




Faculty Details proforma for DU College Web-site



Title	Dr	First Name	Pankaj	Last Name	Khanna	Photograph
Designation	Associate Professor					
Address	Department of Chemistry Acharya Narendra Dev College (University of Delhi) Govindpuri, Kalkaji New Delhi-110019					
Phone No						
Residence Mobile	9818009250					
Email	pankajkhanna@andc.du.ac.in kpankaj6@yahoo.co.in					
Web-Page	http://wikieducator.org/User:Pankaj_K https://khannapankaj.wordpress.com/					
Educational Qualifications						
Degree	Institution				Year	
B.Sc.(H) Chemistry	University of Delhi				1998	
M.Sc. Chemistry	University of Delhi				2000	
Ph.D. Chemistry	University of Delhi				2006	
PG Diploma Intellectual Property Rights	IGNOU				2011	
Two Year Diploma in Computer Applications	NIIT					
Career Profile						
Organisation/ Institution	Designation			Duration	Role	
Acharya Narendra Dev College (DU)	Associate Professor			2017 – Present	Teaching, research and administrative	
Acharya Narendra Dev College (DU)	Assistant Professor Level 12			2014 - 2017	Teaching, research and administrative	
University of Delhi	Vice Chancellor's Fellow			2014	On Deputation	
Acharya Narendra Dev College (DU)	Assistant Professor AGP 7000			2009 (Aug)-2013	Teaching, research and administrative	
Acharya Narendra Dev College (DU)	Assistant Professor AGP 6000			2009 (April)-2009 (Aug)	Teaching and administrative	

Deen Dayal Upadhyaya College (DU)	Assistant Professor AGP 6000	2006-2009	Teaching
Shivaji College (DU)	Assistant Professor AGP 6000	2005-2006	Teaching
S.G.T.B. Khalsa College (DU)	Lecturer	2003-2004	Teaching

Administrative Assignments

- **Acted as a Jury Member** for the assessment of the prestigious INSPIRE scholarship organized by DST, New Delhi, held on:
 - 10-11 December 2016
 - 6-7 December 2015
 - 6-8 October 2014
 - 8-10 October 2013
 - 21-23 October 2012
 - 14-16 August 2011
- **Member of Committee for revision of various syllabi:**
 - i. Co-convener and Member of various committees under LOCF revision, Department of Chemistry, University of Delhi (2019).
 - ii. B.Sc. (Hons.) Chemistry erstwhile FYUP mode, Department of Chemistry, University of Delhi (2012-13).
 - iii. B.Sc. (Hons.) Chemistry Semester mode, Department of Chemistry, University of Delhi (2009).
 - iv. B.Sc. (Prog.) Chemistry Semester mode, Department of Chemistry, University of Delhi (2009).
 - v. Third Year Chemistry Course of the restructured B.Sc. (Prog.), Department of Chemistry, University of Delhi (2007).
- SOL examination committee (Superintendent and Deputy Superintendent)
- Convener of IT committee (2012-2014 (Jan.) and 2014 (Sep.)-2016) (In-charge of college website)
- Convener of Abhikriya (The Chemistry Society, 2018-2020)
- Member of Central Purchase committee (2010-2013)
- Member of IT committee (2009-2012)
- Member of NSS committee (2010-2012 and 2018-2020)
- Member of Annual Events Management committee (2009-2010)

Areas of Interest / Specialization

Specialization

- Synthetic Organic and Natural Products Chemistry

Research Interest:

- Synthesis of novel heterocyclic systems of medicinal interest and drug discovery
- Isolation and structure elucidation of natural compounds

- Interdisciplinary research for Chemistry education

Subjects Taught

Organic Chemistry Papers of B.Sc. (H) Chemistry and B.Sc. (Prog.)
Intellectual Property Rights (SEC paper) of B.Sc. (H) Chemistry and B.Sc. (Prog.)

Research Guidance

Recognized as a **PhD Supervisor** by the Department of Chemistry, University of Delhi

Undergraduate Research guidance under Innovation projects (2012 and 2015, DU), IEDC project (DST-ANDC) and ELITE-Summer Project (ANDC).

