

Dr. KOMAL*Assistant Professor (Chemistry)**Bhagwan Parshuram Institute of Technology**Rohini, Delhi**Permanent Address : A-123, Second Floor, Hari Nagar, New Delhi-110064**Email : mehrakomal201993@gmail.com**Mobile number : +91-7503846300***SUMMARY*****Educational qualification*** : B.Sc. (H) Chemistry, M.Sc. (Organic Chemistry) and Ph.D.***Related fields*** : Biochemistry, nanochemistry, analytical and material chemistry***Experimental skills*** : Nanoparticles synthesis, physicochemical characterization techniques, experimental working with genomic DNA and DNA oligomer sequences, Gel electrophoretic techniques, bioinformatics studies***Instrumental skills*** : UV-Visible, UV-thermal melting and fluorescence spectrophotometers, Transmission Electron Microscopy, High Resolution-X-Ray Diffraction, Circular Dichroism, FT-IR, Dynamic Light Scattering, Gel electrophoresis techniques (agarose & polyacrylamide)***Computer skills*** : Basic computer knowledge including working with Microsoft office, Chem Draw, Origin Pro.***Additional skills*** : Literature survey, preparing research manuscripts and review articles, management and prioritization of multiple works, good communication skills with proficiency in English and Hindi languages, delivering work orientated presentations, Diploma in Fine arts.**EDUCATIONAL QUALIFICATIONS**

Examination	Board/ Name of Institution	Year of Passing	Percentage (%)
Ph.D. (Chemistry)	University of Delhi	Feb, 2023	-----
M.Sc. Chemistry Specialization: Organic Chemistry	Hansraj College University of Delhi	2014-2016	68.81

B.Sc. (H) Chemistry	Hansraj College University of Delhi	2011-2014	82.00
School level: XII	CBSE	2011	90.00
School level: X	CBSE	2009	92.00

WORK EXPERIENCE

April-2022 to Till Date: Assistant Professor in Bhagwan Parshuram Institute of Technology, Delhi.

EXPERIMENTAL SKILLS

- Practical experience of **nanochemistry** and **biochemistry**
 - Expertise in designing and environmental benign **synthesis of nanoparticles**
 - Handling and working knowledge of DNA sequences
 - **Biophysical & biochemical analysis** of genomic DNA and short oligomer DNA sequences
 - Performing **bioinformatics analysis** of DNA sequences
 - Characterization of nanomaterials by various **spectroscopic** and **microscopic** techniques including UV-Visible, High resolution transmission electron microscopy (HR-TEM), FTIR spectroscopy, X-Ray Diffraction analysis, etc.
 - Expertise in checking the purity and structural analysis of DNA sequences using Denaturing & native **PAGE** and **agarose gel** electrophoretic techniques.
 - Expertise in **instrument handling** including pH meter, UV-Visible spectrophotometers, Circular dichroism spectrophotometers, UV-Thermal melting spectrophotometer, and fluorescence spectrophotometers.
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COMPUTER SKILLS

Working knowledge of basic software including:

- ❖ Microsoft Office
 - ❖ End Note
 - ❖ ChemDraw
 - ❖ Origin
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ADDITIONAL SKILLS

- ❖ Performing literature survey
 - ❖ Preparing scientific articles or manuscripts for publication
 - ❖ Good communication skills with proficiency in English and Hindi language
 - ❖ Delivering work oriented presentations
 - ❖ Diploma in Fine Arts
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DETAILS OF RESEARCH PAPERS

1. **A comparative catalytic kinetics study for exploring dye degradation potential of silver , gold and palladium nanoparticles**

Komal Mehra, Shrikant Kukreti, Mahima Kaushik

Journal of Nanoparticle Research, 2023.

2. **Nanomaterials and DNA multistranded structures: a treasure hunt for targeting specific biomedical applications**

Komal Mehra, Sonia Khurana, Shrikant Kukreti, Mahima Kaushik

Journal of Biomolecular Structure and Dynamics, 2022,

3. **Gold Nanoclusters: An Ultrasmall Platform For Multifaceted Applications**

Sonia, **Komal**, S. Kukreti, M. Kaushik*

Talanta 2021, 122623.

4. **Exploring the potential of environment friendly silver nanoparticles for DNA interaction: Physicochemical approach**

Komal, Sonia, S. Kukreti, M. Kaushik*

Journal of Photochemistry and Photobiology B: Biology 2019, 194, 158-165.

