

Curriculum Vitae

Dr. Ajay L. Desai

M.Sc. (Gold Medalist), Ph. D. (Chemistry)

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Objective

To pursue a carrier in an organization providing consistent growth and opportunity to learn as well as to contribute and that allows me to explore my potential and sharpen my skills.

Highlights

- Knowledge and expertise of Synthetic organic, Nanoparticles and Sensors.
- Natural product derived nanoparticles.
- Experience in design and organic synthesis using various name reactions Structural determination of complex molecules using spectroscopic techniques including FT-IR, NMR, UV-Vis., Mass, XRD, EDX etc.
- Sound knowledge of using computer applications, scientific software and scientific database: Scopus, SciFinder, Science Direct etc
- Excellent oral / written communication as well as presentation skills.

Education

Ph.D. Chemistry

Ganpat University

2021

M.Sc. Chemistry

(Gold Medalist)

Ganpat University

2016

B.Sc. Chemistry

St. Xavier's College

Gujarat University

2014

H.S.C.
SVV-Mehsana
G.S.H.E.B
2011

S.S.C.
Divine Child School
C.B.S.E.
2009

Short synopsis of my work

Functionalized Supramolecular Assemblies: Synthesis, Characterization and Applications

Novel supramolecular assemblies were synthesized with its applicable functionalization and further derivitization was carried out. It would act as a good colorimetric as well as Fluorescence sensors which can be beneficiary in the field of detection of various guest molecules. Its applications were also extended to Nanoparticles. Futher their Ion-binding properties with biological and environmentally important metal ion, Amino acids was also studied.

- Synthesis and characterization of supramolecular derivatives and Fluorescence sensor.
- Applications in the field of Metal complexes, amino acids, biomolecules, sensor and Nanomaterials

The novel work was carried out at Department of Chemistry, Mehstana Urban Institute of Sciences, Ganpat University, Mehstana, Gujarat, India under the guidance of Dr. Keyur D. Bhatt.

M.Sc. Dissertation

Six month dissertation work was carried out titled "Design and Synthesis of Rhodamine Based Fluorescent Molecular Sensors and Their Ion Recognition Study" under guidance of Dr. Sanjay Parihar at Mehstana Urban Institute of Sciences, Ganpat University, Kherva.

Research Experience

Guided 20+ M.Sc. Dissertation students in the field not only limited to sensors but also the studies of the organic manure, water, cow urine and natural products and their effect on soil fertility.

Academic Experience

Working as Assistant Professor at Department of Chemistry, Mehstana Urban Institute of Sciences, Ganpat University, Mehstana, Gujarat from July 2016 to till date.

Skills & Expertise

- Expertise in operating Windows OS, MS-Office, ChemDraw, Origin, Internet etc.
- Familiar with Patent, literature search and knowledge of Scifinder, Science direct, SDBS, Scopus and various database searches.
- Team worker, hardworking, Enthusiastic, Punctuality, adaptable and ability to cope up as per time constraints.
- Flexible and responsive in face of the demanding situations.
- Relation making ability with wide range of people.
- Have good Practical, Communication & Presentation Skills. Hands on experience in operating instruments, various software's, chemical synthesis etc.

Leadership/Team Work Experience

- Good leadership qualities which can be judged with my current portfolios which has seen exceptional rise in success; some of which includes:
 - ❖ Chemistry Research Laboratory Coordinator
 - ❖ N.S.S. Program Officer
 - ❖ Institute Sports Coordinator
 - ❖ Admission Cell Coordinator
 - ❖ Annual Day Coordinator etc. at Mehsana Urban Institute of Sciences, Ganpat University.
- Proposed, established and developed Chemical Research Laboratory at Department of Chemistry, Mehsana Urban Institute of Sciences, Ganpat University.
- Served as a key person in Accommodation, Hospitality and Transport committees for various events (Regional, National and International) held at Ganpat University.
- Successfully Coordinated Hands on Workshop on Sophisticated Instruments.
- Organized & coordinated, Webinar on working Principles of HPLC & Its Application.