Publications Profile

Patents:

1. *Withania somnifera* plant extract and method of preparation thereof. Vijayalakshmi Ravindranath, Alok Gupta, Neha Sehgal, Subhash C. Jain, Suman Thakur and **Pankaj Khanna**.
PCT/IN2009/000430, Pub. No.: [WO/2010/013254](#), Pub. on **04.02.2010**
 - i) **US Patent Granted** on 09.07.2013, No. [US 8,481,087 B2](#). Earlier Pub No. US20110229591 A1, Pub. on 22.09.2011.
 - ii) **Chinese Patent Granted** on 17.10.2012, no. CN102076349 B. Earlier Pub No. CN102076349 A, Pub. on 25.05.2011.
 - iii) Australian Patent, Pub No. [2009277963](#), Pub. On 13.01.2011
 - iv) European Patent, Pub No. [2009787611](#), Pub. On 11.05.2011

Research Papers Published:

Year of Publication	Title	Journal	Co-author/s
2021	"In water" synthesis of bis(indolyl)methanes: a review.	Synth. Commun., 2021, doi:10.1080/00397911.2021.1957113.	Leena Khanna, Mansi, Shilpa Yadav, Neeti Misra.
2021	Synthesis, Comparative <i>in vitro</i> Antibacterial, Antioxidant & UV fluorescence studies of bis Indole Schiff bases and Molecular docking with ct-DNA & SARS-CoV-2 M ^{pro} .	Luminescence, 2021, 36(6), 1531-1543.	Sugandha Singhal and Leena Khanna.

2021	Multitarget Diallyl Disulfides (DADS) against A β Aggregation: Screening through Molecular Docking with A β ₄₂ & Zn ^{II} -A β ₁₆ , ADME, DFT & Synthetic Strategy.	ChemistrySelect, 2021, 6(17), 4112-4123	Sugandha Singhal, Neeti Misra and Leena Khanna.
2020	Spiro-Indole-Coumarin Hybrids: Synthesis, ADME, DFT, NBO Studies and In Silico Screening through Molecular Docking on DNA G-Quadruplex	ChemistrySelect, 2020, 5(11), 3420-3433	L. Khanna, S. Singhal and Subhash C. Jain.
2019	Recent trends in synthesis of benzimidazoles from o-phenylenediamine via nanoparticles and green strategies using transition metal catalysts.	J. Heterocycl. Chem., 2019, 56, 2702– 2729.	S. Singhal and L. Khanna.
2019	Synthesis, DFT studies, molecular docking, antimicrobial screening and UV fluorescence studies on ct-DNA for novel Schiff bases of 2-(1-aminobenzyl) benzimidazole.	Heliyon, 2019, 5, e02596. doi:10.1016/j.heliyon.2019.e02596	S. Singhal and L. Khanna.
2019	Hepatic lipoprotein receptor related protein modulators as potential therapeutics for Alzheimer's disease (Poster proceedings)	Alzheimer's & Dementia, 2019 15, 7(suppl.), P271	A. Ramachandran, K.V. Rupanagudi, M. Chand, S.C. Jain, H. Saranyallamathi, S.S. Thakur, V. Ravindranath
2018	Protective effects of <i>Aporosa octandra</i> bark extract against D-galactose induced cognitive impairment and oxidative stress in mice.	Heliyon, 2018, 4, e00951. doi: 10.1016/j.heliyon.2018.e00951	S.S. Panda, A.S. Girgis, A. Prakash, L. Khanna, E.M. Shalaby, N.G. Fawzy and S.C. Jain.
2018	A concise synthesis of 2-	Ind. J. Chem., 2018, 57B,	L. Khanna and