5. **Exploring the DNA damaging potential of chitosan and citrate –reduced gold nanoparticles: Physicochemical approach**

Sonia, **Komal**, S. Kukreti, M. Kaushik*

6. Emerging trends in advanced nanomaterials based electrochemical genosensors

M. Kaushik*, Sonia, **Komal**, Neelam, S. Mishra, S. Kukreti

Current Pharmaceutical Design, 2018, 24, 1-13.

7. BENTHAM SCIENCE PUBLISHERS (2019): (20 PAGES)

Chapter entitled “**Decoding DNA structure using NMR Spectroscopy**”,

M.Kaushik*, S. Chaudhary, Sonia, **Komal**, S. Kukreti

In “Applications of NMR Spectroscopy” 8/19/2016-Ebk Series/NMR/EOI-41

8. POPULAR ARTICLES IN MAGAZINES (2018)

Article entitled “**Science behind smog and its ominous implications**”

M.Kaushik, A.Singh, N. Sarkar, Neelam, **Komal**, Sonia, R.S.Sharma, S.Kukreti

In Down to earth magazine, April, 2018 issue.

AWARDS & FELLOWSHIPS RECEIVED

1. 2022, Qualified GATE
2. December 2017, Won **Third Prize in poster** at ONE-DAY INDO-HUNGARIAN SYMPOSIUM on Recent Advances in Chemistry and Biology, Miranda House, University of Delhi.
3. September 2017, Won **Second Prize in poster** at BIOTIKOS 2017, Trends in Nanobiotechnology, Department of Biotechnology, TERI University, New Delhi.
4. 2017, Qualified **CSIR-UGC JRF** (December, 2016)
5. 2013, Won **Certificate of Merit** for *Vibha Trikha Memorial Prize* by Hansraj College Delhi University.

6. 2011, Won **Indira Awards in Academic Excellence** in Senior Secondary Examination by Directorate of Education Govt. of NCT of Delhi.
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POSTERS PRESENTED & CONFERENCES ATTENDED

1. March 11-16, 2024: **Attended Faculty Development Programme** on Research & Innovation: Proposed Writing Tools, Techniques And Funding organised by SRM Institute of Science and Technology Delhi-NCR Campus in collaboration with Mahatma Hansraj Malaviya Mission Teacher Training Centre (MH-MMTTC), Hansraj College, University of Delhi
2. July 5, 2023: **Attended One day conference** on Mainstreaming Disaster Risk Reduction in Governance at Indian Institute of Public Administration, Delhi, India.
3. May 3, 2023: Organized IKS exhibition Event under G20: Lifestyle for Environment as **Faculty Coordinator** at Bhagwan Parshuram Institute of Technology
4. April 11, 2023: Attended One day conference as **Master Trainer** on River Management-Conservation as Culture at Indian Institute of Public Administration, Delhi, India.
5. February 22, 2023: Organized G20: Lifestyle for Environment Event as **Faculty Coordinator** at Bhagwan Parshuram Institute of Technology
6. January, 7-9th, 2019: **Presented poster** at 6th World Congress on Nanomedical Sciences ISNSCON-2019 and Chemistry Biology Interface Synergistic in New Frontiers, Vigyan Bhawan, Delhi, India.

Title: Environment-friendly silver nanoparticles: Investigating the interaction with Calf-Thymus DNA and catalytic reduction of dyes

7. December, 11, 2017: **Presented poster** at ONE-DAY INDO-HUNGARIAN SYMPOSIUM on Recent Advances in Chemistry and Biology, Miranda House, University of Delhi.

Title: An environmentally benign approach to synthesize Silver nanoparticles using *Epipremnum aureum* leaf extract and its interaction studies with Calf Thymus DNA

8. October, 10-11, 2017: **Presented poster** at National Conference on Recent Advances in Chemical Sciences towards Green and Sustainable Environment, Aditi Mahavidyalaya, University of Delhi.

Title: Physicochemical studies of silver nanoparticles prepared using *Epipremnum aureum* leaves extract with Calf Thymus DNA.

9. September, 28-29, 2017: **Presented a poster** at BIOTIKOS 2017, Trends in Nanobiotechnology, Department of Biotechnology, TERI University, New Delhi.

Title: Green synthesis of silver nanoparticles using *Epipremnum aureum* leaf extract and its interaction studies with Calf Thymus DNA

10. January, 30-31, 2017: **National Workshop** on Nanotechnology-Emerging frontiers and applications, Shyam Lal College, University of Delhi.

11. January, 21, 2017: **Technical Workshop** on Molecular Modelling and Structure based Drug Designing, Bhaskaracharya College of Applied Sciences, University of Delhi.

Date of Birth : 20th November, 1993
Father's Name : Mr. Rajesh Kumar

Date:

Place: New Delhi

(KOMAL)