Research Publications

- ❖ Iron Oxide Nanoparticles: Synthesis & Characterization by Chemical Deposition Method
Keyur D. Bhatt, Ajay L. Desai, Surbhi Upadhyay.
International Journal for Research in Applied Science & Engineering Technology Volume 6 Issue 3, March 2018, International-ISSN:2321-9653, SJ Impact Factor:6.887.
- ❖ Designing of a Mathematical Model & Synthesis of a Fluorescent Sensor Which Can Selectively Bind With Drug for Targeted Delivery Using Magnetic Field.
Ajay L. Desai, Vishal Pillai, Keyur D. Bhatt.
Mathematics Today, International ISSN:0976-3228, UGC Approved #47789, Volume 34(A), April-2018, Page No. 1.
- ❖ Supramolecular Chemistry A Versatile Approach To Nanomaterial: A Review
Keyur D Bhatt, Ajay L Desai, Dashrath Kanzariya
Medwin & Analytical Chemistry International Journal, Volume 3 Issue 3, 2019
ISSN: 2639-2534, DOI: [10.23880/macij-16000143](https://doi.org/10.23880/macij-16000143).
- ❖ Heavy metal contaminant degradation from environment using potential agents
Joshi Anushri, Desai Ajay, Mehta Kavita, Bhatt Keyur, Jain B.K.
International Research Journal of Environmental Sciences, Vol. 8(4), 1-11, October (2019), ISSN 2319-1414.
- ❖ Coupling reactions by highly efficient Octacalix[4]pyrrole wrapped Scrupulous Nano-palladium catalyst
Keyur D. Bhatt, Ajay Desai, Krupal Modi, Anita Kongor

- Biointerface Research in Applied Chemistry, 2020, Volume 11, Issue 1, 2021,7632-7645,International-ISSN:20695837, DOI: [10.33263/BRIAC111.76327645](https://doi.org/10.33263/BRIAC111.76327645).
- ❖ Functionalized Silver Nanoparticles as Colorimetric and Fluorimetric Sensor for Environmentally Toxic Mercury Ions: An Overview
Nandan C. Pomal, Keyur D. Bhatt, Krunal M. Modi, Ajay L. Desai, Nihal P. Patel, Anita Kongor, Viliam Kolivoška
Journal of Fluorescence, 10 February 2021, DOI: [10.1007/s10895-021-02699-z](https://doi.org/10.1007/s10895-021-02699-z).
 - ❖ Chemistry of Molecular Assemblies: Macrocyclic Compounds and their Applications
Ajay L. Desai, Kavita S. Mehta, Jaymin Parikh, Keyur D. Bhatt.
Asian Journal of Biological and Life Sciences, Sciences, Vol 10, Issue 1, Jan-Apr, 2021, DOI:[10.5530/ajbls.2021.10.xx](https://doi.org/10.5530/ajbls.2021.10.xx).
 - ❖ Calix[4]pyrrole based Scrupulous probe for track on of tryptophan: Host-guest interaction, In silico modeling and molecular docking insights
Ajay L. Desai, Keyur D. Bhatt, Krunal Modi, Nihal Patel, Manthan Panchal, Anita Kongor, Chirag N. Patel, Alan Liška
Chemical Physics, 2021, Volume 554, Page Number: 111426
DOI : [10.1016/j.chemphys.2021.111426](https://doi.org/10.1016/j.chemphys.2021.111426).
 - ❖ A versatile enrichment of functionalized calixarene as a facile sensor for amino acids
Jaymin Parikh, Keyur Bhatt, Krunal Modi, Nihal Patel, Ajay Desai, Sandeep Kumar, Brij Mohan
Luminescence, 2021, Volume 37, Page: 370-390,
DOI : [10.1002/bio.4186](https://doi.org/10.1002/bio.4186).
 - ❖ In silico studies and design of scrupulous novel sensor for nitro aromatics compounds and metal ions detection
Ajay L. Desai, Keyur D. Bhatt, Krunal M. Modi, Nihal P. Patel, Jaymin H. Parikh
Journal of Fluorescence, 2022, Volume 32, Issue-2, Page Number: 483-504,
DOI : [10.1007/s10895-021-02866-2](https://doi.org/10.1007/s10895-021-02866-2).
 - ❖ Novel edifice calix[4]pyrrole derivatives as a potential sensor for the detection of analytes and in silico computational behavior
Ajay L. Desai, Keyur D. Bhatt, Krunal M. Modi, Chirag Patel, Shibu G. Pillai
Talanta Open, 2022, Volume: 5, 100115,
DOI : [10.1016/j.talo.2022.100115](https://doi.org/10.1016/j.talo.2022.100115).
 - ❖ Solubility modeling of a Bupivacaine Hydrochloride in various solvents over a wide temperature range
Ravibhai Bhola, Rizwan Ghumara, Chirag Patel, Keyur Bhatt, Sarika Patel, Jaymin Parikh, Ajay Desai, and Hasit Vaghani
ACS: Journal of Chemical & Engineering Data, 2023, Volume: 68, 3, 744-756
DOI: [10.1021/acs.jced.2c00741](https://doi.org/10.1021/acs.jced.2c00741).

