



**BRIEF RESUME**  
**DR. KALPANA SINGH**

Name of Teacher: Dr. Kalpana Virendra Singh

Educational Qualifications: M.Sc, M.phil, Ph.D from H.P.University Shimla

Affiliation: Department of Chemistry, Govt. Madhav Science  
P.G. College Ujjain

Current Designation: Professor

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Contact No. : 9713389538

Total Teaching Experience: 28 Years

Important administrative responsibilities: Director IQAC, RUSA Nodal Officer, World Bank Coordinator, Incharge Janbhagidari.

**PAPERS PUBLISHED:**

- THIN LAYER CHROMATOGRAPHIC BEHAVIOUR AND SEPARATION OF SOME CARBOXYLIC ACIDS ON HEULANDITE AS A NEW ADSORBENT. Journal of Indian Chemical Society. 1992 ISSN 0019-4522 CODEN JICSAH
- EQUIVALENT PORE DIMENSIONS AND MEMBRANE CHARACTERIZATION PARAMETERS IN TRANSPORT PHENOMENON ACROSS ION EXCHANGE MEMBRANES (58-64). IOSR Journal of Applied Chemistry Vol : 9 Issue : I Jan.2016 ISSN2278 - 5736
- MICROWAVE ASSISTED SYNTHESIS, A GREEN PROTOCOL FOR DEVELOPMENT OF NEW AND ADVANCED DRUG DELIVERY SYSTEMS, A REVIEW (52-54). International Journal of Research –GRANTHAALAYAH Vol : 3 Issue : 9 sept.2015 ISSN2350 -0350
- LASER TWEEZERS IN DRUG DESIGNING. Journal of Advances in Science and Technology Vol : 10 Issue : 21 Feb. 2016 ISSN2230 -0350 9659
- FILTRATION COEFFICIENT IN TRANSPORT PHENOMENON ACROSS ION EXCHANGE MEMBRANES. IOSR Journal of Applied Chemistry(25-31) Vol : 9 Issue : 4 Apr.2016 ISSN2278 -5736
- ANTI-NEOPLASTIC DRUG-BIOMEMBRANE INTERACTION STUDIES THROUGH BIO MEMBRANE MODELS AND THEIR UTILITY IN DRUG DESIGN AND DEVELOPMENT. IOSR Journal of Applied Chemistry(25-31) Vol : 9 Issue : 5 May2016 . ISSN2278 - 5736

