

## Faculty Profile

Name : Dr. Swati Chaudhary  
Designation : Assistant Professor  
Qualifications : Ph.D. (Chemistry), NET qualified, M.Sc,  
Phone : 9990618206  
Email : swati.ch@msit.in  
Area of Interest/Specialization: Organic Chemistry, Nucleic Acids Chemistry  
Experience : 3.5 years



### Key Publications

1. **Swati Chaudhary**, Amit Singh, Pankaj Kumar and Mahima Kaushik. Strategic targeting of non-small-cell lung cancer utilizing genetic material-based delivery platforms of nanotechnology. *“Journal of Biochemical and Molecular toxicology”* 35(7) (2021) e22784. <https://doi.org/10.1002/jbt.22784>.
2. **Swati Chaudhary**, Mahima Kaushik, Saami Ahmed and Shrikant Kukreti. Exploring the potential of i-motif DNA formed in the promoter region of GRIN1 gene for nanotechnological applications. *“Results in Chemistry”* 2 (2020) 100086.
3. Mahima Kaushik, Swati Mahendru, **Swati Chaudhary**, Mohan Kumar and Shrikant Kukreti. Prerequisite of a holistic blend of traditional and modern approaches of cancer management. *“Current Cancer Therapy Reviews”* 15(1) (2019) 56-64.
4. **Swati Chaudhary**, Mahima Kaushik, Saami Ahmed, Ritushree Kukreti and Shrikant Kukreti. Structural switch from hairpin to duplex/antiparallel G-quadruplex at Single-Nucleotide Polymorphism (SNP) site of Human Apolipoprotein E (*APOE*) gene coding region. *“ACS Omega”* 3(3) (2018) 3173-3182.
5. Saami Ahmed, Mahima Kaushik, **Swati Chaudhary** and Shrikant Kukreti. Formation of G-wires, bimolecular and tetramolecular G-quadruplex: Cation induced structural polymorphs of G-rich DNA sequence of human *SYTX* gene. *“Biopolymers”* 109(5) (2018) e23115.
6. Saami Ahmed, Mahima Kaushik, **Swati Chaudhary** and Shrikant Kukreti. Structural polymorphism of a cytosine-rich DNA sequence forming i-motif structure: Exploring pH-based biosensors. *“International Journal of Biological Macromolecules”* 111 (2018) 455-461.

7. **Swati Chaudhary**, Mahima Kaushik, Ritushree Kukreti and Shrikant Kukreti. Structural switch from multistranded G-quadruplex to single strands as a consequence of point mutation in the promoter of human *GRIN1* gene. “*Molecular Biosystems*” 13 (2017) 1805-1816.
8. Mahima Kaushik, Anju Singh, Mohan Kumar, **Swati Chaudhary**, Saami Ahmed, and Shrikant Kukreti. Structure specific ligand recognition of multistranded DNA structures. “*Current Topics in Medicinal Chemistry*” 17(2) (2017) 138-147.
9. Mahima Kaushik, Shikha Kaushik, Kapil Roy, Anju Singh, Swati Mahendru, Mohan Kumar, **Swati Chaudhary**, Saami Ahmed, and Shrikant Kukreti. A bouquet of DNA structures: Emerging diversity. “*Biochemistry and Biophysics Reports*” 5 (2016) 388-395.

### **Papers presented in Conferences**

1. Professor Amarnath Maitra Memorial seminar-2017 on 11<sup>th</sup> February, 2017 by Department of Chemistry, University of Delhi, New Delhi

**Oral talk-** To explore the structural difference between the  $\epsilon 3$  and  $\epsilon 4$  allele SNP of the human Apolipoprotein (APOE) Gene

2. National Symposium on Geogenic Contamination of groundwater (GCG 2016) on 22<sup>nd</sup> April, 2016 by Department of Regional water Studies, Teri University, New Delhi

**Paper presented-** Groundwater pollution

3. Recent Trends in Affordable and Sustainable Drug Discovery and Developments, 22<sup>nd</sup> ISCB International Conference (ISCBC-2016) organized during 6-8<sup>th</sup> February, 2016 by Uka Tarsadia University, Surat, Gujarat

