011-April 2011</td> </tr> </tbody> </table>							Institute	Designation	Duration	Deshbandhu College (University of Delhi)	Assistant Professor	October 2014- Till Date	Shyamlal College (University of Delhi)	Assistant Professor	July 2013- October 2014	Kalindi College (University of Delhi)	Assistant Professor	July 2011- May 2012	CSIR-National Physical Laboratory	Research Associate	April 2011- July 2011 July 2012- July 2013	Bhaskaracharya College of Applied Sciences (University of Delhi)	Guest Faculty	Feb 2011-April 2011
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<b>Administrative Assignments</b>																								
<ul style="list-style-type: none"> <li>• <b>Convener, Prospectus Committee, Deshbandhu College, 2019-20</b></li> <li>• <b>Member, Prospectus Committee, Deshbandhu College, 2018-19</b></li> <li>• <b>Member, Garden Committee, Deshbandhu College, 2018-19.</b></li> <li>• <b>Member Admission Committee (Industrial Chemistry) Deshbandhu College, 2018-19.</b></li> <li>• <b>Member Student Advisory Committee, Deshbandhu College, 2017-18.</b></li> <li>• <b>Member Extension Lecture Committee, Deshbandhu College, 2017-18.</b></li> <li>• <b>Member Extension Lecture Committee, Deshbandhu College, 2016-17.</b></li> <li>• <b>Judge, Nukkad Natak under College Annual Fest, Sabrang 2018</b></li> <li>• <b>Member and Judge Quiz Committee, Department Fest Resonance, 2018</b></li> <li>• <b>Judge, Paper presentation , Department Fest Resonance, 2017.</b></li> <li>• <b>Member, Stage Committee, Deshbandhu College Annual Fest, Sabrang, 2017.</b></li> </ul>																								

Areas of Interest / Specialization
<b>Vibrational Spectroscopy, Green Chemistry, Nanotechnology</b>
Subjects Taught:
<b>BSc., Chemistry (H)</b>
<b>BSc (Prog) Inorganic &amp; Organic Chemistry</b>
<b>BSc (Prog) Industrial Chemistry</b>
Research Guidance:
<i>List against each head(If applicable)</i>
<ol style="list-style-type: none"> <li>1. <i>Supervision of awarded Doctoral Thesis</i></li> <li>2. <i>Supervision of Doctoral Thesis, under progress</i></li> <li>3. <i>Supervision of awarded M.Phil dissertations</i></li> <li>4. <i>Supervision of M.Phil dissertations, under progress</i></li> </ol>
Publications Profile
<p><i>Research papers published in Refereed/Peer Reviewed Journals</i></p> <ol style="list-style-type: none"> <li>1. R. Nagarajan, <b>Parul Singh</b>, Ranjana Mehrotra, "Direct determination of moisture in powder milk using near infrared spectroscopy", <b>Journal of Automated Methods &amp; Management in Chemistry</b>, vol 2006, 1-4.</li> <li>2. <b>Parul Singh</b>, Ranjana Mehrotra, H. C. Kandpal, "Nondestructive moisture determination in aspirin formulation by partial least squares regression and near infrared diffuse reflectance spectroscopy", <b>International Journal of Applied Chemistry</b>, vol 2, No. 2, 2006,137-148.</li> <li>3. <b>Parul Singh</b>, S. Mittal, R. K. Sharma, "Solid phase extraction and estimation of cadmium using glycine immobilized cellulose chelating resin", <b>Indian Journal of Chemical Technology</b>, vol 14, 2007, 204-208.</li> <li>4. Parul Singh, L. Premkumar, Ranjana Mehrotra, H. C. Kandpal , A.K. Bakhshi, "Evaluation of Stability of Indinavir Sulphate using Diffuse Reflectance Infrared Spectroscopy", <b>Journal of Pharmaceutical and Biomedical Analysis</b>, vol 47, 2008, 248-254.</li> <li>5. <b>Parul Singh</b>, Deepak Kumar Jangir, Ranjana Mehrotra, H. C. Kandpal, "Determination of moisture content in 5-fluorouracil using diffuse reflectance infrared spectroscopy", <b>ICOPVS, American Institute of Physics</b>, 2008, 172-174 .</li> <li>6. <b>Parul Singh</b>, Gunjan Tyagi, Ranjana Mehrotra, A.K. Bakhshi, "Thermal Stability Studies of 5-Fluorouracil by Diffuse Reflectance Infrared Spectroscopy", <b>Drug Testing and Analysis</b>, vol 1, issue 5, 2009, 240-244.</li> <li>7. <b>Parul Singh</b>, Deepak K. Jangir, Ranjana Mehrotra, A.K. Bakhshi, "Development and validation of an Infrared Spectroscopy based method for the analysis of moisture content in 5-Fluorouracil" <b>Drug Testing and Analysis</b>, vol 1, issue 6, 2009, 275-278.</li> <li>8. <b>Parul Singh</b>, Ranjana Mehrotra, A.K. Bakhshi, "Stress degradation studies of nelfinavir mesylate using Fourier transform infrared spectroscopy" <b>Journal of Pharmaceutical and</b></li> </ol>

**Biomedical Analysis**, 53, 2010, 287-294.

9. Ranjana Mehrotra, **Parul Singh**, Hem Kandpal, Near Infrared spectroscopic investigation of the thermal degradation of Wood, **Thermochimica Acta**, 507-508, 2010, 60-65.