- CHALLENGED GROUND WATER FOOT PRINTS, "A PRESSURE INDICATOR" FOR UPCOMING UJJAIN GROUND WATER CRISIS, AN ANALYSIS IN SIMHASTHA 2016 CONTEXT (28-35) Vol : 9 Issue : 6 June 2016 . ISSN2278 -5736
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- NON EQUILIBRIUM THERMODYNAMIC STUDIES THROUGH ACTIVATION PARAMETERS IN TRANSPORT PHENOMENON ACROSS ION EXCHANGE MEMBRANES.(54-66) ) IOSR Journal of Applied Chemistry(25-31) Vol : 9 Issue : 8 August 2016 . ISSN2278 -5736
- MOLECULAR DOCKING STUDIES OF DEACETYLBISACODYL WITH INTESTINAL SUCRASEMALTASE ENZYME Journal of Chemical and Pharmaceutical Research2016, 8(11): (70-74). ISSN : 0975-7384
- ZIKA VIRUS SERINE PROTEASE COMPLEX (NS2B-NS3) INHIBITION BY 2-AMINO-5{[(1Z)-AMINO ({{[Z]-BENZOYL IMINO}) METHYL] AMINO}-N-(5-AMINO-7-{{[CARBAMOYL (PHENYL) METHYL] AMINO}-6-OXOHEPTYL) PENTANAMIDE, IN SILICO STUDIES. Asian Journal of Pharmaceutical and Clinical Research, Vol 10, Issue 5, 2017.ISSN Online - 2455-3891 Print - 0974-2441
- MOLECULAR DOCKING OF AMITRIPTYLINE TO CERULOPLASMIN, RETINOL- BINDING PROTEIN, AND SERUM ALBUMIN. Asian Journal of Pharmaceutical and Clinical Research. Vol 11, Issue 2, 2018. ISSN Online - 2455-3891 Print - 0974-2441
- BIOLOGICAL EVALUATION OF GLYCOGEN SYNTHASE KINASE-3 B INHIBITORS AS ANTIDIABETIC AGENT. International Journal of Engineering Technologies and Management Research. ISSN: 2454-1907. (1-12)
- **Vol.4 (Iss.12:SE): December, 2017**
- COMPUTER AIDED DRUG DESIGN: A PARADIGM SHIFT TO RATIONAL DRUG DESIGN (A CASE STUDY OF ALZHEIMER'S DRUG INTERPIRDINE FAILURE). International Journal of Engineering Technologies and Management Research. ISSN: 2454-1907. (13-18)
- **Vol.4 (Iss.12:SE): December, 2017**
- NANO ROBOTS IN MEDICINE: A REVIEW. International Journal of Engineering Technologies and Management Research. ISSN: 2454-1907. (27-37)
- **Vol.4 (Iss.12:SE): December, 2017**
- PRODUCTION OF BIOGAS FROM CELLULOSE AND BENZOATE USING ANAEROBIC BACTERIAL CONSORTIA International Journal of Engineering Technologies and Management Research. ISSN: 2454-1907. (65-70)
- **Vol.4 (Iss.12:SE): December, 2017**
- MOLECULAR DOCKING OF THE ANTIDEPRESANT ESCITALOPRAM TO CERULOPLASMIN, RETINOL BINDING PROTEIN AND SERUM ALBUMIN *page 131- 140*. Seminar Proceedings"innovations and developments in macro, micro and nanomaterial sciences" (idmms-2018)
- MOLECULAR DOCKING OF BENZODIAZEPINE DRUG CLONAZEPAM TO CERULOPLASMIN AND RETINOL BINDING PLASMA PROTEINS *page173-179* Seminar Proceedings"innovations and developments in macro, micro and nanomaterial sciences" (idmms-2018)

- CONTROLLED RELEASE AGROCHEMICAL FORMULATIONS:METHODS OF PREPARATION AND REVIEW(RESEARCH REFERENCE BOOK PP 153-157) Economic Dimensions of Agricultural Diversification in India and Madhya Pradesh ISBN978- 93-85438-03-5

#### **CHAPTERS IN BOOKS:**

- Computational Molecular Modeling Methods in the development of covalent Modifier Drug Molecules Special Reference to Density Functional Theory pp 231- 243 . Engineering & Technology Latest Progress Editor:Dr.Ashok G. Matani Publisher Meta Research Press ISBN :978-81-932850-2-2

Edited Different Editions of Journals:

- International Journal of Engineering Technologies and Management Research
- Granthalaya Journals
- Journal of advances in Science &Technology

