

curriculum vitae of
Harjasnoor Kakkar
DEPARTMENT OF CHEMICAL SCIENCES
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI

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EDUCATION

2016 – present	BS-MS dual degree	INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI
	Cumulative Performance Index at the end of 8 semesters : 7.2/10.0 Cumulative Performance Index for the last 2 years : 7.7/10.0 Currently in 5th year as a chemistry major	
2016	Intermediate (12th)	BAL NIKETAN MODEL SENIOR SECONDARY SCHOOL, CHANDIGARH (CBSE)
	Grade: 90.3% Physics, Chemistry, Mathematics Grade: 88.4% English, Physics, Chemistry, Mathematics, Physical Education	
2014	Matriculation	SHIVALIK PUBLIC SCHOOL, MOHALI (CBSE)
	Cumulative Grade Point Average : 10.0/10.0	

RESEARCH EXPERIENCE

Aug-present 2020	Guide: Assoc. Prof. Sugumar Venkataramani	DEPT. OF CHEMISTRY, IISER MOHALI
	Exploring photochemistry and photodissociation of <i>N</i> -iodosuccinimide using matrix isolation FTIR spectroscopy at cryogenic conditions Computational studies of all possible succinimide radicals using Gaussian09 software	
Summer 2019	Guide: Assoc. Prof. Sugumar Venkataramani	DEPT. OF CHEMISTRY, IISER MOHALI
	Ab-initio studies of structural isomers of astrochemically relevant molecules (HC ₄ and HC ₅) to understand structure, stability, and free electron interactions	
Summer 2018	Guide: Assoc. Prof. R Vijaya Anand	DEPT. OF CHEMISTRY, IISER MOHALI
	Separation and purification of organic compounds using TLC, column chromatography, HPLC, solvent extraction	
Summer 2017	Guide: Prof. K S Viswanathan	DEPT. OF CHEMISTRY, IISER MOHALI
	Molecular simulations of Hydrogen-bonded complexes using Gaussian09 software and rotational-vibrational analysis of IR spectra	

SCHOLASTIC ACHIEVEMENTS

TOEFL iBT score: Total score: 112/120. Reading- 28, Listening- 30, Speaking- 26, Writing- 28
General GRE score: Total score: 329/340. Quantitative Reasoning- 170, Verbal Reasoning- 159, Analytical Writing- 4.5
Recipient of **INSPIRE Fellowship** from the Department of Science and Technology, Government of India
Secured All-India Rank 9548 in **JEE Advanced** 2016

RESEARCH INTERESTS

SPECTROSCOPY

Microwave Spectroscopy
Matrix Isolation

2D and Time Resolved Spectroscopy
Molecular Dynamics Simulation

PHYSICAL ORGANIC CHEMISTRY

Reaction Mechanisms

COMPUTATIONAL CHEMISTRY**PSYCHOLOGY**

Cognitive

Comparative

RELEVANT COURSES**THEORY**

Computational Chemistry; Photochemistry- Concepts, Techniques and Applications; Physical Organic Chemistry; Molecular Spectroscopy; Symmetry in chemistry; Organic Chemistry; Analytical Chemistry; Selected Analytical Techniques; Soft matter, Colloids and Interfacial Phenomena; Energetics and Dynamics of Chemical Reactions; Spectroscopic and other Physical Methods; Quantum Chemistry; Statistical Thermodynamics; Main Group Chemistry; Transition Metal Chemistry; Electrochemistry and Ionic Equilibria; Chemistry of Materials; Differential Equations for Scientists

LABORATORY

Physical Chemistry; Organic Chemistry; Inorganic Chemistry; Analytical Chemistry

ADDITIONAL COURSES

Statistics and Probability; Genetics and Evolution; Behaviour and Ecology; Gene Expression and Development; Demystifying the Brain (NPTEL)

COURSERA CERTIFIED COURSES

Introduction to Psychology; The Science of Well-Being; Moralities of Everyday Life

CONFERENCES ATTENDED

2020	Virtual ACES-CRSI Symposium 2020	ONLINE
2020	NeuroNovember Convention 2020	ONLINE
2020	Stanford HAI 2020 Fall Conference	ONLINE
2019	RSC sponsored RAOBC Symposium 2019	IISER MOHALI
2019	ISB Leadership Summit 2019	ISB MOHALI

TECHNICAL SKILLS

Programming Languages: Python, Sage

Software: vscode, Gaussian09

Operating Systems: Linux, Microsoft Windows

Others: L^AT_EX, gnuplot

EXTRACURRICULAR ACTIVITIES

Active member and volunteer of the institute's chemistry club "**Curie Club**" at IISERM. Trained in various field workshops such as machine shop, woodwork, electrical and fitting workshops.

Volunteer for IISERM Foundation Day and Insomnia (IISERM cultural and science fest).

Earned the **A certificate** as an **NCC** (National Cadet Corps) cadet.

REFERENCES

Dr. Sugumar Venkataramani (Associate Professor, Department of Chemical Sciences)
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