

# Faculty Details proforma for DU College Web-site



Title Dr	First Name	9	Geetu	Last Name	Gambhir	Photograph		
Designation	BURSAR, As	sistant Pr						
Address	Acharya Na							
	Govindpur	i, Kalkaji,						
	New Delhi -110019, INDIA					<b>基計劃</b>		
Phone No	+ 91 11 264	<b>11 2547,</b> +9						
Office		,						
Residence								
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Email/	geetugambl	nir@andc du						
Web-Page	http://and							
Web-Page		conege.d						
	culty/5							
Educational Qualifications								
Degree	Institution					Year		
Ph.D. (Organic	Department of Chemistry, University of Delhi, Delhi,					1998		
Chemistry)	India.							
M.Sc.	Hansraj College (University of Delhi), Delhi, India.					1992		
(Chemistry)								
, ,								
B.Sc. (H)	Hansraj College (University of Delhi), Delhi, India.					1989		
Chemistry								
10+2	Mont Fort School , Ashok Vihar,New delhi					1986		
	(CBSE, Delhi, India)							
Career Profile								
Institution		Positio	on Held	Dur	ation	Total Experience		
		<b>A</b> •	D. C	22 1 1 2002		A 17.X/		
Acharya Narendra Dev		Assistant	Professor	22 July, 2002 t	o till date	Approx 17 Years		
College (DU)  Deshbandhu College (DU)		Assistant	Professor	9 Feb, 1999 to	30 April 1999	Approx3 Months		
Deshbandhu College (DU)		Assistant Professor 20 oct, 1999 to			Approx 4 Months			
Gargi College (DU)			Assistant Professor 16 Oct, 2001 to			Approx 4 Months		
Administrative Assignments								

## (2018- till date)

- ➤ Bursar (2019 –till date)
- ➤ Teacher-in-charge ,Department of Chemistry
- Acting teacher incharge Jan-April 2016

## (2016-2018)

- Convenor, Foreign Language
- > Member, examination committee
- Admission committee of Chemistry Department

#### (2014-2016)

- ➤ Convenor, Foreign Language
- ➤ Member, fellowship committe

## (2012 - 2014)

- > Member of Foreign Language Committee
- ➤ Stock Verification Committee(constituted by the Principal)
- Admission committee of Chemistry Department

## (2010 - 2012)

- Convenor of add on course "Effective Communication and Personality Development through Theater".
- ➤ Co-Convenor of Dramatic Society.

## (2008-2010)

- ➤ Member of Sports Committee
- Member of Placement cell
- Member of the Admission Committee of chemistry Department

## (2006-2008)

- Convenor for the Fellowships and Awards committee
- Member of Examination Committee

## **CURRICULUM DEVELOPMENT**

- Member of committee involved in restructuring the course contents of **Chemistry** paper to be taught in B.Sc Programme; 2010.
- Member of committee involved in restructuring the course contents of organic chemistry paper to be taught in B.Sc. chemistry (Hons); 2010.

## **CULTURAL/ EXTRA CURRICULAR ACTIVITY**

- As convenor of "Abhikriya", Chemistry society of the college, organized the chemistry Fest "Synergia" in which various Intercollegiate competitions like Science Quiz, Rangoli, Poster making etc. were held in 2006-07. The society also organized a lecture on ozone day.
- As Convenor of the theatrical society of the college, organized a play on *Sau Mai Laga Dhaga... and Yeh Daag Daag Ujalla* in 2011 and 2012 respectively by the students of the college at Sri Ram Centre, Mandi House, New Delhi.
- As a convenor of Foreign Language Department expanded the department from certificate courses to diploma and advanced diploma courses in French, German and Spainish. Started the certificate course in

Russian.