#### **PARTICIPATION IN SUBJECT RELATED CONFERENCES/SYMPOSIA/WORKSHOPS/**

- “ Emerging Trends in Chemistry” International Conference at IIT Indore 12<sup>th</sup> July 2019 to 15<sup>th</sup> July 2019
- “Recent Trends in Basic Sciences” National Seminar at Holkar Autonomous Science College Indore 3<sup>rd</sup> October and 4<sup>th</sup> October 2018
- “ National Workshop on separation Techniques” National Workshop at School of Studies in Chemistry and Biochemistry, Vikram University Ujjain 23<sup>rd</sup> February and 24<sup>th</sup> February 2018
- “Methodology for preparation of High Quality Research Project and Networking among MPCST and University Colleges” National Workshop at M.P.Concil of Science and Technology Bhopal 16<sup>th</sup> January 2018
- “Helium Scarcity and Future Challenges Imposed” International Conference at Indore Christian College Indore 6<sup>th</sup> and 7<sup>th</sup> January 2018
- “New Frontiers in Science : A Paradigm shift to Policy Planning” National Conference at Govt. Madhav Science P.G.College Ujjain M.P.1<sup>st</sup> December to 3<sup>rd</sup> December 2017
- “Latest Technologies in Synthesis with special reference to Microwave assisted organic Reaction Enhancement” National Workshop at Govt. Madhav Science P.G.College Ujjain M.P.3<sup>rd</sup> and 4<sup>th</sup> August 2017
- “21<sup>st</sup> CRSI National Symposium in Chemistry” National Symposium at CSIR-Indian Institute of Chemical Technology Hyderabad 14<sup>th</sup> to 16<sup>th</sup> July 2017
- “Scenario of Biotechnology in 21<sup>st</sup> century” International Conference at School of Biotechnology, Devi Ahilya University Indore 10<sup>TH</sup> March to 12<sup>th</sup> March 2017
- “Crystallography and it’s applications” National Conference at Govt. Girls’ P.G.College Ujjain M.P. 15<sup>th</sup> and 16<sup>th</sup> March 2016

- “ From Photonics to Economic Impact of Light” National Consortium at Govt. Madhav Science P.G.College Ujjain M.P. 3<sup>rd</sup> and 4<sup>th</sup> February 2016
- “National Seminar on Light and Light Based Technologies 2016” National Seminar at Govt. Girls’ P.G.College Ujjain M.P.26<sup>th</sup> February 1<sup>st</sup> March and 2<sup>nd</sup> March 2016
- “ Chemical Hazard and Environment” National Seminar at Govt. Arts Science and Commerce College Nagda 10<sup>th</sup> and 11<sup>th</sup> March 2016
- “Social Issues and Environmental Problems” ” National Seminar at Govt. Girls’ P.G.College Ujjain M.P. 19<sup>th</sup> and 20<sup>th</sup> September 2015
- ‘Basics of Bioinformatics” National Workshop at Govt. Madhav Science P.G.College Ujjain M.P. 10<sup>th</sup> September to 12<sup>th</sup> September 2015
- ” International Conference” at Indore Christian College Indore 21<sup>st</sup> and 22<sup>nd</sup> March 2015
- “ Latest Trends in analytical Instrumentation and Innovative Techniques”National Seminar at Govt. Madhav Science P.G.College Ujjain M.P. 19<sup>th</sup> and 20<sup>th</sup> March 2015
- “Innovative Trends in Engineering, Science and Management” International Conference at Patel Group of Institutions Indore 13<sup>th</sup> and 14<sup>th</sup> March 2015
- “Round Table Forum on Model Village for women” at M.P.Council of Science and Technology Bhopal 25<sup>th</sup> February 2015
- “ International Conference on Agriculture Veterinary & Life Sciences- 2015” International Conference at School of Studies in Zoology and Biotechnology Vikram University Ujjain 30<sup>th</sup> January and 31<sup>st</sup> January 2015
- “Crystallography and it’s applications” National Seminar at Govt. Girls’ P.G.College Ujjain M.P.25<sup>th</sup> and 26<sup>th</sup> September 2014
- “Scientific Innovations and Intellectual Property Laws: The Interface “ International Conference at Vikram University Ujjain 18<sup>th</sup> September to 20<sup>th</sup> September 2014
- “New Innovatory Steps of Chemical Sciences” “ National Conference at M.B.Khalsa College Indore 14<sup>th</sup> and 15<sup>th</sup> March 2014
- “ Indian Environmentalism & Developmental issues” National Conference at Govt. Madhav Science P.G.College Ujjain M.P.3<sup>rd</sup> and 4<sup>th</sup> March 2014
- “ Recent Trends in Environmental Science” National Conference at Indira Gandhi Academy of Environmental Education Research and Eco planning Jiwaji University Gwalior 4<sup>th</sup> February and 5<sup>th</sup> February 2014
- “Interdisciplinary approach to Basic Sciences” State level Seminar at Govt. Girls’ P.G.College Ujjain M.P. 21<sup>st</sup> February 2014
- “ Sustainable development of Natural Resources and wildlife Conservation” National Conference at Environment and Social Welfare Society Khajuraho in association with National Academy of Sciences and MPCST 1<sup>st</sup> and 2<sup>nd</sup> February 2014
- “Economic dimensions of Agricultural Diversification in India and Madhya Pradesh” National Seminar at School Studies in Economics Vikram University Ujjain 17<sup>th</sup> and 18<sup>th</sup> January 2014.
- “Research Seminar on Ganitiya Gyan Sandhan-2013” National Seminar at Govt. Girls’ P.G.College Ujjain M.P. 23<sup>rd</sup> March 2013
- “Current Trends in Computational Methods in Science and Engineering” National Conference at Govt. Model Science College Jiwaji University Gwalior.22<sup>nd</sup> & 23<sup>rd</sup> April 2013