**Paper presented-** To explore the structural difference between the APOE3 and APOE4 allele SNP of the human apolipoprotein (APOE) gene

4. Current Trends in Drug Discovery and Developments, 21<sup>st</sup> ISCB International Conference (ISCBC-2015) organized during 25<sup>th</sup>-28<sup>th</sup> February, 2015 by CDRI, Lucknow (2015)

**Paper presented-** Identification and Characterization of DNA Quadruplex Element in the Human GRIN1 Promoter Region

5. National symposium on Biophysics (IBS-2015) organized during 14<sup>th</sup>-17<sup>th</sup> February, 2015 by Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi

**Paper presented-** Plausible G-quadruplex elements in the human GRIN1 gene

## Awards and Recognitions

1. Secured 3<sup>rd</sup> rank in M.Sc. (Chemistry), Department of Chemistry, University of Delhi
2. Best poster award in 22<sup>nd</sup> ISCB International Conference (ISCBC-2016) organized during 6-8<sup>th</sup> February, 2016 by Uka Tarsadia University, Surat, Gujarat
3. Research Excellence Award by Maharaja Surajmal Institute of Technology in 2019

## Sponsored Project/Consultancy

1. “Physicochemical Investigations of the binding interactions of NHE inhibitors (Rimeporide, Amiloride and Cariporide) with APOE3/APOE4 isoforms of human *APOE* gene” funded by **DST-SERB, Government of India under the scheme ‘Teachers Associateship for Excellence Research (TARE)’**- PI (2019-ongoing) Reg. No. TAR/2019/000343.

## Book Chapters

1. **Swati Chaudhary**, Niloy Sarkar and Mahima Kaushik. Recent advances in nanotechnology for accomplishing sustainable agriculture. *Water Conservation in the Era of Global Climate Change*, (2021) 147-166. ISBN no.- 978-0-12-820200-5.
2. Niloy Sarkar, **Swati Chaudhary**, Mahima Kaushik. Nano-fertilizers and Nano-pesticides as promoters of plant growth in Agriculture, In Singh P., Singh R., Verma P., Bhadouria R., Kumar A., Kaushik M. (eds) *Plant-Microbes-Engineered Nano-particles (PM-ENPs) Nexus in Agro-Ecosystems. Advances in Science, Technology & Innovation (IEREK Interdisciplinary Series for Sustainable Development)*. Springer, Cham. (2021) 153-163. [https://doi.org/10.1007/978-3-030-66956-0\\_10](https://doi.org/10.1007/978-3-030-66956-0_10). ISBN no.- 978-3-030-66956-0.
3. **Swati Chaudhary**, Mohan Kumar, Saami Ahmed, Mahima Kaushik. Detection and Removal of Heavy metals from wastewater using Nanomaterials, In “Water resource management: Strategies and scarcity, (March, 2021) 243-272. ISBN no.- 978-1-119-69367-3.
4. Mahima Kaushik, **Swati Chaudhary**, Sonia, Komal and Shrikant Kukreti. Chapter entitled “Decoding DNA structure using NMR spectroscopy”, In “Applications of NMR spectroscopy”, 2019, vol 7, 144-163. ISBN no.- 978-1-68108-642-2.
5. Mahima Kaushik, Swati Mahendru, Mohan Kumar, **Swati Chaudhary**, Saami Ahmed, Sonia, and Shrikant Kukreti. Chapter entitled “Overview of Chemoresistance in Cancerous cells”, In “Frontiers in Drug Design & Discovery”, 2018, Vol 9, 35-90. ISBN no.- 978-1-68108-583-8.

### **Memberships of Professional bodies**

1. Life Member, Indian Biophysical Society
2. DNA Society of India (DSI)
3. Indian Science Congress

### **Other Contributions**

1. Successfully completed three AICTE modules titled Professional Ethics and Sustainability, Communication Skills and Knowledge Dissemination and Student Assessment and Evaluation.
2. Successfully completed AICTE-ISTE approved Orientation/Refresher Programme on 'Use of ICT in Engineering Education' during 7<sup>th</sup>-13<sup>th</sup> April, 2021 organized by Maharaja Surajmal Institute of Technology.