# Areas of Interest / Specialization

**Organic Chemistry** 

# **Subjects Taught**

Fundamentals of Organic Chemistry, Spectroscopy, Dyes, Polymers

Research Guidance

## **UG RESEARCH GUIDANCE**

- > Synthesis of some novel Chalcones by Microwave Irradiation and Conventional Techniques " (2010-11)
- > Isolation and Estimation of the enzyme Tyrosinase from the natural source potato". (2012-13)
- Development of Bioactive Membrane Based Sensors for Determination of Heavy Metals and their salts as Pesticides. (2014) Parwej Alam, B.Sc. Life Science II Year, Aparna Jha, B.Sc. Life Science II Year along with Dr. Sunita Hooda as mentor.
- ➤ Determination of some soft drink constituents and contamination by some heavy metals, (2016) Simran Agarwal and Harshit Srivastava, B.Sc. Chemistry (Hons.) III Sem. along with Dr. Sunita Hooda as mentor.
- Preparation of Bioactive Styryl Coumarins For The Study of its Fluorescent Property, (2016)
  Devendra Sharma and Simran Agarwal, B.Sc. Chemistry (Hons.) III Sem. along with Dr. Sunita Hooda as mentor.
- ➤ Chemical Analysis of Soil, (2016) Harshit Shrivastava and Devendra Sharma, B.Sc. Chemistry (Hons.) III Sem. along with Dr. Sunita Hooda as mentor.
- Adsorption of heavy metals on EDTA functionalised chitin (2017), Ravina, Chem (Hons). V Sem along with Dr. Sunita Hooda as mentor.

## UG RESEARCH GUIDANCE

- > Synthesis of some novel Chalcones by Microwave Irradiation and Conventional Techniques " (2010-11) Prakriti Wadhera B.Sc. Chemistry (Hons.) II year
- ➤ Isolation and Estimation of the enzyme Tyrosinase from the natural source potato". (2012) Neelam Kumari B.Sc. Zoology (Hons.) II year
- > Determination of some soft drink constituents and contamination by some heavy metals, (2016) Simran Agarwal and Harshit Srivastava, B.Sc. Chemistry (Hons.) III Sem. along with Dr. Sunita Hooda as mentor.
- ➤ Preparation of Bioactive Styryl Coumarins For The Study of its Fluorescent Property, (2016)

  Devendra Sharma and Simran Agarwal, B.Sc. Chemistry (Hons.) III Sem. along with Dr. Sunita Hooda as mentor.
- Chemical Analysis of Soil, (2016) Harshit Shrivastava and Devendra Sharma, B.Sc. Chemistry (Hons.) III Sem. along with Dr. Sunita Hooda as mentor.

Adsorption of heavy metals on EDTA - functionalised chitin (2017), Ravina, Chem (Hons). V Sem along with Dr. Sunita Hooda as mentor.

## **Publications Profile**

## **PUBLICATIONS**

- > Shantanu De, **Geetu Gambhir** and H.G Krishnamurthy (1994) A Simple and Safe catalytic Hydrogenation of 4-Vinylbenzoic Acid ,Journal of Chemical Education, Vol 71, number 11, Nov pp 992-93.
- Niveta Jain, Geetu Gambhir and H.G Krishnamurthy (2001) "Synthesis of Hormothamnione and 6-Desmethoxy Hormothamnione, Indian Journal of Chemistry, Vol 40B, April,pp 278-283.
- Abraham J S, Somasundaram S, Jangra S, Yadav K, Singh S, Zutshi S, Singh B, Dagar J, Kumar A, Goyal A, Bhatnagar M, Upadhaya M, Choudhary A, Toteja R, Gupta R, Gambhir G and Makhija S (2016) Biodiversity and community structure of soil ciliates collected from three different sites of Delhi, India to assess soil quality. Protistology. 10(2), 5.
- ➤ Shyam Lal, Sunita Hooda, Amit Kumar, Subodh Kumar, Aarushi Singh, Snigdha Singh, Ramesh Chandra, Vikrant Kumar, Vandana Uberoi, **Geetu Gambhir**, Drashya, (2018)Acrylonitrile copolymer based membrane sensor for selective detection of Pb2+ ions in aqueous medium, www.educationjournal.org Volume 3; Issue 2; March; Page No. 107-113.12
- ➤ Jeeva Susan Abraham, S. Sripoorna, Joti Dagar, Shiv Jangra, Anit Kumar, Khushi Yadav, Simran Singh, Anusha Goyal, Swati Maurya, **Geetu Gambhir**, Ravi Toteja, Renu Gupta, Dileep K. Singh, Hamed A. El-Serehyd, Fahad A Al-Misned, Saleh A. Al-Farraj, Khaled A. Al-Rasheid, Saleh A. Moewda, Seema Makhija (2019) Soil ciliates of the Indian Delhi Region: Their community characteristics with emphasis on their ecological implications as sensitive bio-indicators for soil quality. Saudi Journal of Biological Science. https://doi.org/10.1016/j.sjbs.2019.04.013