Ongoing Projects

- ❖ Major Research Project (MRP) entitled “*Calix Systems: Scrupulous Fluorescent Sensor for Selective and Sensitive Detection of Molecular Ions*” funded by GUNI-CARS (Rs. 3.0 Lakhs) in which I’m acting as Co-PI.
- ❖ Co-Founder of Innovative Project Titled “*A Versatile Foresighted Passive Solar Unit*” which is funded by SSIP Start-Up (Grant of Rs. 2.0 Lakhs).

Patents

- ❖ IOT based aerobic in-vessel compost device
UK Design, Design Number: 6279604, 2023,
www.registereddesignservice.gov.uk/find/6279604.

Books

- Rhodamine based fluorescent molecular sensor (Lambert Academic Publisher)
Ajay Desai, Sanjay Parihar and Keyur Bhatt (978-613-9-82482-3)
- Chemical Analysis of Soil and Water Samples (Xpress Publishing, Notion Press)
Ajay Desai, Keyur Bhatt and Kinjalkumar Patel (978-1-64546-002-2)
- Design and synthesis of Fluorochemosensors and their ion recognition study(Grin Verlag)
Ajay Desai (9783668945296)

International/National Conferences

Poster presentation was accomplished at the following conferences/seminar

Name of Conference/Workshop/Seminar	International/ National	Year
<i>International Conference on Recent Innovation in Science and Workshop on Spectroscopy and its Perspectives</i>	National	September-2017
<i>Advance in Pure & Applies Science-GAMS</i>	International	December-2017
<i>National Convention of society of Pharmacognosy</i>	National	January-2018
<i>International conference on "Integrating Ayurveda & Herbal Drugs for Next Generation Therapeutics & Supplements: Opportunities & Challenges"</i>	International	January-2018
<i>International Conference on Supramolecules & Forensic Nanotechnology</i>	International	February-2018
<i>State Level Seminar on IPR (Attended)</i>	National	September-2018
<i>Role of QbD-DoE in Pharmaceutical Product Development</i>	National	September-2018
<i>Shodh-GNU Student Research Convention</i>	National	October-2018
<i>Analytical Spectroscopy: Recent Trends & Its Advancements</i>	National	July-2019
<i>7th Asian Network for Natural & Unnatural Materials</i>	International	September-2019

<i>34th Gujarat Science Congress:2020</i>	National	February-2020
<i>National e-Conference on Recent Advances in Science & Technology</i>	National	May-2020
<i>International Virtual Conference on Green Chemistry For Clean Environment</i>	International	October-2020
<i>International Conference on Fundamental and Applied Science(ICFAS-2021) (Attended)</i>	International	March-2021
<i>International Virtual Conference on Frontiers in Chemical Sciences (IVCFCS-2021)</i>	International	June-2021
<i>International E-Conference on Recent Advances in Chemical, Physical and Biological Sciences (Attended)</i>	International	June-2021
<i>Materials of Millennium: Emerging Trends and Future Prospects (MMETFP)</i>	International	November-2021
<i>ChemFest-2021</i>	National	December-2021
<i>International Conference on Food, Agriculture, Science & Technology (INCOFAST)</i>	International	December-2022

Faculty Development Programs

Theme of FDP	Name of the Organizing Institute	Year
<i>Five day online Faculty Development Program (FDP) on "Linux"</i>	Pramukh Swami Science & H D Patel Arts College, Kadi (Gujarat) in association with Spoken Tutorial, IIT Bombay	May 01 - May 05, 2020
<i>Five Days Faculty Development Programme on "Manufacturing and Recyclization of Engineering Materials-Cement, Glass and</i>	Swami Keshavanand Institute of Technology, Management & Gramothan, Jaipur	Aug. 10 - Aug. 14, 2020

<i>Ceramics</i>		
<i>(Self-reliant India) (MRCGC2020)</i>		
<i>Three days Faculty Development Programme on "Opportunities and Challenges of E-Vehicles in India"</i>	Rajasthan Technical University, Kota & Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur	Sept. 02 - Sept. 04, 2020
<i>Three Day Faculty Development Programme on "Nano-Materials and its Applications in Science and Technology"</i>	Rajasthan Technical University, Kota Vivekananda Institute of Technology, Jaipur	Sept. 07 - Sept. 09, 2020
<i>One Week Faculty Development Programme on "Industry 4.0"</i>	Rajasthan Technical University, Kota Poornima College of Engineering, Jaipur	Sept. 14 - Sept. 18, 2020
<i>GUJCOST & DST Sponsored Four Days Faculty Development Programme on "Green Chemistry & Technology for Sustainable Engineering"</i>	P. P. Savani University, Gujarat	Jan. 18 - Jan. 21, 2021
<i>One Week Faculty Development Programme on "Research Methodology"</i>	Amar Seva Mandal's Kamla Nehru Mahavidyalaya, Nagpur	April 26 - May 01, 2021
<i>Seven Days Virtual Faculty Development Programme on "Recent Advances in Chemistry"</i>	R.K. University, Gujarat	Dec. 27, 2021- Jan 04, 2022
<i>Five Days Online Faculty Development Program on "Mentoring for Institutional Social Responsibility and Facilitation for Community Engagement"</i>	Faculty Development Centre Mahatma Gandhi National Council of Rural Education, Department of Higher Education, Ministry of Education, Government of India Hyderabad, Sponsored by	Feb. 08 - Feb. 12, 2022

	Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching	
<i>Seven Days Virtual Faculty Development Programme on "Recent Advances in Chemistry"</i>	R.K. University, Gujarat	Dec. 27, 2021- Jan 04, 2022
<i>One week Faculty Development Programme on "Computational Modelling of Materials"</i>	Madanapalle Institute of Technology & Science	May 08, 2023- May 12, 2023

STTP/ Workshop/ Orientation

Title of STTP/ Workshop/ Orientation	Name of the Organizing Institute	Year
<i>Online course on "Basics in Chromatography"</i>	DIPAM Foundation & Sheth M. N. Science College, Patan	April 27 – May 06, 2020
<i>Online Workshop on Research Methodology on "Ethics in Research"</i>	Pandit Deendayal Petroleum University, Gandhinagar	May 05, 2020
<i>Online Workshop on Research Methodology on "Writing Research Paper"</i>	Pandit Deendayal Petroleum University, Gandhinagar	May 06, 2020
<i>Online Workshop on Research Methodology on "Reviewing Literature"</i>	Pandit Deendayal Petroleum University, Gandhinagar	May 07, 2020
<i>Live Session on Innovation Commercialization for Atmanirbhar Bharat</i>	National Research Development Organization, Turnip Innovation Pvt. Ltd.	Aug. 14, 2020
<i>Module on "The fundamentals of peer review for</i>	Researcher Academy, Elsevier	Aug. 16, 2020

<i>the Chemical Sciences”</i>		
<i>Module on “Introduction to the Certified Peer Reviewer Course”</i>	Researcher Academy, Elsevier	Aug. 16, 2020
<i>Module on “Ethics responsibilities for peer reviewers”</i>	Researcher Academy, Elsevier	Aug. 16, 2020
<i>International Workshop on “Supporting Chemistry Research with modern DFT (Density Functional Theory): Software, Techniques and Applications ”</i>	Sankalchand Patel University	Feb. 05 - Feb. 16, 2021
<i>Two days Virtual National Seminar on “Emerging Trends In Chemical and Materials Sciences”</i>	KSV, Gandhinagar	July 22 – July 23, 2021
<i>One week online Short Term Training Programme (STTP) in association with Center for Continuing Education (CCE) on “Organic-Inorganic Hybrid Materials” (OIHM-2021)</i>	Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat	Oct. 04 - Oct. 08, 2021
<i>National Webinar on “Elemental Analysis by CHNS/O Analyzer”</i>	Sophisticated Instrumentation Centre for Advanced Research & Testing (SICART), Vallabh Vidyanagar	Oct. 08, 2021
<i>Research Orientation Program & Workshop on “Research Proposal Writing”</i>	Ganpat University	Oct. 23, 2021
<i>International Desktop Seminar on Chemical Sciences</i>	Ganpat University	April 11 – April 12, 2023

Personal information

- Date of Birth: February 27th, 1993
- Fathers Name: Mr. Lalbhai M. Desai
- Mothers Name: Mrs. Kantaben L. Desai
- Gender & Marital status: Male & Married
- Languages Known: English, Hindi and Gujarati
- Research Experience-08 years
- Academic Experience-07 years

Hobbies & Interests

- Playing Cricket, Badminton, Football, Volleyball, Swimming etc.
- Reading, Internet surfing.
- Adventurous activities.
- Clubbing up Agriculture and Animal Husbandary with modern technology.
- Gandhian activities: Nai Talim (Upliftment of India through development of villages).

References

Dr. K. D. Bhatt

Associate Professor,
Department of Chemistry,
Mehsana Urban Institute of Sciences
Ganpat University, Mehsana -384012,
Gujarat, India
Cell: +91-9825591630
E-mail: drkdbhatt@outlook.com

Dr. R.K. Patel

Pro-Vice Chancellor,
Ganpat University,
Mehsana, Gujarat, India
Cell: +91-9427604274

Declaration

I, hereby declare that the information mentioned herewith is correct to my knowledge and I will be responsible for any of the discrepancy.

Dr. Ajay L. Desai