- “Water scarcity: Conservation and management in Rural and Urban areas” National Research Conference at Govt. Madhav P.G.College Ujjain. 2<sup>nd</sup> and 3<sup>rd</sup> March 2013
- “Social, Educational, Technological and Medicinal Relevance of Chemistry” National Conference at School of Studies in Chemistry and Biochemistry Vikram University Ujjain. 25<sup>th</sup> & 26<sup>th</sup> November 2011
- “ Role of Women for the development of state in the field of Science and Technology” one day workshop at Govt. Girls’ P.G.College Ujjain M.P. 8<sup>th</sup> March 2011
- “Chemistry: A Modern & Innovative Tool” National Seminar at Govt. Madhav P.G.College Ujjain. 4<sup>th</sup> and 5<sup>th</sup> March 2011
- “Academic Workshop on New Trends in Chemistry” National Workshop at School of Studies in Chemistry and Biochemistry Vikram University Ujjain. 26<sup>th</sup> and 27<sup>th</sup> March 2010
- “Workshop on Applications of Modern Instruments” Workshop organized by western Regional Instrumentation centre Mumbai and Kalidas Girls’ College Ujjain 19<sup>th</sup> and 20<sup>th</sup> February 2008
- “FAEA Partner colleges meet” National Meet of Partner colleges at Lady Shri Ram College for Women University of Delhi 14<sup>th</sup> September & 15<sup>th</sup> September 2007
- “Frontiers of Research in Chemical Sciences” National Conference at Govt. Madhav Science P.G.College Ujjain 18<sup>th</sup> & 19<sup>th</sup> February 2007

#### **REFRESHER COURSES (GIVE DETAILS) :**

- UGC Sponsored Refresher course in Chemistry From 04/09/2010 to 24/09/2010 at Punjab University Chandigarh
- UGC Sponsored Refresher course in Earth and Environmental Sciences From 22/08/2011 to 11/09/2011 at Kumaun University Nainital
- Teachers Training programme in Chemistry from 08/09/2014 to 12/09/2014 at Government Model Science College Jabalpur organized by Department of Higher Education Government of Madhya Pradesh
- Course on Design of Training at RCVP Noronha Academy of Administration M.P. Bhopal From 21/02/2011 to 25/03/2011 completed a design workshop and a work related design project. The training design course has been developed by Thames Valley University , Slough, UK in association with Training division , Department of Personnel and Training Government of India.
- Direct Trainers skill course at RCVP Noronha Academy of Administration M.P. Bhopal From 03/05/2010 to 07/05/2010. The DTS course has been developed by Thames Valley University , Slough, UK in association with Training division , Department of Personnel and Training Government of India.
- Training Under MPHEQIP Project consultancy 08/08/2017 to 10/08/2017 at Indian Institute of Management Indore