## **BOOKS**

- > Geetu Gambhir, Vandana Uberoi, Anila Kalra and Rajesh Kumar, Science and Technology", for class IX, based on CBSE syllabus, 2005, Paragon International,
- ➤ Geetu Gambhir, Vandana Uberoi, Anila Kalra and Rajesh Kumar, Science and Technology", for class X, based on CBSE syllabus, 2005, Paragon International,

## **E- CHAPTERS**

- ➤ Geetu Gambhir (2008) Hydrocarbons- Alkanes and Cycloalkanes. (<a href="http://nsdl.niscair.res.in/handle/123456789/480">http://nsdl.niscair.res.in/handle/123456789/480</a>), National Science Digital Library created by CSIR organization, National Institute of Science and Communication and Information Resources.
- > Geetu Gambhir (2008) Hydrocarbons-Alkenes Cycloalkenes Dienes and Alkynes. (http://

<u>nsdl.niscair.res.in/handle</u> /123456789/481), National Science Digital Library created by CSIR organization, National Institute of Science and Communication and Information Resources.

- > Co Authored the chapter on Polymers, Institute of Life Long Learning, Delhi University(2011)
- > Co Authored the chapters on Amino acids ,Peptides and Proteins, Spectroscopy and its application to simple Organic molecules Institute of Life Long Learning, Delhi University(2012)
- Working as a resource person in Institute of Life Long Learning (ILLL) for development of Question bank for B.Sc. Programme Part -I and Part -II.

## EDUCATIONAL CONTENT IN OPEN DOMAIN

- ➤ Developed the following UG/postgraduate level e-content for 'e-PG *Pathshala*' an initiative by MHRD, under its National Mission on Education through ICT (NME-ICT):
  - Organic Chemistry-Nature of bonding and stereochemistry, <a href="https://epgp.inflibnet.ac.in/ahl.php?csrno=5">https://epgp.inflibnet.ac.in/ahl.php?csrno=5</a>
  - Organic Chemistry III –Reaction Mechanisms- Neighbouring Group Participation in Free radicals and bridge head systems. <a href="https://epgp.inflibnet.ac.in/ahl.php?csrno=5">https://epgp.inflibnet.ac.in/ahl.php?csrno=5</a>
  - Organic Chemistry IV-Advanced Organic Synthesis, Supramolecular Chemistry and carbocyclic rings. <a href="https://epgp.inflibnet.ac.in/ahl.php?csrno=5">https://epgp.inflibnet.ac.in/ahl.php?csrno=5</a>

## Conference / Presentations / Workshops

## **CONFERENCE PUBLICATIONS**

- ➤ Health Effects of Water Pollution, Heavy Metal Ions and Air Pollution. Orally presented in "National Workshop on Environmental Sustainability and Pollution Control" held at Delhi, Vastu Kala Academy, School of Architecture, Institutional Area, New Delhi, July 10 2004.
- ➤ Geetu Gambhir ,Sunita Hooda, Vandana Uberoi, Presented the poster titled "Overview An of Sensors for Environmental Monitoring" and "Hg2+- Sensitive polymeric membrane for electrochemical green processes"(2006) in second IUPAC sponsored International Symposium on Green/ Sustainable chemistry organized by University of Delhi
- ➤ Geetu Gambhir ,Sunita Hooda, Vandana Uberoi, Presented a poster titled "Ionic Liquids: Green Solvents for the Future" (2007). in the national Seminar on Green Chemistry and natural products ion 26-27 Nov 2007, Organized by Department Of Chemistry, University of Delhi,
- Vandana Uberoi, Sunita Hooda, Geetu Gambhir, Subodh Kumar and Priya Barua, Lead Chemical Sensors for Environmentally Green Chemical Process, Proceeding of 3rd Indo- Italian Seminar on Green Chemistry, P-1, Held on 9th Dec. 2009, University of Delhi.