	alkenyl-3-phenyl-4H-chromen-4-ones via novel C-C bond formation using sulfone as potential intermediate	945-954	Subhash C. Jain.
2018	Microwave Assisted Synthesis of Spiro Heterocyclic Systems: A Review.	Curr. Org. Chem., 2018, 22, 67-84	L.Khanna, S.J. Thomas, A.M. Asiri and S.S. Panda.
2014	Aqua mediated synthesis of spirocyclic compounds.	Mini-Rev. Org. Chem., 2014, 11, 73-86	S.S. Panda, L. Khanna and S.C. Jain.
2013	Synthesis of various s-s linked symmetric bisazaheterocycles: A Review.	Mini-Rev. Org. Chem., 2013, 10, 268-280	L. Khanna, C.S. Panda and S.S. Panda.
2012	<i>Withania somnifera</i> reverses Alzheimer's disease pathology by enhancing low density lipoprotein receptor-related protein in liver. The Telegraph	Proc. Natl. Acad. Sci., 2012, 109(9), 3510-3515. (Impact factor 9.58)	N. Sehgal, A. Gupta, R.K. Valli, S.D. Joshi, J.T. Mills, E. Hamel, S.C. Jain, S.S. Thakur and V. Ravindranath
2012	Biginelli Reaction: A Green Perspective.	Curr. Org. Chem., 2012, 16(4), 507-520	S.S. Panda and L. Khanna.
2012	Synthetic routes to symmetric bisbenzimidazoles: a review.	Mini-Rev. Org. Chem., 2012, 9, 381-396	L. Khanna and S.S. Panda.
2009	Synthesis of novel symmetrical and unsymmetrical bis-spiro[indole-indazolyl-thiazolidine]-2,4'-diones	Arkivoc, 2009, vii, 119-125	A. Saxena, L. Khanna, S. Bhagat and S.C. Jain
2008	A facile synthesis of novel unsymmetrical bis-spiro[indole-pyrazolinyl-thiazolidine]-2,4'-diones	Arkivoc, 2008, xv, 54-64	M. Jain, R. Sakhuja, S. Bhagat and S.C. Jain

2006	Synthesis of some novel bis-spiro[indole-pyrazolinyl-thiazolidine]-2,4'-diones	Synth. Commun., 2006, 36,1863-1872	M. Jain, A. Saxena, S. Bhagat, C. E. Olsen and S.C. Jain
2006	One pot facile synthesis of 5-alkyl-1,2-dihydro-spiro[4H-3,1-benzoxazine-2,3'[3H]indol]-4,2'-diones under microwave irradiation	Ind. J. Chem., 2006, 45B, 1504-1510	A. Saxena, S. Bhagat, A. Gupta and S.C. Jain
2005	Novel fluorinated spiro [indole-indazolyl-thiazolidine]-2,4'-diones: Design and synthesis	Phosphorus, Sulfur, Silicon Relat Elem, 2005, 180, 1829-1839	S.C. Jain, S. Bhagat, M. Jain and R. Sakhuja
2004	One pot synthesis of novel 1,2-dihydro-5-methyl-spiro[4H-3,1-benzoxazine-2,3'[3H]indol]-4,2'-diones.	Ind. J. Chem., 2004, 43B, 2381-2385	A. Saxena, R. Goswami, S. Bhagat, and S.C. Jain

Conference Organization/ Presentations

1. **Facilitator** in a five day workshop on 'Empowering Teachers: Current technology based educational contents creation and delivery' at Acharya Narendra College, from 2nd-6th Dec. 2019, under the DBT Star College Scheme.
2. **Organized a One day Seminar** on Intellectual Property Rights, under the Star College Scheme (held at Acharya Narendra Dev College, University of Delhi, Delhi, on 7th November 2019).
3. **Member of the organizing committee** of two day symposium on 'Safety Measures and Laboratory Ethics' (under the DBT-STAR scheme, held at Acharya Narendra Dev College, University of Delhi, Delhi on 21st-22nd February, 2018).
4. **Organized a workshop** on 'Systematic Use of Digital Information in Academic Activities' under the Star College Scheme, (held at Acharya Narendra Dev College, University of Delhi, Delhi, on 10th November 2017).
5. **Member of the organizing committee** of workshop on *Applications of Free/Open Source Software in Science Teaching & Research* (held at Acharya Narendra Dev College, Delhi on April 14-15, 2010).
6. **Member of the organizing committee** of workshop on *Free/Open Source Software* (held at South Campus, University of Delhi, Delhi, on April 16, 2010).
7. **Member of the organizing committee** of a workshop for B.Sc. (Hons.) Chemistry students on *Use of software to create chemistry documents* (held at Acharya Narendra Dev College, Delhi, on June 6-7 2011).