#### **SUBJECT RELATED ACTIVITIES ORGANISED**

- “Green Elements for Sustainable Development” a discussion organized as part of IYPT 2019 celebrations date: 03/08/2019
- Seminar on “Periodic Table and endangered elements” organized as part of IYPT 2019 celebrations date: 27/04/2019

- 7 Day workshop on “Recent advances in Spectroscopic and Chromatographic Techniques” dates: 28/02/2019 to 07/03/2019
- “Young Scientist Dialogue” under the aiges of vikramotsava 2018 , which is an inter institutional event where schools, polytechnic college, engineering college and higher education institutes all came together at one platform. CEO Brahmos mission Dr. Sudhir Mishra was the chief guest of the occasion on 28<sup>th</sup> september 2018.
- National Conference on “New frontiers in Science : A paradigm shift to policy planning” Dates:01/12/2017 to 03/12/2017
- First ever “Student Research Internship Programme in Chemistry Under PURE (PURsueit OF Research Excellence )”in M.P. from 03/11/2016 TO 05/11/2016 for CEQIC Colleges students across the state participated in the internship
- 03 Day workshop on “ Drug Discovery Technology| Approach of computational Chemistry in Drug Design” Dates:08/08/2016 to 10/08/2016
- “From Photonics to Economic Impact of Light” national consortium of scientists year(2016)
- Seminar on “Crystallography and its Applications” organized at Govt. Girls’ P.G.College Ujjain sponsored by UGC
- One day Training cum awareness programme on “Chemical Disaster Management” Sponsored by Disaster Management Institute Bhopal Date 25/03/2018.
- Round Table Forum on “ women Health| make it happen” 08/03/2015 sponsored by Janabhagidari
- Lecture series “ Hot pursuit of Mycobacterium and cancer by Polymeric design” Lectures by Dr. Asheesh Shreevastava from IISER Bhopal Date: 28/02/2015
- Seminar on “Interdisciplinary Approach of Basic Sciences” sponsored by M.P.Council of Science and Technology Dates: 21/02/2014
- “Inspire Internship Science Camp” Sponsored by DST 09/11/2011 to 13/11/2011
- Poster and Modal exhibition cum competition sponsored by M.P.Council of Science and Technology Dates:02/04/2011 to 08/04/2011
- One day workshop on “Role of women for the development of state in the field of Science and technology” sponsored by M.P.Council of Science and Technology 08/03/2011
- Pathways to Higher education Programme funded by Ford Foundation through Foundation for academic excellence and access from 2007 to 2009

#### **CHEMISTRY POPULARISATION ACTIVITIES ORGANISED:**

- Community workshops on use of solar energy (Year 2014-15)
- Photonics and it’s society impact (Year 2016 International Year of Light and Light Based technologies)
- Importance of protein intake in healthy living and Pulses as the main providers of protein (Year 2016 International Year of Pulses)
- Awareness campaign against superstitions in the society(2016-17)
- Field study and workshops on water quality management (Year 2018-19)

#### **RESEARCH INTERESTS:**

Physical Chemistry, in silico drug designing and delivery using laws of physical Chemistry, Computational Chemistry and spectroscopy

Minor/Major Research project completed/ Submitted:

- “Fluoride contamination in the drinking water of Ujjain and it’s impact Fluorosis”  
Project sponsored by UGC Grant sanctioned 503000/-
- Thermodynamic Rationale for Targeted drug delivery: study of thermodynamic interactions between antineoplastic drug Doxorubicin Gold Nanoparticle Conjugates and model Bio membranes| Microwave Assisted Synthesis Of Dox- GNPConjugate, A Green Protocol. Major project submitted to SERB, Project has qualified to second round and is under evaluation at SERB only.

**AWARDS:**

Best Teacher award by Janabhagidari Samiti

Best Teacher award by Lions Club

Best Presentor award BIPS

Best Interactor Award Holy Cross College Tiruchirapalli

Dr. Kalpana Singh Professor  
Chemistry  
Govt. Madhav Science P.G.College  
Ujjain