- Sunita Hooda, Vandana Uberoi, Geetu Gambhir, Vimmy Suvarna & Uday Mahajan, Lead (II) PVC Membrane Selective Electrodes Based on 1-Naphthyl Amine as an Ionophore, Proceeding "First Indo Italian Workshop on Frontiers of Fundamental & Industrial Electrochemistry A Challenge for a Better World", PP -48, Held on August 30- 31, (2010).
- ➤ Vandana Uberoi, Sunita Hooda, Geetu Gambhir, Aakriti Jakhmola& Akshay Kalra, Nickel (II) PVC membrane Electrochemical Sensor Based on 2, 4, 6-Tribromo Phenol as a Novel Ionophore, Proceeding "First Indo-Italian Workshop on Frontiers of Fundamental & Industrial Electrochemistry: A Challenge for a Better World", PP 49, Held on August 30-31, (2010).
- Sunita Hooda, Geetu Gambhir, Vandana Uberoi, Application of Novel Polymer based Ion Selective Electrode in Analytical and Industrial Electrochemistry. Proceeding "First Indo Italian Workshop on Frontiers of Fundamental & Industrial Electrochemistry: A Challenge for a Better World", OP -14, Held on August 30-31, (2010).
- Sunita Hooda ,Vandana Uberoi, Geetu Gambhir, Subodh Kumar and Priya Barua, "Lead Ion Selective Electrode for Environmentally Green Chemical Processes" Proceeding National Symposium on "Chemistry in Biology" NSCBO-1, Feb.12-13<sup>th</sup>, 2010, Indian International Center, New Delhi.
- Sunita Hooda, Geetu Gambhir and Shyam Lal, Synthesis of Silver Nano Particles In Acrylic Acid Solution And Their Application For Estimation of Dopamine, Oral VIII, No. 79, Published in proceeding of 26<sup>th</sup> Biennial International Conference of The Asian Association for Biology Education on "Trends in Biology Education and Research: Practices and Challenges", 20<sup>th</sup> -23<sup>rd</sup> September 2016, Goa India.
- Sunita Hooda, Shyam Lal, **Geetu Gambhir** and Vandana Uberoi, **The Adsorptive Removal of Cationic drug From Aqueous Solution Using Hydrogel Poly (N-IsoPropylacrylamide)**, Poster, VIII, No. 92, published in proceeding of 26<sup>th</sup> Biennial International Conference of The Asian Association for Biology Education on "Trends in Biology Education and Research: Practices and Challenges", 20<sup>th</sup> -23<sup>rd</sup> September 2016, Goa India.
- > Sunita Hooda\*, Geetu Gambhir, Simran Agarwal, Harshit Srivastava and Devendra Sharma, Determination of some soft drink constituents and contamination by some heavy metals, PP-03, Published in Proceeding of International Conference on Green Chemistry in Environmental Sustainability (ICGC-2016), Page 109, held on 17-18th Nov. 2016, Organized by Department of Chemistry, Daulat Ram College, University of Delhi.
- Shiv Jangra, Khushi, Simran, Sidhanth Zutshi, Bhupender Singh, Jyoti Dagar, Anit Kumar, Anusha Goyal, Muskan Bhatnagar, Meenu Upadhaya, Jeeva Susan Abraham, S. Sripoorna, Ashish Choudhary, Ravi Toteja, Seema Makhija, Geetu Gambhir and Renu Gupta (2016) Community characteristics of soil ciliates collected from three different sites in Acharya Narendra Dev College, University of Delhi. National Symposium on Environment: Greener Future and Awareness organized by Department of Zoology, Deshbandhu College, University of Delhi, New Delhi, India.
- Sunita Hooda\*, Geetu Gambhir, Simran Agarwal, Harshit Srivastava and Devendra Sharma, Chemical Analysis of Soil and Their Effects on Germination of Seed, presented in National Conference on Environmental Sustainability in Wastewater Remediation: Current Status and Future Prospects, held on 19<sup>th</sup> -20<sup>th</sup> Jan. 2017, Organized by Department of Chemistry, Sri Venkateswara College, University of Delhi in association with RSC (London)