10. **Parul Singh**, Ranjana Mehrotra, A Raman spectroscopic approach to evaluate the thermal stability of 5- Fluorouracil, **Journal of Pharmacy Research**, 3(8), 2010, 1947- 1950.

11. Gunjan Tyagi, Deepak Kumar Jangir, **Parul Singh**, Ranjana Mehrotra, DNA interaction studies of an anticancer plant alkaloid, Vincristine using Fourier transform infrared spectroscopy, **DNA and Cell Biology**, November 2010, 693-699.

12. Nisha yadav, **Parul Singh**, Ranjana Mehrotra, Determination of ethnomedicinally important constituents of *Aegle marmelos* during different stages of ripening, **Chinese Journal of Natural Medicines**, 9 (3), 2011, 204-209.

13. Nisha yadav, **Parul Singh**, Ranjana Mehrotra, Evaluation of Stability of 5- Fluorouracil under Different Stress Conditions: High Performance Liquid Chromatography and Infrared Spectroscopic Approach, **Current Pharmaceutical Analysis**, 8, 2012, 49-59.

14. Ranjana Mehrotra, Deepak K. Jangir, Shweta Agarwal, Bhumika Ray, **Parul Singh**, A. K. Srivastava, Interaction Studies of Anticancer Drug Lomustine with Calf Thymus DNA using Surface Enhanced Raman Spectroscopy, **Mapan**, 2013.

15. Gunjan Tyagi, Deepak K. Jangir, **Parul Singh**, Ranjana Mehrotra, R Ganeshan , E.S.R. Gopal, "Rapid Determination of main constituents of packed juices by RPHPLC: An insight in to commercial fruit drinks" **Journal of Food Science and Technology**, 51 (3) March 2014, 476-484.

16. Shweta Agarwal, Deepak Kumar Jangir, **Parul Singh** and Ranjana Mehrotra, Spectroscopic analysis of the interaction of lomustine with Calf thymus DNA, **Journal of Photochemistry and Photobiology; B**, 130, 2014, 181-186.

17. Kaveri Gambhir, **Parul Singh**, Deepak K. Jangir, Ranjana Mehrotra, Thermal stability and hydration behavior of ritonavir sulfate: A vibrational spectroscopic approach, **Journal of Pharmaceutical Analysis**, 5 (2015) 348–355.

18. Aman Sahu, **Parul Singh**, Pankaj Singh , Ranjana Mehrotra, Simple and rapid biogenic synthesis of silver and gold nanoparticles using *Aegle marmelos* fruit for SERS detection of DNA, Submitted for Publication.

#### Conference Organization/ Presentations :

*List against each head(If applicable)*

1. *Organization of a Conference: None*

2. *Participation as Paper/Poster Presenter:*

1. Parul Singh, Alka Gupta and Ranjana Mehrotra, "Moisture determination in aspirin drug formulation by near infrared spectroscopy ", International conference on Spectrophysics (INCONS-2005), Feb. 9-12 , 2005, Chennai.

2. R. Nagarajan, Parul Singh, Ranjana Mehrotra and M.M. Bajaj, "Moisture analysis by NIR

diffuse reflectance spectroscopy in commercial milk powder”, International conference on Spectrophysics (INCONS-2005), Feb. 9-12, 2005, Chennai.

3. Ajeet K. Kaushik, Parul Singh, Shubhra Goel, Nepal Singh and Ranjana Mehrotra, “Determination of moisture in raw tobacco using diffuse reflectance near infrared spectroscopy”, International conference on advance in meteorology (Ad. Met. – 2005), Feb. 23-25, 2005, National Physical Laboratory, New Delhi.

4. Ranjana Mehrotra, Parul Singh, H. C. Kandpal, “Stress degradation studies on HIV protease inhibitors using Fourier transformed infrared spectroscopy”, first Asian Spectroscopy Conference, Jan 29-Feb 3, 2007, Indian Institute of Science, Bangalore.

5. Parul Singh, L. Premkumar, Ranjana Mehrotra and H. C. Kandpal, Evaluation of Stability of Indinavir Sulphate using Diffuse Reflectance Infrared Spectroscopy, Colloquium Spectroscopicum Internationale, Xiamen University, Xiamen, China September 23- 27, 2007.