Year of Publication	Title	Conference	Co-author/s
2020	Oral Presentation entitled “Computational, in vitro studies and Synthesis of Isatin based potentially bio-active molecules”	India International Science Festival (IISF-2020) under the Frontiers Area of Research-Chemical Sciences in the Young Scientist’s Conference 22 nd – 24 th December 2020.	Leena Khanna
2019	Synthesis of potential antibacterial Schiff bases of 2-aminomethyl benzimidazole and their <i>in silico</i> pharmacokinetics, in vitro UV fluorescence binding studies with ct-DNA	2019 International Conference on Nanospace Materials (ICNM 2019, University of Queensland, Australia from 1 st -4 th October 2019).	S. Singhal (Presenter) and L. Khanna
2017	Design of a Virtual Chemistry Lab for Undergraduate Students	3 rd India International Science Festival under SYPOG-Young Scientist’s Conclave, held at Anna University, Chennai (13 th -16 th October 2017).	Neeti Misra, Vibha Gaur, Rahul Dwivedi, Manish Kumar Singh, Sagar Patwal, Sachin Kumar, Shivam Agarwal, Parag Jain, Gaurav Prakash, Kunaal Madaan, Palak Sharma, Shivani Goyal.
2016	An innovative undergraduate virtual chemistry laboratory: Design and Learning Outcomes	19 th CRSI National Symposium in Chemistry (University of North Bengal, Siliguri, Darjeeling, West Bengal, on 14 th -16 th July 2016).	Neeti Misra, Vibha Gaur et al
2013	Automating physical chemistry laboratory using sensors and data acquisition systems	15 th CRSI National Symposium in Chemistry NISER, Bhubaneswar, Banaras Hindu University, Varanasi, on Feb. 1-3 2013	Rambir, Sachin, Amita, Amit Garg and Vishal Dhingra
2011	Synthesis of some coumaryl-spiroindoles of	13 th CRSI National Symposium in Chemistry	Subhash C. Jain et al.

	pharmaceutical interest	NISER, Bhubaneswar, on Feb. 4-6 2011.	
2010	Synthesis of new molecules to discover drug candidates The International Symposium on Trends in Drug Discovery and Development	5-8 January 2010, New Delhi, India	Subhash C. Jain et al.
2008	A Clean, Benign and Aqua Mediated Synthesis of Pharamacologically Active Spiro Heterocycles	The 12th Annual Green Chemistry and Engineering Conference (June 24-26, Washington DC	Subhash C. Jain (presenter), Siva Panda and Sunita Bhagat

Research Projects (Major Grants/Research Collaboration)

- **Co-PI of Innovation Project**, “Designing a virtual chemistry lab for undergraduate students,” University of Delhi, 2015-16.
- **Co-PI of IEDC Project** (Innovation & Entrepreneurship Development Centre) “Development of Low-Cost disinfectant using cow urine,” under DST sponsored scheme, 2014-15.
- **Co-PI of Innovation Project**, “Mobile Phone as a real time sensor based undergraduate laboratory” University of Delhi, 2012-13.

Elite Projects (Co-mentor):

1. To extract the coloured component of Hibiscus rosa-sinensis flower and study its potency as a pH indicator, 2019 (with Dr Neeti Misra and Dr Kavita Mittal)
2. Detection of adulterants in milk from different sources & Synthesis of metal complexes of Schiff bases using sonication, 2019 (Dr Neeti Misra, Dr Kavita Mittal and Dr Leena Khanna, USBAS, GGSIP University)
3. Study and extraction of medicinally important plant *S. chirata* & examination of chemical adulteration in food items, 2018 (with Dr Neeti Misra and Dr Kavita Mittal)
4. Spectrophotometric studies of Turmeric extracts and review of its medicinal properties, 2017 (with Dr Neeti Misra and Dr Leena Khanna, USBAS, GGSIP University)
5. Synthesis of some heterocyclic compounds and a review on benzimidazole synthesis, 2017 (with Dr Shallu Sachdeva and Dr Leena Khanna, USBAS, GGSIP University)

Awards and Distinctions

- **Digital Literacy Champion:** By Campus of Open Learning, University of Delhi. Travel to **Edinburgh College, Edinburgh, Scotland** for further Training, July 2015.
- **Vice Chancellor’s Fellowship**, University of Delhi- 2014
- **Best Poster Award and Certificate of Appreciation** for Research Display at the DU

Convocation 2016, for the work done in Innovation Project ANDC-305, "Designing a Virtual Chemistry Lab for Undergraduate Students"

- Joint CSIR-UGC Examination for **J.R.F.**
- Awarded **Senior Research Fellowship** through CSIR.