- ➤ Ravina Yadav, Geetu Gambhir\*, Sunita Hooda, Drashya, Received First Prize and Trophy for best Poster Presentation on "Remediation of Heavy Metal ion Toxicity from Waste Water Using Functionalized Chitin, International conference of the Public Health Foundation of India and Pacific Basin Consortium, 14-16<sup>th</sup> November, 2017, India HabitatCentre, New Delhi, India.
- Ravi Toteja, Jeeva Susan Abraham, Sripoorna Somasundaram, Geetu Gambhir, Dileep K Singh, Seema Makhija. Soil ciliate (Protozoa; Ciliophora) diversity in and around Delhi, India and its ecological implications. 15<sup>th</sup> International Congress of Protistology held at Prague, Czech Republic, from from July 30 to August 4, 2017.
- ➤ Jeeva Susan Abraham, S. Sripoorna, Renu Gupta, Ravi Toteja, Swati Maurya, Geetu Gambhir, D. K. Singh and Seema Makhija. Physico-chemical and biological analysis of soil samples collected from different sites in and around Delhi, India. Indian Network for Soil Contamination Research International Conference, Department of Zoology, University of Delhi, Delhi from 26th-28th September, 2017.
- Shiv Jangra, Khushi, Simran, Sidhanth Zutshi, Bhupender Singh, Jyoti Dagar, Anit Kumar, Anusha Goyal, Muskan Bhatnagar, Meenu Upadhaya, Jeeva Susan Abraham, S. Sripoorna, Ashish Choudhary, Ravi Toteja, Seema Makhija and Geetu Gambhir. A study on assessment of physico-chemical analysis and correlating it with ciliate diversity to monitor sludge quality. Poster presented by undergraduates in Innovation conclave held at Acharya Narendra Dev College on 25-26 October, 2016.

# SYMPOSIUMS/WORKSHOPS/CONFERENCES ATTENDED/PARTICIPATED/ORGANIZED

- Member of the organizing committee for National symposium on "Biotechnology: Expanding Horizons" organized by Acharya Narendra Dev College and held at INSA auditorium in 2002.
- ➤ Participated in 5 days "Wikied'09" Workshop, organized by Acharya Narendra Dev College and CEMCA from January 8-12, 2009.
- ➤ Participated in 6 days **Easy Now Workshop on Multimedia Content Development,** organized by Acharya Narendra Dev College and CEMCA from 20<sup>th</sup> 25 April, 2009.
- Participated in the workshop for **Preparation of online quizzes on Life sciences subjects**, organized by Institute of Life Long Learning (ILLL), University of Delhi in April 13<sup>th</sup>, 2009.
- ➤ Participated in 3-day workshop on DRUPAL for constructing and maintaining website, organized by Acharya Narendra Dev College January, 2010 organized by Acharya Narendra Dev College, University of Delhi at India International Centre, New Delhi.
- ➤ Part of the Organizing Committee of 2-days National Symposium on "Chemistry in Biology: The Future of Life Sciences", Feb. 12-13, 2010; organized by Acharya Narendra Dev College, University of Delhi at India International Centre, New Delhi.
- ➤ Member of the organizing committee for International Conference on **Open Paradigms in Education** held on 31 January- 2 February, 2011 at India International Centre, New Delhi, Organized by Acharya Narendra Dev College.
- ➤ Participated in one day seminar on "**Teaching redefined: Open access to education**", Sponsored by INASP, UK, held at Acharya Narendra Dev College on November 1, 2011.
- Participated in three day National Seminar titled "Recent Trends in Chemistry" held at Sri Veketeshwara

college during March 20-22,2012.