6. Parul Singh, Deepak Jangir, Ranjana Mehrotra and H. C. Kandpal, Determination of moisture content in 5-fluorouracil using diffuse reflectance infrared spectroscopy, International conference on Perspectives in Vibrational Spectroscopy, Trivandrum, Kerala, February 24-28, 2008.

7. Raman spectroscopic study to assess the thermal stability of 5- fluorouracil, “International conference on Perspectives in Vibrational Spectroscopy”, Varanasi, February 21-24,2010.

8. DNA Interaction with an anticancer plant alkaloid Vincristine: A study by Fourier transform infrared spectroscopy. “International conference on Perspectives in Vibrational Spectroscopy”, Varanasi, February 21-24, 2010.

9. Evaluation of stability of 5- Fluorouracil under ICH defined stress conditions, “International Conference on Recent Frontiers in Applied Spectroscopy” (ICOFRAS2010), Annamalai University, September 22-24, 2010. Papers presented in International/National Conferences

10. A Vibrational spectroscopic approach to evaluate the stability of an antiretroviral drug, “Pittcon 2012”, Orlando, Florida, USA.

11. Study of Polymorphic Transition in Ritonavir Sulphate using Raman Spectroscopy, “International Conference on Advances in Metrology (AdMet-2013)”, National Physical Laboratory, New Delhi, Feb 21-23,2013.

12. रमन स्पेक्ट्रोस्कोपी द्वारा राइटनेववर े जल – यजन (hydration) व्यवहार ा अध्ययन, “National Conference on Biomedical Science and Technology”, National Physical Laboratory, New Delhi. November 21-22, 2013 (Best Poster Award)

13. Green Synthesis of Silver Nanoparticles using Garlic Extract for SERS Application, “Indo-Portuguese Workshop on Emerging Trends of Nanotechnology in Chemistry and Biology (INCB-2016)”, Hansraj College and Deshbandhu College, New Delhi, Feb 12-13, 2016.

14. Attended workshop on “Recent trends in technical terminology in Science” organised by Commission for Scientific and Technical Terminology at Sri Aurobindo College, New Delhi, Feb 16-17, 2016.

15. Green synthesis of noble metal nanoparticles using plant extract, “National Seminar on

<p>Emerging Economics and Challenges to Sustainability towards Developing Nations”, Sri Aurobindo College, New Delhi, March 29-30, 2016.</p> <p>16. Silver and Gold Nanoparticles: Potential SERS Substrate, UGC sponsored “National Conference in Chemistry: Environment and Harmonious Development” Shyamlal College, University of Delhi, April 7-8, 2016.</p> <p>17. Eco Friendly synthesis of silver and Gold nanoparticles using <i>Aegle marmelos</i>. NATIONAL CONFERENCE on Combating Industrial Pollution for Sustainable Environment A Fusion of Industrial and Scientific Efforts (CIPSE-2016) Department of Chemistry, Gargi College, University of Delhi September 22-23, 2016.</p> <p>18. Attended National seminar on “Technical Terminology in Science Subjects” Deshbandhu College University of Delhi, October 26-27, 2017.</p>
<b>Research Projects (Major Grants/Research Collaboration)</b>
<p><i>Sponsoring Agency:</i> University of Delhi under Innovation Project 2015-16</p> <p><i>Role:</i> Principal Investigator</p> <p><i>Title:</i> “Green approach to synthesize noble metal nanoparticles and their application in Surface Enhanced Raman Spectroscopy”(DBC-308).</p>
<b>Awards and Distinctions</b>
<ul style="list-style-type: none"> <li>• <b>CSIR Research Intern Award</b></li> <li>• <b>ICMR –Senior Research Fellowship</b></li> <li>• <b>CSIR Research Associateship</b></li> <li>• <b>International Travel Grant (From DST and CSIR) to attend International conference in China (2007).</b></li> <li>• <b>International Travel Grant (From ICMR and INSA) to attend “PITTCO-2012”, held at Orlando, Florida USA. (Oral Presentation)</b></li> </ul>
<b>Association With Professional Bodies</b>
<p>Reviewer of Following Journals</p> <ul style="list-style-type: none"> <li>• Analytical Letters</li> <li>• International Journal of Environmental Analytical Chemistry</li> </ul>
<b>Other Activities</b>
<ul style="list-style-type: none"> <li>• Completed 4-week UGC sponsored Orientation Programme at ASC, Jamia Milia Islamia, New Delhi (03.11.2015-03.12.2015)</li> <li>• Completed 4-week UGC sponsored 1st Refresher Course in Chemistry at JNU, New Delhi (02.01.2017-27.01.2017)</li> <li>• Jury Member, 6th National Level Exhibition and Project Competitions (NLEPC) 2016 of DST-INSPIRE AWARD at NPL New Delhi during December 10-11 2016.</li> </ul>

*Paul*

Signature of Faculty Member