Association With Professional Bodies

- **Reviewer of ChemistrySelect, a Wiley Journal**
- **Indian Society of Analytical Scientists**

Other Activities

1. **A resource person** for the 'Workshop to develop assessment questions for the final certification of MOOCs on SWAYAM' for Chemistry XI Part II, from July 19th-21st 2021.
2. **A resource person** for the workshop to 'Develop assessment questions for MOOCs on SWAYAM', organised by CIET, NCERT, New Delhi, from July 19th-21st 2021.
3. **A resource person** for 'Workshop on Development, Enrichment and Review of e-content, Scripts and Video for School MOOCs on SWAYAM', organised by CIET, NCERT, New Delhi, from February 20th-21st, 2020.
4. Online Refresher Course in Chemistry for Higher Education Faculty under ARPIT, with an 'A' Grade (Nov 2018-Feb 2019).
5. **A resource person** for five days workshop on 'Development of guidelines for mentoring of schools by Higher Educational Institutions (HEIs) under Rashtriya Avishkar Abhiyan (RAA)', organised by DESM, NCERT, New Delhi, from 18th March-20th March 2019 and 25th March-28th March 2019.
6. The Research Based Pedagogy Tools workshop (RBPT-Level 2) for undergraduate science teachers organised by and held at IISER Pune, 17th - 19th January 2019.
7. **A resource person** for five days workshop on 'Development of guidelines for mentoring of schools by Higher Educational Institutions (HEIs) under Rashtriya Avishkar Abhiyan (RAA)', organised by DESM, NCERT, New Delhi, from 17th December-21st December 2018.
8. The pedagogy workshop (RBPT Level 1) for undergraduate science teachers organised by IISER Pune at Indian Institute of Technology, Gandhinagar, Gujarat, (10th - 13th December 2017).
9. **A resource person** in a five day workshop on "Development of e-Resources for Science at Secondary stage", held at and organized by NCERT, on 30th October – 3rd November 2017.
10. **A resource person** in a five day workshop on "Development of e-Resources for Science at Secondary stage", held at and organized by NCERT, on 13th– 17th February 2017.
11. A four week online course on "Teaching with Moodle", a Learn Moodle MOOC by Moodle HQ during January 2017.
12. **A resource person** in a session on "Blogging" at a workshop on "ICT integration in Chemistry" (organized and held at Hindu College, University of Delhi, Delhi, on October 9-10, 2015).

13. **A resource person** in a session on “Blogging” at a workshop on “ICT Usages for Teaching” (held at CPDHE, University of Delhi, Delhi, on September 1-8, 2015).
14. D-LITE program (The Digital Literacy and Innovation for Tomorrow’s Education) training under UKIERI at **Edinburgh College, Granton Campus, Scotland, UK**, on July 15-17, 2015.
15. **A resource person** in various sessions of a weeklong workshop on “Trans disciplinary Training” (held at CPDHE, University of Delhi, Delhi on May 7-13, 2014).
16. **A resource person** in some sessions of *Easy Now Techniques Workshop on Multimedia Content Development* (held at Acharya Narendra Dev College, Delhi on May 4-7, 2010).

Online live lectures at CEC-UGC's EDUSAT network:

1. [Stereochemistry I](#)
2. [Stereochemistry II](#)
3. [Stereochemistry III](#)
4. [Stereochemistry IV](#)
5. [Conformations](#)
6. [Electronic Displacements](#)
7. [Electronic Displacements II](#)
8. [Reaction Intermediates](#)
9. [Reaction Intermediates II](#)
10. [Acids and Bases \(with carbenes\)](#)
11. [Amino Acid, Peptides and Proteins](#)
12. [Amino Acid, Peptides and Proteins II](#)

Pankaj Khanna
(Dr Pankaj Khanna)
Signature of Faculty Member

- You are also requested to also give your complete resume as a DOC and PDF file to be attached as a link on your faculty page.