- Participated in a workshop on Research in UG Science and Mathematics Education, organised by Acharya Narendra Dev College in collaboration with Vidya Bhawan Society from May 14-18, 2012.
- ➤ Participated in National Conference 'Redefining Teaching Science: Future of Education' held at Conference Room, UDSC, March 7-9, 2013.

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## Research Projects (Major Grants/Research Collaboration)

## RESEARCH PROJECTS AS PRINCIPAL INVESTIGATOR/CO-PI

S.No.	Title	Funding	Total Grant	Duration
		Agency	(Rs)	
1	Fabrication of new polymer chemical	UGC	7.5 Lakhs	Three Year
	sensors for environmental protection"			(2008-11; Completed)
2	Development of Bioactive Paper Sensor	IEDC	One lakh	One Year
	for determination of Pesticide Residues ."	(DST)		(2012-13; Completed)
3	Ciliate diversity as cellular tool to assess	DU	Six Lakh Fifty	One Year
	soil quality.		Thousand	(2015-2016' Completed)

## STAR PROJECT UNDER DBT

Application of magnetic chitin composites for the removal of Toxic Metal and Organic Dyes From Industrial Effluents. Students involved: Ravina Yadav, Chem (Hons.) III Sem., Heena Malik, Chem (Hons.) III Sem., Aniket, Chem (Hons.) III Sem., Mariyam, Chem (Hons.) III Sem., Monika, Chem (Hons.) III Sem., AkarshPandey, Chem (Hons) I Sem., Tanuja Sharma Zoo (Hons) III Sem., SenjutiSengupta, Zoo (Hons) III Sem., Partho Proteem Das Zoo (Hons) III Sem., Akshit Chauhan, Zoo (Hons) III Sem. Aug. 2018 – 2019.

Teachers involved: Dr. Geetu Gambhir, Dr. Sunita Hooda, and Dr. Sarita Kumar.

# **Awards and Distinctions**

- > Science meritorious award for securing highest marks in college, 1989-90
- Science meritorious award for National scholarship from Center of Advanced studies in 1989-90 and 1990-91
- ➤ All India Post graduate scholarship, 1989-91
- ➤ 1<sup>st</sup> position in college and 3<sup>rd</sup> position in University in M.Sc.
- ➤ 1<sup>st</sup> position in college in B.Sc.
- Science meritorious award securing highest marks in college, 1990-91

#### **Association With Professional Bodies**

#### MEMBERSHIP OF PROFESSIONAL / ACADEMIC BODIES, SOCIETIES

- ➤ Indian Society of Analytical Scientists, Analytical Chemistry Division, BARC, Trombay.
- ➤ Indian National Science Congress Association, Kolkata

> Association of Chemistry Teachers.

## Other Activities

- Evaluated the Projects as Jury in Inspired Award Scheme "5th National Level Exhibition Project Competition", December 06-07, 2015 held at Pragati Maidan, New Delhi, under the aegis of Department of Science & Technology, Ministry of Science and Technology, Government of India (inspire: Innovation in Science Pursuit For Inspired Research)
- Evaluated the Projects as Jury in Inspired Award Scheme "4th National Level Exhibition & Project Competition", 6-8 October 2014 held at Pragati Maidan, New Delhi, under the aegis of of Department of Science & Technology, Ministry of Science and Technology, Government of India (inspire: Innovation in Science Pursuit For Inspired Research)
- ➤ Jury member at the Inter School Chemistry Symposium "Ignition 2014" Organized by Modern School ,Barakhamba Road, 2014
- ➤ Jury member at the International Chemistry Symposium "Spark 2014" Organized by Delhi Public School, Rk puram ,2014
- ➤ Jury member at the National Chemistry Symposium "Spark 2015" Organized by Delhi Public School, R.K puram ,2015.
- ➤ Jury member at the Inter School Chemistry Symposium "Ignition 2016" Organized by Modern School ,Barakhamba Road, 2016

Signature of Faculty Member